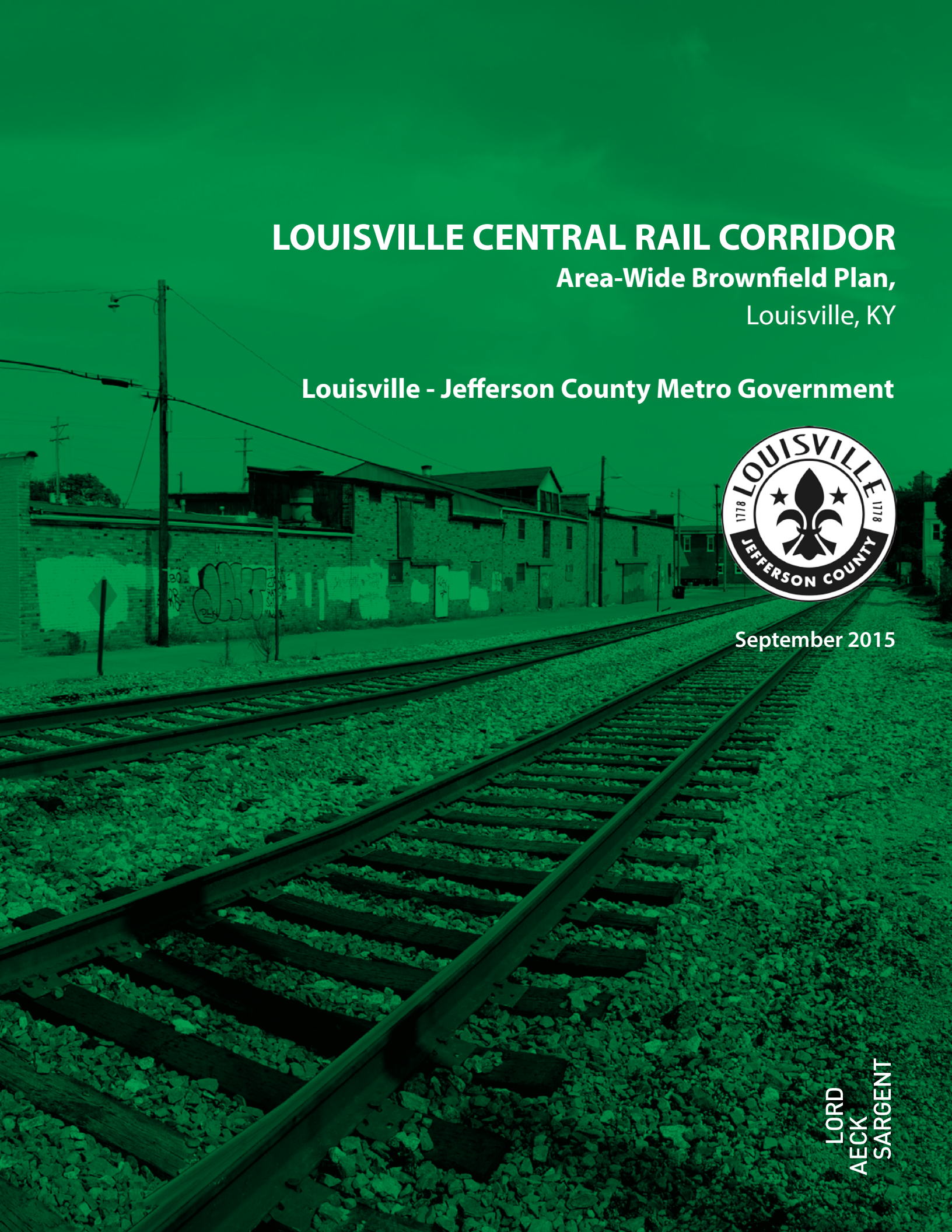
LOUISVILLE CENTRAL RAIL CORRIDOR

Area-Wide Brownfield Plan,

Louisville, KY

Louisville - Jefferson County Metro Government



September 2015

LORD AECK SARGENT

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ENVIRONMENT + DESIGN

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Introduction

In 2013, Louisville-Jefferson County Metro Government was selected by the United States Environmental Protection Agency (USEPA) as a Brownfields Area-Wide Planning Program grant recipient. The Brownfields Area-Wide Planning Program is designed to help communities confront local environmental and public health challenges related to brownfields, and to benefit underserved or economically disadvantaged communities. Area-wide planning for brownfields encourages community-based involvement in site assessment, cleanup and reuse planning, as well as overall neighborhood revitalization. The focus of the grant application was the "Central Rail Corridor" area illustrated in Figure ES1.

The Central Rail Corridor Area-Wide Brownfield Plan (Plan) provides guidance for public and private redevelopment efforts in the corridor. It focuses on the identification of catalyst sites, desirable redevelopment outcomes, plan implementation strategies, and increased connectivity throughout the corridor.

The Plan seeks to:

- Encourage neighborhood-level commercial development, environmentally-sensitive industrial development, and additional inclusive residential growth;
- Encourage the development of healthy neighborhoods through the implementation of green infrastructure and urban agriculture (already common in the area);
- Reduce and remove environmental threats, contamination, and visual nuisances associated with vacant, abandoned and underutilized properties throughout the Central Rail Corridor;
- Promote job creation for Corridor residents and to promote the redevelopment of vacant, abandoned or underutilized Corridor properties.

Existing Conditions

The Louisville Central Rail Corridor, located east of I-65 in close proximity to Downtown Louisville and University of Louisville, marks the confluence of six distinct neighborhoods along the short-line rail corridor that runs through its heart (see Figure ES2).

Connectivity:

There are multiple streets that connect the area to Old Louisville (west), Downtown (north) and the Highlands (east) with Goss Avenue and Shelby Street serving as the major north/south connectors. However, the presence of one-way street patterns, dead-end streets and the railroad greatly challenge the overall Corridor connectivity (especially east-west). North-south connectivity is most challenged by the presence of the railroad which interrupts the existing pedestrian/bicycle network but is further complicated by the current transit system which has more routes serving the north part of the Corridor than the south part.

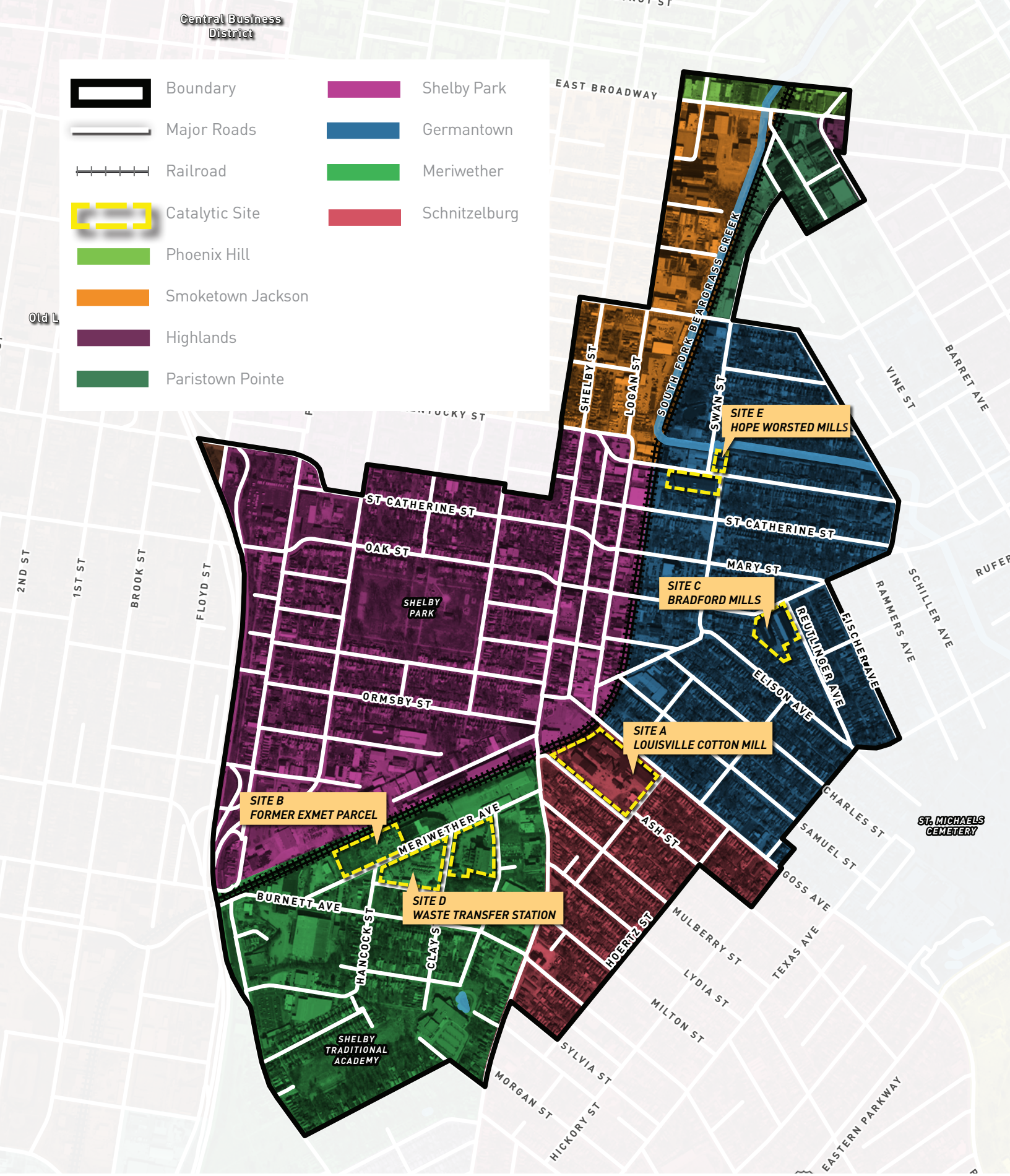


FIGURE ES1: STUDY AREA BOUNDARY WITH CATALYST SITES AND NEIGHBORHOODS

Land Use:

The Corridor has a variety of commercial, industrial, institutional, and office assets that make it a diverse place to live and work. The 653-acre study area is composed of industrial properties surrounded by a tightly-knit neighborhood fabric. Though the area is primarily residential, the presence of industrial properties connected by the railroad is of great significance. The Corridor's land use makeup also presents an opportunity for further expansion of open space and the restoration of existing natural resources such as Beargrass Creek, which flows through the northern half of the Corridor.

Brownfields:

The Corridor, as the former home to Louisville's woolen mill industry, supported a vibrant community. Many parcels within this mixed-use corridor are brownfield sites due to current and historic industrial uses. Of the many brownfield sites identified in this Plan, five were initially established as Catalyst Sites in recognition of their redevelopment potential and its impact on the surrounding neighborhood (see Figure ES1). Three of these Catalyst Sites contain historic buildings listed on the US Secretary of the Interior's National Register of Historic Places.

Market Conditions:

Current conditions reveal a lack of retail outlets to support the majority of Corridor residents, causing them to spend their dollars outside the area. These market conditions indicate pent up demand for additional retail creating an opportunity for the neighborhoods to capture some portion of that spending. Brownfield locations along the railroad, as well as commercial nodes throughout the Corridor, are appropriate locations for the development of additional neighborhood-serving retail.

Planning Process

The public involvement process provided multiple opportunities for stakeholder engagement over the course of a year. Stakeholder engagement took the form of public education sessions, interviews, tours, online commentary and interactive workshops.

The first half of the public engagement process was led by staff of the University of Louisville's Center for Environmental Policy and Management (CEPM). CEPM facilitated five events focused on brownfield education and identification of issues, with visioning and implementation sessions rounding out the process. The second half of the process was led by a multidisciplinary team of consultants led by Lord Aeck Sargent, and included two interactive community events used to develop plan recommendations.

Additionally, the "Metro Resource Team", a group of staff representing relevant Louisville Metro Government departments and organizations, helped identify ongoing plans, outline existing conditions and issues, and shape implementation strategies as part of the final report and recommendations. Lastly, a website that included all meeting materials and documents was maintained during the process by CEPM.

ECOLOGY FORUM, OCTOBER 2014

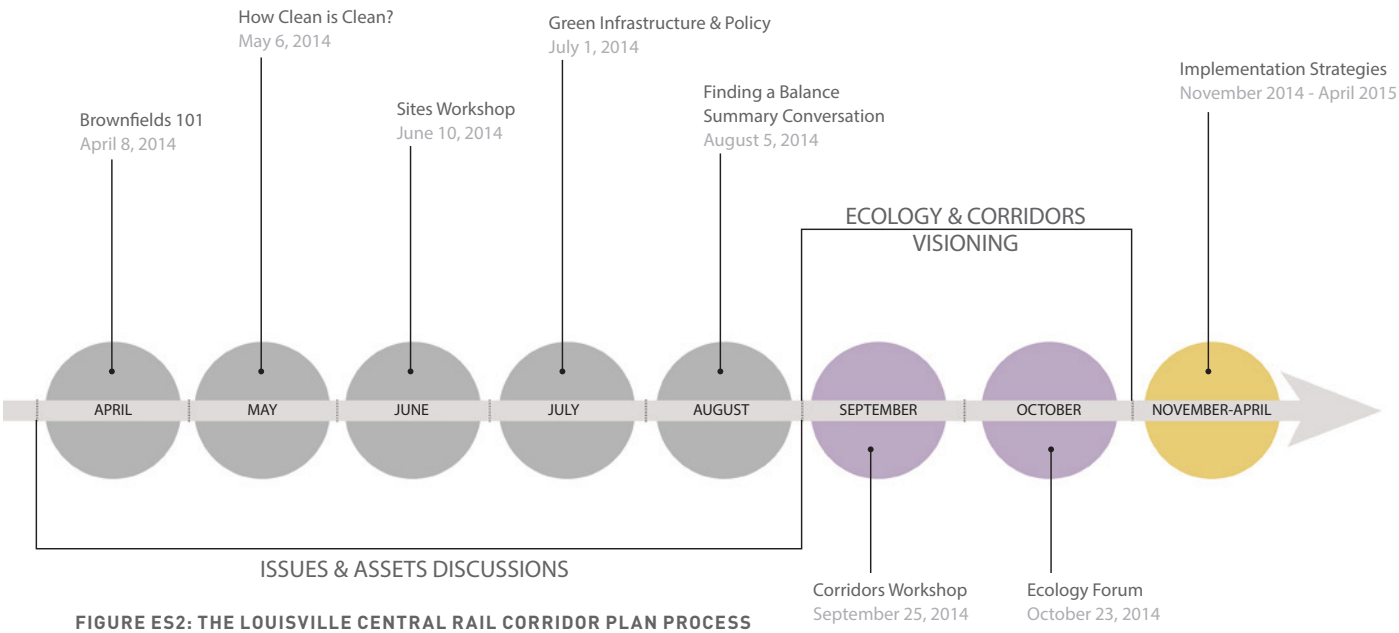


FIGURE ES2: THE LOUISVILLE CENTRAL RAIL CORRIDOR PLAN PROCESS

Plan Recommendations

The Louisville Central Rail Corridor Plan is organized around three Planning Strategies to guide future investment:

1. Restoring Natural Ecosystems
2. Improving Area-wide Networks of Circulation and Open Space
3. Identifying, Remediating and Redeveloping Brownfield Sites

These planning strategies and the associated projects that arise from them are organized around the principles of urban ecology and are explained in more detail in Chapter 4 of this Plan.

1. Restoring Natural Ecosystems (Beargrass Creek and Greening the Corridor)

Beargrass Creek:

- Reduce stormwater runoff and combined sewer overflows to provide suitable aquatic habitat conditions for long-term creek restoration.
- Restore Beargrass Creek to more natural system by removing concrete and adding natural substrate and vegetation.
- Reclaim Beargrass Creek as a neighborhood asset by working with MSD to redesign the proposed basin site at Logan and Breckinridge and creating a greenway trail.

Greening the Corridor:

- Incorporate green strategies such as: reducing stormwater runoff and combined sewer overflows to provide suitable aquatic habitat conditions for long-term creek restoration; installing green infrastructure where feasible and prioritizing over grey infrastructure; implementing Floodplain Management Ordinance for 25' natural buffer along Beargrass Creek, incorporating small-scale green strategies such as landscaping, rain gardens, and rain barrels.
- Increase tree canopy when possible on both public and private land and coordinate with the Urban Heat Island Project initiative.
- Identify vacant parcels and underutilized areas to

BEARGRASS CREEK

convert them into green spaces temporarily.

- Develop an urban forestry program to encourage native plants and vegetation and also contribute to developing a continuous riparian buffer.

2. Improving Area-wide Networks of Circulation and Open Space

Louisville Metro has embraced the strategy of "complete streets" for multiple modes of transportation. These include traffic, pedestrian, bicycle and transit accommodations. The Area-Wide Circulation recommendations that follow are broken into component pieces of mobility networks for ease of description, but the plan advocates for combined multi-modal improvements within individual corridors where possible (see Figures ES3 and ES4).

Implement Traffic Improvements:

- Convert one-way streets to two-way: Oak Street, St. Catherine Street, Shelby Street and Logan Street should be converted to two-way.
- Preston Street Intersection improvements at I-65 Exit Ramp.

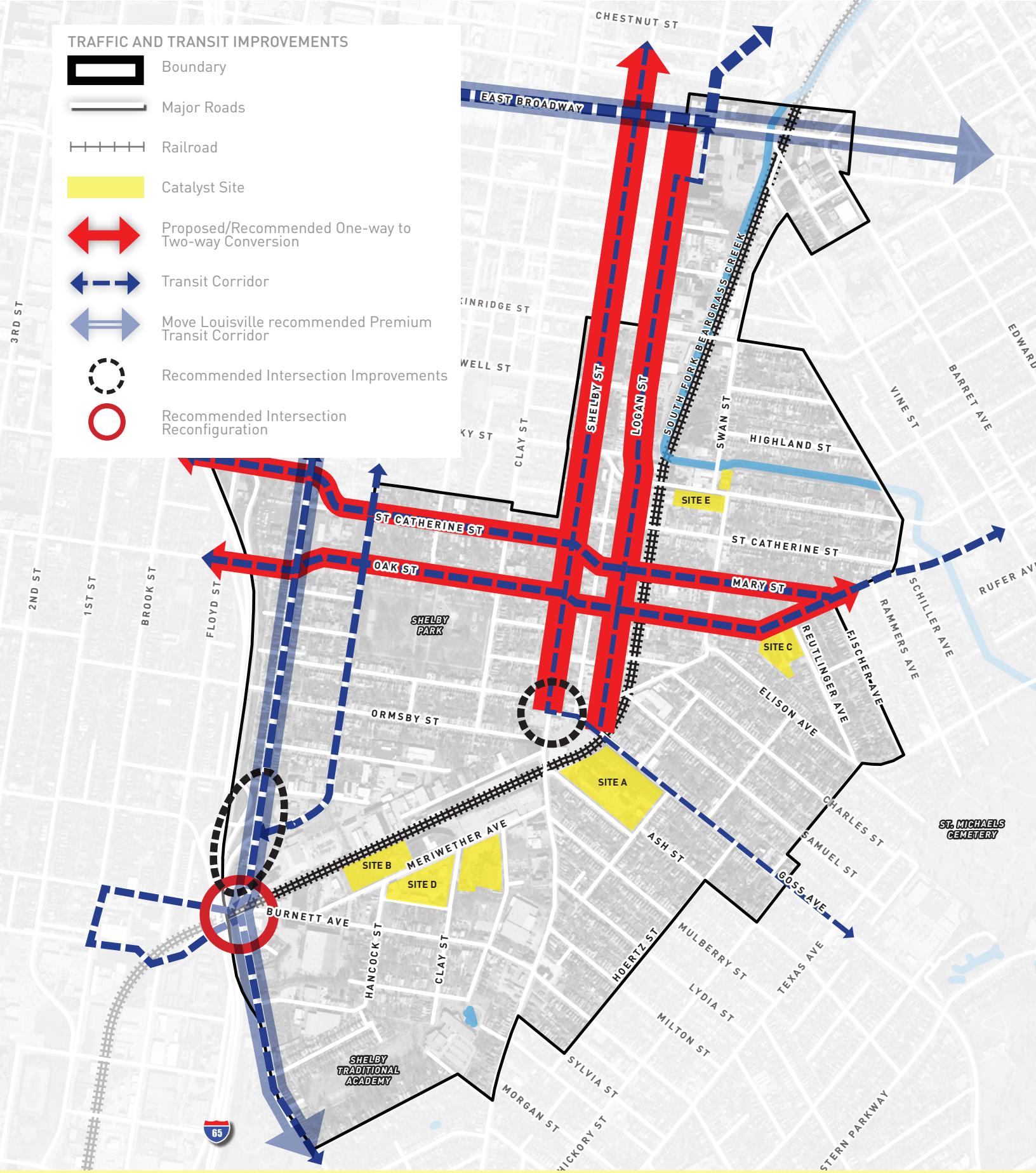
Implement Bike and Ped Improvements:

- The major roads prioritized for implementing streetscape improvements are Logan Street, Shelby Street, Broadway and Goss Avenue.
- Implement intersection improvements for pedestrian safety. These intersections include: Shelby Street and Ormsby Street; Shelby Street and Goss Avenue; Logan Street and Goss Avenue; Samuel Street and Dandridge Avenue connection; Ellison Avenue, Swan Street and Dandridge Avenue; Fischer Avenue, Oak Street and Mary Street; Logan Street and Kentucky Street; St. Catherine Street connection across railroad at Steve Marge Alley; Logan Street and Broadway; and Broadway and Brent Street/Overpass.
- Complete bike network on Broadway, Breckinridge Street, Kentucky Street, Ormsby Street, Swan Street, Elison Avenue, Clay Street and Preston Street.
- Develop a trail along Beargrass Creek to better connect to adjacent neighborhoods and the larger Louisville trail system.

Public Open Space Recommendations:

- Better utilize and improve existing open spaces; such as implementing Shelby Park's master plan and consider additional programming and publicly accessible facilities for Lincoln-Preston Park.
- Develop new small-scale open spaces. Three opportunities have been identified in this Plan: the MSD basin project at Logan Street and Breckinridge Street; the area including Catalyst Sites B and D which includes adjacent vacant land and available property; and the paved storage area at the intersection of Goss and Logan which presents a long-term opportunity.
- Create a network of greenways to connect the existing and proposed open spaces.
- Incorporate usable open space into new larger-scale developments.
- Encourage public art and local artists.

POTENTIAL STREETSCAPE IMPROVEMENTS OF GOSS AVENUE



SITE A: LOUISVILLE COTTON MILL | SITE B: FORMER EXMET SITE | SITE C: BRADFORD MILLS | SITE D: WASTE TRANSFER STATION | SITE E: HOPE WORSTED MILLS

FIGURE ES3: CIRCULATION FRAMEWORK - TRANSPORTATION AND TRANSIT

SITE A: LOUISVILLE COTTON MILL | SITE B: FORMER EXMET SITE | SITE C: BRADFORD MILLS | SITE D: WASTE TRANSFER STATION | SITE E: HOPE WORSTED MILLS

FIGURE ES4: CIRCULATION FRAMEWORK - BIKE AND PED IMPROVEMENTS

3. Identifying, Remediating and Redeveloping Brownfield Sites

Development Opportunities:

- Consider other redevelopment opportunities (both brownfield and non-brownfield) aside from the five Catalyst sites. Non-residential parcels have been identified as potential short-term and long-term redevelopment opportunities in this Plan. The resulting parcels were categorized as Tier 1, 2, or 3 (see Figure ES6) based on the following criteria:
  a. Tier 1 sites include all Catalyst Sites and any other sites which are currently vacant or unoccupied.
  b. Tier 2 sites include properties which could be considered underutilized from a land usage perspective. These properties have at least half their land area dedicated to parking or storage. Approximately 80 Tier 2 sites were identified as underutilized which included large parking lots, large manufacturing buildings, and other commercial structures.
  c. Tier 3 sites are properties which may be fully operational or in use but would benefit from some form of aesthetic treatment and/or could transition overtime to a higher and better use. Approximately 110 Tier 3 sites were identified, primarily in the business and industrial areas along Shelby Street and the main rail corridor.
- Utilize additional local and state Brownfield programs and grants to continue Brownfield assessment and remediation efforts for additional sites, such as: Fehr Cold Storage, Schaeffer-Meyer Brewery, 901-929 Mason Street, 761 Swan Street, 917 Shelby Parkway, 500 Bergmann Street, and vacant parcels around the Waste Transfer Station, including 1401 South Clay Street and 1440 Bland Street.

Development Districts:

Based on the physical characteristics, land uses and accessibility, the study area was divided into three distinct development districts: the Broadway Mixed-Use District, the Three Points District and the Eco-Industrial District (See Figure ES5). The two northern districts reflect the emerging mixed-use orientation of the area – albeit with the regional implications of Beargrass Creek versus the local ties to adjacent neighborhood - while the southern district retains the industrial focus.

- Conduct a planning study for the **Broadway/ Barret Mixed-Use District** that centers on the opportunities of:
  a. Short-term redevelopment of the Louisville Metro Government Center;

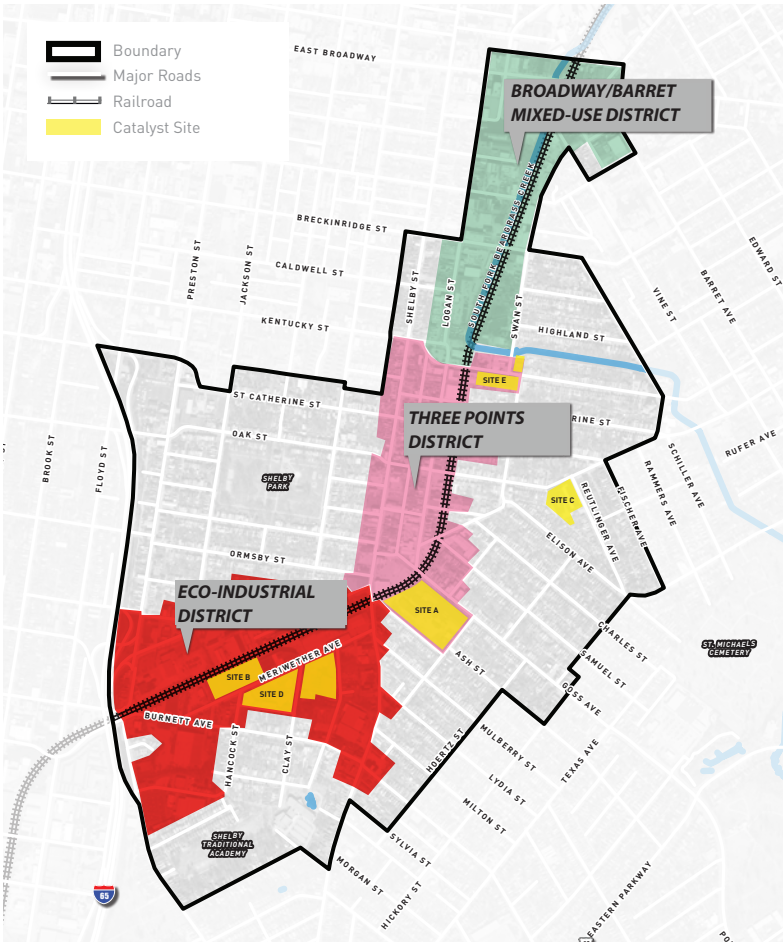
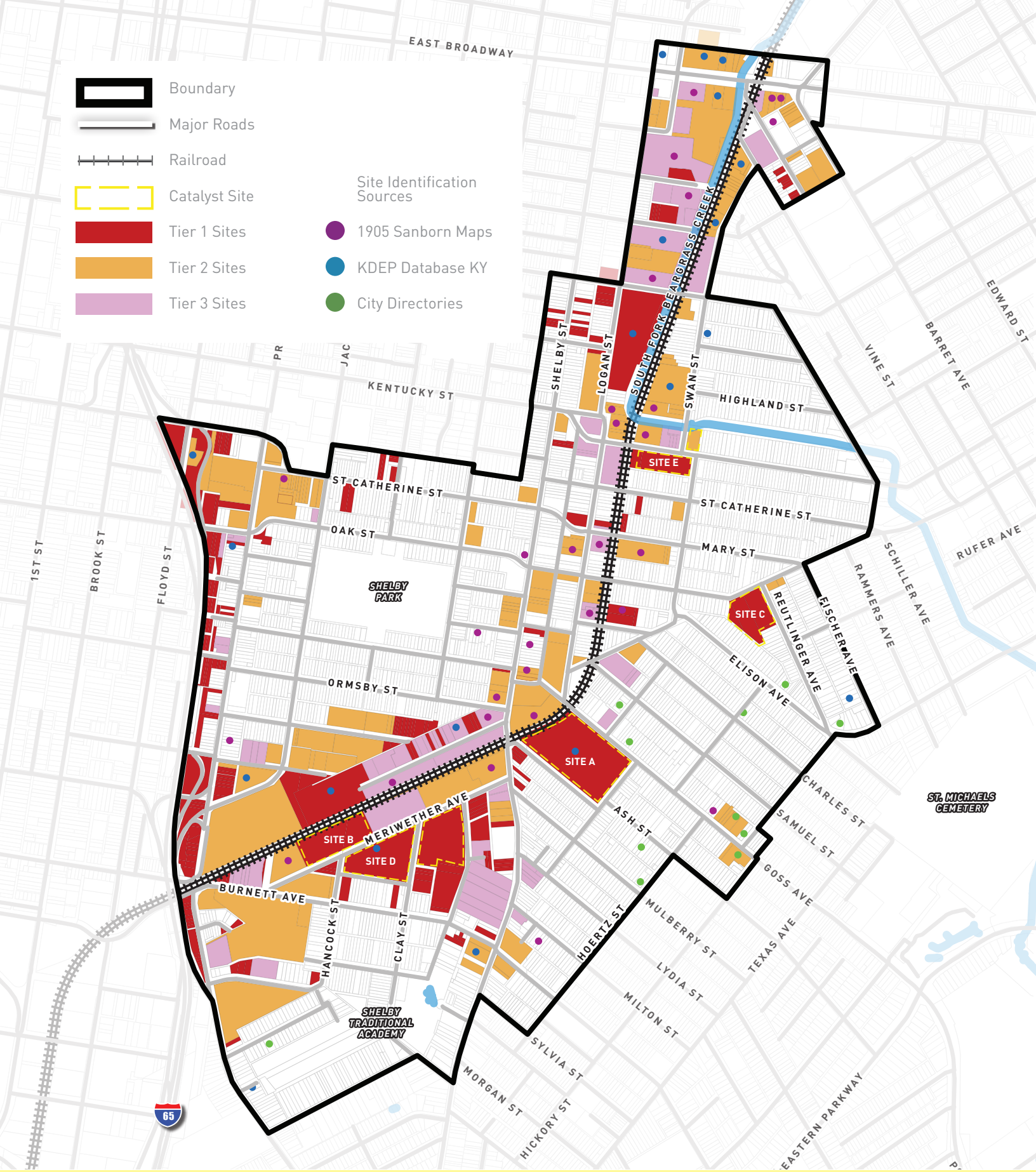


FIGURE ES5: CORRIDOR DISTRICTS



SITE A: LOUISVILLE COTTON MILL | SITE B: FORMER EXMET SITE | SITE C: BRADFORD MILLS | SITE D: WASTE TRANSFER STATION | SITE E: HOPE WORSTED MILLS

FIGURE ES6: REDEVELOPMENT OPPORTUNITIES

b. Long-term future of Paristown Pointe and the East Broadway corridor;

c. Louisville Stoneware expansion as a larger economic anchor and destination.

- Develop a long-term "Main Street" approach to redevelop the **Three Points District** as a mixed-use/neighborhood commercial spine, serving and uniting the adjacent neighborhoods.
- Conduct additional research and planning to identify potential uses for the **Eco-Industrial District;** devise area-wide sustainable infrastructure concepts including alternative energy, water conservation and zero-waste strategies; and develop a consortium to coordinate research, assemble / redevelop / market property; and interface with academic and other public and private partners.

Catalyst Sites:

Provide support for the remediation and redevelopment of the Catalyst Sites:

SITE A: The **Louisville Cotton Mill** site is an architecturally significant, 7.68-acre brownfield property that once functioned as the largest woolen mill in the area. The collection of seven buildings includes 268,000 square feet of space that is currently under redevelopment as a mixed-use residential project.

Proposed use: Mixed-use

Recommendations:

1. Continue discussions as construction and redevelopment is completed.

SITE B: The **former Exmet site** is a 3.1-acre site owned by a municipally-controlled entity. Louisville Metro Waste Management currently uses the site for parking and storage of equipment.

Potential use: Resource Recovery Facility

Recommendations:

1. Undertake a facility study to evaluate the role of the parcel in the plan to convert the existing Waste Transfer Station (Catalyst Site D) into a comprehensive recovery facility.
2. Develop a plan to bring this property back to productive use as a waste recycling center and to assist in identifying a developer for use as a potential flexible industrial space.

SITE C: The **Bradford Mills**, a 2-acre former cotton mill, has a notable 85,000 square-foot structure that represents a community landmark and holds a key position in the neighborhood's past, as well as being positioned as a prime residential redevelopment site.

Potential use: Mixed-use

Recommendations:

1. Provide support for private redevelopment through historic preservation tax credits and other programs as applicable.
2. Evaluate potential traffic pattern alterations to enhance access and redevelopment of the surrounding area (i.e. conversion of Oak Street to two-way traffic).

SITE D: The **Waste Transfer site** is a 7-acre recycling facility owned and operated by Louisville Metro Government. This site represents a larger brownfield under public control.

Potential use: Resource Recovery Park

Recommendations:

1. Undertake a feasibility study to determine whether the existing recycling drop-off and solid waste transfer operation could be converted into a comprehensive resource recovery facility.
2. Undertake an architectural and engineering assessment of the historic City Incinerator building.

SITE E : The **Hope Worsted Mills & Co.** and **Bluebird Pie Factory** site totals over 1.4 acres and provides an opportunity for mixed commercial and residential reuse.

Potential use: Mixed-use

Recommendations:

1. Provide support for private redevelopment through historic preservation tax credits and other programs as applicable.
2. Assist property owner to obtain additional funding sources for site improvement.

Implementation

The Plan includes an Implementation Summary with recommended initiatives, action items, time frame, responsible partners and potential resources. The Appendix includes a preliminary draft of a Brownfield Redevelopment Handbook, a supplemental document intended to help potential developers and investors navigate the opportunities, incentives, and regulatory processes for redevelopment within the Corridor in the context of the Plan.

The Louisville Central Rail Corridor Plan paves the way for private investment, redevelopment, and strengthened neighborhoods, and includes:

Chapter 1: A Historic Legacy - A summary of the rich history of the Central Rail Corridor and its neighborhoods.

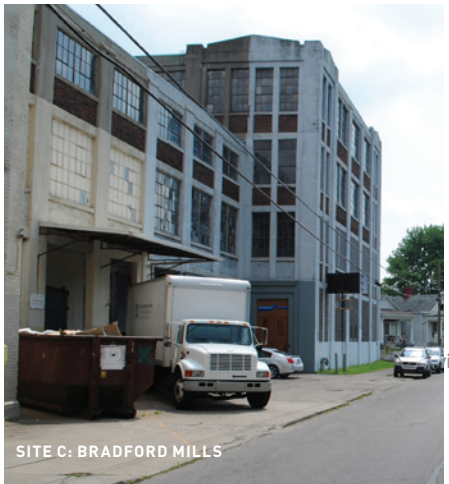
Chapter 2: The Corridor Today – A summary of existing physical and economic conditions, including details of the five Catalyst Sites, and observations about their implications on the Corridor.

Chapter 3: Planning Process Overview - An introduction to the planning effort and community engagement process, and a description of the community's goals as derived from the community engagement process.

Chapter 4: Plan Recommendations - A summary of priority projects to address Corridor redevelopment, including the identification of transportation priorities and additional brownfields along the railroad.

Chapter 5: Implementation - An action plan for additional study and phased project implementation.


SITE A : LOUISVILLE COTTON MILL


SITE C: BRADFORD MILLS


SITE E: HOPE WORSTED MILLS & BLUEBIRD PIE FACTORY


SITE D: WASTE TRANSFER STATION

1

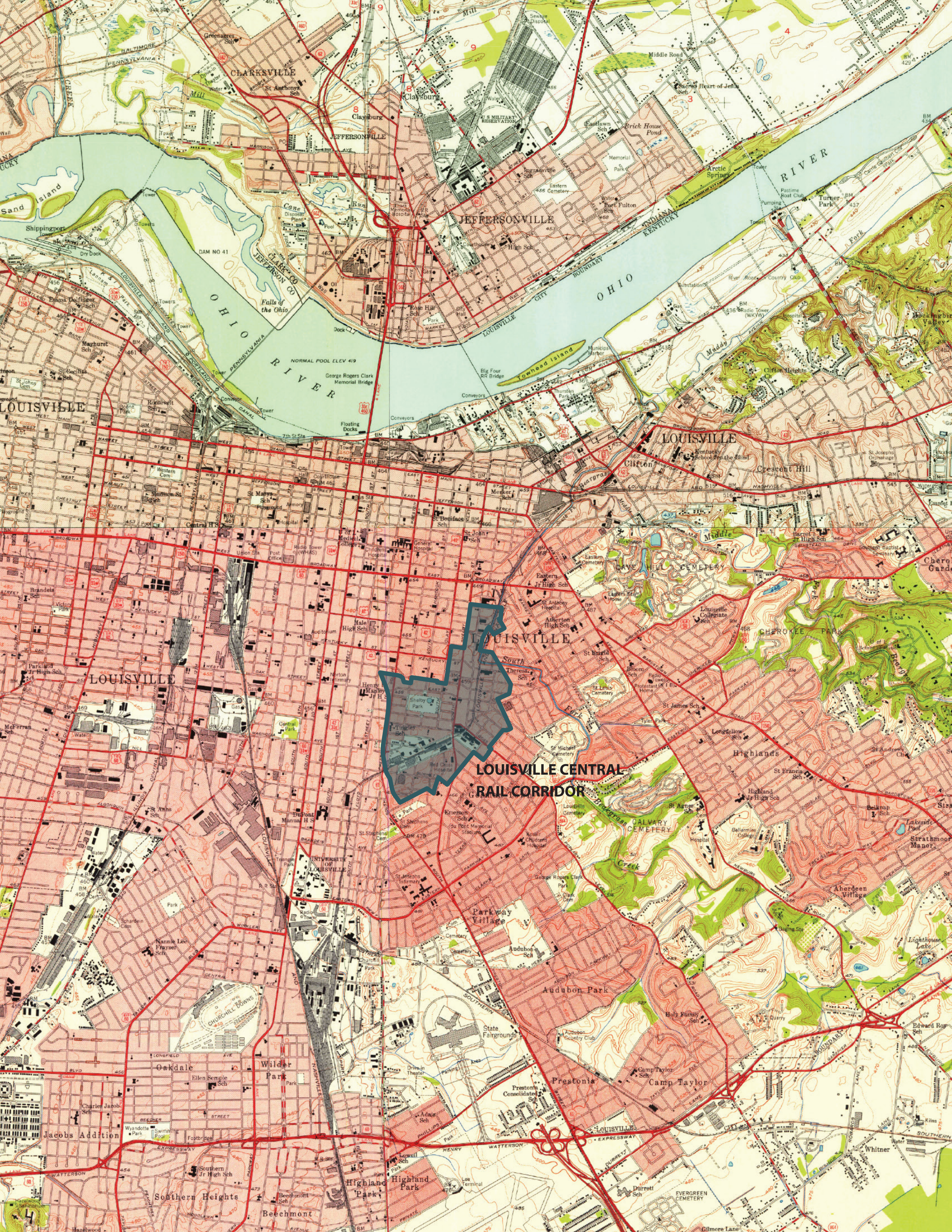
A Historic Legacy

The Louisville Central Rail Corridor is special to Louisville for many reasons. In a city that grew up around river trade, the Corridor represents a chapter in the city's history that saw its transition from a frontier outpost to a powerful regional trade center. It also has the honor of being the location for some of the city's most memorable enterprises, as well as its more ambitious public works investments. As a physical phenomenon, the Central Rail Corridor has the unique position of being both a barrier and a seam between a number of different neighborhoods that all carry the diversity and spirit of the city in their residents and building stock. As a barrier, it has contributed to the evolution of the neighborhoods distinct from each other, with institutions tied to local traditions and folkways. And as a seam, it encouraged the development of industries that provided jobs within walking distance, and brought a sense of worldliness through the presence of the railroad.

Today, the Central Rail Corridor is being redefined by a growing population of young settlers sharing geography with older residents, and the blending of the generations has enlivened the area through new investment in food and beverages, cultural institutions, and restorations of buildings. Yet the industrial grittiness of the older Central Rail Corridor still remains as one of its most authentic and appealing characteristics.

L&N SHORT LINE AT THE BAXTER AVENUE STATION

FIGURE 1A: 1945 USGS MAP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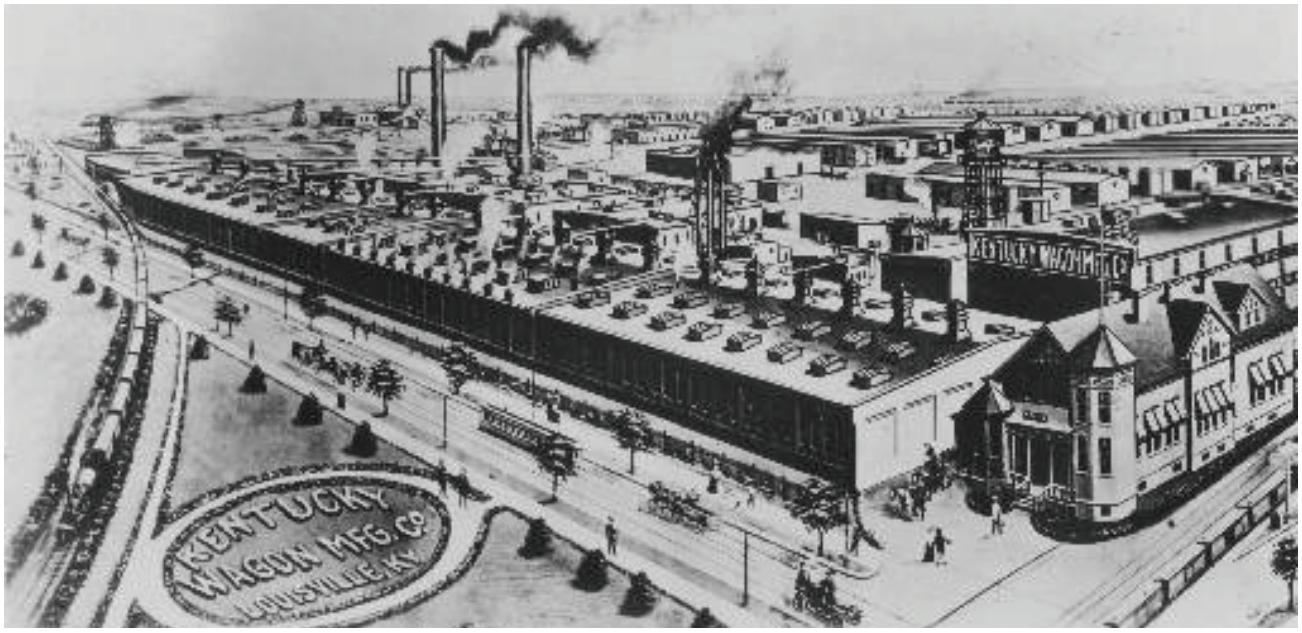
RAIL CORRIDOR
CLARKSVILLE
JEFFERSONVILLE
LOUISVILLE
OHIO RIVER
OHIO
RIVER
Falls of the Ohio
NORMAL POOL ELEV 419
George Rogers Clark Memorial Bridge
Sand Island
Shippingport
Towhead Island
Clifton
Crescent Hill
Highlands
Audubon Park
Parkway Village
Preston
Camp Taylor
Oakdale
Wilder Park
Jacobs Addition
Southern Heights
Beechmont
Highland Park
State Fairgrounds
Aberdeen Village
Cherokee Park
Calvary Cemetery
Evergreen Cemetery
Whitner
Clarksburg



KENTUCKY WAGON WORKS

1.1 Louisville's Industrial Past

Louisville may be best known for the genteel institution of the Kentucky Derby, but this southern city bordering the more industrial Midwest developed its modern economy through railroads and the industries that followed. At the height of the rail era, no less than seven major railroads traversed Louisville; and it was the headquarters of Louisville & Nashville (L&N), which not only built miles of track and terminal facilities but created an industrial complex on the south side, today the location of Papa John's Cardinal Stadium. Processing of agricultural products that would ship out by rail or riverboat was the initial industrial base, and was quickly followed by mills and machine shops. By 1940 the factories and warehouses of American Tobacco, Brown-Forman, Seagram's, Kentucky Wagon Works, Standard Sanitary, Belknap Hardware, Henry Vogt Machine, Armour Meatpacking, Ballard Mills, and others were prominent landmarks in the city.

In Figure 1B, rail-based industrial areas developed during the first half of the 20th Century and the railroad lines serving them are shown in red, with the lines of the L&N shown in white. Prominent manufacturing facilities are also shown, including the massive South Louisville Shops of the L&N. It is clear that within this older urbanized area of the city, many neighborhoods were a short distance of some Central Rail Corridor or industrial plant; and these neighborhoods are largely determined by the alignment of track and land uses.

Today, much of this industrial fabric has been lost or redeveloped, though the Park Hill Industrial Corridor, the subject of a prior Louisville Metro Government (LMG) brownfields area-wide planning study, still maintains a significant number of major manufacturing enterprises including Brown-Forman, Millennium Forge (at the Vogt Machine complex), ZeoChem, Kelley Coatings, Clariant, and others. However, many properties, such as Standard Sanitary and Jones-Dabney (Rhodia) have been converted into non-industrial uses or remain vacant or underutilized.

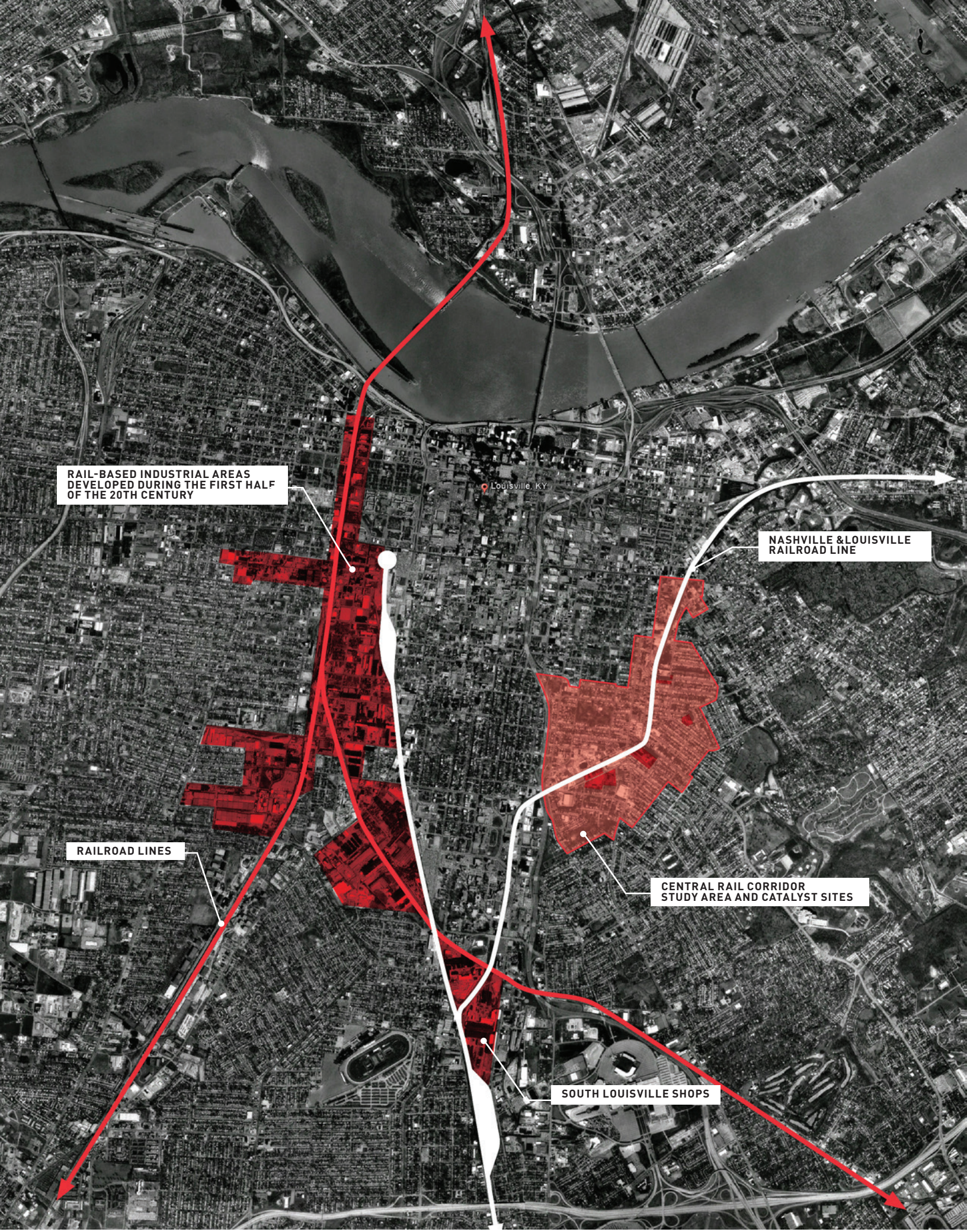


FIGURE 1B: MAJOR RAIL LINES AND INDUSTRIAL AREAS (1993)

FORMER BALLARD & BALLARD MILL, 912 EAST BROADWAY - 1919
(BUILDING HAS BEEN DEMOLISHED)

EXISTING BRADFORD MILLS

FORMER SCHAEFER-MEYER BREWERY, 800 LOGAN STREET – 1920
(A PORTION OF THE BUILDING HAS BEEN DEMOLISHED)

HENRY PILCHER'S SONS, 901-924 MASON STREET

BEARGRASS CREEK WITH HOPE WORSTED MILLS, VIEW FROM 980
LOGAN STREET, 1930s

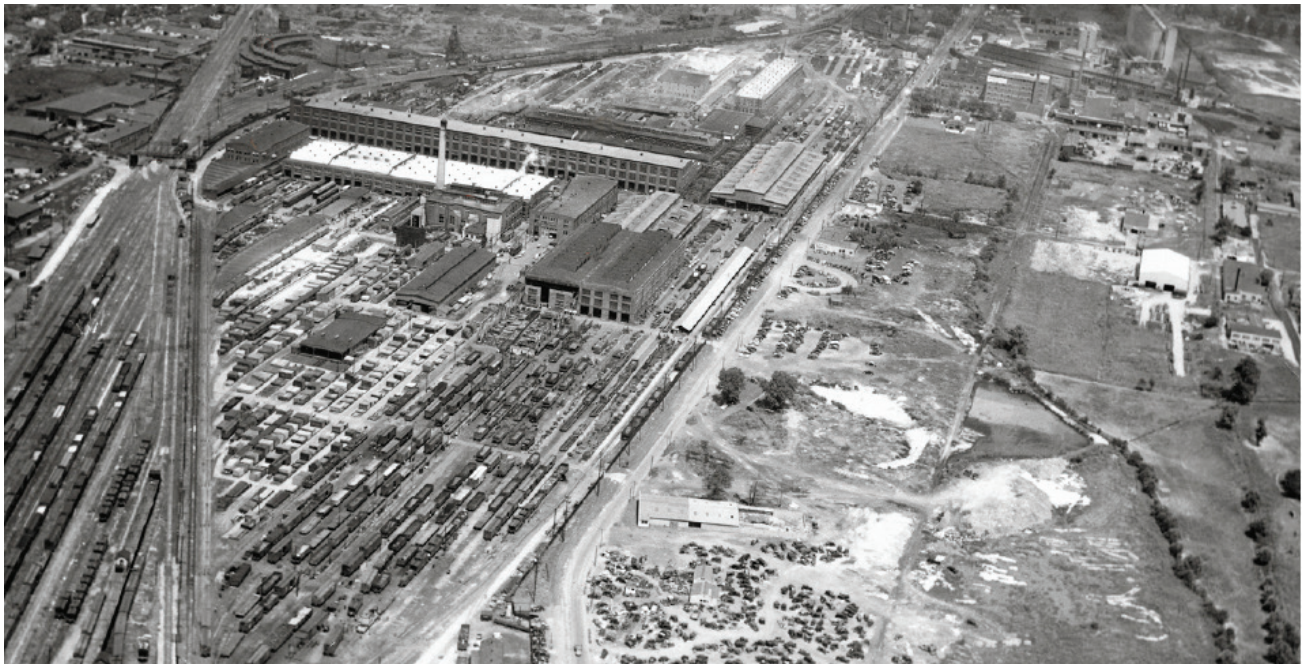
ST. BERNARD COAL COMPANY
(CUMBERLAND ELKHORN COAL & COKE), 950 SWAN STREET

1.1.1 Evolution of the Central Rail Corridor

The rail line at the core of the study area was initially built in 1851 to link Louisville with the state capital in Frankfort. The following year the new line connected to a rail line to Lexington, which allowed passage to another line connecting Lexington to Covington. The three lines became the Louisville, Cincinnati and Lexington (LC&L) in 1867. The L&N Railroad, seeking to tap into Midwest markets, purchased the LC&L in 1881 which provided direct access to several northern railroads in Cincinnati. This newly acquired segment of the L&N system became known as the "Short Line".

With the construction of the South Louisville Shops in 1905, the Short Line gained prominence as an industrial central rail corridor supporting the shops as well as the textile and meatpacking businesses located along Beargrass Creek. With increasing industrial development and corresponding rail traffic, the L&N decided to grade-separate the Short Line from Kentucky Street to Baxter Avenue by building a rail viaduct that spans several streets through the Corridor. The project began in 1936 and was opened a year later, resulting in one of the most impressive pieces of transportation infrastructure in the city. The viaduct, along with the Beargrass Creek channel, is the dominant element in the north part of the Central Rail Corridor even today.

The distinctive bent alignment of the Short Line and the jigsaw-like street pattern with its angled intersections that give the neighborhoods part of their character is a product of the unique circumstances of Louisville's geography. This area is where the limestone hills meet the Ohio River floodplain, which forced railway engineers to skirt the rolling terrain in favor of level ground. This was also the place where early suburban development, often served by streetcars, took the place of large farms and estates. In Figure 1C, the existing



SOUTH LOUISVILLE SHOPS, CURRENTLY THE SITE OF PAPA JOHN'S CARDINAL STADIUM

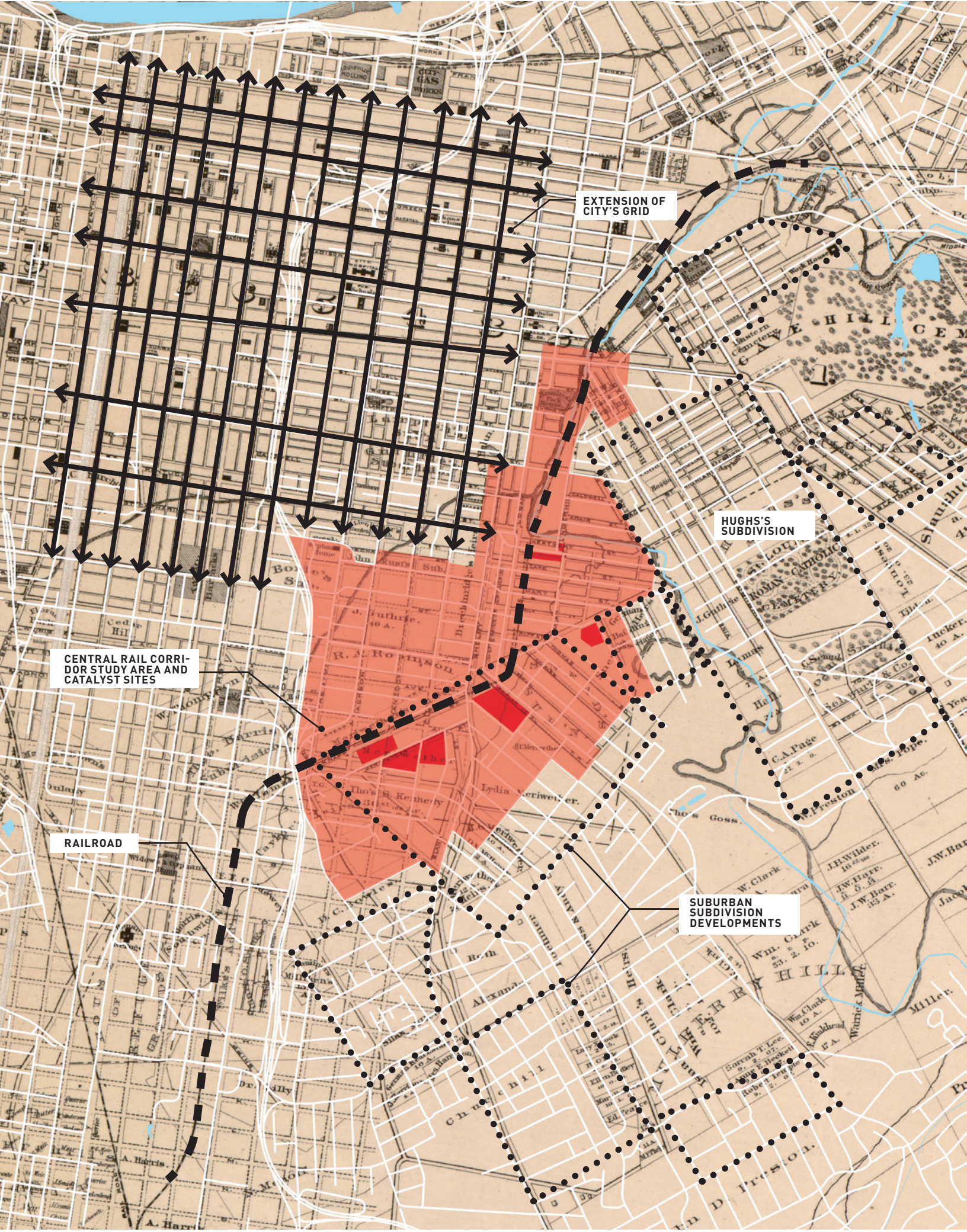
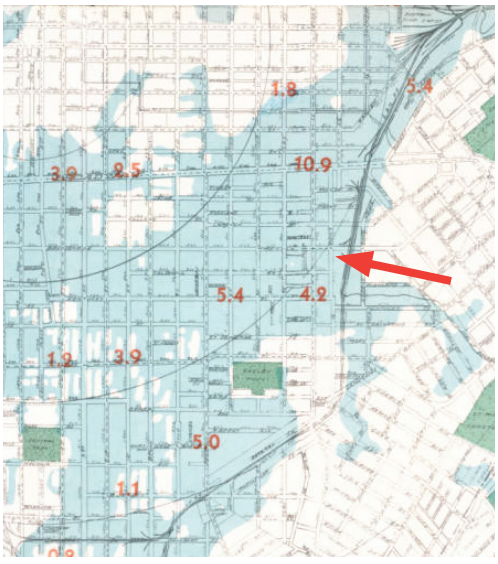


FIGURE 1C: 1873 COUGHLIN MAP

street network shown in white has been overlaid on the map features. It is apparent that the city's regular grid breaks roughly along the alignment of the Short Line; and the street grid to the east and south corresponds in several places to re-platting of older large parcels – one even labelled as "Hughs's Subdivision" in admission of its new purpose. These early residential enclaves grew to become the Highlands, one part of the city that is very desirable today.

The 1873 map also shows the meanderings of the South Fork of Beargrass Creek before it was subjected to channelization in the 1920s. Periodic flooding and direct sewer discharges led the Metropolitan Sewer District (MSD) to divert sanitary sewers away from the creek, and construct a continuous concrete sluice to move stormwater rapidly to the Ohio River. Tributary creeks, such as the one crossing Shelby Park, were buried. Still, the volume of water racing down Beargrass Creek during intense rains contributed to exacerbated flood conditions in the low-lying areas along the Short Line. The images below show the extent of the problem during the great flood of 1937. The beginning of the L&N viaduct just south of East Breckinridge Street occupies the center of the archival photograph, with the Stimpson Computing Scale Company (now Roppel Industries) to the right and the site of today's MSD stormwater vault project to the left. The arrow shows this location on a flood map. While the viaduct's primary purpose was grade separation, it was also designed to avoid line closures that could occur from high water. Combined with the Beargrass Creek channelization, the viaduct project significantly altered the landscape of this part of the Central Rail Corridor.

The western portion of the Central Rail Corridor was equally shaped by major infrastructure. Figure 1D shows the curve of the Short Line at Preston Street in 1938. Not only is there a diagonal grade crossing at the Preston and Burnett Avenue intersection, but in the ten-block stretch south of Burnett all streets except one cross the railroad at grade. In addition, an east-west rail connection called the Gaulbert Street "cut-off" ran in the street cross-section mixing trains with automobile traffic. As more residents began to drive, congestion and conflicts between trains and cars forced changes to the street and rail pattern: the Gaulbert cut-off was removed, many crossings were eliminated, and Burnett



1937 FLOOD EXTENTS

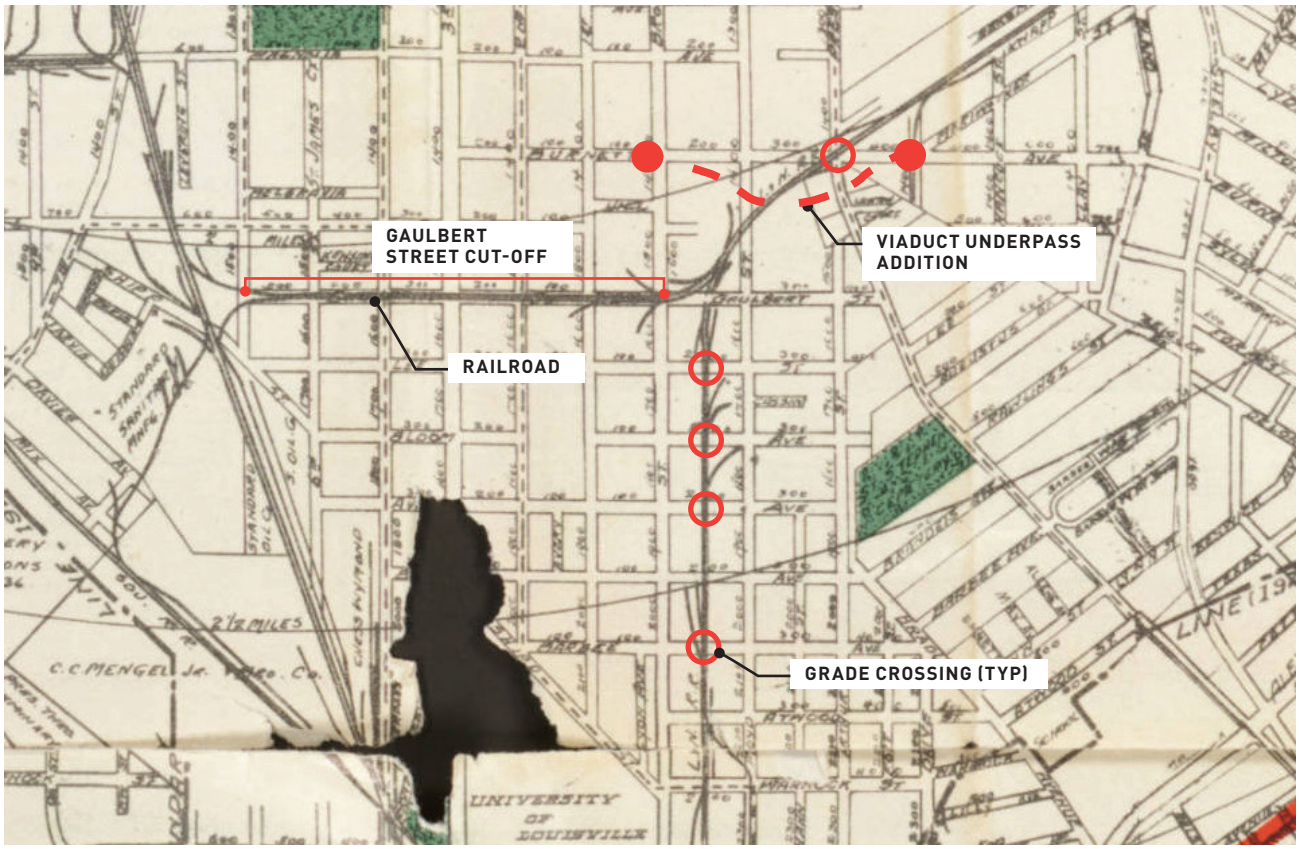


FIGURE 1D: 1938 STREET INDEX, SCAN FROM ORIGINAL FOLDED MAP

Avenue was reconfigured and extended to Hill Street, eliminating the Preston Street connection over the tracks. The construction of Interstate 65 in 1954 was the last major road infrastructure project in the Corridor, visually and physically separating what once was a contiguous industrial district running from the L&N facilities to Goss Avenue.

1.1.2 The Neighborhoods

As shown in Figure 1E, portions of eight urban neighborhoods, six of which contain multiple blocks along the railroad, make up the Central Rail Corridor study area. Each neighborhood has a unique place in Louisville's history, and each has some link to the Short Line. The adjoining neighborhoods of Phoenix Hill and Irish Hill continue this pattern north of East Broadway.

The six primary neighborhoods in the study area include:

Germantown - Settled in the 1870s by German immigrants primarily employed in the stockyards and meatpacking industries in neighborhoods to the north such as Butchertown. It is notable for having one of the largest collections of historic shotgun houses in the city and still retains corner stores and restaurants, particularly along its southern boundary, Goss Avenue. For years the cultural heart of the neighborhood has been St. Therese Catholic Church. A small commercial district remains adjacent to the St. Therese along Schiller Avenue. More recently, the former Shelby Elementary School has been converted into the 930 Arts Center, a performance venue, providing another important institution for the neighborhood.

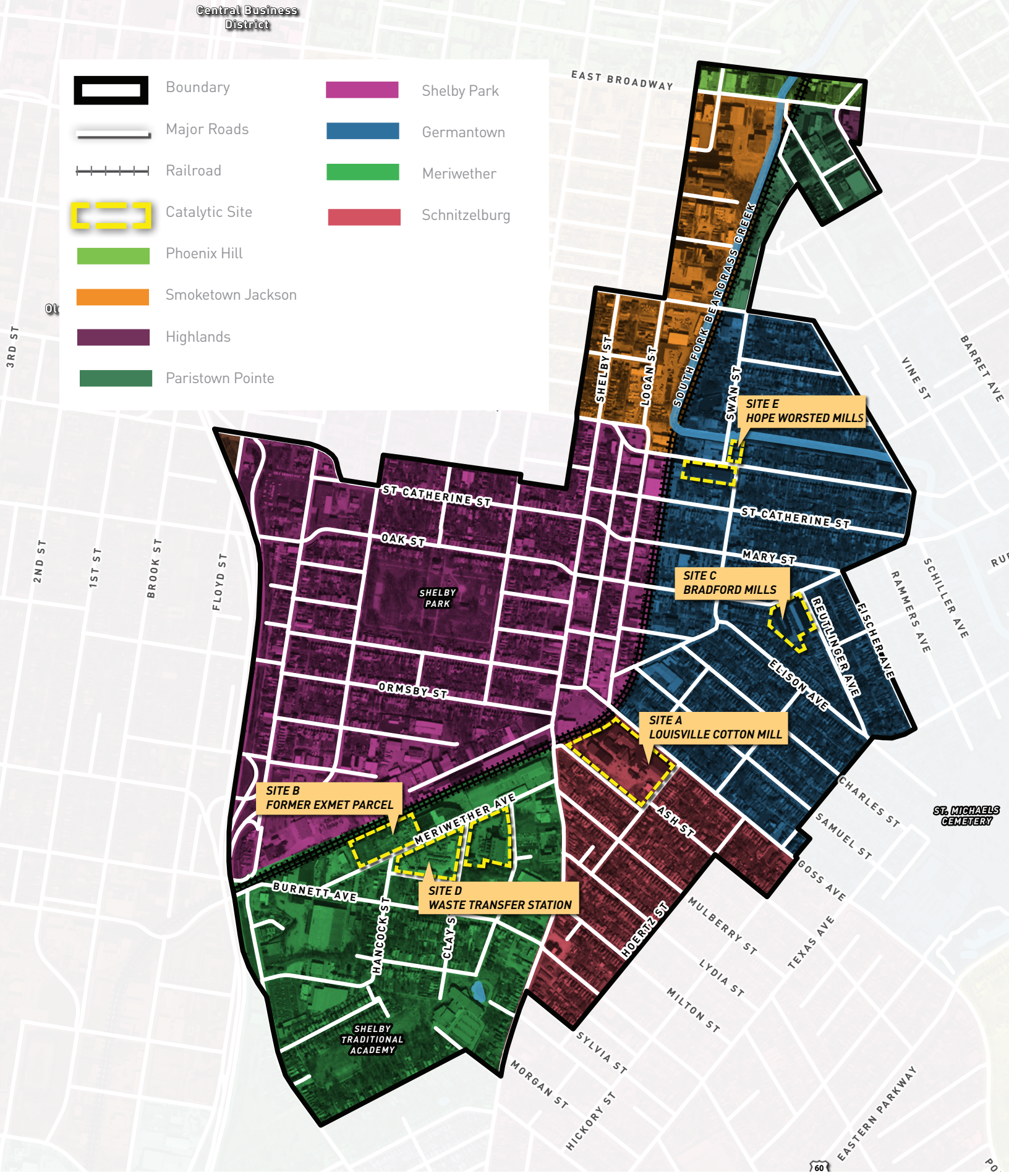


FIGURE 1E: NEIGHBORHOOD DISTRICTS

Schnitzelburg , similar to Germantown, was settled by German immigrants and is distinguished by shotgun houses and corner stores. The bulk of neighborhood growth came after 1890 when a trolley line was extended down Goss to Texas Avenue, and back north along Shelby Street. Because of the trolley, commercial development clustered at major intersections, and Burnett Avenue developed as a prominent neighborhood main street. The streetcar barn serving the line still exists at the corner of Bergman and Shelby Streets.

TROLLEY LINE, BURNETT AVENUE

The **Meriwether** neighborhood to the west of Schnitzelburg takes its name from David Meriwether, a major landowner and real estate speculator. The neighborhood is centered on the large open space between East Lee Street and Rawlings Street and is also dominated by shotgun houses. Initially part of the settlement of Schnitzelburg, by 1900 the population was dominated by African-Americans working in factories served by the Short Line. The Red Cross Hospital on Shelby Street, now the Volunteers of America, served Meriwether residents and was the first hospital in Kentucky to offer nursing education to African Americans.

MERIWETHER NEIGHBORHOOD

Shelby Park, to the north of Meriwether across the Short Line, began to develop in the mid-1870s and accelerated in the 1890s along with Germantown. The two neighborhoods shared the same population of working-class European immigrants. The neighborhood became more desirable with the development of the Shelby Avenue / Schnitzelburg streetcar line, and the construction of Shelby Park in 1908 on the city's former circus grounds. A Carnegie branch library was built in 1911 and converted to a community center in 1993.

SHELBY PARK BRANCH, CARNEGIE LIBRARY

While initially a predominantly German neighborhood, it transitioned to majority African-American in the 1940s and 1950s.

Smoketown is the only historically African-American neighborhood in the Central Rail Corridor area. While a few homes were developed in the 1850s by whites, an influx of freed slaves from rural Kentucky migrated to the neighborhood after the Civil War and quickly established it as their own. Smoketown is bordered on the east by the Short Line, and contained many different industries. The presence of brick kilns and other manufacturing establishments that burned large amounts of wood and coal may have contributed to the name. The ongoing HOPE VI redevelopment of the former Sheppard Square public housing complex at the heart of the neighborhood is helping to accelerate Smoketown's revitalization.

Paristown Pointe is technically a district of Germantown even though it was, and still is, perceived as a separate neighborhood. Its position north of Beargrass Creek contributed to its sense of separation from Germantown, but in the early 1900s bridges spanning the creek brought the two areas closer together. The neighborhood is dominated by the old Baptist Hospital complex, which currently serves as LMG's Urban Government Center, though it is slated to be closed and offered for redevelopment in the short-term, and the Louisville Stoneware Company.

BRECKINRIDGE AVENUE, SMOKETOWN


KENTUCKY BAPTIST HOSPITAL


BROADWAY LOOKING WEST FROM THE SHORT LINE VIADUCT

2

The Corridor Today

2.1 Current Physical Conditions

The Louisville Central Rail Corridor is located east of I-65 along the Short Line Railroad corridor and is in close proximity to both Downtown Louisville and the University of Louisville. The 653-acre study area is comprised of industrial properties surrounded by a tightly knit neighborhood fabric. With the mills no longer operating, this area has tremendous potential for redevelopment, particularly at former mill and industrial sites. At the same time, the area faces environmental challenges due to the presence of perceived or actual brownfield sites, many of which are prime candidates for redevelopment.

The railroad also marks the confluence of six neighborhoods with individual characteristics. The railroad corridor forms the central spine that connects a string of industrial properties through what is otherwise a predominately residential area. The railroad also creates connectivity challenges through the area, as a lack of adequate at-grade crossings frustrates navigation through the street network. One-way and dead-end streets add to these challenges.

This chapter assesses the existing Corridor conditions to better understand its challenges and opportunities.

THE CAFÉ, AT THE CORNER OF BRENT ST AND VINE ST, IS ONE OF THE FAVORITE GATHERING PLACES IN THE NEIGHBORHOOD

2.1.1 Land Use

As shown in Figure 2A, the existing Corridor land use pattern has not changed much from the original pattern developed in the early 1890s, with small-lot single-family properties joined together by a strip of commercial and industrial property along the railroad. While some industrial properties have transitioned to heavy commercial uses such as building contractors, vehicle storage / maintenance facilities or exhibit fabricators, much of the two blocks flanking the railroad are businesses that support local jobs. Many commercial uses not immediately adjacent to the railroad are remnants of former mills or the streetcar lines that ran down Preston Street, Logan Street, Goss Avenue and Burnett Avenue. Institutional uses are found throughout the Corridor, but are predominately concentrated in properties owned by the Metropolitan Sewer District (MSD), LMG's Division of Solid Waste Management or Jefferson County Public Schools. A number of churches and community centers exist in the Corridor, some of which date back to the earliest days of the area's development.

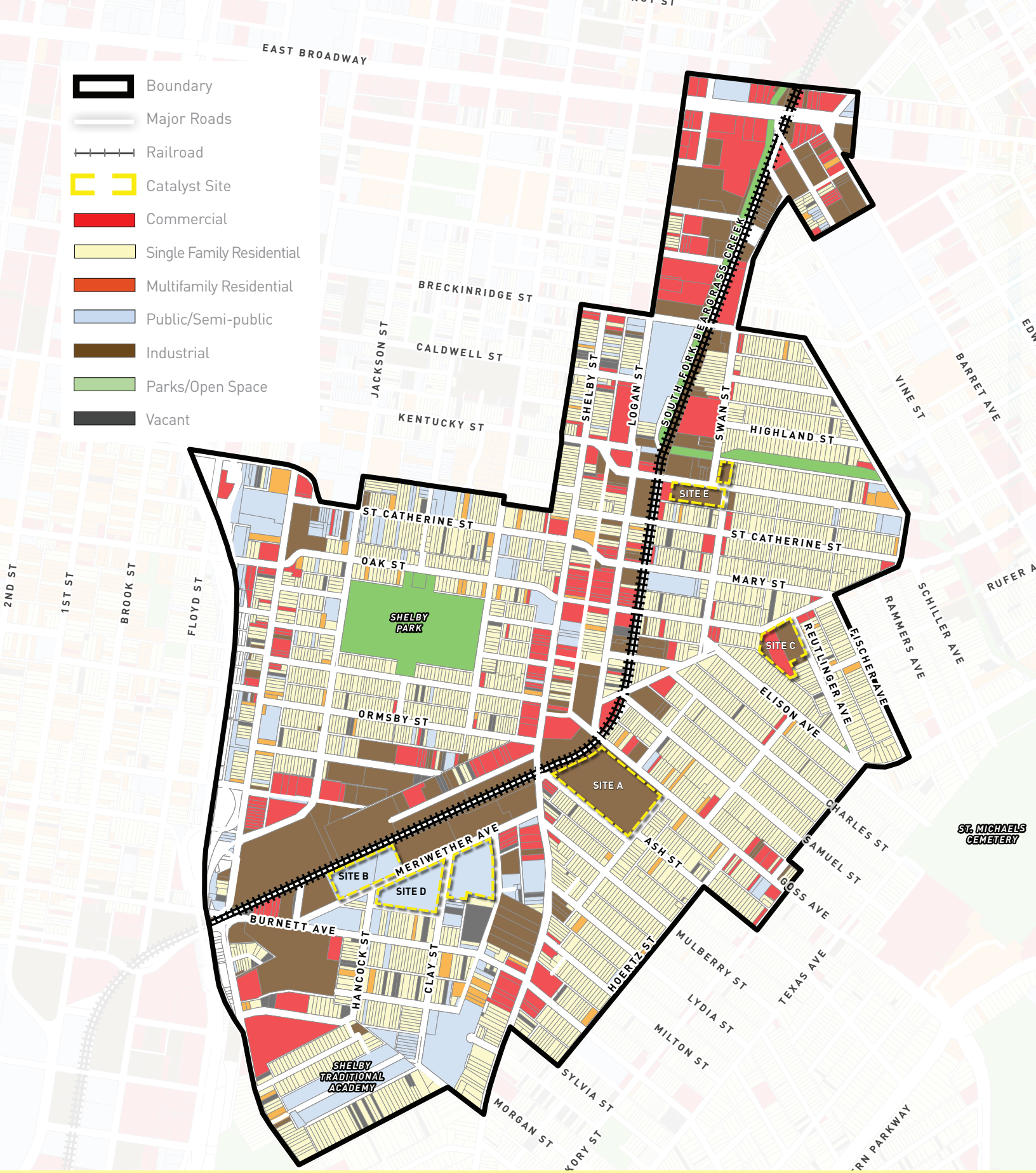
The division of existing land uses is as follows (calculated by parcel area):

- Single Family Residential: 34.1%
- Multifamily Residential: 1.6%
- Commercial: 9.9%
- Industrial: 13.5%
- Public/Semi-public: 13.5%
- Parks/Open Space: 3.6%
- Vacant Land: 1.7%
- Streets/Right-of-way 22.1%

SINGLE FAMILY

INDUSTRIAL

COMMERCIAL



SITE A: LOUISVILLE COTTON MILL | SITE B: FORMER EXMET SITE | SITE C: BRADFORD MILLS | SITE D: WASTE TRANSFER STATION | SITE E: HOPE WORSTED MILLS

FIGURE 2A: EXISTING LAND USE

2.1.2 Zoning

As shown in Figure 2B, a large percentage of the Louisville Central Rail Corridor is currently zoned Multifamily Residential (44%). The remaining area includes Enterprise Zone (20%), Commercial (9%), Single-Family (8%), Office (8%) and Industrial (7%). More specific information on permitted uses in each zoning district reflected on the map can be found in the Land Development Code. *See: http://louisvilleky.gov/sites/default/files/planning_design/landdevelopmentcode2015c.pdf.*

Of the original five Catalyst Sites, two, the former Exmet Property and the Hope Worsted Mills / Blue Bird Pie Factory Property, are zoned EZ-1, Enterprise Zone, a mixed-use commercial / industrial zone that permits a wide variety of uses as a matter of right. This flexible zoning district provides many options for site redevelopment, but does not currently allow for residential uses. One site, the Louisville Cotton Mill Property, is zoned CR, Commercial Residential, which allows a more limited mix of residential and lighter commercial uses supportive of current redevelopment efforts. LMG's Waste Transfer Station is zoned M-3, the city's most intense industrial classification, which allows a very diverse range of industrial uses, making the site highly flexible for industrial purposes. The final Catalyst Site, the Bradford Mills Property, is zoned R-6, Multi-Family Residential, which allows for the construction of up to 17.42 dwelling units per acre.

BERGMAN ST, RESIDENTIAL NEXT TO INDUSTRIAL USES

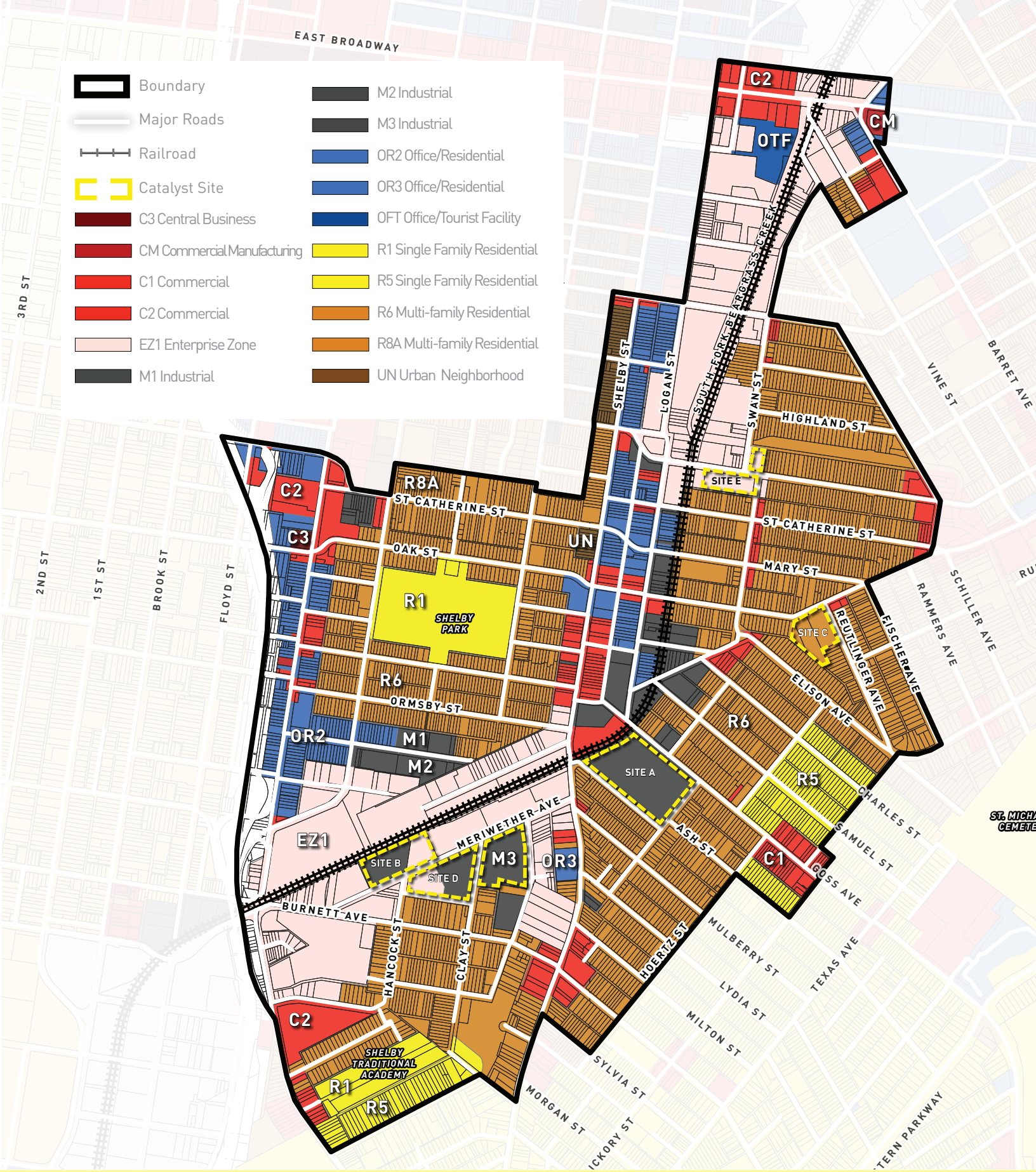


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FIGURE 2B: EXISTING ZONING

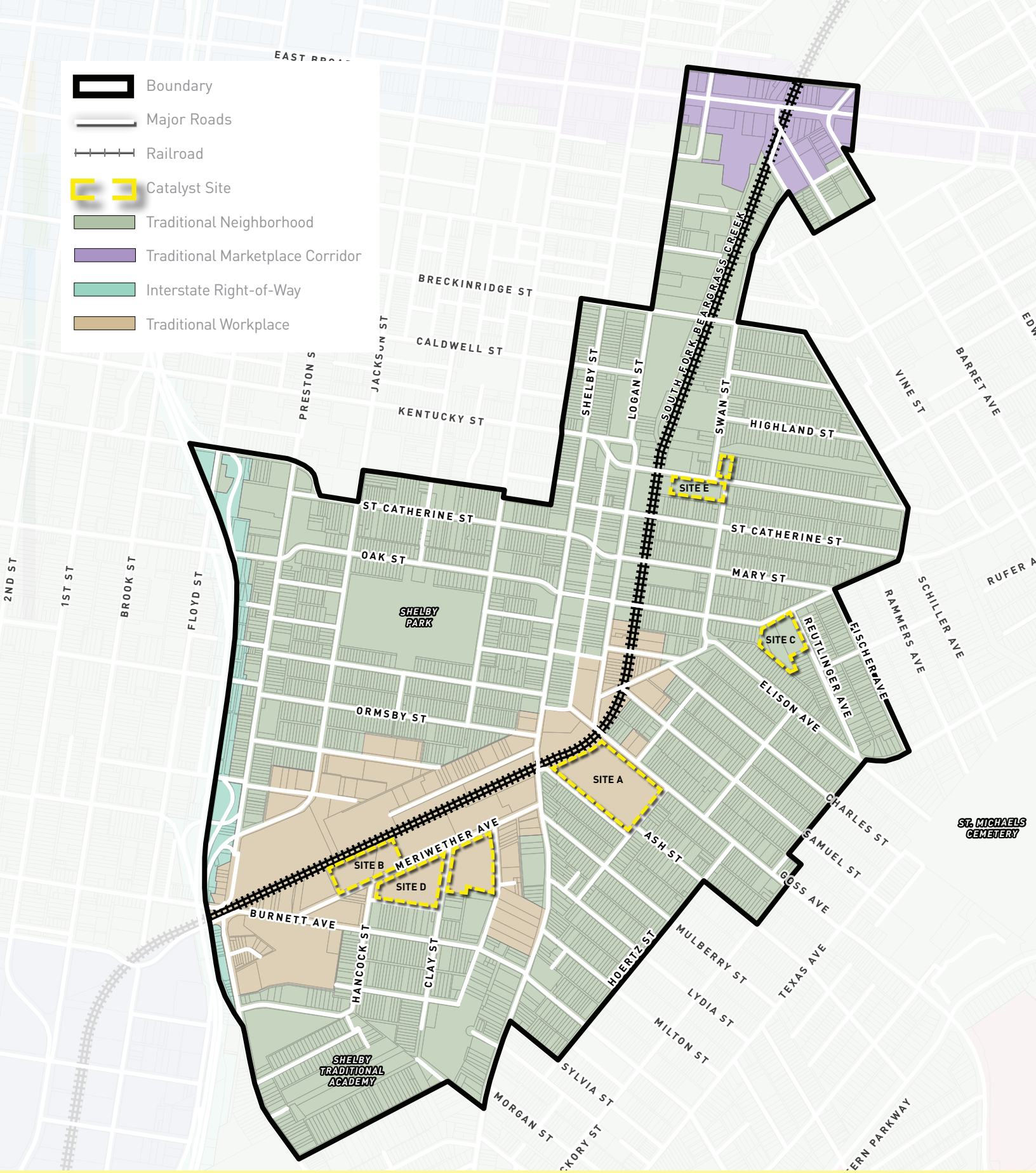

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FIGURE 2C: FORM DISTRICTS

2.1.3 Form Districts

The Louisville Central Rail Corridor is located within three form districts. The Traditional Neighborhood Form District exists primarily in areas dominated by single-family residential development. The Traditional Marketplace Corridor Form District runs along Broadway. The Traditional Workplace Form District follows the railroad through the heart of the Corridor. The Form District regulations, found in the Land Development Code, outline general development patterns intended for each Form District, including compatibility requirements and dimensional standards such as setbacks, buildings heights and permitted lot size. Since the Corridor is predominately developed, the Form District standards for each area are generally satisfied with existing building stock. However, opportunities for infill exist throughout the Corridor, and redevelopment of vacant parcels should be guided by Form District standards to ensure compatible design for infill development.

2.1.4 Assets

The Corridor contains a variety of assets that make it a diverse place to live and work. When asked to identify community assets as part of the community engagement process, meeting attendees listed over 100 distinct people, places and things they love about their neighborhood and the Corridor. These range from individuals who are seen as pillars of the community or as fresh voices who are picking up the work of neighborhood organizing, to the history and culture that shaped the Corridor. Corridor events, including neighborhood music festivals, church picnics, dinners, history walks, a "Dainty" contest, and various beer walks were seen as evidence of strong community cohesion and pride. Meeting attendees were quick to note the variety of locally-owned businesses, including retail shops, restaurants and bars in the Corridor, as well as an abundance of churches and non-profit organizations working in the area. Several attendees listed the diversity of the neighborhoods, and the mix of young and old residents as a sign of strength in the community, and noted that residents of the Corridor are friendly and welcoming. The historic character of the Corridor was highlighted as an asset in many ways, ranging from the collection of shotgun houses in the area to historic markers in the area, and the history of neighborhood development around immigrant communities. Interestingly, the presence of the LMG Waste Transfer Station and recycling operations were listed as Corridor assets in recognition of their potential to spur additional investment in green jobs. The complete inventory is contained in Appendix B hereto.

In addition to the assets listed on the inventory described above, the neighborhood contains one major public park, Shelby Park, one small pocket park,

Gnadinger Park, and one quasi-public open space managed by the Jefferson County Public School District, the former Lincoln-Preston Park. Shelby Park is part of Louisville's historic Olmsted Parks system, and contains a community center located in a historic Carnegie library building. Though the library closed in 1993, recent efforts have been made by the Shelby Park Neighborhood Association to bring a community library back to this building, with "Stock the Shelves" community events aimed at driving book donations to fill the space. The Center supports a Dare to Care Kids Café that serves free meals to youth, and offers a variety of other programming. The park itself contains ballfields, basketball, picnic amenities, a playground, tennis courts and an extensive walking path network. Gnadinger Park is substantially smaller, at just 0.03 acre in size, but includes benches and a toddler playground. The former Lincoln-Preston Park now serves as recreational space for Shelby Traditional Academy, a public elementary school in the Corridor. Though managed by the School District, the area continues to serve as community open space. Other areas throughout the corridor that have the potential to serve as smaller public spaces will be discussed in more detail later in this Plan.

Commercial

- Convenience Store
- Medical Equipment
- Clothing Store
- Housewares
- Gym
- Bank
- Book Store
- Service
- Cosmetic
- Miscellaneous
- Car Repair
- Construction
- Grocery Store
- Landscape
- Liquor Store
- Music
- Restaurant /Food
- Bar

Open Space

- Park/Open Space
- Community Space

Institutional

- Daycare
- Volunteer
- Clinic
- Community Association
- Religious Institution

Office

- Office

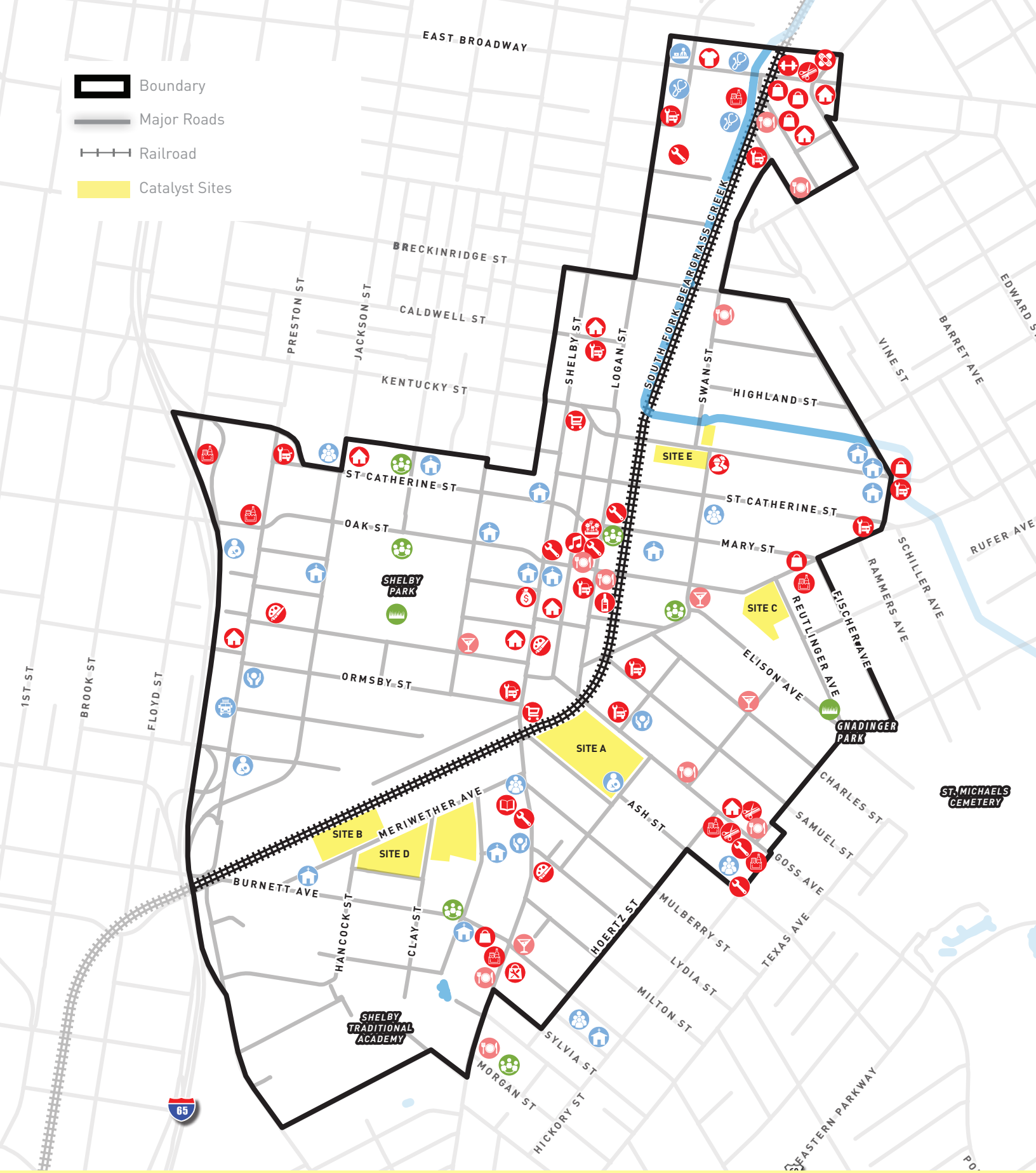

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FIGURE 2D: NEIGHBORHOOD ASSETS - COMMERCIAL, OPEN SPACE, INSTITUTIONAL, AND OFFICE

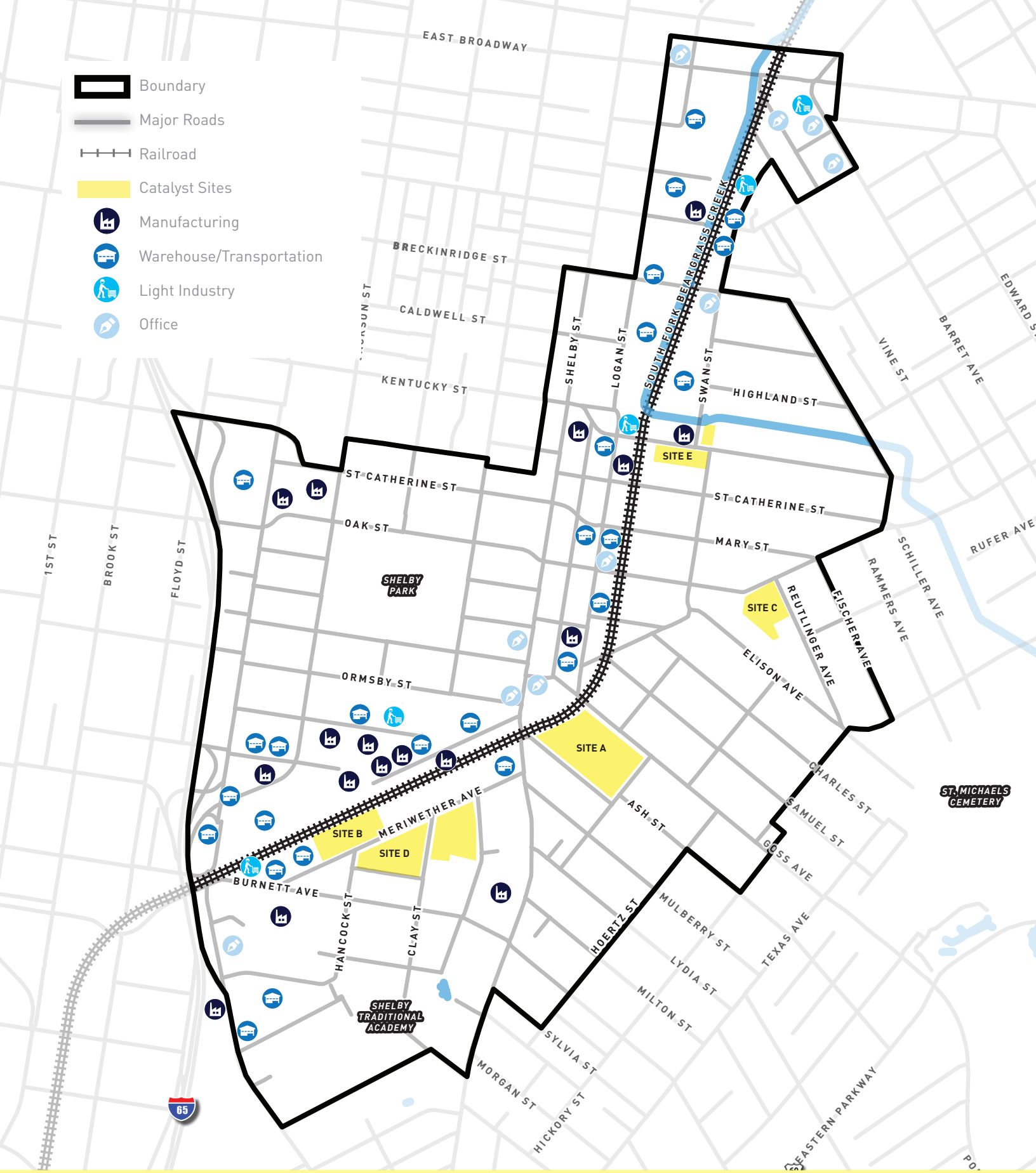

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FIGURE 2E: NEIGHBORHOOD ASSETS - OFFICE AND MANUFACTURING

2.1.5 Vehicular Transportation Network

The Corridor study area can be characterized as a grid pattern roadway system that will likely remain unchanged with the exception of improvements to roadway intersections, the transformation of roadway cross-sections and the potential to convert the current network of one-way streets to two-way streets. The grid pattern is unique in that it orients to the curvature of the railroad that runs north-south through the Corridor's center. This causes the need for jogs, sharply angled turns, and the need to navigate around closed or dead-end roads that intersect with the railroad. Interstate 65 is the western boundary for the study area, and interrupts neighborhood connectivity by causing disconnection of surface streets and leaving large swaths of unused land at two interchanges in the Corridor. Some concern was expressed during the community engagement process by residents of Shelby Park that the I-65 interchange at Jackson Street is designed in such a manner as to encourage cars to speed, sometimes quite excessively, through the neighborhood. The interchange feeds into Jackson Street, which is very wide, and passes through an industrial area before quickly turning into a residential street.

Road Network and Functional Classification of Roadways

The roadway functional classification system is a means of organizing roads based upon their role of moving vehicles through a network of highways and providing access to adjacent land. Functional classification determines eligibility for funding and helps define roadway design. The Corridor includes a system of well-spaced and appropriately-connected urban arterials, collectors and local streets. The table in Figure 2F provides traffic count information for all roads classified as collector-level and above within the Corridor. All other roads not included in the table are classified as local roads. Local roads carry less traffic and generally have lower speed limits. Traffic counts and functional classification help determine which roads are used the most in the study area. The functional viability and traffic carrying capacity of these roads must be considered in planning for future roadway improvement projects. To the north of the railroad, all of the Corridor arterials and collectors function as paired one-way streets. Kentucky's State Primary Road System classifies KY 61, otherwise known as Preston and Jackson Streets through the Corridor, and KY 864, otherwise known as Shelby Street and Goss Avenue through the Corridor, as State Secondary Roads, which are considered regionally significant routes.

ONE-WAY CONFLICTS

Street	Functional Classification	Travel Direction	Daily Traffic Count (year)
North of the Railroad			
Preston Street (KY 61)	Urban Minor Arterial	South	5461 (12)
Jackson Street (KY 61)	Urban Minor Arterial	North	4738 (12)
Shelby Street (KY 864)	Urban Minor Arterial	South	3989 (12)
Logan Street (KY 864)	Urban Minor Arterial	North	4487 (12)
East St. Catherine Street	Urban Minor Arterial	East	6659 (12)
Oak Street	Urban Minor Arterial	West	3293 (12)
Kentucky Street	Urban Collector	West	3514 (12)
Breckinridge Street	Urban Collector	East	4771 (12)
South of the Railroad			
S. Preston Street (KY 61)	Urban Minor Arterial	Two-Way	8386 (13)
S. Shelby Street	Urban Minor Arterial	Two-Way	5597 (12)
Goss Avenue (K864)	Urban Minor Arterial	Two-Way	10448 (13)
Meriwether Avenue	Urban Collector	Two-Way	2062 (12)
Burnett Avenue	Urban Collector	Two-Way	3682 (13)

FIGURE 2F: STREETS FUNCTIONAL CLASSIFICATION. SOURCE: KENTUCKY TRANSPORTATION CABINET

Connectivity to Adjacent Areas

The Corridor lacks complete north-south connectivity primarily due to the changing grid pattern and the presence of the railroad. Only Shelby Street and Goss Avenue connect across the railroad, though there are eight north-south streets between the railroad and I-65. Notably, Preston Street features an extensive pedestrian bridge to connect over the railroad, but does not allow for vehicular access in this area. East-west connectivity through the Corridor is limited, but less challenging, with five streets passing over or under the railroad. Connections to the central business district are plentiful with no closed streets or dead ends, and connectivity to the west is likewise free from physical impediments. A number of unofficial-looking pedestrian crossings exist along the railroad, typically at the end of dead-end streets. These connections appear to be well-maintained, and at the time of this Plan, several had been repaved with asphalt.

2.1.6 Connectivity, Wayfinding and Safety

As a result of the above-described conditions, there are a number of connectivity, wayfinding and safety issues in the Corridor.

One-Way Streets:

The Corridor features a series of one-way street pairings: Shelby Street/Logan Street; East St. Catherine Street/ Oak Street; and Preston Street/Jackson Street. These pairings create connectivity issues within the Corridor and the surrounding neighborhoods. One-way pairs are confusing to visitors to the area in that they cause drivers to need to circle blocks to reach a destination, problematic for pedestrians and bicyclists in that they encourage higher vehicular speeds, and challenging for businesses that experience lower levels of visibility from one-directional traffic. Areas where directionality changes, such as occurs where Shelby Street both intersects with Goss Avenue and simultaneously becomes a two-way street, are also particularly challenging for drivers and contribute to a sense of

disconnection in the Corridor. These convergences and changes in driving patterns can cause major safety issues and confusion.

Dead-End Streets/Railroad:

The street pattern in the Corridor is highly disconnected along the railroad, especially in the southwest portion of the area where only two streets go across the railroad (S. Shelby Street and Goss Avenue). The construction of the railroad caused a number of streets to be converted to dead-ends, restricting movement across the railroad and between neighborhoods in the Corridor. Pedestrian connections are also frequently missing which present challenges for walkability, safety and access to services and community amenities. Shelby Park, for instance, is currently disconnected from the neighborhoods south of the railroad.

The few streets that continue across the railroad are located in the northern area of the Corridor and are all one-way. Overall east-west connectivity of the Corridor is highly challenged not only by the interruptions created by the railroad and the one-way pairs, but also by unresolved intersections between two diverging grids, which in many cases require drivers to "jog" across intersecting streets.

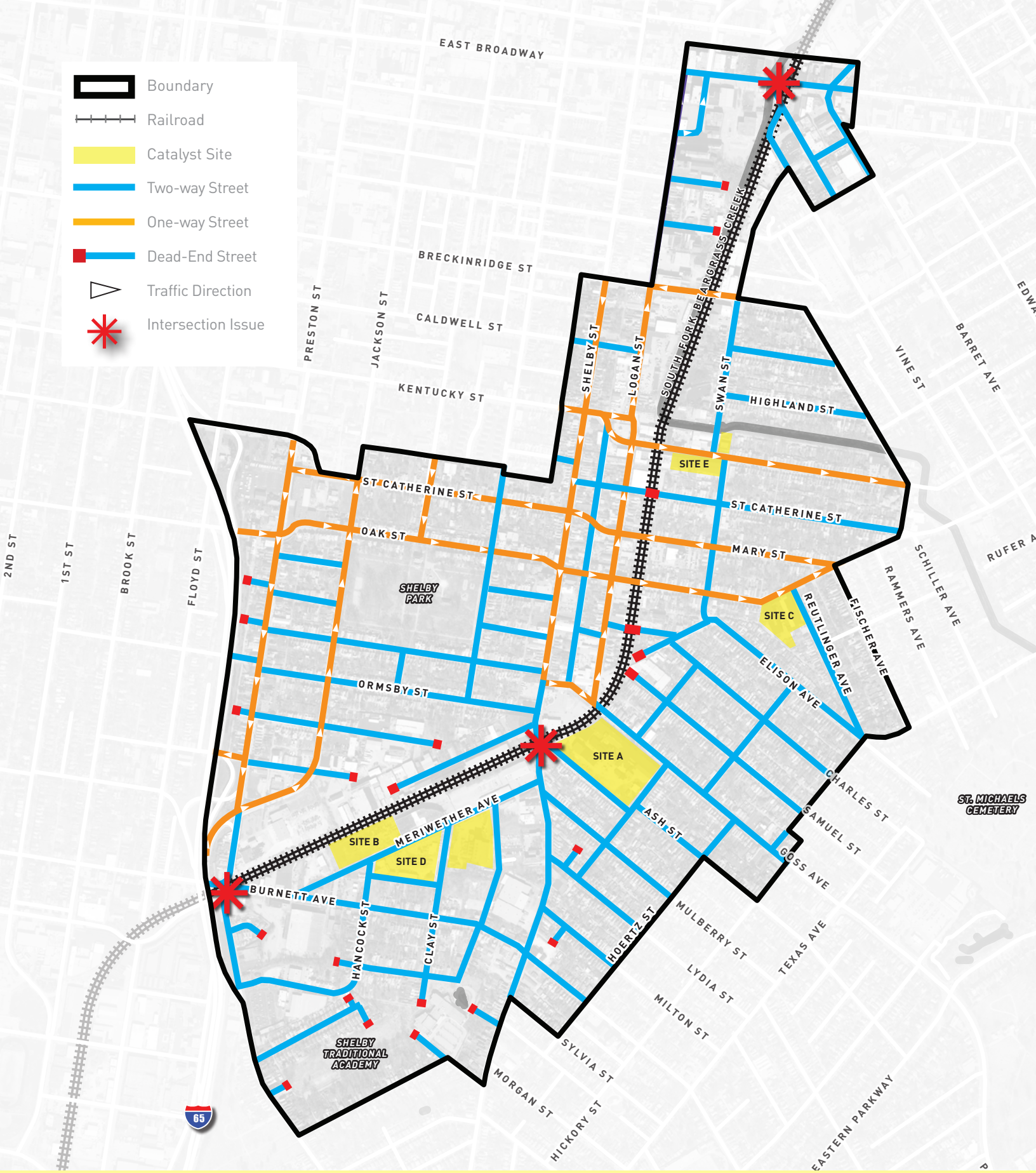
Intersection and At-Grade Crossings Issues:

There are three main intersection issues in the study area that bear further consideration:\

- The **South Shelby Street/ East Ormsby Street / Bergman Street /Ash Street** intersection presents multiple issues. The Shelby Street corridor curves slightly, which when combined with the short distance between the intersections of East Ormsby Street and Bergman Street and the very close proximity of a building located between those two intersections to the street, causes visibility challenges. There are three intersecting streets, a rail crossing, and a curb cut within 0.06 of a mile along this stretch of South Shelby Street. The building in question also limits sight-distances for drivers making a left turn from Bergman Street onto South Shelby Street. These two factors are exacerbated by the fact that this set of intersections is just south of where South Shelby Street converts from one-way to two-way. A lack of a crosswalk to protect pedestrians crossing South Shelby Street to reach the Save-A-Lot grocery store is challenging for Corridor residents, particularly those living in Shelby Park, as it makes crossing the street substantially more dangerous.

- The **East Burnett Avenue / South Preston Street** intersection is not truly an intersection since it is cut off by the railroad in this location. Despite this lack of connectivity, this area poses problems for drivers and pedestrians alike in that there is extremely limited visibility for drivers turning left from South Preston Street onto East Hill Street. This lack of visibility is caused by the retaining walls built to allow the road to pass under the railroad at this location. Drivers tend to achieve high speeds through this area, further increasing the hazard.

- The **East Broadway / Brent Street** intersection is challenging to drivers, pedestrians and cyclists for many reasons. This intersection exists just west of a large rail viaduct that spans East Broadway, one of the main roads moving traffic through the central business district. The viaduct limits visibility for drivers looking east. Cars traveling west down the hill on East Broadway have a 35-mph speed limit,



SITE A:
LOUISVILLE COTTON MILL

SITE B:
FORMER EXMET SITE

SITE C:
BRADFORD MILLS

SITE D:
WASTE TRANSFER STATION

SITE E:
HOPE WORSTED MILLS

FIGURE 2G: STREET NETWORK

but often exceed this given the width of Broadway. Broadway is 7 lanes wide, 3 in each direction with a center turn lane, at this location, so drivers must either rest in the center lane before merging or cross four lanes to travel west turning from Brent Street without the benefit of a traffic signal to assist in making the turn. Pedestrian activity and bicycle traffic along East Broadway in this location is not insignificant, and the presence of one of Transit Authority of River City's (TARC) "frequent service routes," the 23, and a convenience store near the Brent Street intersection increases the area's overall safety risk.

2.1.7 Multi-Modal Transportation Network

Existing Transit

Figure 2H shows the bus routes that serve the Corridor. From **Route 43**, Corridor residents can access the central business district and the Portland neighborhood, the Louisville Zoo, the Audubon Regional Medical Center, and the Highview area in South Central Jefferson County. The route operates seven days a week and is considered a "local serving" route by TARC, meaning that it operates seven days a week with frequencies ranging from 15 minutes between buses at peak hours to 60 minutes between buses during regular operating hours.

Route 18 is split between two routes, one operating from the central business district to Valley Station, and the other running from the central business district to the University of Louisville. Some trips also serve the UPS Worldport Hub on Grade Lane. This is a "frequent service" route that operates on weekdays from 7 a.m. to 7 p.m. with 10-15 minute headways. This route is currently identified in the Kentuckiana Regional Planning and Development Agency (KIPDA) Long Range Plan and Move Louisville as a high capacity transit corridor and is slated for increased frequency service.

Route 25 takes Corridor residents across town, and is one of few east-west routes through the Corridor. The route connects Shawnee Park through Old Louisville to Westport Road. It also serves Springhurst Towne Center and Old Brownsboro Crossing and the Nia Travel and Jobs Center. This route operates seven days a week with 15 minute to 60 minute frequencies.

As previously discussed, **Route 23** runs east-west along Broadway in the northern portion of the study area. This route connects a number of major destinations from West Louisville through the central business district and out to Fern Creek through the Highlands. Select trips during the week also serve General Electric Appliance Park and Baptist East and Suburban Hospital. This route is a "frequent service" route that operates on weekdays from 7 a.m. to 7 p.m. with 10-15 minutes headways.

Corridor residents can take **Route 99,** the West Louisville/UPS Shuttle to access jobs at UPS WorldPort, or to reach the University of Louisville, the central business district and Jefferson Community College. This route is designed specifically to transport employees working the overnight shift at UPS. The route operates once in the morning and once in the evening during the week, and once per day on Saturday. There is no service on Sundays.

Finally, **Route 27**, is a crosstown route that connects Portland, West Louisville, Old Louisville and the Audubon Medical Center. This "local serving" route operates seven days a week at relatively infrequent intervals.

Long-Range Plan Transit Improvements

KIPDA is the Louisville area's regional planning organization that oversees, among other things, federal transportation funds directed through its long-range plan, Horizon 2035: The Metropolitan Transportation Plan for the Louisville/Jefferson County (KY-IN) Metropolitan Planning Area. Projects placed on the long-range plan are prioritized for funding as it becomes available, but placement on the plan is not a guarantee that a project will be completed. KIPDA's current long-range plan includes a recommendation to convert Shelby Street from one-way to two-way through the Corridor, to construct or repair a number of sidewalks in the Corridor, and to enhance transit service in the Corridor through increased frequencies.

Move Louisville Planned Transit Projects

Corridor-based recommendations for improved transit service include:

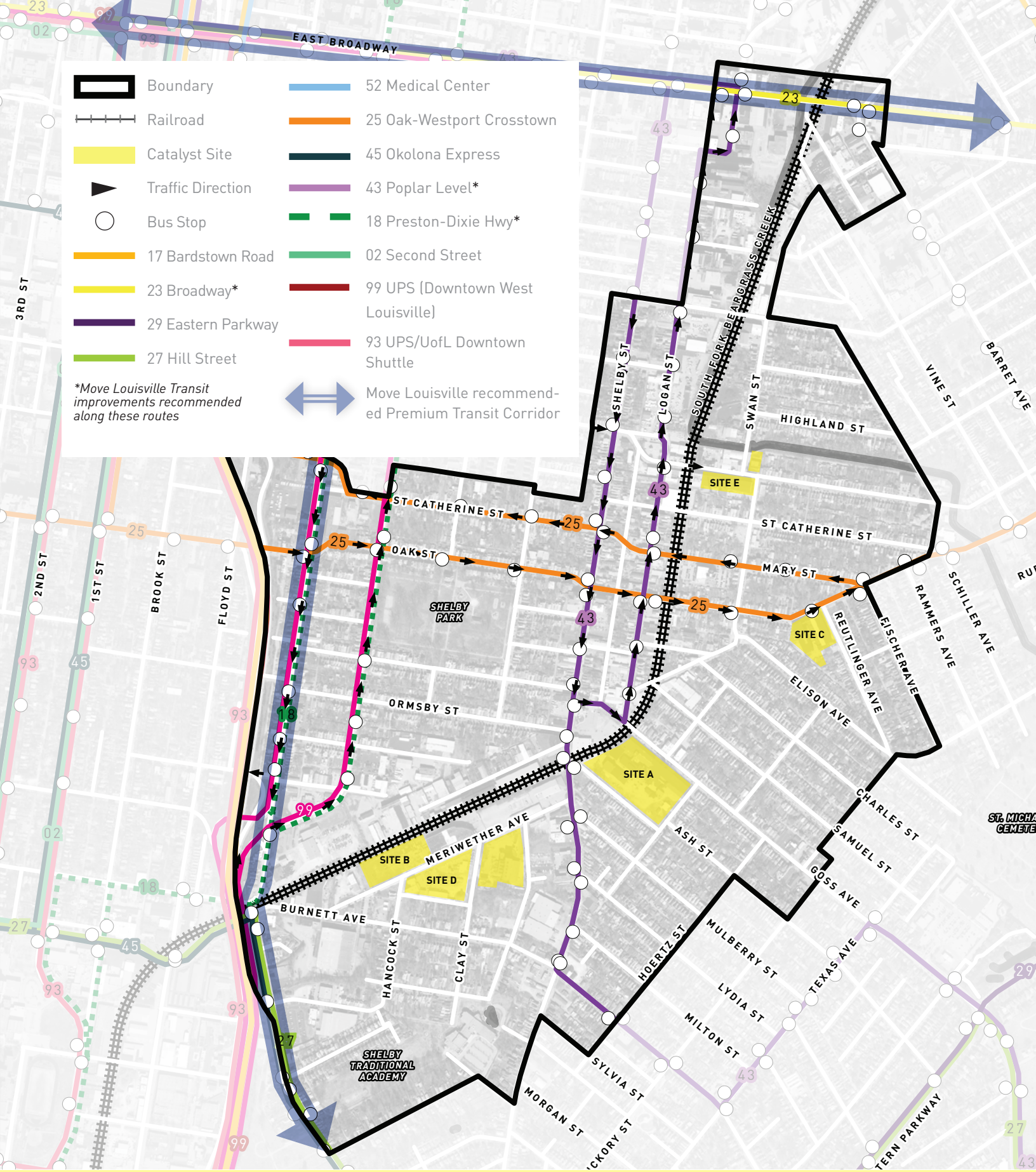
- Improved frequency of transit service along Route 18 - Preston-Dixie Highway route within the study area. Headways are recommended to be increased to 15 minute or better frequency, and consideration for splitting the current route into two service areas is given. This change would give TARC the ability to address demand for more frequent service in some areas with more limited service in other areas, and to improve coverage as a result.

- Complete Street retrofit of the Broadway Corridor, including premium transit in the form of Bus Rapid Transit (BRT); a two-way cycle track; sidewalk and intersection crossing improvements; premium service along Route 23; and enhanced high capacity service with 15-minute frequency. This recommendation includes enhancing rider amenities where these routes intersect with other premium or major routes. Move Louisville classifies premium transit service as being all-day, two-way, reliable and frequent service, which offers travel times comparable to those achieved in personal vehicles, and improved rider amenities such as real-time trip data and enhanced stops.

- Increased service frequencies, between 30 and 60 minutes between trip, on Route 43 - Poplar Level.

- Modifications to Route 25 - Oak Westport Crosstown to improve crosstown service, including straightening the route and attempting to provide 30 minute or less headways. A detailed service planning study has been recommended to identify the most appropriate and effective service modifications.

- Transforming Preston Highway into a premium transit corridor will provide access to jobs and enhance land uses along the corridor. Short-term enhancements including improving frequency and improving running time through approaches like limited peak hour bus lanes and consolidated stops will help to maximize transit ridership and improve choice along the corridor.



SITE A: LOUISVILLE COTTON MILL | SITE B: FORMER EXMET SITE | SITE C: BRADFORD MILLS | SITE D: WASTE TRANSFER STATION | SITE E: HOPE WORSTED MILLS

FIGURE 2H: TRANSIT NETWORK

Bike Facilities

Until recently, all bicycle facilities in or near the Corridor were assigned bike routes located on low-volume streets such as Clay Street. In 2014, LMG restriped Kentucky and Breckinridge Streets to incorporate dedicated, striped bike lanes. These one-way streets were converted from 2-lanes with peak-hour-restricted lanes to 1-lane with a peak-hour restricted lane with dedicated bike lanes, bike lane buffers and a dedicated parking lane. Move Louisville recommends the installation of a bike lane along Preston Street as a future project and the construction of a cycle track, an exclusive bike facility that combines the experience of a separated path with the infrastructure of an on-street bike lane, for Broadway.

Louisville Metro's 2010 Bicycle Master Plan used a benefit-cost planning process to identify projects to improve bike facilities across the community. Though no high-priority projects were identified for the Corridor, the Plan does recommend the installation of low-cost directional signs on existing bike routes, and the evaluation of signal timing to optimize safe crossings for bicyclists.

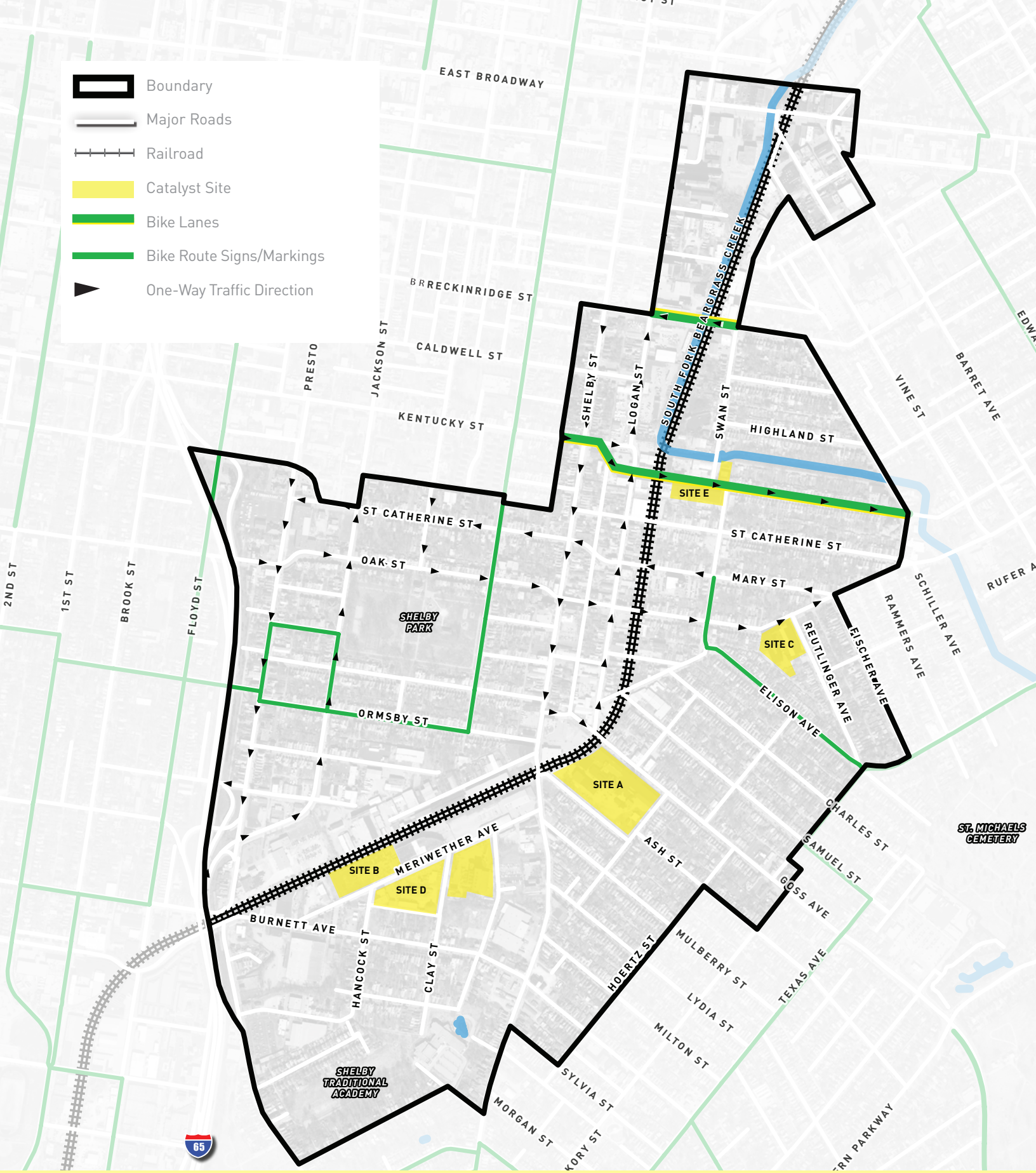
Pedestrian Facilities

The Corridor has an extensive sidewalk network, with all streets including sidewalks on both sides. Most sidewalks are in good condition, especially in the Schnitzelburg and Germantown neighborhoods, though some are narrow. The condition of Corridor sidewalks worsens towards the industrial areas of the Corridor. Sidewalks do continue across the railroad, with four main crossings at South Preston Street's pedestrian bridge, South Shelby Street, East Breckinridge Street and East Broadway. Some additional informal pedestrian connections have been built with asphalt to cross the railroad at other locations. However, the limited number of pedestrian connections that cross the railroad challenge Corridor walkability and pedestrian safety in the Corridor.

Louisville Metro's March 2010 Pedestrian Plan identified opportunities for improving the pedestrian network across the community to meet latent demand. Plan recommendations include the use of a prioritization process with benefit-cost indices to identify segments of roadways (collectors and above) where improvements would serve the highest number of pedestrians at the lowest cost.

Based upon the Plan's prioritization process, every Corridor street classified as collector and above (see Figure 2F) would rank as a high priority for streetscape improvements. Other streets such as Goss Avenue, Shelby Street and Logan Street, which have the potential to be major emerging retail areas, could benefit from pedestrian streetscape improvements.

EXISTING BIKE LANE ON KENTUCKY STREET



SITE A: LOUISVILLE COTTON MILL | SITE B: FORMER EXMET SITE | SITE C: BRADFORD MILLS | SITE D: WASTE TRANSFER STATION | SITE E: HOPE WORSTED MILLS

FIGURE 2I: BIKE NETWORK

2.1.8 Open Space

Of the 653 acres of land in the Corridor, as discussed previously, only 28 acres are dedicated to public open space, with 16 acres at Shelby Park, 11 acres at the former Lincoln-Preston Park and less than 1 acre at Gnadinger Park. While the ideal ratio of open space to housing is not fixed, good practice places at least one public park in each distinct neighborhood. The Corridor has the benefit of proximity to one of Louisville's most celebrated natural landscapes, Cherokee Park, which is only two miles from the Goss Avenue / Shelby Street, but Corridor residents do not have convenient access to this amenity given its distance from the area and the challenges of the transportation network. It should not be thought of as a substitute for having additional open space in the Corridor itself. The presence of Beargrass Creek, however, does create the potential for the construction of a continuous green connection between Cherokee Park, the Corridor and the Ohio riverfront, and this topic was discussed in depth during the community engagement process. Funding has been identified to begin this planning process. LMG's Sustainability Department will be looking at creating a greenway trail connection between the existing Beargrass Greenway Trail and the existing Butchertown Greenway Trail which, though outside the Corridor, terminate in close proximity to the branch of Beargrass Creek that passes through the Corridor. The connection of these two greenways paves the way for additional connections to be made through the Corridor.

Shelby Park

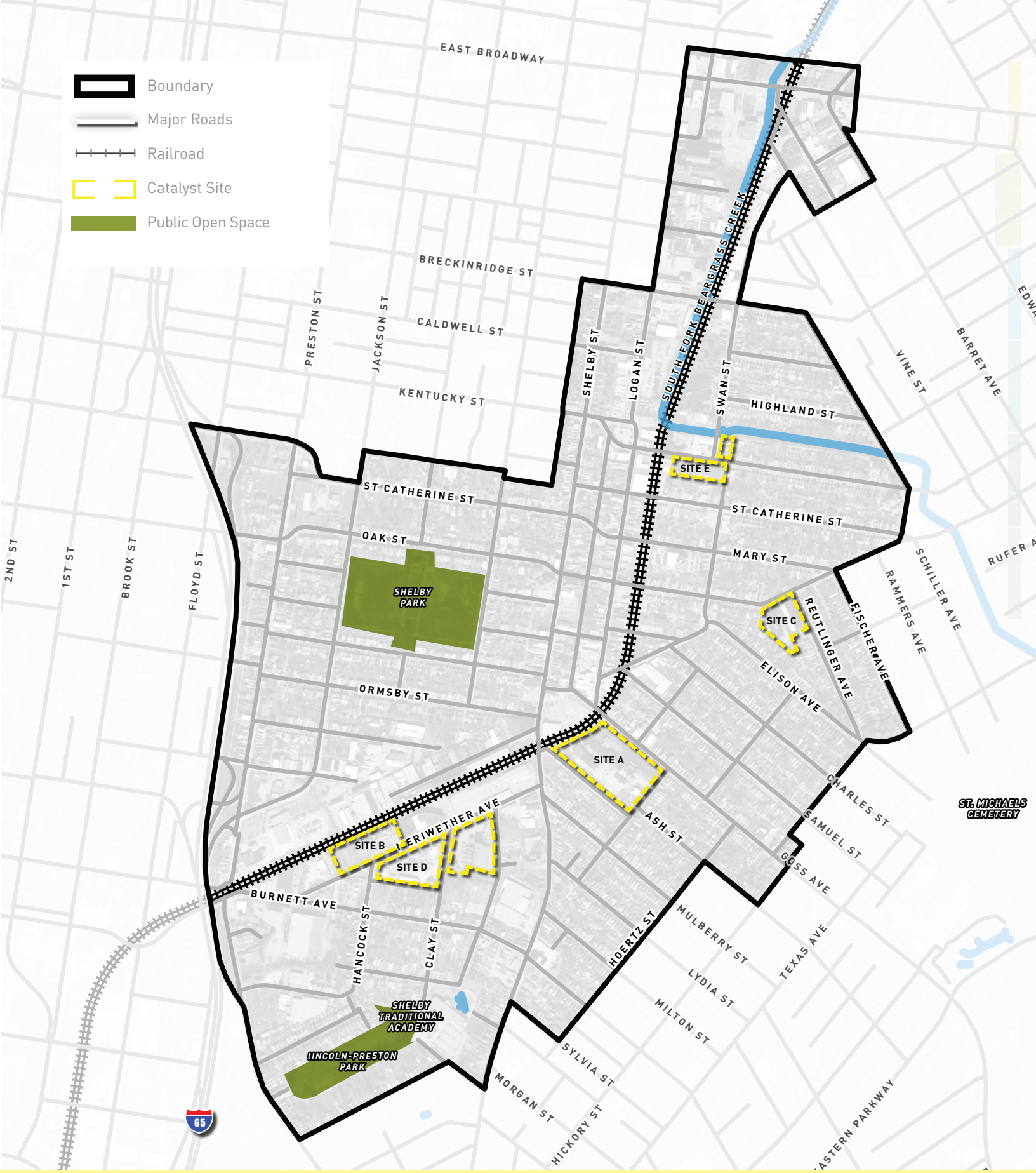
Shelby Park is the Corridor's most historic open space. It was designed by Frederick Law Olmsted and built between 1909 and 1911, the year the Beaux Arts Carnegie Library, located in the Park, was also built. The formal planning of the park provides a superb setting for the library. The park's original design included a wading pool, which was replaced by a circular swimming pool in the 1920s. (See image below.) The pool was rebuilt again in the 1960s in a design inconsistent with the original landscape plan. After declining in the 1970s and 80s and facing demolition, the park became the focus of a community-based master plan effort to renew its grandeur. Some components of the Plan, including landscaping, site and building repairs, have been implemented.

Lincoln-Preston Park

Lincoln-Preston Park owes its origins to the construction of the Lincoln Colored School in 1910. The school was located at the intersection of Bland and Morgan streets (the location of the Shelby Traditional School's circular drop-off). The Meriwether neighborhood at that time was only partially developed and the vacant land

SHELBY PARK - 1920'S VIEW OF SHELBY PARK POOL

LINCOLN-PRESTON PARK



SITE A: LOUISVILLE COTTON MILL | SITE B: FORMER EXMET SITE | SITE C: BRADFORD MILLS | SITE D: WASTE TRANSFER STATION | SITE E: HOPE WORSTED MILLS

FIGURE 2J: OPEN SPACE

extending to South Preston Street may have functioned as a play area for the school. When the Lincoln School was closed in 1953 the building was leased to the City of Louisville's parks department and was eventually demolished in the 1960s. The construction of the Shelby Traditional School occurred in 2004 when the original Isaac Shelby Elementary in Germantown was purchased by Sojourner Community Church and renovated into the 930 Arts Center. Lincoln-Preston Park, currently owned by the Jefferson County Public Schools, still serves as outdoor activity space for an adjacent school, but its central location in the Meriwether neighborhood makes for a potential improvement opportunity as additional programmed open space.

2.2 The Catalyst Brownfield Sites

The Louisville Central Rail Corridor, once home to vibrant manufacturing such as Louisville's historic woolen mill industry as well as commercial and residential areas, now struggles economically. Many parcels within this mixed-use corridor are considered brownfields due to current and historic industrial uses, the presence of the railroad through the Corridor's heart, and a history of residential, commercial and industrial disinvestment. Five brownfields were identified early in the process as "Catalyst Sites". They are the Louisville Cotton Mill, the former Exmet property, Bradford Mills, Louisville Metro Government's waste transfer station, and the Hope Worsted Mills/ Blue Bird Pie Factory. Three of the sites are listed on the National Register of Historic Places. These five sites stand out because of their redevelopment potential and their ability to catalyze broader investment in the Corridor.

HISTORIC PHOTO OF LOUISVILLE COTTON MILL (ONE OF THE CATALYST SITES), 1920

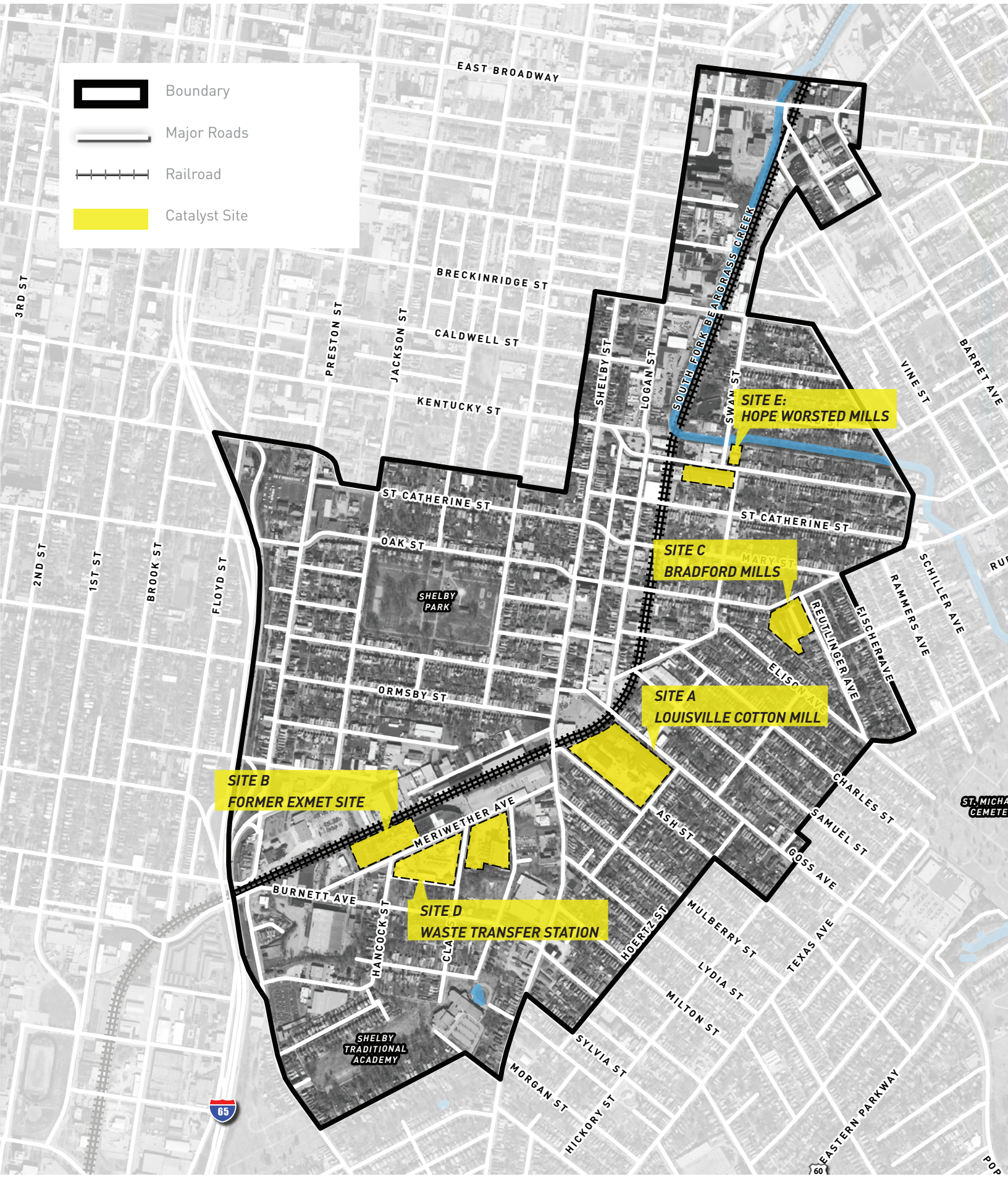


FIGURE 2K: CATALYST SITES

Site A: Louisville Cotton Mill

946 Goss Avenue

Louisville, KY 40217

Owner: Mill Lofts LLC

Developer: Underhill Associates

Size: 7.7036 acres

Building: 228,447 square feet (1889)

FY14 assessed value: $2.2 Million

Zoning: Industrial

Date acquired: October 16, 2014

Previous owners: JTJ LLC; Fincastle Investment Co.

Built in 1889 and located at 946 Goss Avenue, the **Louisville Cotton Mill**, manufactured fabric for "Kentucky jeans," a type of work clothing that was made of a cross between burlap and typical cotton dungaree cloth. In 1919 the mill came under the ownership of Louisville Textiles and shifted production to household fabrics sold under the brand name of "Fincastle". Like many New England mills, the Louisville Textile complex was designed to provide amenities and services to a workforce made up largely of women and children. Workers identified with the mill and took pride in its appearance, even planting a garden in the south corner of the property. Textile production ceased in 1967, and the mill became a warehouse and mattress factory until partial conversion into the Goss Avenue Antique Mall in 1982. The antiques business gradually absorbed the balance of the property and lasted until 2014 when the mill was sold for conversion into loft apartments and retail. Some of the equipment used in mill production is now housed in the Smithsonian Institute. A recent multi-million dollar investment in the mill's redevelopment will include apartments and commercial retail space.

This architecturally significant building is included in the National Register of Historic Places (#82001560, 1982).

Brownfield Issues

A private redevelopment firm completed a Phase I Environmental Site Assessment (ESA) in September, 2012, which identified potential soil and groundwater contamination, including lead, VOC's, PCB's, PAH's and petroleum-based products. The developer partnered with LMG to conduct a Phase II ESA and full site characterization through LMG's Area-Wide Brownfields Assessment Grant. Contamination in the building and site soils has been addressed through the redevelopment process. Low level petroleum constituents were identified in shallow soils at the facility and have been addressed through an environmental covenant - a legal requirement similar to a deed restriction.

LOUISVILLE COTTON MILL , 2014

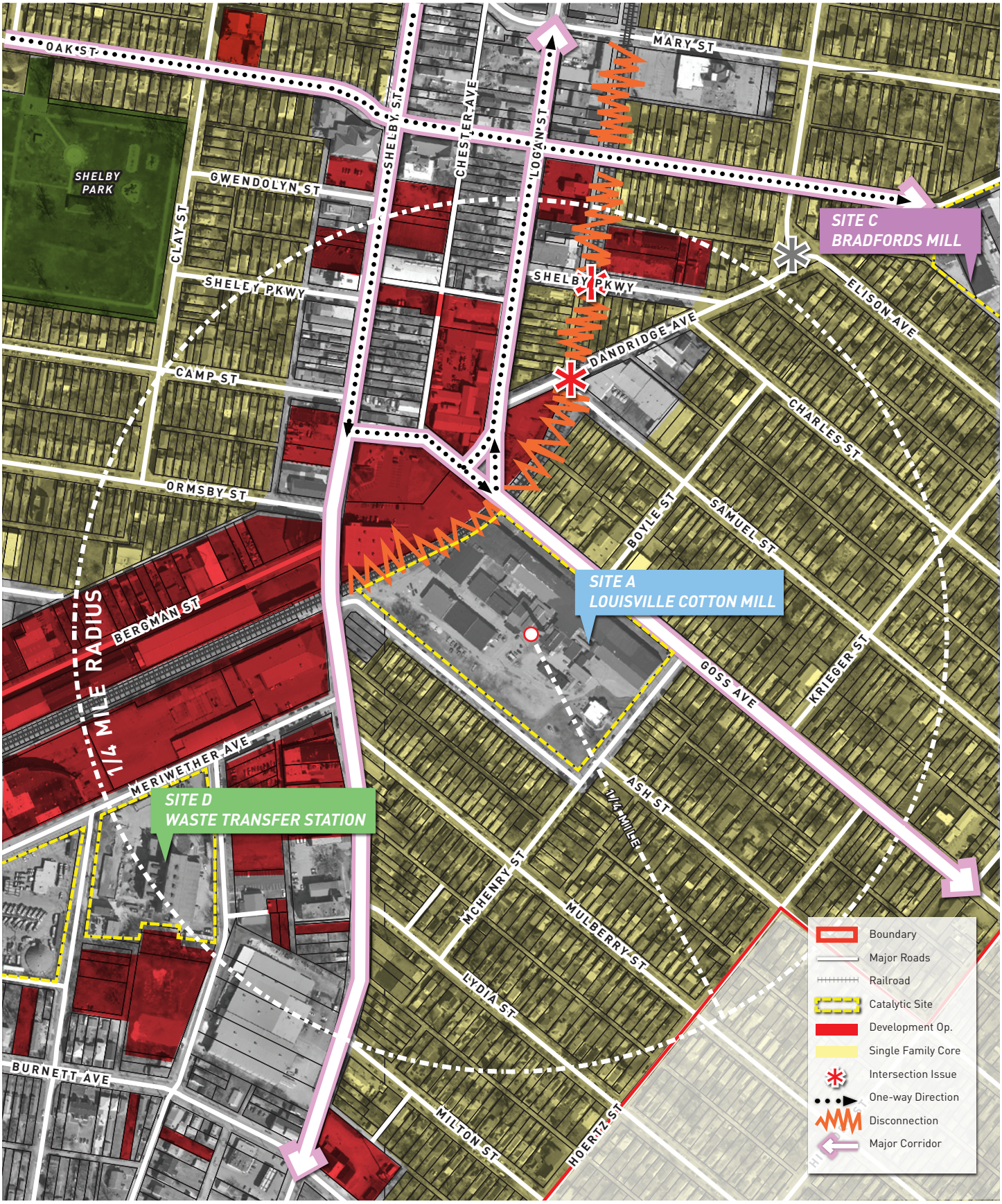


FIGURE 2L: SITE A- LOUISVILLE COTTON MILL

Site B: Former Exmet Parcel

535 Meriwether Avenue/1400 South Hancock Street
Louisville, KY 40217

Owner: Metro Louisville Properties 1 Inc. (LMG)

Developer: Louisville Metro Government

Size: 3.2195 acres

Building: None

FY14 assessed value: $205,160

Zoning: Commercial

Date acquired: August 18, 2003

Previous owners: Exmet of Kentucky

The only vacant parcel among the five Catalyst Sites is known as the former **Exmet** site for the fertilizer handling company that operated there for a short while in the 1980s. The western portion of the site was used for fertilizer manufacturing since early in the Corridor's development when Federal Chemical built a plant to produce a variety of products under the "Daybreak" name. The site was divided roughly in half by the extended right-of-way of Hancock Street, but as there was no corresponding street north of the Short Line, the public land was absorbed into the plant property. As late as 1995 however, the street was still visible as a portion of the loading area. After an EPA-funded assessment found hazardous materials including heavy metals and acids, the Kentucky Department of Environmental Protection cleared the site and performed limited site remediation. The property was transferred to the current owner and is currently being used for general storage of LMG's municipal waste collection equipment, including trucks and dumpsters. The site factors into LMG's long-range plans to develop additional waste minimization and recycling capacity at its adjacent waste transfer station.

Brownfield Issues

Prior assessment, using a USEPA grant from the 1990s, and limited remediation have occurred at this site. Hazardous waste remediation activities were conducted at the former Exmet facility in 1997 and included hazardous waste disposal, asbestos abatement, building demolition and underground storage tank system removal. Environmental concerns are now limited to low levels of lead and certain petroleum hydrocarbons.

VIEW OF EXMET SITE , 2014

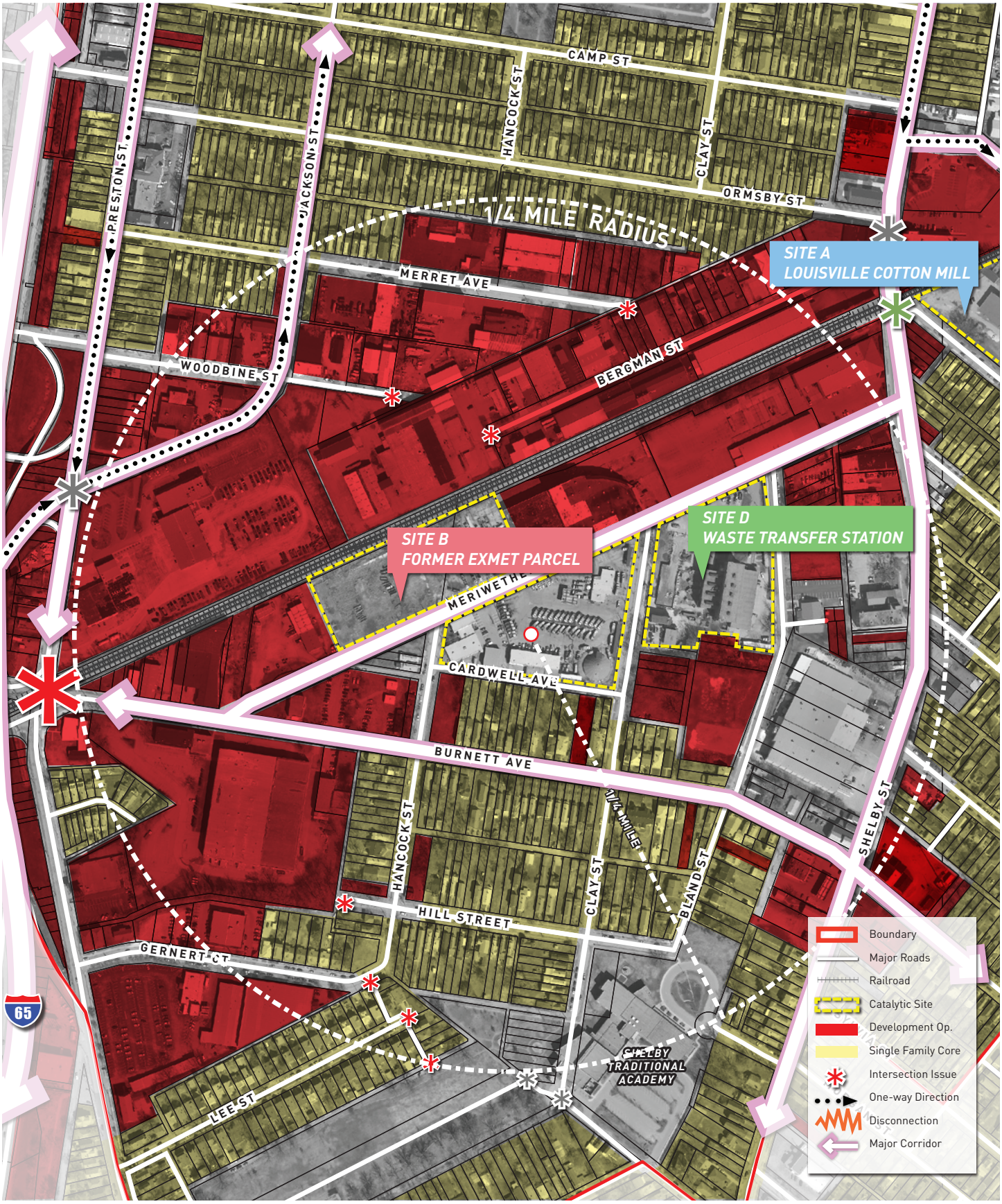


FIGURE 2M: SITE B - FORMER EXMET SITE

Site C: Bradford Mills

1034 East Oak Street & 1124 Reutlinger Avenue
Louisville, KY 40204

Owners: Carl & Charles Boyd (1034 E. Oak St parcel) and Bradford Mills, LLC (1124 Reutlinger Ave parcel)
Developers: Marian Development Group
Size: 2.03 acres
Building: 85,979 square feet & 82,046 square feet
FY14 assessed value: $484,040 & $750,000
Zoning: Commercial Warehouse
Date acquired: December 11, 2012
Previous owners: Charles Boyd Jr.; Ronald and Pamela Boyd; Helman Limited Partners

Located in the center of Germantown is the **Bradford Mills** – an architectural equal to the Louisville Cotton Mill with a location that is unmatched in its possibilities for anchoring the neighborhood. Its ornate tower, impressive size, and geographic centrality suggest the bearing of a cathedral more than a factory. Its original wing was built in 1910 and eventually came under control of the American Woolen Company of Lawrence, Connecticut. American Woolen Company was created by assembling several underperforming New England mills into a "Woolen Trust", and in 1924 was the largest manufacturer of woolen and worsted fabrics in the world with 56 mills across the eastern U.S. A second wing with a connecting bridge was added in the 1920s. The building complex preserves almost all the historic exterior features including eave bracketing and exposed rafters, original wooden sash windows, operable steel sash, glazed bridge and boiler house, as well as interior brick bearing walls. Like the other sites, Bradford Mills was a casualty of the collapse of the textile industry. In an interesting turn of events however, the American Woolen Company has been recently reconstituted as a producer of high-quality American-made worsted woolen cloth in the historic Warren Mills in Stafford Springs, Connecticut. There are active plans to redevelop this site for residential purposes with a focus on creating a transit-oriented development.

The Bradford Mills is currently used as a commercial property and is listed on the National Register of Historic Places (#82001555, 1982).

Brownfield Issues

No documented environmental concerns. Some potential for limited environmental concerns related to the presence of asbestos and lead paint as well as urban fill.

BRADFORD MILLS ORIGINAL BUILDING

BRADFORD MILLS ORIGINAL BUILDING (LEFT) WITH EXPANSION (RIGHT)

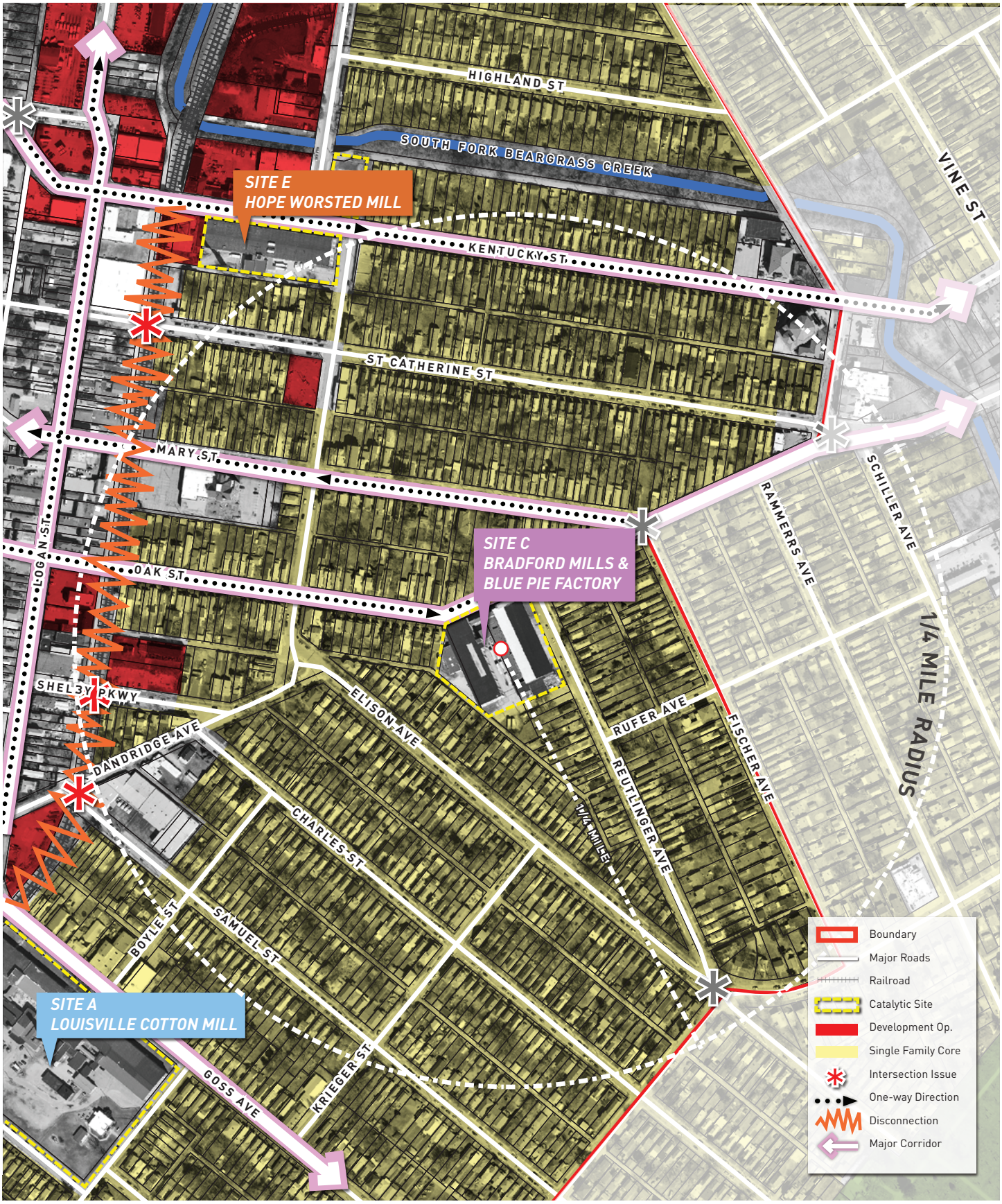


FIGURE 2N: SITE C - BRADFORD MILLS

Site D: Waste Transfer Station

1415 & 1416 South Clay Street

Louisville, KY 40217

Owner: Louisville Metro Government

Developer: Louisville Metro Government

Size: 7.1673 acres

Building: **72,000** square feet approximately (Incinerator building)

FY14 assessed value: $510

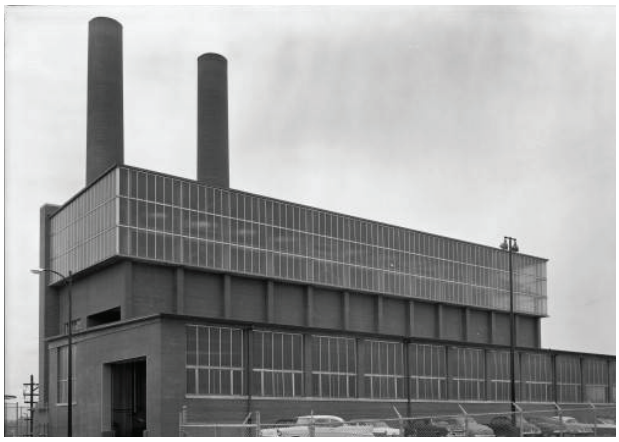
Zoning: Commercial

An equally impressive structure, though of an entirely different function and aesthetic, occupies Catalyst Site D. Louisville Metro's **Waste Transfer Station** began life as the municipal incinerator designed in 1955 by local architecture firm Joseph and Joseph. In addition to a diverse portfolio of commercial and institutional buildings, the firm has for over 100 years been involved with distillery architecture for some of the most well-known names in the industry. The incinerator operated from 1956 to 1991, and was closed because of the estimated $70M in mechanical upgrades needed to comply with new federal regulations under the Clean Air Act. At that time landfills had replaced incineration practices and recycling programs were gaining momentum, so the original 200-foot stacks were taken down four years later and the facility was repurposed as a waste transfer / recycling drop-off station. Even without the stacks, the building is a striking example of mid-century modern architecture with its glazed gallery at the top of the buildings still mostly intact. The portion of the site west of South Clay Street is mostly vehicle parking, making the space flexible and available for additional site development.

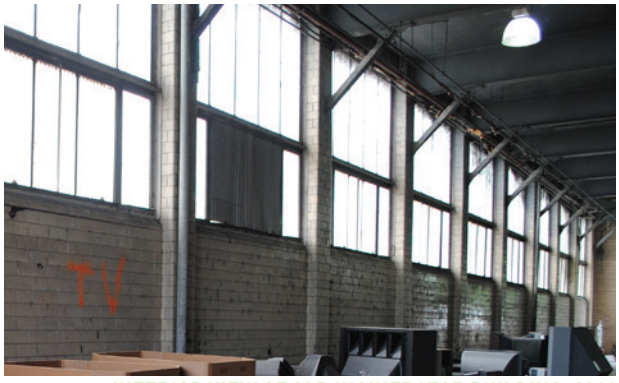
OLD CITY INCINERATOR / WASTE TRANSFER COMPLEX, 2014

Brownfield Issues

Potential environmental concerns due to previous use as a waste incinerator, waste transfer station, and waste recycling center.



INCINERATOR RECORD PHOTOGRAPHS, 1956



INTERIOR VIEW OF OLD INCINERATOR BUILDING, 2014

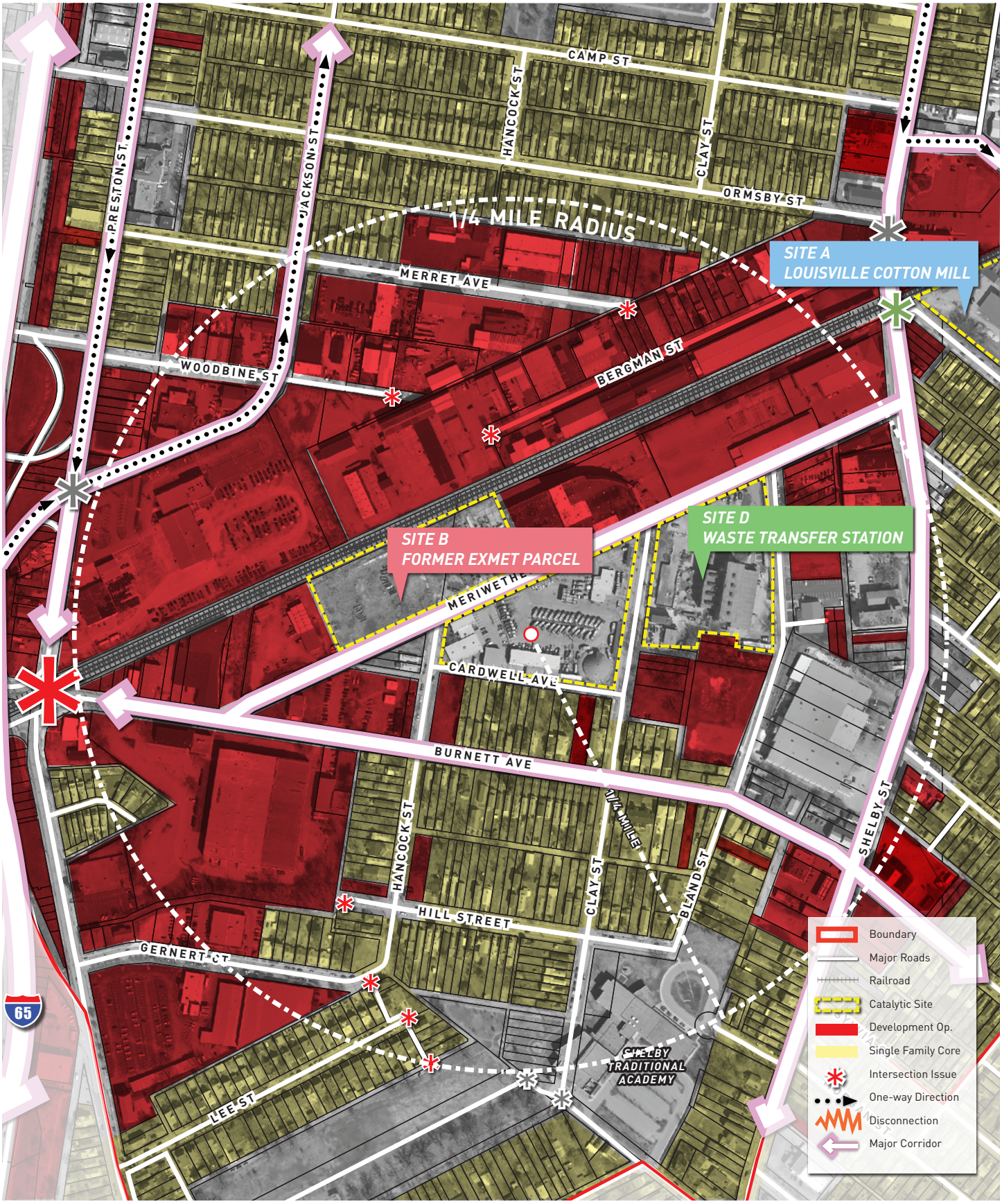


FIGURE 20: SITE D - WASTE TRANSFER STATION

Site E: Hope Worsted Woolen Mills / Blue Bird Pie Factory

942 East Kentucky Street & 1001 East Kentucky Street
Louisville, KY 40202

Owner: Acme Lupine & Co., Inc.

Developer: Acme Lupine & Co., Inc.

Size: 1.4 acres and 0.39 acres

Building: 90,840 square feet and 8,312 square feet

FY14 assessed value: $641,000
and $109,500

Zoning: Commercial; Manufacturing

Date acquired: February 26, 1999
and December 31, 2004

Previous owners: The Frank Foundation and Patrick Lippy

The **Hope Worsted Woolen Mills** was built in 1904 to take advantage of the railroad when the company relocated from another building on nearby Logan Street. This facility on Kentucky Street was, at the time, the largest of eight woolen mills in the city. Like the Bradford Mills complex, this facility includes the original brick-bearing wall structure and a later concrete frame addition with steel sash windows. It is less elaborate than Bradford Mills but contains a historic steel water tank and circular brick smokestack. It is also the only one of the three mills identified as Catalyst Sites to have a visible link to the railroad through the open loading bay at the west end, which could have been used for rail freight. Two additional distinguishing features of the building are the restored windows and the wood truss roof structure which provides an open second floor. The Hope Worsted Woolen Mills is listed on the National Register of Historic Places (#95001543, 1996).

Site E also encompasses a small warehouse-type building across East Kentucky Street. Property records indicate that this was the home of the **Blue Bird Pie Company** beginning in 1948. Blue Bird Pie Company was founded in Dayton, Ohio in 1923 by Louis Preonas, a Greek immigrant. The company was highly successful and expanded into other Ohio cities and eventually to Indianapolis and Louisville. Archival photographs from 1946 list the Blue Bird bakery at 434 East Broadway; so it is possible that this building was constructed specifically for the company as a larger facility. A simple brick shell with no exterior ornamentation, the building's greatest architectural assets are its exposed riveted trusses and steel sash windows. Evidence of a demolished rear wing is present on the site.

Currently the former mill is used for a variety of commercial, retail and art studio rentals, while the former pie factory is dilapidated and vacant.

Brownfield Issues

No known issues documented for the Hope Worsted Mills. Phase I Environmental Site Assessment completed at Bluebird Pie Factory site under LMG's Brownfields Program. Previous diesel fuel and gasoline Underground Storage Tank (UST) systems were historically associated with the property.

HOPE WORSTED MILLS ORIGINAL STRUCTURE

STORE CURRENTLY OPERATING INSIDE THE MILL

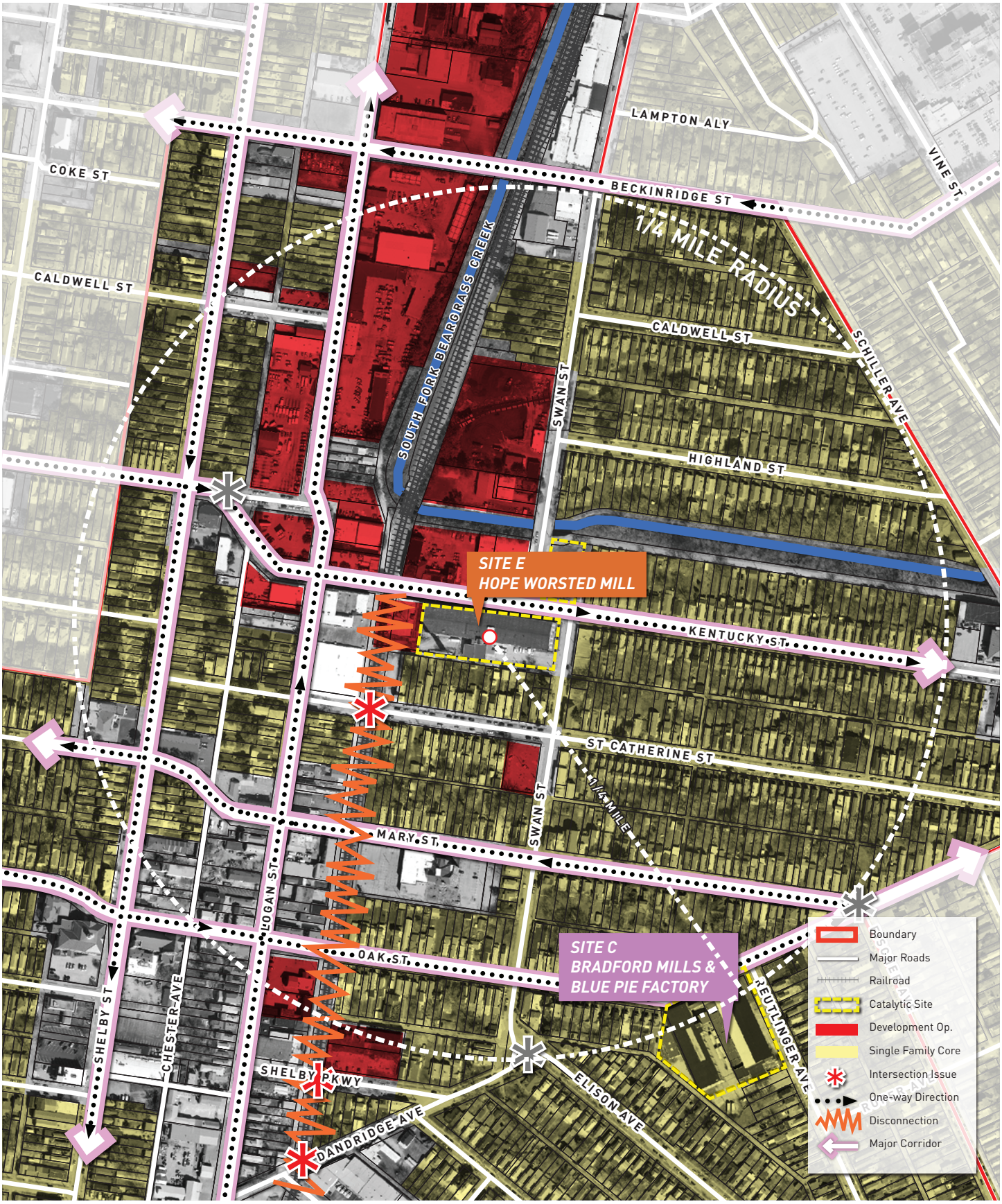


FIGURE 2P: HOPE WORSTED MILLS

2.3 Economic Overview

2.3.1 Vacancy and Redevelopment Potential

Many neighborhoods across the country are still recovering from the effects of the recent recession, which negatively affected housing prices, increased unemployment and changed the economic climate for much of the last decade. While some communities have fared better than others, urban neighborhoods were often hardest hit, exacerbating a decades-long trend of a decreasing urban residential population. Though it did not experience the devastating losses suffered by many of its sister cities, Louisville's urban neighborhoods and economy were not completely spared. While Louisville experienced an 8% increase in population between 2000 and 2013, Louisville's urban neighborhoods, including those in the Corridor, declined by about the same amount, around 9%. Of these neighborhoods, Shelby Park experienced the greatest declines, losing 17.3% of its population. Smoketown was the only neighborhood to see a jump in population during the time frame in question, but only grew by 2% which equates to a change of less than 100 people.

One outgrowth of population decline is increased residential vacancies, the extent of which varies from neighborhoods, approximately 15% of all the residential units were unoccupied according to the most recent data in 2013. Those neighborhoods with greater population decline were more likely to experience greater numbers of residential vacancies. An example of this is Shelby Park. With the 17.3% loss of population that took place between 2000 and 2013, residential vacancy rates doubled from just under 12% in 2000 to over 22% in 2013. On the other hand, Smoketown, Meriwether and Paristown Pointe's vacancy rates increased slightly less than the Louisville Metro rate.

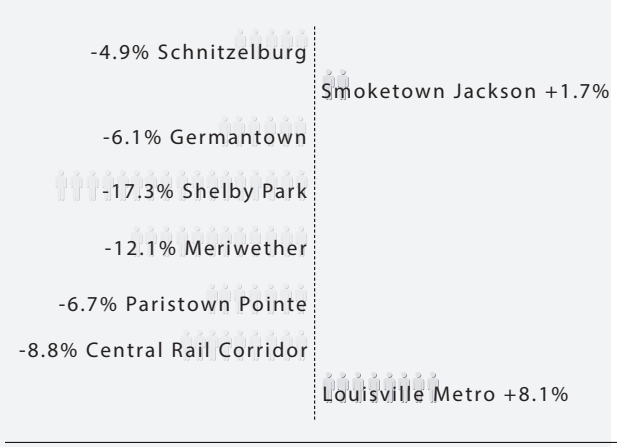


FIGURE 2P: POPULATION CHANGE (2000-2013)

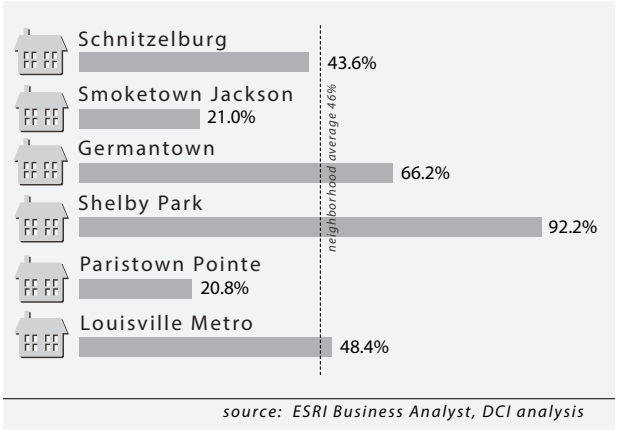


FIGURE 2Q: CHANGE IN VACANCY (2000-2013)

There are many positive aspects of the Corridor that come into play when discussing revitalization tactics. In addition to an engaged, highly active group of residents, much of the Corridor's historic fabric has been left intact, creating a unique, compact, and densely built urban neighborhood with a population base much higher than that of other neighborhoods. In some Corridor neighborhoods, population densities are three times higher than the average for Louisville Metro. For example, Schnitzelburg's density is 7,290 people per square mile compared to Louisville's average density of 1,843 persons per square mile.

Density also comes into play when looking at household incomes and spending / buying power. Even with lower average household incomes compared to Louisville as a whole, the compact development patterns in the Corridor create a much higher income density or combined income per square mile than exists in many other parts of the city. In some cases, income density is three times higher in the Corridor than in Louisville as a whole, and every Corridor neighborhood has a higher income density than Louisville's.

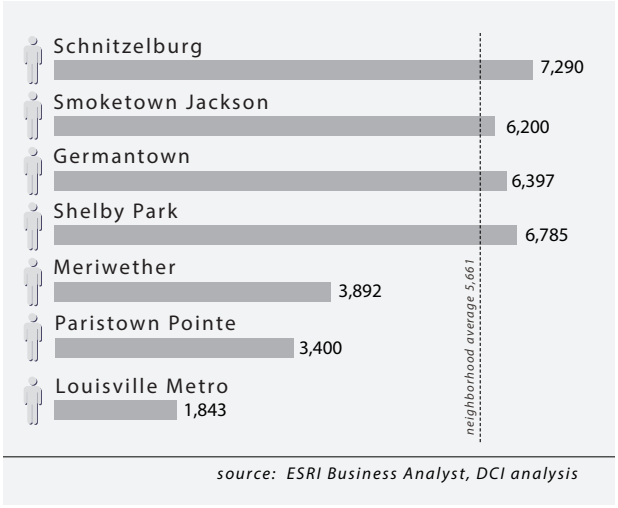


FIGURE 2R: POPULATION DENSITY (PERSONS PER SQ.MILE)

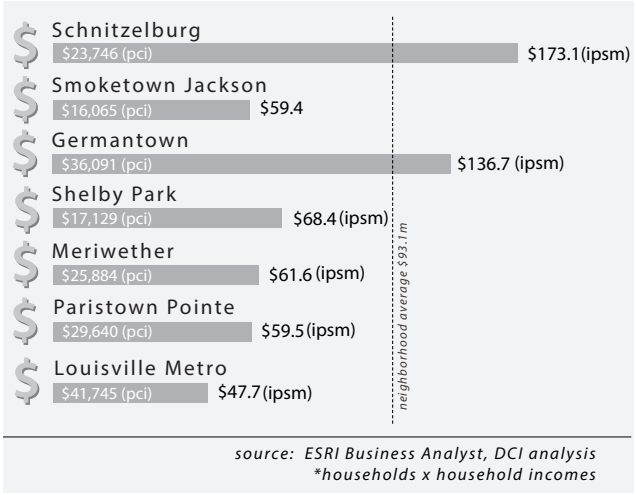


FIGURE 2S: INCOME DENSITY
PCI: PER CAPITA INCOME
IPSM: INCOME PER SQUARE MILE (IN MILLIONS)

2.3.2 Retail Market Overview

The Corridor is currently underserved by retail, which forces residents to spend at least some of their dollars outside the area. This phenomenon is known as "leaking," and it takes place in nearly every neighborhood to some degree. Corridor market conditions create an opportunity for the neighborhoods to capture some portion of that outside spending. However, it should be noted that the ability of a neighborhood to recapture retail "leakage" is highly elastic based on available locations, brand recognition, competition within the market and accessibility.

Existing retail in the Highlands and St. Matthews offers competition for Corridor retail development. Both these areas are regional destinations, and it will be challenging to offer comparably-scaled retail within the Corridor. However, there are opportunities to develop new retail within the Corridor.

NEIGHBORHOOD COMPARISON OF KEY MARKET INDICATORS

	Louisville Metro	Paristown Pointe	Meriwether	Shelby Park	Germantown	Smoketown Jackson	Schnitzelburg
area *(square miles)*	325.25	0.07	0.26	0.41	0.61	0.39	0.58
population density *(persons per sq mile)*	1,843	3,400	3,892	6,785	6,397	6,200	7,290
total population *(2000)*	554,554	255	1,151	3,364	4,154	2,378	4,447
total population *(2010)*	591,337	242	1,023	2,840	3,953	2,377	4,181
total population *(2013)*	599,545	238	1,012	2,782	3,902	2,418	4,228
population change *(2000-2013)*	8.1%	-6.7%	-12.1%	-17.3%	-6.1%	1.7%	-4.9%
average household size	2.37	1.94	2.22	2.44	1.93	2.67	2.10
vacant housing units *(2000)*	6.4%	15.9%	11.6%	11.6%	6.8%	16.2%	5.5%
vacant housing units *(2010)*	9.0%	17.9%	14.9%	21.2%	10.2%	21.3%	6.8%
vacant housing units *(2013)*	9.5%	19.2%	15.6%	22.3%	11.3%	19.6%	7.9%
change in vacancy *(2000-2013)*	48.4%	20.8%	34.5%	92.2%	66.2%	21.0%	43.6%
housing units	274,191	146	505	1,364	2,122	1,045	2,177
housing density *(units per sq mile)*	843	2,086	1,942	3,327	3,479	2,679	3,753
owner occupied	54.3%	49.3%	37.6%	22.7%	53.2%	18.8%	63.3%
renter occupied	36.1%	31.5%	46.7%	55.0%	35.5%	61.6%	28.9%
median home value	$145,775	$101,724	$88,221	$77,436	$104,833	$76,389	$115,945
median household income	$41,745	$29,640	$25,884	$17,129	$36,091	$16,065	$23,746
per capita income	$25,534	$17,511	$15,817	$10,085	$21,369	$9,585	$23,746
income density *(dollars per sq mile)*	$47.1m	$59.5m	$61.6m	$68.4m	$136.7m	$59.4m	$173.1m
median age	37.6	35.3	31.5	33.1	39.8	25.0	38.0
less than high school diploma	13.7%	8.0%	10.3%	36.2%	11.2%	24.8%	13.3%
high school diploma / some college	53.4%	61.5%	70.9%	42.5%	53.1%	65.2%	47.9%
bachelor or higher degree	32.9%	30.4%	18.7%	21.3%	35.7%	10.1%	38.8%
white collar	59.0%	55.5%	34.8%	37.5%	59.6%	32.0%	63.5%
services	14.2%	27.7%	37.0%	39.0%	24.0%	35.6%	19.9%
blue collar	22.8%	15.5%	27.6%	23.4%	16.3%	32.1%	16.6%

source: ESRI Business Analyst, DCI analysis

FIGURE 2T: DEMOGRAPHIC OVERVIEW (NEIGHBORHOOD COMPARISONS)

Market Opportunities

The following analysis of the existing Corridor market conditions helps identify potential future economic growth, including neighborhood-scale and regional opportunities.

Neighborhood-Scale Retail Opportunities

The best opportunity to support neighborhood-scale retail opportunities is between Shelby and Logan Streets, just north and west of the railroad. This mixed-use area is at the center of the Corridor and the intersection of three neighborhoods. Additionally, Shelby Street, Logan Street and Oak Street are significant traffic generators that would provide visibility for new businesses. This potential retail node has a small trade area reach, which reflects the distance the majority of customers will drive to reach a retail destination, of an approximately 5-10-minute drive from the intersection of Logan and Oak Streets. The size of the trade area is limited in part by existing infrastructure and connectivity issues which makes accessibility challenging for non-residents of the Corridor.

The primary trade area, reflected by the 5- minute drive time mentioned above, is home to just under 5,000 residents, approximately 36 businesses and a retail demand in excess of $30 million. Of that demand, only $19 million (63%) is met by the current supply of retail, leaving almost $15 million of unmet demand that is either spent outside the trade area or is not spent at all. The secondary trade area, which represents the longer time frame of 10 minutes discussed above, is over-served by retail, meaning supply is greater than current demand or it meets the retail needs of the trade area. While these numbers are more important to national and regional retailers, they do help quantify opportunities and guide local decision makers on the types of retail that would likely be supported if they were available. It should be noted that of the categories with leakage, some may not be suitable for the neighborhood district and should be evaluated on a case by case basis with the neighborhood in mind.

Even though the secondary trade area is fairly over-supplied with retail, there is still some opportunity to attract spending to the Corridor. The ability to recapture dollars will vary depending on a variety of factors. New retail will need to be supported by those living in the neighborhood and should therefore emphasize providing everyday shopping needs of nearby residents. A conservative, but realistic, capture rate would be somewhere between 10% and 15% and within that, percentages will fluctuate based on the retail type, name recognition and location in the district.

If an average "sales per square foot" of $175 to $200 is applied to the probable recaptured spending, it begins to demonstrate the scale of opportunity for targeted retail categories. Of those categories, general merchandise stores offer the greatest opportunity – nearly 20,000 square feet could potentially be supported. Other possible retail types include Electronic & Appliance Stores, Food & Beverage Stores, Gasoline Stations, (though these may not be appropriate given the character and development patterns of the Corridor) and Clothing Stores. Available demand would support the creation of a handful of new stores depending on the type and square footage needs of the specific retailer.

The most likely short-term locations for many of these retailers would be in existing retail storefronts along Logan and Shelby Streets. There are historic "corner retail" and storefront opportunities in both areas of a

scale that is compatible with the projected amounts of retail that could be supported by existing neighborhood spending. Transitioning non-compatible land uses, infrastructure and connectivity improvements and clustering of uses in these targeted areas will improve long-term retail viability.

Regional Retail Opportunities

The urban storefronts and historic amenities along East Broadway create an authentic sense of place well suited to support an attractive regional retail node if properly organized. There is a need to improve the surrounding infrastructure and rehabilitate many of the existing buildings to support such a change, but with a population in excess of 160,000 residents, over 1,600 stores, retail demand of $1 to $4 billon and traffic counts along Broadway, which are set at 19,600 average daily trips, there are certainly enough people in the area to support new retail. However, the existing supply of retail in the broader market area around East Broadway, which includes NuLu, the Highlands and the St. Matthews Mall area, greatly outweighs the actual area demand indicating an oversupplied retail market or one that is attracting spending from outside the primary trade area, and creates higher levels of competition for new retail development. However, even with greater competition, East Broadway's proximity to the central business district medical center complex, the dining and entertainment destinations in Nulu and Downtown creates an opportunity for the corridor to attract additional regional visitors and outside spending. In order to successfully do this, physical connections must be made to these adjacent destinations and a niche retail market, complementary of existing uses, must be established.

Within the regional trade area designated by a 10 minute drive from Broadway and Shelby Street there are several underrepresented retail categories. The categories experiencing leakage are similar to those experiencing leakage in the neighborhood-scale areas described above. These include Gasoline Stations, Clothing Stores and General Merchandise Stores. There is also limited demand for hardware and garden supplies in the regional trade area. However, this analysis should not preclude interested retailers from entering the market in oversupplied categories. Gap analysis numbers, like those included as Appendix E, are more important to regional and national retailers. Local small businesses often do not require the same volume of sales as some of the larger retailers to remain profitable, and it is important to look at current offerings in adjacent, successful districts that are attracting spending, as these may represent opportunities to capture customers who are currently traveling outside the Corridor to obtain these goods and services. It should also be noted that some of the categories with leakage may not be suitable for development in the district and should be evaluated by neighborhood and local leadership on a case by case basis.

The ability to recapture dollars in a competitive market such as exists in areas around the Corridor is more challenging and likely reduces potential capture rates for new business in the Corridor to around 2.5% to 5%. Factors such as brand recognition, location, competition from within the trade area and ability to create a unique shopping destination, similar to what has taken place in NuLu, may alter the Broadway node's ability to recapture leaking dollars.

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Planning Process Overview

In 2013, Louisville - Jefferson County Metro Government was selected by the United States Environmental Protection Agency (USEPA) as a Brownfields Area-Wide Planning Program grant recipient. The Brownfields Area-Wide Planning Program is designed to help communities confront local environmental and public health challenges related to brownfields, and to benefit underserved or economically-disadvantaged communities. Area-wide planning for brownfields encourages community-based involvement in site assessment, cleanup and reuse planning, as well as overall neighborhood revitalization. The focus of the grant application was the Louisville Central Rail Corridor illustrated in Figure 2K.

LOUISVILLE COTTON MILL - BROWNFIELD CATALYST SITE

3.1 Plan Goals & Description

The Louisville Central Rail Corridor Plan (Plan) provides guidance for public and private Corridor redevelopment. It focuses on the identification of catalyst sites, desirable redevelopment outcomes, plan implementation strategies, and increased connectivity through the corridor to the University of Louisville to the southwest, the Highlands neighborhood and commercial corridor to the east, and the central business district to the north.

The Plan seeks to:

- Encourage neighborhood-level commercial development, environmentally sensitive industrial development and additional inclusive residential growth,
- Support the development of healthy neighborhoods through the implementation of green infrastructure and expanded urban agriculture, which is already common in the area,
- Reduce and remove environmental threats, contamination and visual nuisances associated with vacant, abandoned and underutilized properties throughout the Central Rail Corridor,
- Promote job creation for Corridor residents and to promote the redevelopment of vacant, abandoned or underutilized Corridor properties.

3.2 The Planning Process

The public involvement process provided multiple opportunities for stakeholder engagement over the course of a year. These opportunities were presented in a variety of formats including education sessions, interviews, online commentary, and interactive workshops. The first half of the community engagement process was led by staff of the University of Louisville's Center for Environmental Policy and Management (CEPM). The second half was led by a multi-disciplinary consultant team led by Lord Aeck Sargent. The CEPM sessions focused on brownfield education and issue identification, with visioning and implementation sessions rounding out the process. The second phase of engagement focused on the development of recommendations for redevelopment of the Corridor and its brownfields. Throughout the process, CEPM maintained an ever- expanding stakeholder contact list, which was used to encourage community involvement through direct mailings, digital blogs and email blasts. CEPM also posted flyers announcing meetings in key locations in the Corridor.

In recognition of the need for a transparent and accessible digital presence for the plan and planning process, CEPM created and maintained a website to compile all meeting materials and documents. *See: http://louisville.edu/cepm/projects/brownfields-and-safe-soil/Germantown.* The site also includes an interactive platform for digital input called "Community Remarks" *See: http://www.communityremarks.com/.* Community Remarks is an online tool for recording stakeholder comments in a map-based format. Through Community Remarks, the public was invited to share thoughts, identify sites of concern, community assets, challenges and opportunities, and to share ideas for future Corridor improvements.

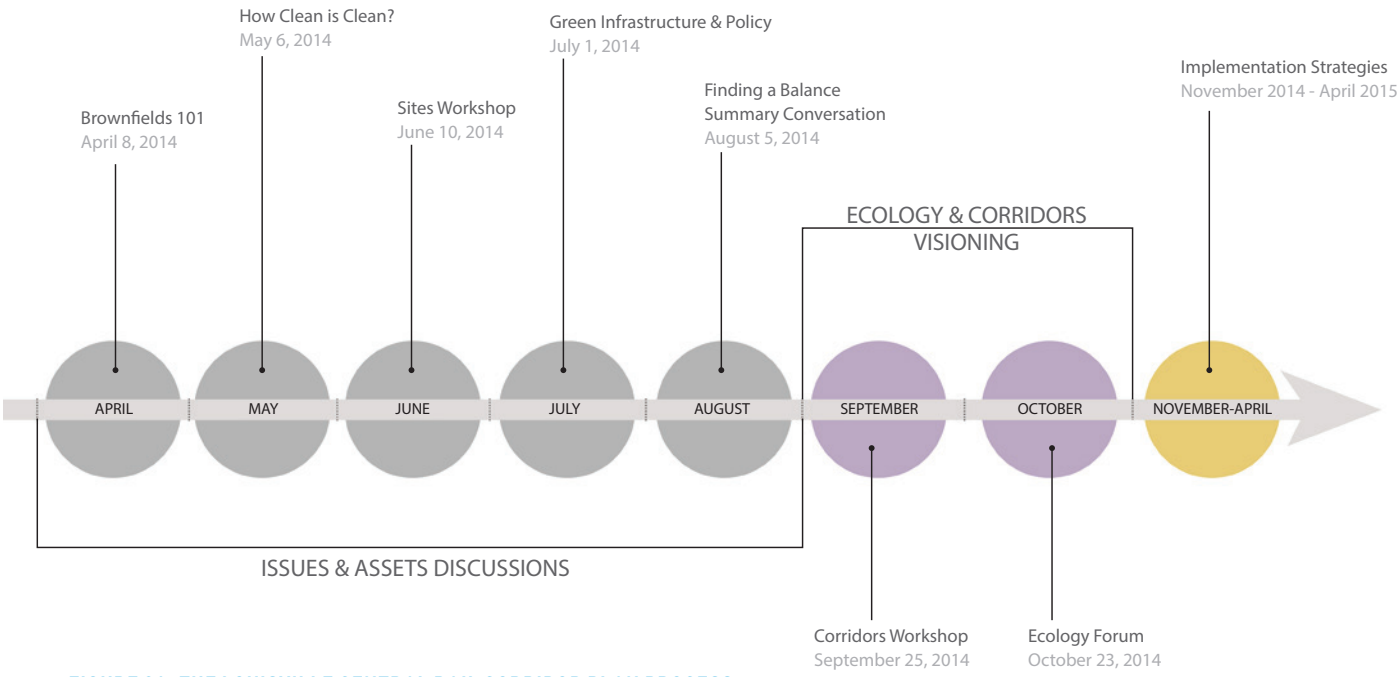


FIGURE 3A: THE LOUISVILLE CENTRAL RAIL CORRIDOR PLAN PROCESS

3.2.1 Prior and Ongoing Planning

A number of prior and current plans, studies and community initiatives informed the Corridor planning process:

Prior Neighborhood Plans and Community Initiatives

Prior planning studies prepared for Louisville Central Rail Corridor neighborhoods include the Shelby Park and Smoketown Neighborhood Partnership Development Strategy (1995), its companion document, the Smoketown / Shelby Park Design Guidelines and Prototypes, and the Shelby Park and Smoketown Quality of Life Action Plan (2010). An updated version of the Smoketown / Shelby Park Neighborhood Plan was presented in 2002. This plan provided recommendations for land use and public improvement projects for the neighborhoods, and was meant to be a companion to the Development Strategy. The intent of the Smoketown Quality of Life Action Plan is to preserve Smoketown's homes and heritage while providing opportunities for new and diverse residents to find a home in the neighborhood.

The Plan also built on increasing neighborhood efforts to organize, including the development of digital networks and websites for communication and advocacy. For example, www.smoketownis.me was developed as part of Kentuckians for the Commonwealth's 2014 community-wide canvas of the Smoketown neighborhood. This project culminated in a report entitled "Vision Smoketown," that identifies needs of current residents, highlights strengths and assets, reinforces the neighborhood's unique history and creates forums for future resident involvement in community engagement and decision-making.

HOW CLEAN IS CLEAN? MEETING, MAY 2014

FINDING A BALANCE SUMMARY CONVERSATION, AUGUST 2014

Other examples of recent community-based initiatives include the Shelby Park Home Expo, which focused on attracting new residents to Shelby Park through home tours, a renovation "how-to" fair, and participation by Wells Fargo Bank to highlight a new mortgage product available for home remodeling, and the Three Points Beautification Project, which introduced extensive public art to a previously bleak intersection that represents the convergence of three neighborhoods in the Corridor.

Current Louisville Metro Government Planning Initiatives

Vision Louisville, an LMG initiative, is a creative community-focused process aimed at envisioning the look and feel of the city for the next 25 years. Vision Louisville creates a strategic framework of the goals, projects and assets that will help transform the community, and anticipates that subsequent sub-area planning and projects will lead to this transformation. The Vision Louisville process documented current and projected demographics, physical characteristics and planning/policy issues affecting growth and development in Jefferson County. The effort defined community-based topical working groups defined as Connectivity, Creativity, Economy, Energy, Health, Living and Identity. LMG launched Move Louisville, a long-range multi-modal transportation plan to develop comprehensive mobility strategies to connect work, home, leisure and recreation throughout the community. Move Louisville's community engagement process examined and prioritized roads, bicycle and pedestrian, and transit projects within the city. Move Louisville is now moving into implementation, and projects in the Central Rail Corridor include enhancements to existing roads, one-way to two-way street conversions, additional bicycle and pedestrian facilities, and premium transit services (along Broadway and Preston). These Move Louisville plan recommendations for the Corridor have been incorporated into the Corridor action plan and are described in more detail in Chapter 4: Plan Recommendations.

In March of 2013, Louisville Metro launched the city's first sustainability plan, Sustain Louisville, which serves as a foundational framework to promote a more vibrant community through various sustainability measures. Some of the key initiatives that will benefit the Corridor (and city as a whole) include securing private grant funding to complete the most comprehensive urban heat island assessment in the country, a new energy savings performance contract (ESPC) launched by the city that will yield $27 million of energy-saving improvements in city-owned buildings, and a 10-mile riparian restoration project along the lower reaches of Beargrass Creek.

3.2.2 Part I: Issues and Assets Discussions

CEPM hosted five monthly community engagement events between April and August of 2014. The first two events, entitled "Brownfields 101" and "How Clean is Clean?" introduced the Corridor planning project and provided education about brownfields and their impact on neighborhoods from an environmental, visual and redevelopment perspective. The "How Clean is Clean?" session also included information about the types of contamination that could be present at each Catalyst Site (see Chapter 2). The third and fourth community engagement sessions were interactive opportunities focused on identifying preferred redevelopment options for the Catalyst Sites, exploring potential and current green infrastructure projects for the Corridor

and highlighting environmental policy issues such as tree planting to reduce the urban heat island effect. The fifth and final community engagement event, entitled "Finding a Balance", challenged the community to prioritize the many issues and ideas gathered during the four previous meetings. This session also gave attendees a chance to list their priorities and comments about the physical and built environment on a large map of the Corridor. The highlights of these exercises are summarized below.

Issues Prioritization

Meeting attendees were asked to prioritize Corridor issues and opportunities in five categories: employment and economic development, community, corridors and streets, brownfield redevelopment, and health and safety. The top priority issues for each category are:

EMPLOYMENT & ECONOMIC DEVELOPMENT

- Support existing local businesses and encourage new - 29.1%
- Identify needs / gaps and define desirable businesses for the community - 16.7%
- Provide space for job training / hiring within the community - 12.5%
- Consider new zoning categories for new types of industries - 8.3%
- Promote businesses incorporating sustainability measures - 8.3%
- Improve wayfinding for business visibility - 8.3%
- Promote an eco-hub around the waste transfer facility - 8.3%

COMMUNITY

- Improve tree canopy - 12.5%
- Walkable community - 8.3%
- Take advantage of central location - 8.3%
- Maintain diversity - 8.3%
- Promote festivals and picnics - 8.3%

CORRIDORS & STREETS

- Promote traffic calming - 19.2%
- Walkability - 15.4%
- Enhance streetscapes - 11.5%
- Improve sidewalks - 7.7%
- Improve alley access - 7.7%

CEPM Brownfields Institute

The first phase of the project was led by the University of Louisville CEPM staff whom also served as outreach coordinator for the remaining phases. The Spring / Summer workshops each covered a different aspect of brownfield education/planning which included

Brownfields 101- What is a brownfield? What are the considerations? What is happening elsewhere?

How Clean is Clean? – How do we define environmental contamination? What are the health considerations? Does it vary by future use? How is it remediated?

Sites / Assets - Discussion of the five identified Catalyst Sites and current efforts / assessment; identification of additional potential sites and assets in the area

Green Infrastructure - What ecological planning is occurring in the area and in Louisville? How do we integrate best practice sustainability measures into infrastructure?

Summary Conversation - Pulling all the discussions together to define the focus on more detailed planning in the newly named "Central Rail Corridor."

BROWNFIELD REDEVELOPMENT

- Provide open / green space within redevelopment - 13.6%
- Provide tax incentive programs for preservation and redevelopment - 13.6%
- Utilize temporary / tactical solutions for blight issues - 13.6%
- Promote education programs that help reduce fear of investing in property that needs remediation - 9.0%
- Preserve industrial heritage - 9.0%
- Improve perception by removing blight - 9.0%
- Concerns over new housing price points - 9.0%

HEALTH & SAFETY

- Concerns about Beargrass Creek contamination - 30.0%
- Reduce existing impervious surfaces where feasible - 20.0%

Opportunity Sites

Meeting attendees used Post-it notes to mark a large Corridor map with comments and ideas about community redevelopment or existing issues and assets. The map showed Catalyst Sites and other redevelopment opportunities such as vacant land and underutilized properties overlaid on an aerial photograph. There were many comments, especially at the Goss Avenue / Logan Street intersection. The major themes of the comments included:

- Converting one-way streets to two-way and calming traffic
- Continuing Shelby Park improvements
- Renovating / reusing historic structures like the trolley barn
- Creating a green energy / composting program at sites B and D
- Supporting local businesses as well as business attraction
- Improving the design of the MSD basin project
- Improving the rail viaduct / Beargrass Creek corridor
- Connecting all neighborhoods to the Big Four Bridge
- Expanding community development / youth programs

3.2.3 Part 2: Community Visioning

During the second phase of community engagement in late 2014, two additional interactive community events took place: the Louisville Central Rail Corridor Workshop and the Ecology Forum. These events were used to develop plan recommendations. A summary of each event follows.

Corridor Workshop

Development of the Corridor plan recommendations through the community engagement process began with exercises targeting the Corridor's public realm of streets, parks and public facilities. Summaries and maps of existing conditions were presented, along with a demographic/market assessment detailing the Corridor's short- and longer-term economic potential.

This workshop helped define needed land use, development, open space and infrastructure improvements based on community input. Given the length and diversity of the Corridor, three development "districts" were defined based on future redevelopment potential, market orientation and access. The Broadway Mixed-use District in the northernmost portion of the Corridor is oriented towards regional mixed-use that takes advantage of the high visibility of Broadway, a

CORRIDOR WORKSHOP, SEPTEMBER 2014

high-traffic street that stretches from the Ohio River on the west through the central business district to the Highlands neighborhood. The "Three Points District," where three of the neighborhood corridors converge, is in the heart of the study area. This area is primarily a neighborhood-oriented mixed-use district and has seen recent smaller-scale investment. Finally, the "Eco-Industrial District" in the southwestern portion of the Corridor aims to take advantage of existing industrial properties and their access to Interstate 65, the railroad and the University of Louisville to create a regional center for green industry and light manufacturing.

Feedback from attendees of the Corridor Workshop also led to the classification of other Corridor properties as Tier 1, 2 and 3 sites that could be targeted for further study and redevelopment.

Ecology Forum

The Louisville Central Rail Corridor Plan celebrates the ecological frameworks of the natural and built environment and integrates sustainability principles into all recommendations. This perspective was developed during the planning process, particularly through the Ecology Forum, which created an opportunity for input from LMG staff, neighborhood organizations, environmental groups, and citizens.

The Ecology Forum was an all-day event held in October, 2014. In the morning session, public and private leaders in green building, environmental preservation and conservation, and neighborhood development brainstormed about how an ecological framework could be integrated into Corridor planning and redevelopment. Following the presentation of national cases studies involving this type of integration, group discussions focused on putting these ideas into practice at private redevelopment sites throughout the Corridor, along the Beargrass Creek corridor, and at city-owned properties within the Eco-Industrial District. In the evening, a community workshop was held to present the morning's work and to gather public input on key projects through interactive exercises. These exercises asked attendees to provide input on a planned Metropolitan Sewer District stormwater detention basin at the intersection of Logan Street and Breckinridge Street, improvements to Beargrass Creek to allow greater public visual access, streetscape planning for Goss Avenue, and future uses for the LMG Waste Transfer Station and Exmet Property. This input was used to develop plan recommendations on each topic.

ECOLOGY FORUM, OCTOBER 2014

COMMUNITY INPUT

3.3 Louisville Metro Resource Team

LMG staff from a variety of departments participated in the planning process and provided input that shaped plan recommendations.

Metro Resource Team

Louisville Forward
Economic Development
Develop Louisville
- Office of Advanced Planning
- Office of Construction Review
- Office of Housing and Community Development
- Office of Planning and Design
- Office of Sustainability
- Office of Vacant and Public Property

Public Works
- Solid Waste Management
- Road Maintenance
- Bike Louisville

Louisville Metro Parks
Transit Authority of River City
Metropolitan Sewer District

4

Plan Recommendations

This chapter focuses on the recommendations and strategies of the plan, which are based on existing condition assessments, proposed and planned projects, stakeholder and community input, and recognizing the diversity of the study area in terms of physical and economic conditions.

4.1 Philosophy of Urban Ecology

The plan recommendations spring from a philosophy founded on the idea that effective restoration of potentially contaminated urban sites depends on a holistic approach to cleanup and reuse – in other words, a process that considers local patterns of land use and mobility, economic trends, social relationships, natural and cultural landscapes, and other hallmarks of urbanism in addition to technical issues. This approach to brownfield remediation is as much a social science as it is engineering, and is closely aligned with the study of ecology. Similarly, the origins of the Environmental Protection Agency parallel the rise of the environmental movement in the United States marked by the first Earth Day in 1970. The agency's mission to protect human health and the environment is an acknowledgement of the close connections between the two. This also aligns with the basic premise of ecology, the study of the relationships between organisms and their environments.

Urban Ecology is a relatively recent subset within the larger scientific study of ecology. Like ecology, it examines the relationships between organisms in a particular environment – in this case the city. It is a complex proposition but has become increasingly relevant as the majority of the world's population move to cities, and as those cities become larger and denser, with the capacity to contribute to environmental change on a broad scale. On the other hand, catastrophic natural events such as floods or hurricanes have the capacity to inflict equal damage on human

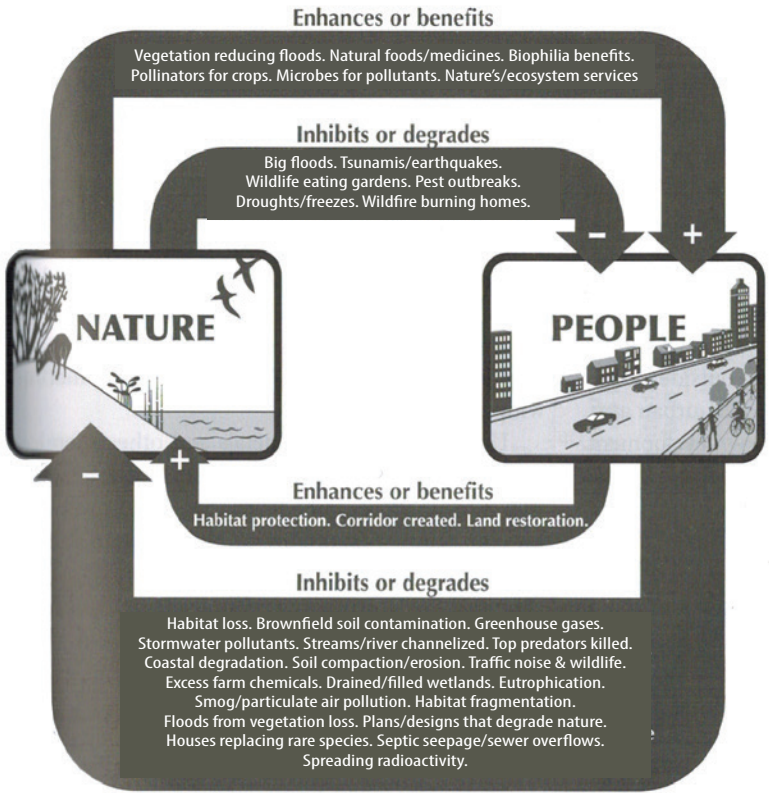


FIGURE 4A: NATURE-PEOPLE INTERACTION DIAGRAM (RICHARD T. T. FORMAN, URBAN ECOLOGY)

BEARGRASS CREEK FROM SCHILLER AVENUE

populations in dense cities. Yet nature and people also have the capacity for positive interactions (Figure 4A). In its simplest form, analyzing a place through the lens of urban ecology puts equal emphasis on natural and built environments and how they work to enhance or degrade each other.

The Urban Ecology of the Central Rail Corridor

The Central Rail Corridor is a particularly appropriate context in which to explore the interface between natural and built environments. Over time human activity has manipulated two unique landscapes – the transitional zone between forested upland and Ohio River floodplain, and the meandering stream corridor of Beargrass Creek. Despite the fact that this area is so developed, there is still the presence of nature. The juxtaposition of these two environments underscores the need for a brownfield redevelopment strategy that works to enhance both the natural and human habitats.

At the height of the rail era when industry was flourishing and neighborhoods were closely tied to the local mill or factory, the Rail Corridor could be thought of as multiple overlapping economic and social "ecosystems." These ecosystems ranged from the localized structure of home and work, to the larger structure of commercial/industrial districts, to the inter-regional structures of railroad and industry. Granted, nature had little or no place in this model, but the model was efficient and fairly resilient. However, when powerful external forces that had little connection or obligation to the area came into play (like interstate construction or global industrialization) this structure began to break down.

In the built environment, the streets have lost much of their neighborhood-serving retail even though the buildings remain. Both streets and buildings are still critical to the life of the surrounding neighborhoods. Recent investments by Sojourn Community Church and The Post pizzeria restaurant show signs of these streets returning to a more central position in the Corridor. The social ecosystem illustrated by Clarence Perry's famous "Neighborhood Unit" diagram (Figure 4B) shows the ideal relationship of shopping districts to housing and key neighborhood institutions at the neighborhood's

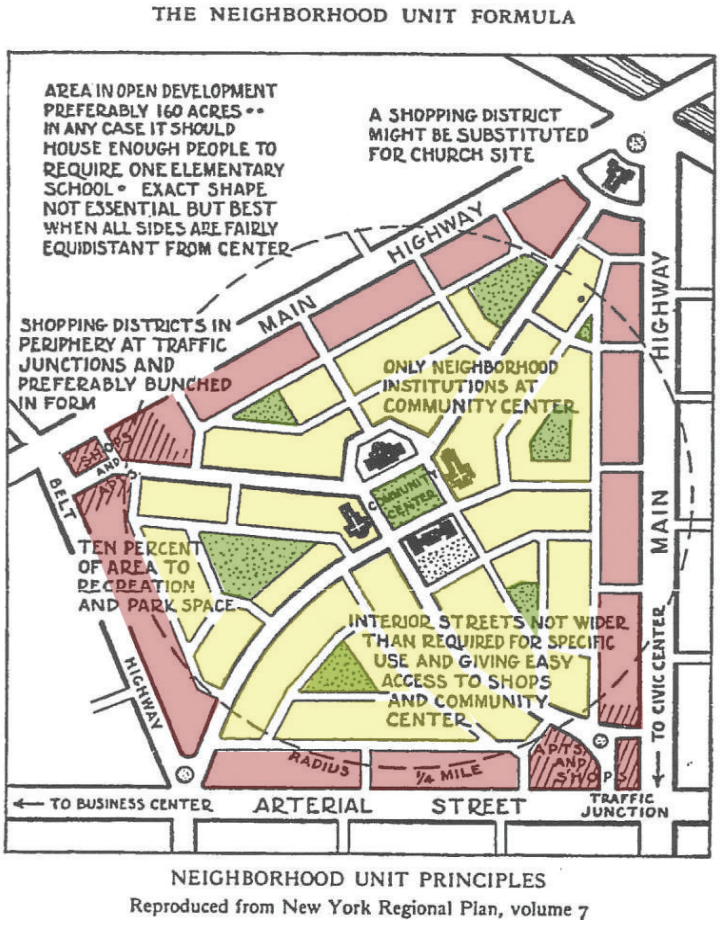


FIGURE 4B: NEIGHBORHOOD UNIT DIAGRAM

core. If this diagram were to represent Shelby Park and Germantown, not only would it point to the natural role of the Shelby-Logan street corridor, but the powerful place occupied by Shelby Park itself, and mirrored across the railroad, by Bradford Mills. With careful planning and investment and the sensitive redevelopment of key brownfield properties, the rail corridor can link neighborhoods together instead of keeping them apart, and can be a new urban development paradigm.

4.2 Planning Strategies

In a context of complex urban ecology, the Central Rail Corridor Plan is organized around three Planning Strategies to guide future investment:

1. **Restoring Natural Ecosystems**
2. **Improving Area-wide Networks of Circulation and Open Space**
3. **Identifying, Remediating and Redeveloping Brownfield Sites**

These Planning Strategies and the associated projects that arise from them are detailed in the following pages.

4.2.1 Restoring Natural Ecosystems

Beargrass Creek

The South Fork of Beargrass Creek was a natural waterway before human settlement and urbanization, and was a likely pathway to the Ohio River for local species of animals and birds. With industrialization and flooding, the creek was engineered into a sluice; native plants struggled while invasive ones moved in. City expansion to the southeast pushed the urban edge further from the central core, which was also losing green space. The Olmsted Park Plan of 1891 endowed the city with a system of connected parks and parkways that did much to mitigate the hard edge of city expansion, and Beargrass Creek's natural course was preserved as a landscape feature of Cherokee Park. The Beargrass Creek State Nature Preserve – a 41-acre urban forest – and the Louisville Nature Center highlights the natural vitality of these green spaces, which are connected by two forks of Beargrass Creek that unite in Irish Hill. The missing link however is the stretch of creek running along the full extent of the railroad viaduct. Were that to be restored, it would create an ecosystem that connects Cherokee Park with the Nature Preserve in a habitat "loop" (as illustrated in Habitat Loop Diagram). The portion running through Germantown / Smoketown / Phoenix Hill could also act as a portal to habitat connections to smaller neighborhood parks. Done correctly, this ecosystem would not only benefit the Central Rail Corridor but neighborhoods both upstream and down.

HABITAT LOOP DIAGRAM

Stormwater runoff from impervious surfaces, combined sewer overflow systems, lack of riparian buffer and upland vegetation, and channelization are the biggest contributors to the poor water quality and bleak aquatic habitat conditions of Beargrass Creek in the study area. The two overarching objectives defined with support from the public forums are:

1) Restore the Creek's ecosystem, and

2) Reclaim the Creek as a neighborhood asset.

Unlike other stretches of Beargrass Creek where the stream still meanders with riparian banks, this stretch is channelized and lies within a dense industrial landscape, making restoration complicated. For example, a storm on 9/11/2014 dropped 1.97 inches of rain in less than 24 hours (MSD 2014) and caused the flows in Beargrass Creek to jump from less than 1 cubic foot per second (cfs) to 400 cfs in less than 24 hours (USGS 2014). This type of flash flooding is not conducive to creating a sustainable natural system, but can be stabilized with coordination and effort from city agencies, private home owners, developers, and non-profit agencies.

CURRENT CONDITION OF BEARGRASS CREEK

From an aquatic habitat perspective a successful Creek restoration will require suitable conditions for vegetation and organisms such as fish and benthic invertebrates to live, feed, and breed. Short-term steps could be aimed at improving water quality and reducing peak velocity so that, in the long-term, these habitats can be restored. In-channel stream restoration will be most successful if additional actions are implemented, such as adding green infrastructure and decreasing the amount of impervious area throughout the neighborhood. This will help relieve storm surges in the Creek by allowing more precipitation to infiltrate into the soil and groundwater than flow into the Creek. Successful restoration of this reach can only be accomplished if a larger watershed plan is completed and accepted because this reach is only a small part of the larger watershed and will affect and be affected by downstream and upstream reaches.

Recommended strategies build upon MSD's efforts to alleviate stormwater runoff and reduce combined sewer overflows. MSD's basins, both proposed and implemented, throughout the South Fork and widespread green infrastructure projects will ultimately reduce peak flood surges, lessening the stressors on and contamination in Beargrass Creek. At the city planning level and in coordination with MSD, it is important to prioritize green infrastructure over grey infrastructure. Additionally, promoting the financial incentives provided by MSD to home owners in the area can help initiate more widespread efforts while putting some emphasis on the need for responsible stewardship by the area's stakeholders. MSD's basin project at Logan Street and Breckinridge presents an ideal opportunity to showcase recommended treatment adjacent to

EXISTING CONDITIONS OF THE MSD BASIN

the Creek. As part of Louisville's Metro's Floodplain Management Ordinance a natural 25 foot (or wider if possible) buffer on each side of the stream is required for property development along Beargrass Creek. MSD's basin site should explore opportunities to enhance the buffer zone including native riparian vegetation, sloped setbacks, soil bioengineering, and tree plantings.

Additionally there is opportunity to create educational synergies with University of Louisville and/or local high schools. A water quality station installed at the basin site could be used by students to study the changing stream conditions. Another idea is conducting bird surveys starting at Beargrass Creek State Nature Preserve and moving downstream. The students could see if there is a difference in the bird community as conditions in the riparian corridor change. More generally, the issue of stormwater management could be presented as a class project and students could develop solutions.

The MSD basin's prime location within the study area also provides a greater opportunity to become a community asset. During the Ecology Forum stakeholders and community members voiced their concern that the basin as proposed would be a missed opportunity. The community offered many suggestions to improve the character and fit of this large-scale public improvement. Some suggestions involved greening the site and structure, such as removing current asphalt and concrete, installing new landscaping and considering a green roof. Other recommendations addressed the perceived monotony of the structure's street frontage – ideas included public murals, material changes and landscape screening. Finally, the site is considered an opportunity to restore a small portion of the edge of the Beargrass Creek channel.

Providing public access along Beargrass Creek was a consistent request throughout the public forum process. However, because of the channelized conditions, vertical high walls, and contamination concerns, a greenway trail along the existing elevated Creek bank is recommended at this time instead of direct physical access to the Creek. Constructing a greenway trail will allow the community to visually access the Creek, create enthusiasm around the Creek's restoration, provide a green buffer between industrial use and the Creek, and link open spaces through a green corridor. The trail will also provide another transportation connection to the surrounding neighborhoods. Additionally a greenway trail could improve property values and encourage business development in the area.

Multiple property ownership and limited right-of-way will likely be a challenge to greenway implementation. The process should begin by selecting a working group to oversee the project comprised of stakeholders such as MSD, environmental groups such as Beargrass Creek

Alliance, and community members. The greenway working group must work with MSD and property owners to gain access to the right-of-way as the first step. The working group can also help identify other opportunities and constraints to completing the trail. Funding sources for trail completion can likely be acquired through various grant opportunities, but specific grants would need to be identified once the project feasibility is completed since funding opportunities are constantly changing.

During the design process, the working group and consultants must carefully consider project phasing. The channelized conditions favor restoration starting upstream where the concrete channel begins and work downstream. Because of the small stream width and the dense surrounding lots, removal of the vertical walls will be limited. However, the concrete lining the Creek bed should be partially removed and replaced with natural sediment as described in MSD's Design Manual section 10.3.6. (*http://www.msdlouky.org/insidemsd/standard-drawings.htm*) A soft creek bed will allow aquatic and wetland vegetation to grow and infiltration to occur, thereby increasing the stream's natural ability to filter and improve water quality. The first focus, however, should be on area-wide stormwater management strategies and greening the immediate edges of the culvert. Later phases may look at the possibility of replacing the concrete channel substrate with more natural materials.

Properties along the Creek that have the potential to become open space should be identified during the design process. The restoration design should take advantage of areas where the vertical channel walls could be removed and replaced with a natural sloped bank. The restoration plan should also consider unique options to incorporate stepped or shelved plantings where the wall cannot be removed. Large boulders and cobble placed in the Creek bed can offer natural oxygenating processes and pools for aquatic species. A native vegetated shoreline with a mix of trees and herbaceous plantings can offer forage and breeding habitat for many bird species and shade to cool the high water temperatures in the summer.

Greening The Corridor

Integration of natural systems into the urban fabric creates healthy, more resilient cities for future generations. Natural resources and ecosystems provide numerous benefits and unlimited value to our cities. For many generations these natural resources have been pushed to the edges or paved over and the negative effects keep growing. Cities are now faced with rising temperatures, an effect known as the urban heat island, contaminated soil, poor water quality, aging infrastructure, invasive species and disease, and degraded habitat. Planning and design must address these issues and propose green solutions moving forward with the main goal of restoring natural systems and improving the quality of life for the community. This effort will require not one solution, but a series of solutions decentralized across the landscape to connect corridors, restore waterways and increase biodiversity and tree canopy cover.

Urban trees are often an extremely undervalued asset in urban landscapes. Trees help reduce and regulate temperatures, filter air and water, provide habitat to many species of birds and wildlife, increase property values, and enhance the user experience in the landscape. Urban areas with high levels of impervious surfaces lead to increased stormwater runoff and higher ambient temperatures, both of which can be reduced by simply planting trees and other vegetation. The Central Rail Corridor study area generally has good tree cover,

but there are strategic places that would benefit from having additional trees planted. This includes areas around Logan Street, Shelby Street and Goss Avenue.

Restoring urban waterways like Beargrass Creek could also improve downstream conditions and have a large impact on the surrounding landscape. Measures to help reduce stormwater runoff include planting riparian vegetation to filter runoff, reducing impervious surfaces to increase infiltration and groundwater recharge, and replacing grey infrastructure with green infrastructure to capture and convey stormwater. Utilizing green infrastructure as stormwater management also offers the benefit of additional areas that can provide flowers or other vegetation that help beautify the neighborhoods. In-stream improvements such as increasing plant biodiversity; varying bottom structure and width; and increasing sinuosity and tree canopy cover can create a rich habitat for many aquatic and avian species. Additionally, public access along water ways provides "green relief" and recreational opportunities to urban residents, ultimately creating a valuable asset to the community. *See Los Angeles River Project (below) for example of integration of natural systems into the urban fabric.*

LOS ANGELES RIVER, EXISTING CONDITIONS (ABOVE) AND PROPOSED IMPROVEMENTS (BELOW) COURTESY: GREAT ECOLOGY. SOURCE: WENK ASSOCIATES

There are also opportunities to restore and implement green solutions that benefit flora, fauna, and urban dwellers alike without having to significantly compromise the infrastructure function of these systems. Implementing greening efforts throughout the area can collectively reduce pressure on the aging infrastructure of the area and create assets out of liabilities.

Recommendations

Beargrass Creek

1. Reduce stormwater runoff and combined sewer overflows to provide suitable aquatic habitat conditions for long-term creek restoration:
    a. Educate and promote the financial incentive programs from MSD for private homeowners to install green infrastructure.
    b. Install green infrastructure where feasible and prioritize over grey infrastructure.
    c. Implement Floodplain Management Ordinance for a 25' natural buffer along Beargrass Creek.
    d. Develop educational synergies for research opportunities.
2. Over time, restore Beargrass Creek to a more natural system by removing concrete and adding natural substrate and vegetation:
    a. Develop working group of key partners.
    b. Develop specific watershed plan.
    c. Model stream flows for storm events to assist design of restored creek.
    d. Include area-wide stormwater management strategies in the design of the restored creek.
    e. Gain public support and access agreements (if necessary).
    f. Create restoration design.
    g. Apply for necessary permits, including but not limited to:
        i. Construction along a stream – KY Division of Water (KDOW)
        ii. Stormwater Discharge - KDOW
        iii. Section 404 – U.S. Army Corps of Engineers (USACE)
        iv. Section 401 – USACE
        v. Floodwall Encroachment Permit – MSD and USACE
3. Reclaim portions of the Beargrass Creek by using MSD basin project as a pilot project and developing the Beargrass Creek Trail:
    a. Work with MSD to redesign the proposed basin site at Logan Street and Breckinridge Street. The recommendations received from the community include greening the site and structure by removing current asphalt and concrete, installing new landscaping and considering a green roof. Other recommendations addressed the monotonous character of the structure's street frontage – ideas included public murals, material changes and landscape screening. Finally, the site was identified as an opportunity to restore a small portion of the edge of the Beargrass Creek channel.
    b. Provide public access along Beargrass Creek by developing a greenway trail along the creek. In the short-term the trail could run along the elevated Creek bank to allow visual access and promote restoration.

Greening the Corridor

4. Incorporate green strategies: Encourage new developments, through regulations and grant incentives, to incorporate small-scale green strategies such as landscaping, rain gardens, and rain barrels. Similarly, incorporate green measures into new larger-scale infrastructure projects

including road, bridge, sewer, and even interstate reconstruction.

5. Plant street trees as part of the City's urban forestry program: to enhance the study area, reduce heat island effect and create a healthier environment. Increase tree canopy when possible on both public and private land and coordinate with the Urban Heat Island Project initiative. Also create an urban forestry program to encourage native plants and vegetation and also contribute to developing a continuous riparian buffer.
6. Identify vacant lots and underutilized areas and convert them into green spaces temporarily: These spaces could be used as urban community gardens, community gathering spaces or for stormwater management purposes, similar to the successful rain garden project at the intersection of Dandridge and Elison Avenues. Encourage the community to participate and maintain community gardens, promote urban agriculture and partner with the local businesses for installation and maintenance.

BEARGRASS CREEK - EXISTING CONDITION

4.2.2 Improving Area-wide Networks of Circulation and Open Space

Circulation

Connectivity and circulation were identified as major community concerns for the Central Rail Corridor study area. This area contains several one-way street pairs and has many roads dead end at the railroad tracks, creating underutilized and inaccessible spaces. The railroad forms a major barrier as it divides the area in two and limits accessibility. The disconnected street grid patterns of the different neighborhoods adds to the challenge by creating unsafe intersections throughout the study area. Louisville Metro's adoption of Complete Streets policy reflects its priority to design streets for all users: bicyclists, pedestrians, motorists, transit users, and people with disabilities. Building upon this policy the main goal is to identify the priority corridors in order to initiate the process towards better connecting this area. Figure 4C and 4D illustrate the connectivity and circulation recommendations.

Open Space

Despite the fact that the Central Rail Corridor study area contains portions of six primary neighborhoods, it is lacking in open space, as discussed in Chapter 2. To address this issue, a network of existing and potential open spaces has been identified and illustrated in Figure 4E.

Recommendations

Circulation

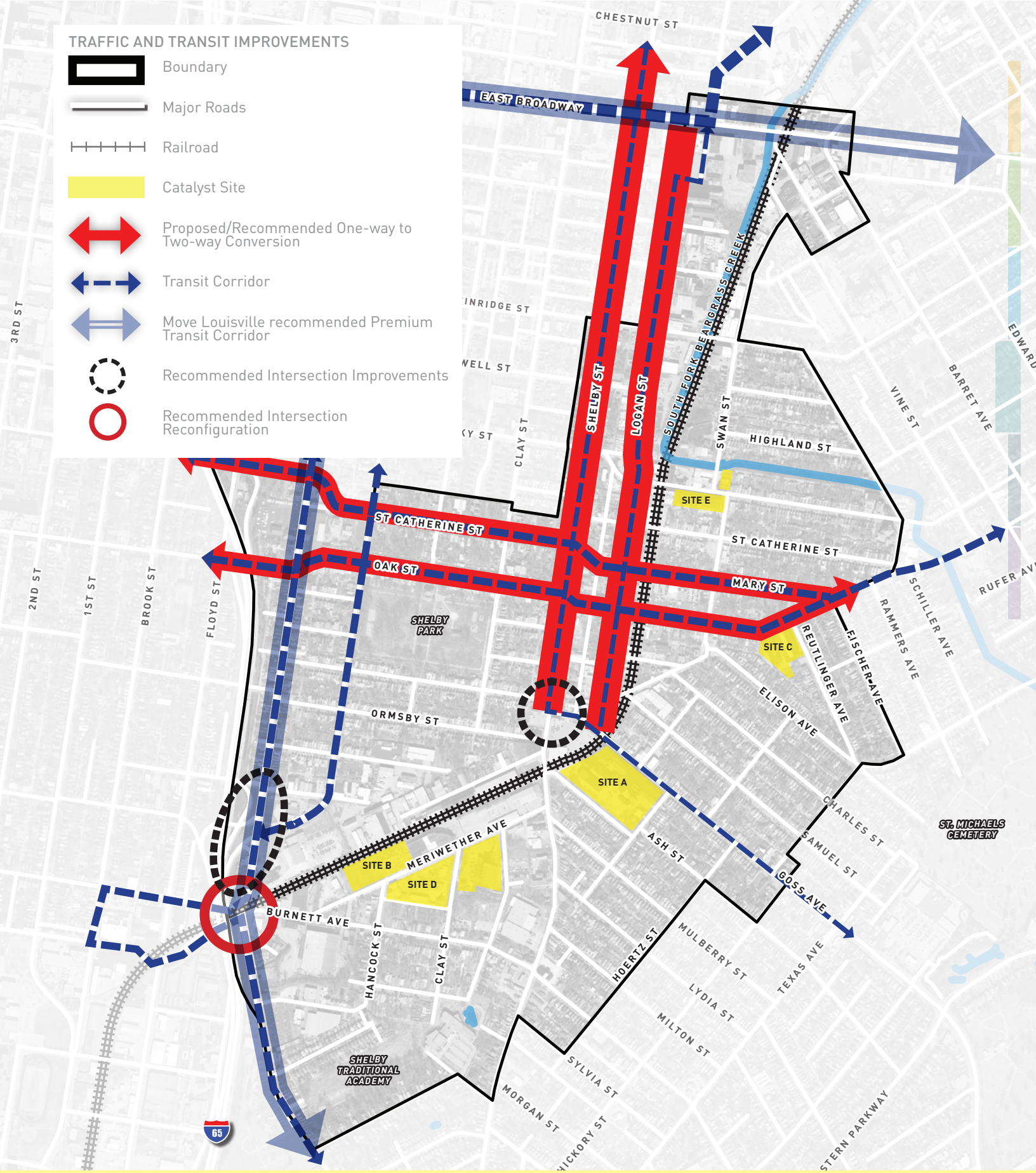
1. Implement traffic improvements:
    a. Convert one-way streets to two-way streets: Based on existing condition assessment and Move Louisville recommendations, Oak Street, East St. Catherine Street, Shelby Street and

Logan Street should be converted to two-way. This would not only enhance the connectivity of the area but also improve the pedestrian environment and economic viability of the area. Converting Shelby Street to two-way would also help alleviate the intersection issues at Shelby Street and Goss Avenue.

Presently there are existing Quiet Zones delineated areas located along existing rail lines. Some of these rail lines cross existing one-way streets that are being considered for two-way street conversions. Jurisdiction of Quiet Zones falls under the Federal Railway Administration (FRA) Locomotive Horn Rule (49 CFR 222) and they have requirements that need to be met for the allowance of Quiet Zones. There are two types of safety improvements that are to be incorporated to meet FRA standards. The first type is called Supplemental Safety Measures (SSM's) which include four-quadrant gate systems, medians and channelizing device. The second type of safety improvement is called Alternate Safety Measures (ASM's) and they include modified SSM's, geometric improvements and programmed and photo enforcement. Different safety measures will be considered for streets that are being considered for conversion from one-way to two-way.

EXISTING CONDITIONS OF GOSS AVENUE

POTENTIAL STREETSCAPE IMPROVEMENTS OF GOSS AVENUE



SITE A: LOUISVILLE COTTON MILL | SITE B: FORMER EXMET SITE | SITE C: BRADFORD MILLS | SITE D: WASTE TRANSFER STATION | SITE E: HOPE WORSTED MILLS

FIGURE 4C: CIRCULATION FRAMEWORK - TRAFFIC AND TRANSIT IMPROVEMENTS

b. Improve safety conditions on Preston Street at the intersection of the I-65 Exit Ramp. Study the possibility of stop signs, traffic signals and crosswalks. This intersection was identified as one of the most dangerous intersections by the community since the incoming traffic from the exit ramp does not stop.

2. Improve bus stops: The transit corridors identified by Move Louisville for improvements (illustrated as blue dashed lines in Figure 4C) cover the study area effectively. Additional study should be pursued to identify priority bus stop locations to install shelter and transit amenities. These improved bus stops would encourage better transit usage and add to the identity of the study area, if done artistically.

3. Implement bike and ped improvements: As discussed in previous section, streetscape improvements are critical to improve bike and pedestrian accessibility, in addition to restoring natural ecosystems and enhancing the identity of the Central Rail Corridor study area. Based on the individual street right-of-way conditions potential improvements would include bike lanes, wider sidewalks, and landscaping. The major roads identified for implementing such improvements are:
   i. Logan Street
   ii. Shelby Street
   iii. Broadway
   iv. Goss Avenue
   v. Dandridge Avenue, Steve Magre Alley, Bergman Street, Hancock Street and Clay Street have been also identified as green corridors to connect existing and proposed open spaces.

4. Complete bike network: Based on community input, existing conditions assessments and Move Louisville recommendations, streets were identified to implement bike lanes or sharrows to establish a network within the study area. The priority bike corridors identified are:
   i. Elison Avenue
   ii. S Hancock Street
   iii. S Preston Street

5. Implement intersection improvements for pedestrian safety: Ten intersections were identified for incorporating pedestrian improvements/ connections. Such improvements could include crosswalks, stop signs, streetscaping, and amenities. Each intersection would need additional analysis for improvements. These intersections include and are illustrated in Figure 4D:
   i. Shelby Street & Ormsby Street
   ii. Shelby Street & Goss Avenue
   iii. Logan Street & Goss Avenue
   iv. Samuel Street & Dandridge Avenue connection
   v. Ellison Avenue, Swan Street & Dandridge Avenue
   vi. Fischer Avenue, Oak Street & Mary Street
   vii. Logan Street & Kentucky Street
   viii. East St. Catherine Street connection across railroad at Steve Magre Alley
   ix. Logan Street & Broadway
   x. Broadway & Brent Street/Overpass

Open Space

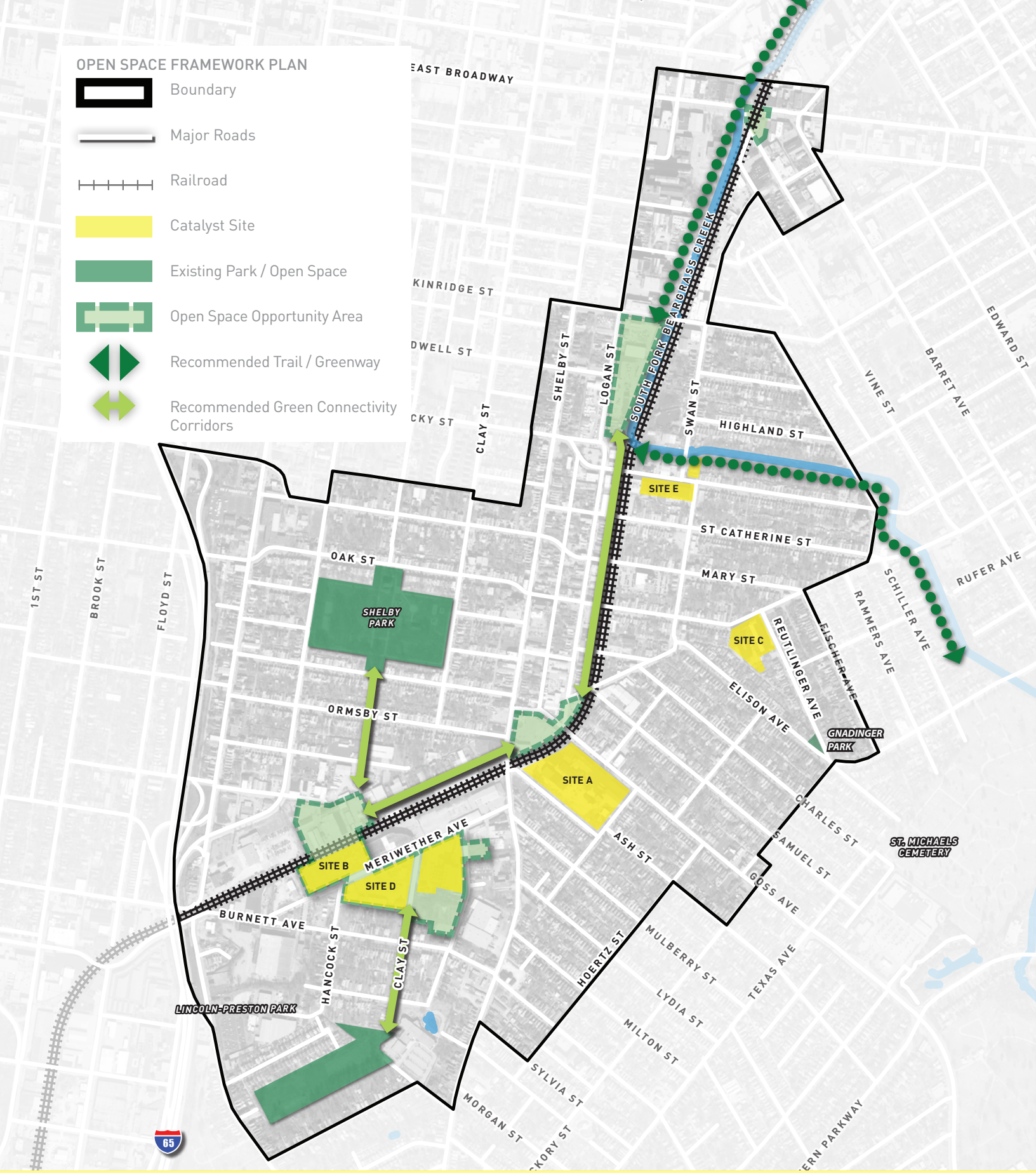
6. Better utilize and improve existing open spaces:
   a. The improvements to Shelby Park should be completed according to the Master Plan.
   b. Working with Jefferson County Public Schools, consider additional programming and publicly accessible facilities for Lincoln-Preston Park.

SITE A: LOUISVILLE COTTON MILL | SITE B: FORMER EXMET SITE | SITE C: BRADFORD MILLS | SITE D: WASTE TRANSFER STATION | SITE E: HOPE WORSTED MILLS

FIGURE 4D: CIRCULATION FRAMEWORK - BIKE AND PED IMPROVEMENTS

7. Develop new small-scale open spaces particularly in areas lacking immediately accessible open space: Potential opportunities have been identified in the framework plan in Figure 4E and include:
    a. Activate the intersection of Broadway and Brent Street/Overpass as an open space with landscaping and with possible access to the proposed Beargrass Creek trail.
    b. The MSD basin project at Logan Street and Breckinridge Street is a large site with excellent frontage on Beargrass Creek, and will only be partially occupied by the basin structure leaving room for other landscape improvements. It is also at the location where Beargrass Creek turns north, giving it a highly symbolic place in the ecosystem described earlier. It has the potential for becoming a community gathering space and has been identified as such by the public.
    c. A longer-term opportunity area exists at the paved storage area at the intersection of Goss and Logan. Like the MSD site, this marks a transition – in this case defining the "Three Points" area and the curve of the railroad. Over time it could be converted to a gateway plaza as the surrounding property redevelops. The plaza could extend across Goss and be incorporated into a long-term intensification of the Save-A-Lot property.
    d. The area including Catalyst Sites B and D which includes adjacent vacant land and available property is another open space "opportunity area." Like the MSD basin, it is mostly in public ownership and can have a significant green program. It is midway between the Corridor's two parks, and with new or improved connections along South Hancock and South Clay streets it can anchor the west end of the study area in a system of parks, gardens and pathways.
8. Create a network of greenways to connect the existing and proposed open spaces, as illustrated in Figure 4E. To the north, the proposed Beargrass Creek Trail would be significant for connecting the open spaces. Dandridge Avenue could be improved with a continuous pedestrian-rail barrier and linear plantings. This treatment could extend along Steve Magre Alley to the MSD site. Similar ped-bike green enhancements could occur on Bergman Street. In addition it would be important to connect to other existing open spaces, including Hancock Street and Clay Street.

MURAL PAINTING AT THE THREE POINT INTERSECTION



SITE A: LOUISVILLE COTTON MILL | SITE B: FORMER EXMET SITE | SITE C: BRADFORD MILLS | SITE D: WASTE TRANSFER STATION | SITE E: HOPE WORSTED MILLS

FIGURE 4E: OPEN SPACE FRAMEWORK PLAN

9. Incorporate usable open space into new larger scale developments through minimum open space requirements.
10. Encourage public art and local artists, such as the mural painting at the Three Points junction through public-private partnerships and pursuing grant opportunities.

4.2.3 Identifying, Remediating and Redeveloping Brownfield Sites

Development Opportunities

One of the goals of the Area-Wide Planning Program is to help communities identify remediation and redevelopment priorities on their brownfield sites. Although five Catalyst Sites were identified for this effort, there are many other opportunities for brownfield redevelopment. In addition, non-brownfield properties could also make a positive contribution to the area if improved or redeveloped.

To identify the potential short-term and long-term redevelopment opportunities within the Central Rail Corridor study area, the planning team surveyed the entire corridor, focusing mainly on the non-residential properties. The resulting parcels were categorized as Tier 1, 2, and 3 redevelopment / reinvestment opportunities based on the following criteria:

- Tier 1 sites include all Catalyst Sites and any other sites which are currently vacant or unoccupied.
- Tier 2 sites include properties which could be considered underutilized from a land coverage perspective. These properties have at least half their land area dedicated to parking or storage. Based on the Corridor survey, approximately 80 Tier 2 sites were identified as underutilized. Identified Tier 2 parcels include large parking lots, large manufacturing buildings, and other commercial structures. As the Catalyst Sites are developed and interest in the area grows over time, it is likely that these properties will become more desirable and easier to bring back to full utilization over the long term. Financial incentives for small and local businesses would help to enhance such growth in the short term.
- Tier 3 sites are properties which may be fully operational or in use but would benefit from some form of aesthetic treatment and/or could transition overtime to a higher and better use. Approximately 110 Tier 3 sites were identified, primarily in the business and industrial areas along Shelby Street and the main rail corridor. These properties could benefit from water quality (green infrastructure) grants, such as those offered by MSD, to improve the aesthetic quality of this area and to soften the transition from industrial to residential uses.

The planning team also mapped preliminary environmental data and overlaid them on the sites using 1905 Sanborn maps, state hazardous data from KDEP database, and City Directories from 1930 to the present, as shown in Figure 4F.

With the possible exception of a few sites in the Shelby-Logan corridor, any future environmental assessment opportunities should be focused on sites to the west of the Louisville Cotton Mill and to the north of the Hope Worsted Mills. Given that there are several structures in these areas dating from the early years of the Short Line that are representative of early neighborhood history, preference should be given to assessing these resources first with an eye toward preservation and reuse.

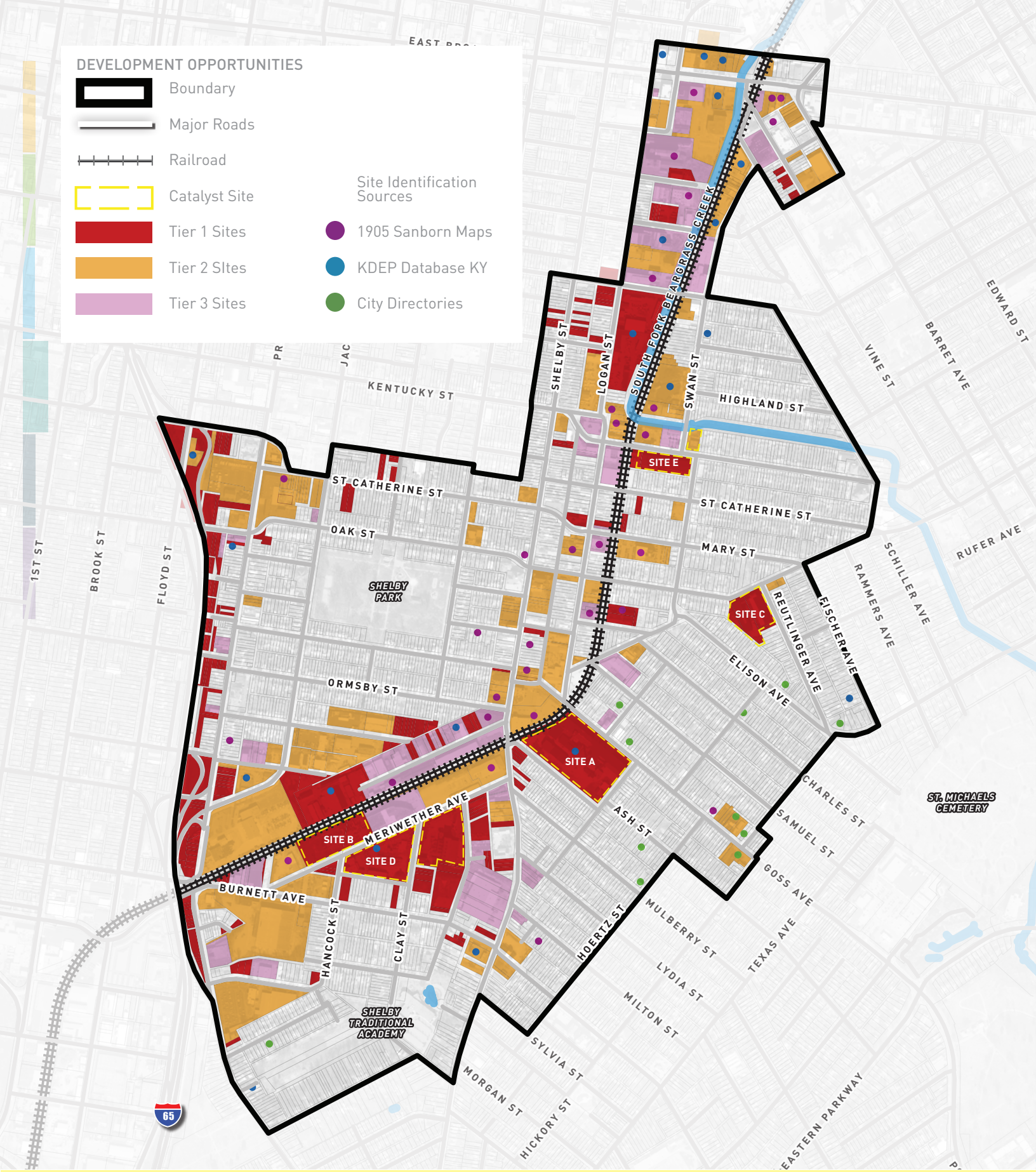
TIER 1 SITE

TIER 2 SITE

TIER 3 SITE

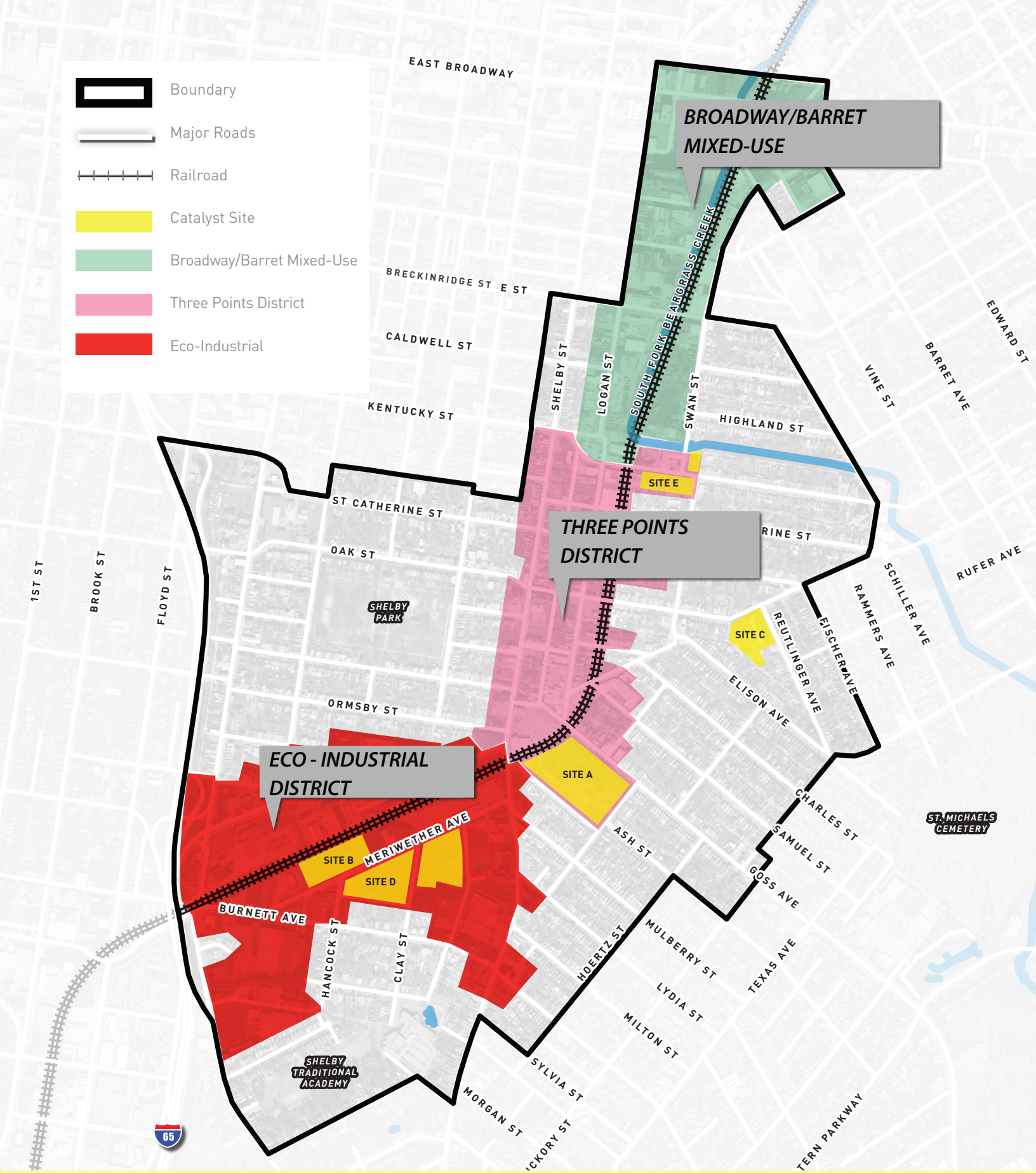
Development Districts

The Central Rail Corridor is a unique area which has developed due to the confluence of a wide variety of physical and economic characteristics. To create a comprehensive plan for redevelopment of the brownfield sites, it was essential to understand and respond to the immediate context. The process defined "Development Districts" to align closer to land use and development programs. Based on the physical characteristics, land uses and accessibility, the study area can be divided into three distinct development districts: the Broadway Mixed-Use District, the Three Points District and the Eco-Industrial District. The two northern districts reflect the emerging mixed-use orientation of the area – albeit with the regional implications of Beargrass Creek versus the local ties to adjacent neighborhood - while the southern district retains the industrial focus.



SITE A: LOUISVILLE COTTON MILL
SITE B: FORMER EXMET SITE
SITE C: BRADFORD MILLS
SITE D: WASTE TRANSFER STATION
SITE E: HOPE WORSTED MILLS

FIGURE 4F: REDEVELOPMENT OPPORTUNITIES



SITE A: LOUISVILLE COTTON MILL | SITE B: FORMER EXMET SITE | SITE C: BRADFORD MILLS | SITE D: WASTE TRANSFER STATION | SITE E: HOPE WORSTED MILLS

FIGURE 4G: DISTRICTS MAP

INFILL AND STREETSCAPE IMPROVEMENTS ALONG LOGAN STREET

Broadway/Barret Mixed-Use District

With good access, visibility, strong industrial / commercial history, intact urban fabric and historic building stock, the Broadway/Barret Mixed-Use District is ideally positioned to attract future business growth in the neighborhood. The primary planning and redevelopment goals are to encourage adaptation of existing historic buildings (including brownfields) into residential mixed-use projects; to support the growth of businesses like Louisville Stoneware; and to take steps to move Beargrass Creek toward a more environmentally sustainable waterway that is a community green space amenity as well as a link to the Ohio River.

Given the findings of the economic analysis and Move Louisville's proposed Complete Street Retrofit of the Broadway Corridor (which includes Bus Rapid Transit), the Broadway/Barret Mixed-Use District could likely support additional retail and service related businesses. With steep competition from nearby retail districts (Highlands, Nulu, and St. Mathews Mall), short-term economic and business development is necessary to lay the groundwork for future retail investments. This may come in the form of attracting light-industrial businesses or providing a framework of support and studio space for a maker-type district. If retail is to occur, it is likely to be in the form of locally owned, small businesses with unique offerings. Traditional retail may struggle in this location until the market can be strengthened. Short-term economic development can assist in establishing a new context for development and enhancing the market for retail, services, and eventually residential.

Three Points District

This district lies at the intersection of several neighborhoods. Though centrally located, currently it lacks an identity of its own. The commercial section includes the historic textile mills and other structures that have a strong cultural and economic link to the adjacent neighborhoods. The planning and redevelopment goals along this segment should be to support retail uses in the Germantown Mill Lofts project; to undertake streetscape improvements and a parking analysis; to study ways to make structures more pedestrian-friendly including providing grants for storefront creation; to explore the feasibility of converting the trolley barn into a mixed-use space; and to work with property owners and small businesses to brand the district as a place.

By concentrating new businesses along Shelby and Logan Streets, this centralized location could become a multi-neighborhood destination. Within walking distance of thousands of residences, local retail and services could be supported and integrated into the

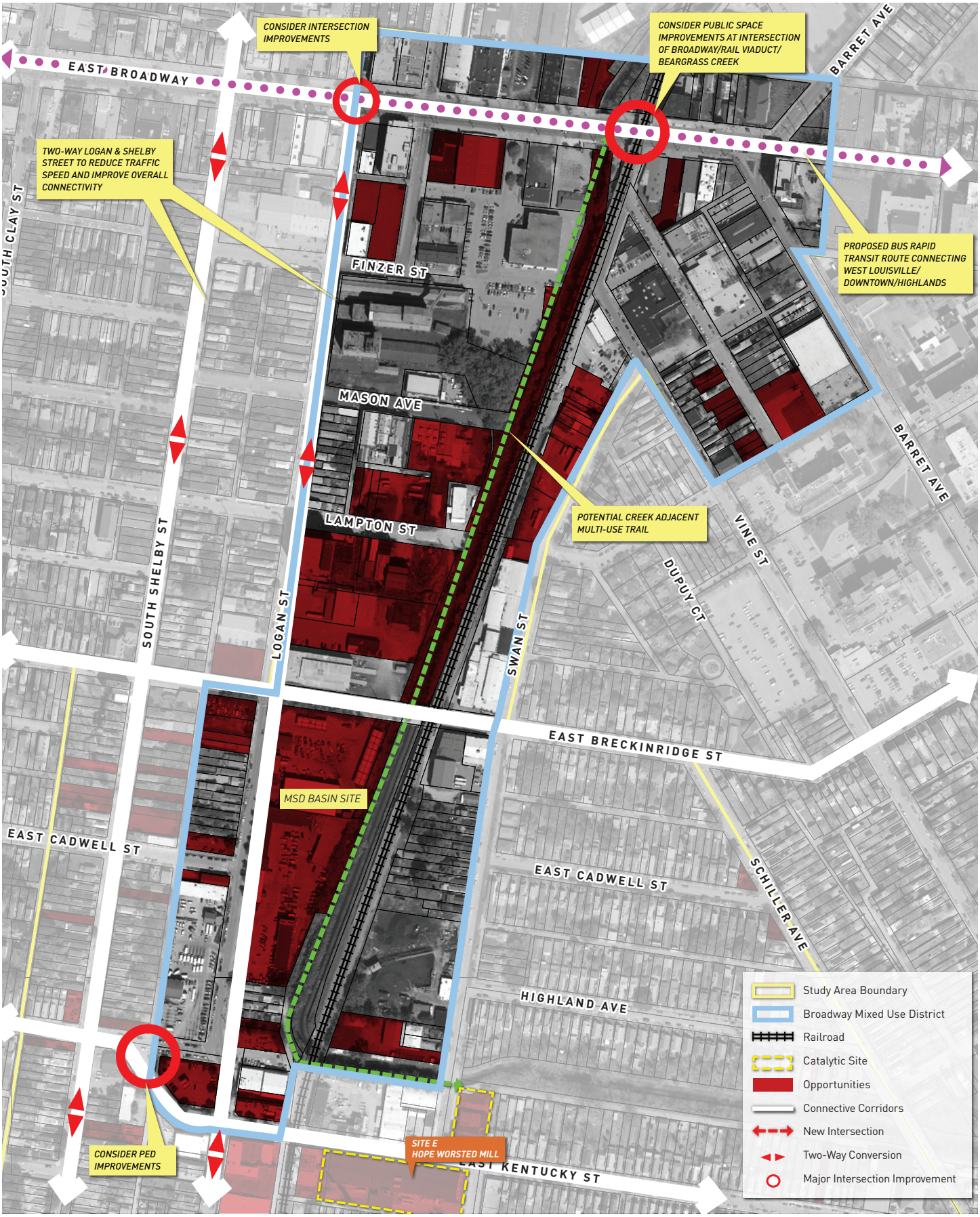


FIGURE 4H: BROADWAY MIXED-USE DISTRICT FRAMEWORK

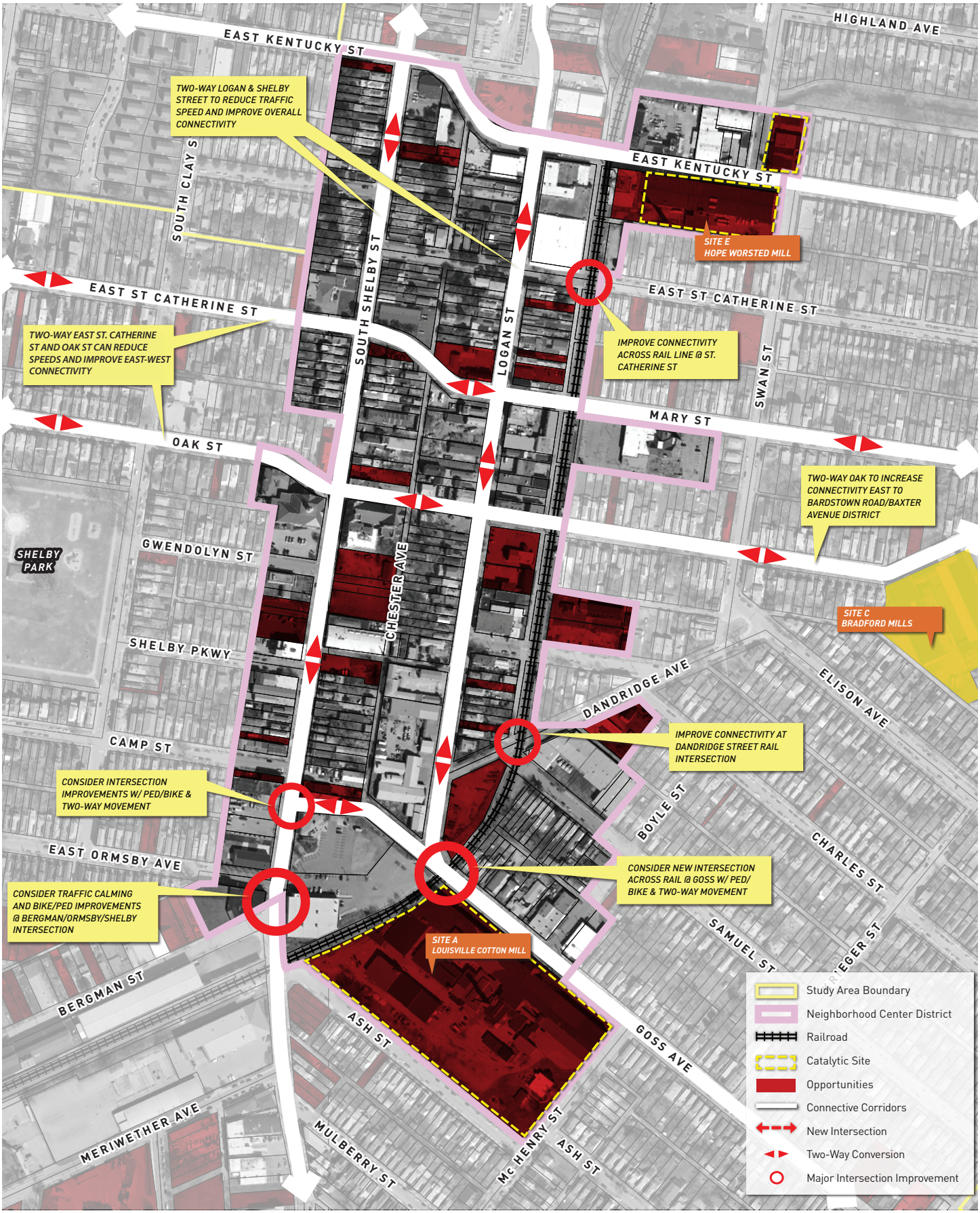


FIGURE 4I: THREE POINTS DISTRICT FRAMEWORK

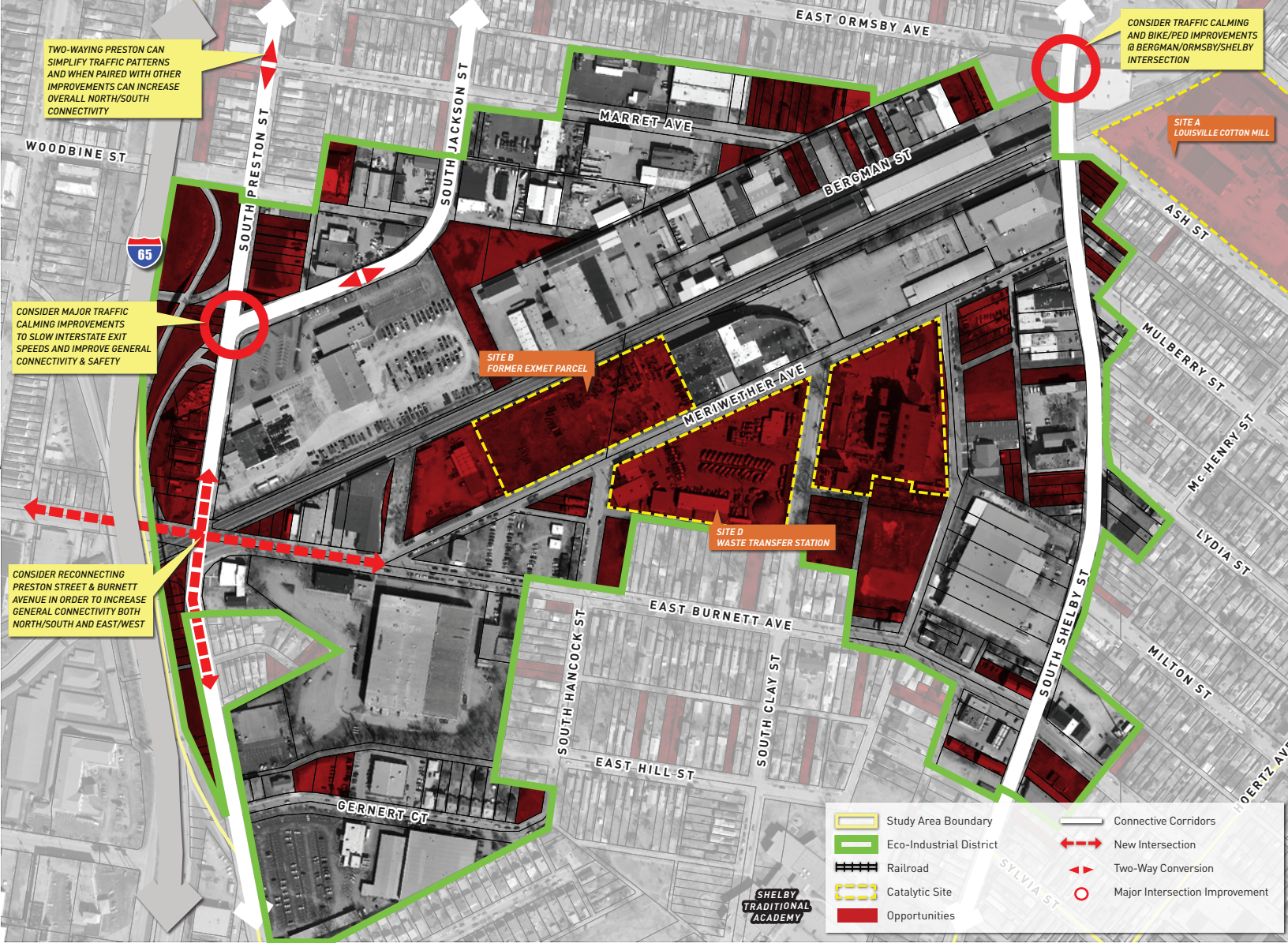


FIGURE 4J: ECO-INDUSTRIAL DISTRICT FRAMEWORK

existing historic neighborhood fabric. The opportunity to better serve the many adjacent residences intensifies the need to cluster new businesses to help build a strong retail base along two reasonably well travelled corridors. Existing nineteenth-century commercial structures present short-term, size appropriate, and often economically viable locations for small retailers and micro businesses. Financial incentives may be needed to make the reuse and rehabilitation of these buildings attractive to investors and businesses.

Eco-Industrial District

The southwestern portion of the study area contains larger parcels and a heavy continuing industrial base. It also includes significant property owned by Louisville Metro utilized for recycling and storage. This district has increased visibility and access provided by the adjacent Interstate 65, as well as adjacency to a major research institution, the University of Louisville. The Central Rail Corridor Plan envisions taking advantage of the inherent assets and economic potential of sustainable industries to create a city-wide center of environmentally-oriented light industry that can also serve as job opportunities for local residents.

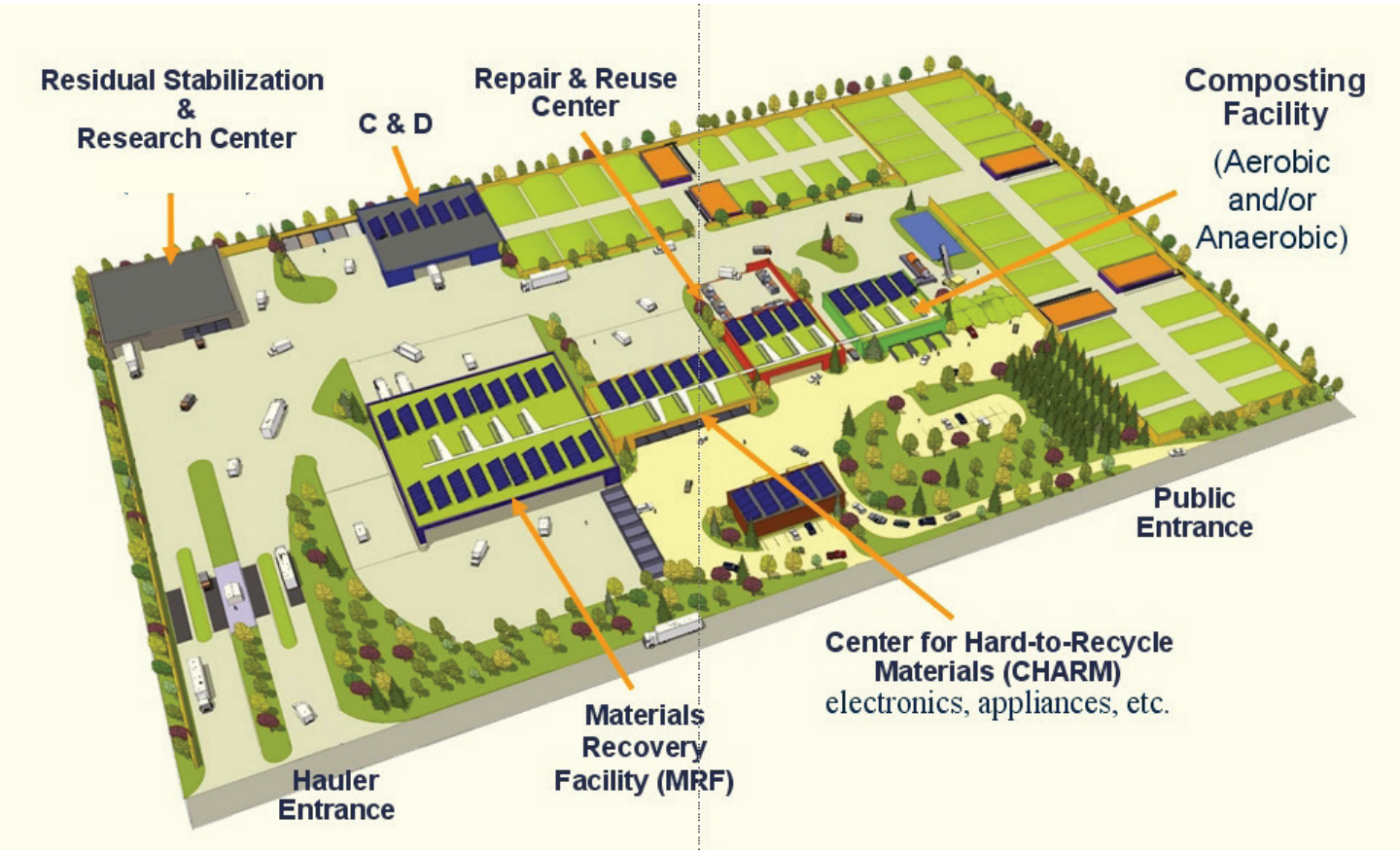
In addition, the Central Rail Corridor presents an unprecedented opportunity to engage, continue, and expand upon Sustain Louisville's aggressive agenda. Two of the five catalytic sites being considered for redevelopment in the Central Rail Corridor play a particularly important role in this effort: the former Exmet site and the Waste Transfer Station site. Some of the potential uses in the Eco-Industrial District include: 1. Resource Recovery Park; 2. Local Food Initiative Space; 3. Sustainability Education Center and Research District; and 4. Green Jobs Office District.

1. Resource Recovery Park

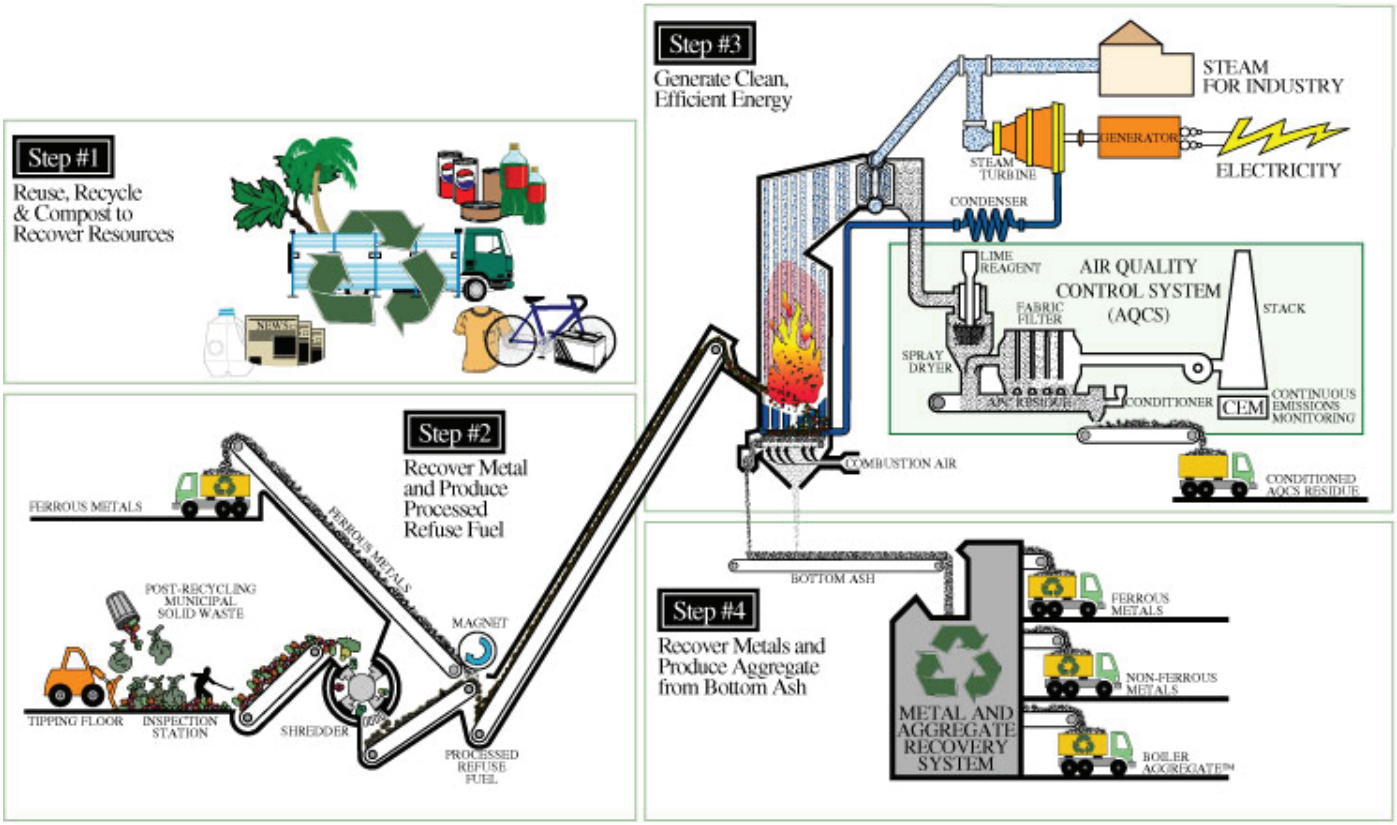
The Waste Transfer Station and Exmet sites, given their size, location, current use, and connectivity present an ideal location for implementing a Resource Recovery Park where the middle- to end-of-cycle phases of reuse and recycling can take place. The Resource Recovery Park, which would ideally work in partnership with other catalytic efforts in Louisville such as the West Louisville FoodPort or the University of Louisville's Material and Waste Reduction Strategic Plan, would have a significant role in positioning the Louisville Central Rail Corridor as an Eco-Industrial District of local and regional impact.

The park would include three main facilities:

- A Material Recovery Facility (MRF) located in the former Exmet site
- A Composting /Anaerobic Digester facility located in the current Waste Transfer Station site
- A Maker-space facility located in the former Incinerator Building



CONCEPT FOR A RESOURCE RECOVERY PARK. SOURCE: WWW.ROCHESTERGREEN.ORG/2011/08/RESOURCE-RECOVERY-PARKS/



RESOURCE RECOVERY PROCESS. SOURCE: HTTP://WWW.ENERGYANSWERS.COM/TECHNOLOGIES/PROCESSED_REFUSE_FUEL/4_STEP.PHP

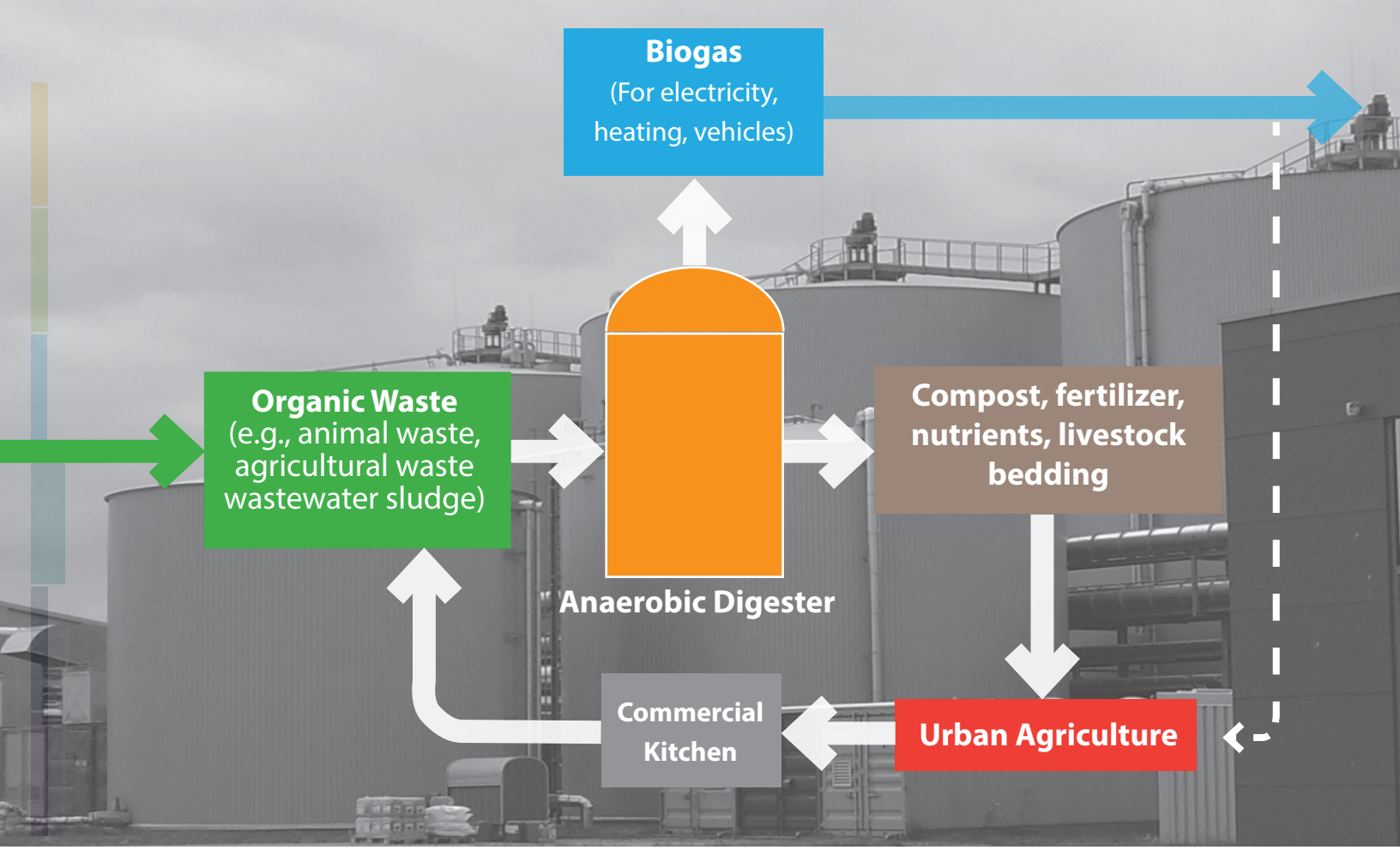
Material Recovery Facility

Material Recovery Facility (MRF): An MRF is a plant that collects, sorts, resuses, and recycles waste to make it appropriate for use by end user manufactures. Pending the results from the Waste Feasibility Study to be completed in 2015 by the Waste Management Department, the recommended MRF would collect mixed waste (Dirty MRF). The mixed waste is then sorted out by a combination of mechanical and manual sorting to separate solid waste from recyclable materials. The solid waste would be transferred to the Composting/ Anaerobic facility while the recyclable materials are processed to meet technical requirement by the end-user manufacturers. Though dirty MRFs are more labor intensive and more expensive than clean MRFs, a dirty MRF offers a higher recovery rate than a clean one, while offering a larger variety of green jobs.

Space requirements for an MRF vary depending on the waste being collected and the demand from local manufacturers. A follow-up study to determine the demand of manufacturing materials in the area is recommended as this will determine the size of the proposed MRF. *(See GreenWaste Material Recovery Facility in San Jose, California for a case study).*

Composting /Anaerobic Digester Facility

Anaerobic biodigesters take waste and convert it into energy (biogas) among other things. Digestion is a biological process through which biodegradable waste is broken down by microorganisms in the absence of oxygen. A range of anaerobic digestion technologies are available for commercial use, but the three basic types that are most used in the country include: Covered anaerobic lagoon, plug flow digester, and complete mix digester. Information on these and other common types can be found at: *http://www.epa.gov/agstar/anaerobic/ad101/anaerobic-digesters.html.*



AEROBIC DIGESTER BASIC PROCESS. BACKGROUND IMAGE SOURCE: WIKIPEDIA

One of the main end products of anaerobic digesters is biogas (consisting primarily of methane and carbon dioxide), which is used to generate electricity and heat (through combustion) or natural gas and transportation fuel. Other important by-products include compost, fertilizer, and nutrients which can be used in urban agriculture. According to AgSTAR *(www.epa.gov/agstar/projects/#database)*, there are approximately 250 anaerobic digesters currently operating in 35 different states across the country. The most common end-use of the biogas produced in these facilities includes electricity, boiler/furnace fuel, and cogeneration. There are not any operational or under-construction digesters in Kentucky, which gives the Central Rail Corridor a unique opportunity for innovation. Approximately 10% of the facilities operating across the country are of central/regional type and can serve as case studies for implementing one in the area. *(www.epa.gov/agstar/anaerobic/ad101/index.html)*

According to the USEPA, the space requirements for anaerobic digesters vary depending on whether they are wet or dry. A dry digester processes more solid waste than a wet digester (between 20% and 40% versus less than 15% of total waste). The site size required for the wet type system is about 2-3 acres (including at least one building) for a one-digester tank system and about 5-6 acres for a two-tank system. The site size required for a dry system is about 5-10 acres; which is expected to handle between 35,000 to 40,000 tons of waste per year. Considering the size of both the former Exmet (approximately 3 acres) site and the current Waste Transfer Station (approximately 7 acres), it is recommended that a wet type one-tank system be considered for these sites.

The benefits of anaerobic digestion include not only diversion of waste from landfills, but also the production of renewable power through combined heat and power cogeneration.

Maker/Manufacturers Space

Unique open floor plans could be utilized as artist space for large-scale sculptures; wood work; glass-blowing; metal works; etc. This use could potentially benefit from the building's proximity to an operating rail line and the proposed Material Recovery Facility as large raw materials and finished products can easily be transported to and from the site, while excess and disposable materials can be recycled within the Resource Recovery Park. Small machinery could be powered by the energy produced through the anaerobic digestion processes proposed on site. This use also allows for the incremental activation of the building in the short-term without major investment on the property. Key players for this initiative are local artists and small scale manufacturers already present in the area.

2. Local Food Initiative Space

Local Food Initiative Space could include vertical agriculture, hydroponics, commercial kitchen, farmers market, etc. This use would also benefit from the area's proximity to the rail line as produced food could be transported to other parts of the region. Food production is also highly compatible with the proposed anaerobic digesters given its role in the initial and final parts of the renewable energy cycle (organic waste, use of compost and energy). This use is most suited for the medium to long term, with the exception of farmers market. Potential partners for this initiative include the West Louisville FoodPort and local farmers.

3. Sustainability Education Center and Research District

This use is highly compatible with the other two proposed uses and it presents opportunities that can run parallel to all the phases of the project. An Education Center and Research Lab can be implemented in partnership with the University of Louisville and provide an innovation hub to continue Metro Louisville's sustainable initiatives while educating the community on the benefits of green energy production, rainwater management, building life cycle assessment, zero waste, and waste-to-energy strategies among others.

4. Green Jobs Office District

An important aspect to consider along with the positioning of Central Rail Corridor as an Eco-Industrial District is a strong economic development strategy, specifically the creation of green jobs. The Institute for Local Self-Reliance has estimated that every 10,000 tons of materials discarded per year can create the following full-time jobs:

- 1 job at a landfill, or
- 4 jobs at a compost facility, or
- 10 jobs at a recycling facility, or
- 25 jobs at a recycling-based manufacturer, or
- 75 to 250 jobs at a reuse facility

Target Catalyst Sites

SITE A: Louisville Cotton Mill

The Louisville Cotton Mill / Booker Price Building is currently under renovation and is being redeveloped

SITE A : LOUISVILLE COTTON MILL

into mixed-use Germantown Mill Lofts. This mixed-use development will include 184 "loft style" apartments with a "Village Green area" with bocce ball court, numerous patio areas, and a large courtyard with swimming pool. The development will also include a café / breakfast restaurant, neighborhood fitness center, community event space, and a Rathskeller /Micro Brew/ Wine cellar theme restaurant. Phased construction is currently underway and the first phase of completion anticipated in late 2015.

SITE C: Bradford Mills

This former mill is currently used as a commercial property and has plans to be redeveloped into a residential development. It has a strong potential as a catalyst for growth in the surrounding area. Similar to the Cotton Mill, it could also incorporate small scale retail on its ground floor that could activate East Oak Street. This site's proximity to the booming Highlands to the east may offer strong residential market potential for a variety of unit types.

SITE C: BRADFORD MILLS

SITE E: HOPE WORSTED MILLS & BLUEBIRD PIE FACTORY

SITE E: Hope Worsted Mills & Bluebird Pie Factory

Hope Worsted Mills has the potential for private redevelopment as an arts/residential development. The basement of the Hope Worsted Mills serves as a low-cost incubator for makers and artists and should continue to do so. The ground level could be repurposed for a variety of uses including residential and retail. The top floor is a unique architectural opportunity for creative commercial space that would benefit from its expansive and continuous open floor layout and unique architectural roof trusses.

The Bluebird Pie Factory has potential to be developed as commercial restaurant space with the opportunity to include a patio along Beargrass Creek.

SITE B and SITE D: The former Exmet site and the Waste Transfer Station site

The Waste Transfer Station, currently in use by Metro's Solid Waste Management Department, transfers solid waste from Metro trucks to Waste Management trucks that haul it to the closest landfills. A small portion of the materials collected is recycled by end-use recyclers who pick them up the from the site, but a feasibility study to determine ways to increase the reuse and recycling of these materials is set to happen in 2015 as a way to join in the City's ambitious Recycling and Waste Management goals. As outlined in the Sustain Louisville

plan, "the short-term goal of these recycling initiatives is to increase recycling by 25% citywide. A mid-term goal is to have 90% residential recycling participation and 50% landfill diversion by 2025. The long-term goal is to divert 90% of citywide solid waste away from the landfill by 2042 through increased reduce-reuse-recycle and enhanced materials management practices."

The long-term goal of diverting 90% of citywide solid waste, similar to other "Zero Waste" initiatives being implemented in other cities around the US, has three major components:

- Minimum production of waste.
- Diversion of waste from landfill through reuse and recycling.
- Waste-to-energy conversion through composting.

Louisville Metro has already put in place and continues to implement policies, regulations, and educational programs that aim at reducing the production of residential, industrial, and commercial waste. Other efforts are also being implemented throughout the city in regards to reuse, recycling, and composting.

Also, Vision Louisville's "Waste to Energy," a long-term project offering alternative energy sources, proposes a possible option of a waste to energy plant that would provide alternative fossil fuels by capturing part of Louisville's waste stream and converting it to energy. The plant would not only divert waste from the landfills, but it would become an economic development tool for the city.

The Waste Transfer Station and Exmet sites are ideal locations for implementing a Resource Recovery Park because of its current use and size.

SITE D: WASTE TRANSFER STATION

SITE B: FORMER EXMET PARCEL

Recommendations

1. Conduct a planning study for the Broadway/Barret Mixed-Use area that centers on the opportunities of:
   a. Short-term redevelopment of the Louisville Metro Government Center.
   b. Long-term future of Paristown Pointe and the East Broadway corridor.
   c. Louisville Stoneware expansion as a larger economic anchor and destination.
2. Develop a long-term "Main Street" approach and a business association for the Three Points District to develop Logan Street and Shelby Street and to redevelop this district as a mixed-use/ neighborhood commercial spine, serving and uniting the adjacent neighborhoods.

3. Conduct additional research and planning to identify priority projects for the Eco-Industrial District:
    a. Develop a consortium/working group to coordinate research.
    b. Assemble / redevelop / market property and explore public-private partnerships.
    c. Use publicly-owned properties for pilot projects to demonstrate economic potential of environmentally sustainable industries and advance the City's Sustainability Plan.
    d. Devise area-wide sustainable infrastructure concepts including alternative energy, water conservation and zero-waste strategies.
4. Provide support for remediation and redevelopment of the target Catalyst Sites
    a. SITE A: Louisville Cotton Mill
        i. Continue discussions as construction and redevelopment is completed.
    b. SITE B: The former Exmet site
        i. Undertake a feasibility study to evaluate the former Exmet site's potential to be converted from the existing waste transfer station (Catalyst Site D) into a comprehensive resource recovery facility.
        ii. Develop a plan to bring this property back to productive use as a waste recycling center or assist in identifying a developer for use as a potential flexible industrial space.
    c. SITE C: Bradford Mills
        i. Provide support for private redevelopment through historic preservation tax credits and other programs as applicable.
        ii. Evaluate potential traffic pattern alterations to enhance access and redevelopment of surrounding area (i.e. conversion of Oak Street to two-way traffic).
    d. SITE D: The Waste Transfer Station
        i. Undertake a feasibility study to determine whether the existing recycling drop-off and solid waste transfer operation could be converted into a comprehensive resource recovery facility, and whether that facility could generate sufficient revenue to offset any capital costs of process equipment.
        ii. Undertake an architectural and engineering assessment that examines the opportunities and limitations of converting the historic City Incinerator building to an alternative use. The potential future sale of the property may be facilitated through the KDEP Brownfield Program KRS 224.1-415.
    e. SITE E: Hope Worsted Mills & Bluebird Pie Factory
        i. Provide support for private redevelopment through historic preservation tax credits and other programs as applicable.
        ii. Assist property owner to obtain additional funding sources for site improvements.
5. Utilize additional local and state brownfield programs and grants to continue brownfield assessment and remediation efforts for additional sites, such as:
    a. Broadway/Barret Mixed Use District

        Fehr Cold Storage, Schaeffer-Meyer Brewery and Mason Street properties have a significant adaptive reuse opportunity. The historic brewery building and the 901-929 Mason Avenue site dates from the same time period. These have the potential to be redeveloped as entrepreneurial/maker spaces with a light industrial focus because of their unique architectural character. 761 Swan is a site only partially occupied that MSD is interested in for another stormwater improvement effort.

It is near Louisville Stoneware and could be an open space (and possibly a development opportunity with adjacent land) that could offer creek access.

b. Three Points District

917 Shelby Parkway is an abandoned property with what looks to be an early warehouse building. It is located west of Bradford Mills and the MSD basin property and its remediation and redevelopment would complement both those projects and the adjacent neighborhood.

c. Eco-Industrial District

Additional brownfield redevelopment opportunities within the Eco-Industrial District include 500 Bergmann Street and several vacant parcels around the Waste Transfer Station, including 1401 South Clay Street and 1440 Bland Street. Assembling some of these sites together will create a bigger redevelopment opportunity for implementing the vision for the Eco-Industrial District. Overtime, these additional properties could support supportive small companies related to green building and environmental reclamation/reuse, just as automotive support companies cluster near larger-scale auto plants. Other uses could include open space development on portions of the property. These properties are candidates for additional environmental assessment.

6. Update and maintain an inventory of underutilized buildings with information on ownership and potential uses.
7. Finalize the Brownfield Development Handbook as a resource for redevelopment process and applicable incentives., such as façade grants, tax credits, environmental grants, etc. to existing and new businesses.

FEHR COLD STORAGE , SCHAEFFER-MEYER BREWERY AND MASON STREET

761 SWAN STREET

917 SHELBY PARKWAY

500 BERGMAN STREET

VACANT PROPERTIES NEAR WASTE TRANSFER STATION

5

Implementation

5.1 Plan Intent and Strategies

Louisville is seeing the rebirth and rejuvenation of its industrial past into vibrant urban districts for housing, commerce and entertainment. From Portland to Park Hill to Butchertown, creative and authentic reuse is combining with new construction to create mixed use districts rooted in its historic fabric. The Central Rail Corridor Brownfields Plan seeks to capture current public and private interest along the Short Line railroad spur that traverses multiple neighborhoods just southeast of Downtown. The Plan seeks to leverage five "Catalyst Sites" and identify additional potential brownfields for redevelopment. It also seeks to instigate public improvements that will tie the district to its surroundings and to create a more pedestrian-oriented character within the industrial corridor. The Plan is somewhat unique in the immediate adjacency of industrial brownfields to residential neighborhoods. Implementation strategies include:

- Understand limited potential short-term market demand and prioritize investment in visible locations serving multiple neighborhoods;
- Leverage the experience and success of the Louisville Cotton Mill redevelopment presently under construction to provide a guidepost for the inter-related considerations of brownfield redevelopment;
- Support described reuse scenarios for additional Catalyst Sites at the Bradford Mill, Hope Worsted Mill and Bluebird Pie Factory;
- Expand the current activities at the Exmet/Waste Transfer Sites to serve city-wide "Eco-Industrial" uses that can take advantage of larger properties with Interstate access;
- Leverage planned investment in the Logan Street Basin as part of Louisville's consent decree improvements by illustrating compatible community character for public infrastructure;
- Support Move Louisville recommendations to implement a bus rapid transit corridor on Broadway to catalyze development in the East Broadway Regional District;
- Spur reclamation of limited public access and partial restoration of the Beargrass Creek;
- Invest in needed public improvements, particularly for multi-modal transportation of pedestrians, bicycles and transit;
- Identify additional smaller-scale brownfields for environmental assessment grants and redevelopment opportunities;
- Continue the robust community engagement efforts that have begun and establish effective communication tools for information on plan implementation and projects.

5.2 Implementation Summary

Initiative	Description	Recommended Action	Timeframe			Responsible Entities / Partners	Other Partners	Potential Brownfields Assistance Programs	Other Potential Resources
Restoring Natural Ecosystems			**Short (1-3 years)**	**Mid (4-10 years)**	**Long (>10years)**				
BEARGRASS CREEK									
Reduce stormwater runoff and combined sewer overflows to provide suitable aquatic habitat conditions for long-term creek restoration	The MSD Stormwater Management Plan and Stormwater Design Manual provide extensive, specific actions and structures that can be implemented on private and public property to help alleviate stormwater surges and associated contamination. MSD basin site can be utilized as a demonstration site to implement City Ordinances and lead by example.	1. Educate and promote the financial incentive programs from MSD for private homeowners to install green infrastructure. Office of Sustainability program pairs with MSD to provide funds to commercial buildings that install green infrastructure	X			Office of Sustainability, MSD	Beargrass Creek Alliance, Kentucky Waterways Alliance		
		2. Install green infrastructure where feasible and prioritize over grey infrastructure.		X		MSD			
		3. Implement Floodplain Management Ordinance for 25' natural buffer along Beargrass Creek.		X					
		4. Develop educational synergies for research opportunities with University of Louisville and/or local high schools.	X			Office of Sustainability, MSD, University of Louisville, Jefferson County Public Schools			
Partially restore the Beargrass Creek channel over time. The first focus should be on area-wide stormwater management strategies and greening the immediate edges of the culvert. Later phases may look at the possibility of replacing the concrete channel substrate with more natural materials.	Restoration and access to Beargrass Creek was repeatedly mentioned as a desire for the study area during public forums. This ambitious goal will most likely be achieved if the other short- and mid-range recommendations are achieved first. A more natural stream system has the potential to benefit the neighborhood by creating a natural asset, improving water quality, and creating habitats for aquatic species, birds, and other wildlife.	1. Develop working group of key partners. 2. Develop specific watershed plan. 3. Model stream flows for storm events to assist design of restored creek. 4. Gain public support and access agreements (if necessary). 5. Create restoration design. 6. Apply for necessary permits, including but not limited to: a. Construction along a stream – KY Division of Water b. Stormwater Discharge - KDOW c. Section 404 – U.S. Army Corps of Engineers d. Section 401 – USACE e. Floodwall Encroachment Permit – MSD and USACE			X	Develop Louisville, Office of Sustainability, MSD, U.S. Army Corps of Engineers, Kentucky Division of Water, Louisville-Jefferson County Health Department, Kentucky Waterways Alliance			
Reclaim Beargrass Creek by using MSD basin project as a pilot project and Beargrass Creek Trail.	The MSD basin has an excellent frontage on Beargrass Creek, and can serve as a community asset. Developing the Beargrass Creek Trail will enhance the connectivity and sustainability of the area and increase recreational opportunities, and create more exposure and excitement for Beargrass Creek's restoration.	1. Work with MSD to redesign the proposed basin site at Logan and Breckenridge to create a neighborhood asset. Top recommendations from neighborhood residents included: greening the site and structure, public art, park space, education, and research.	X			MSD, Office of Sustainability, Develop Louisville, Louisville Metro, Louisville Forward			
		2. Provide public access along Beargrass Creek by developing a greenway trail along the creek. In the short-term the trail could run along the elevated Creek bank to allow visual access and promote restoration.	X						
GREENING THE CORRIDOR									
Incorporate green strategies and measures	Cities are faced with rising temperatures, an effect known as the urban heat island, contaminated soil, poor water quality, aging infrastructure, invasive species and disease, and degraded habitat. Planning and design must address these issues and propose green solutions with the main goal of restoring natural systems and improving the quality of life for the community.	1.Encourage new developments, through regulations and grant incentives, to incorporate small-scale green strategies such as landscaping, rain gardens, and rain barrels. Incorporate green measures into new larger-scale infrastructure projects including road, bridge, sewer, and even interstate reconstruction.	X			Office of Sustainability, Develop Louisville, Louisville Forward, MSD			
Plant street trees as part of Louisville Metro's urban forestry program	Trees help reduce and regulate temperatures, filter air and water, provide habitats to many species of birds and wildlife, increase property values, and enhance the user experience in the landscape.	1. Plant street trees to enhance the study area, reduce heat island effect and create a healthier environment. The main objective should be to increase tree canopy when possible and coordinate with the Urban Heat Island Project initiative. Encourage native plants and vegetation.	X			Office of Sustainability, Brightside, Tree Advisory Commission, Develop Louisville, Louisville Forward, MSD			
Identify vacant lots and underutilized areas and convert into green spaces temporarily	Measures to help reduce stormwater runoff include planting riparian vegetation to filter runoff, reducing impervious surfaces to increase infiltration and groundwater recharge, and replacing grey infrastructure with green infrastructure to capture and convey stormwater.	1. Identify and convert vacant lots and underutilized areas into green spaces temporarily, which could be used as urban community gardens or gathering spaces. Encourage the community to participate through events and incentives and partner with local businesses for installation and maintenance.	x			Office of Sustainability, Develop Louisville, Louisville Forward, MSD			

Initiative	Description	Recommended Action	Timeframe			Responsible Entities / Partners	Other Partners	Potential Brownfields Assistance Programs	Other Potential Resources
Improving Area-wide Networks of Circulation and Open Space			Short (1-3 years)	Mid (4-10 years)	Long (>10years)				
TRAFFIC, TRANSIT, BIKE AND PED CIRCULATION									
Implement traffic improvements	Connectivity and circulation were identified as major community concerns for the Central Rail Corridor study area. This area contains several one-way street pairs and many roads dead end at the railroad tracks, creating underutilized and inaccessible spaces. The railroad forms a major barrier as it divides the area in two and limits accessibility. The disconnected street grid patterns of the different neighborhoods adds to the challenge by creating unsafe intersections throughout the study area.	1. Convert one-way streets to two-way streets: Based on existing condition assessment and Move Louisville recommendations, Oak Street, East St. Catherine Street, Shelby Street and Logan Street should be converted to two-way. Consider Quiet Zone regulations. a. Perform traffic study b. Obtain funding c. Design and construct improvements	 X	 X X		Kentucky Transportation Cabinet (Shelby & Logan), Louisville Metro Public Works (Oak & St. Catherine) Develop Louisville	Public		Louisville Metro Council (local), Kentucky STP-Urban (SLO) Funding (federal), State Funding, Federal Transportation Alternative Program
	Intersection of S Preston Street and the I-65 exit ramp was identified as needing improvement in the neighborhood, with interstate traffic exiting the ramp and not stopping at the intersection with S Preston Street.	2. Improve intersection at S Preston Street and I-65 Exit: Reconfigure the intersection for vehicular and pedestrian safety. a. Review traffic flow and alternative options b. Obtain funding c. Design and construct Improvements	 X	 X	 X	Federal Highway Administration, Louisville Metro Public Works, Kentucky Transportation Cabinet	Public	N/A	Louisville Metro Council (local), Kentucky STP - Urban (SLO) Funding (federal), State Funding, Federal Congestion Mitigation and Air Quality Funding
Improve bus stops and transit amenities	Transit corridors identified by Move Louisville for improvements covers the study area effectively, but an additional study is needed to assess the bus stop locations and amenities throughout the study area	1. Study access points and additional locations for bus stop and amenities	X			TARC - The Transit Authority of River City, Louisville Metro Council	Public/Private	N/A	Louisville Metro Council (local), Kentucky STP - Urban (SLO) Funding (federal), Transit Authority of Louisville
Implement streetscape improvements	Streetscape improvements are critical to improve bike and pedestrian accessibility, in addition to restoring natural ecosystems and enhancing the identity of the Central Rail Corridor study area.	1. Major roads identified for implementing improvements such as bike lanes, wider sidewalks, and landscaping are: Logan Street; Shelby Street; Broadway; and Goss Avenue. Dandridge Avenue, Steve Magre Alley, Bergman Street, Hancock Street and Clay Street have been also identified as green corridors to connect existing and proposed open spaces. a. Perform a detailed study on each corridor b. Obtain funding c. Design and construct improvements	 X	 X X		Kentucky Transportation Cabinet, Louisville Metro Public Works, Develop Louisville	Public	N/A	Louisville Metro Council (local), Kentucky STP - Urban (SLO) Funding (federal), State Funding, Federal Transportation Alternative Program
Complete bike network	Based on community input, existing conditions assessments and Move Louisville recommendations, streets were identified to implement bike lanes or sharrows to establish a network within the study area, including existing bike facilities.	1. Priority bike corridors identified are: Elison Avenue; S Hancock Street and S Preston Street. a. Review right-of-way conditions and identify type of bike facilities feasible b. Obtain funding c. Design and construct Improvements	 X	 X	 X	Kentucky Transportation Cabinet, Louisville Metro Public Works, Develop Louisville	Public	N/A	Louisville Metro Council (local), Kentucky STP - Urban (SLO) Funding (federal), State Funding, Federal Congestion Mitigation and Air Quality Funding
Implement intersection improvements for pedestrian safety	Ten intersections were identified for incorporating pedestrian improvements/connections. Such improvements could include crosswalks, stops signs, streetscaping, and amenities.	1. Ten intersections identified are Shelby Street & Ormsby Street; Shelby Street & Goss Avenue; Logan Street & Goss Avenue; Samuel Street & Dandridge Avenue connection; Ellison Avenue, Swan Street & Dandridge Avenue; Fischer Avenue, Oak Street & Mary Street; Logan Street & Kentucky Street; St. Catherine Street connection across railroad at Steve Marge Alley; Logan Street & Broadway; and Broadway & Brent Street/Overpass a. Review right-of-way conditions and intersection conditions b. Obtain funding c. Design and construct Improvements	 X X	 X		Kentucky Transportation Cabinet, Louisville Metro Public Works, Develop Louisville	Public	N/A	Louisville Metro Council (local), Kentucky STP - Urban (SLO) Funding (federal), State Funding, Federal Congestion Mitigation and Air Quality Funding

Initiative	Description	Recommended Action	Timeframe			Responsible Entities / Partners	Other Partners	Potential Brownfields Assistance Programs	Other Potential Resources
Improving Area-wide Networks of Circulation and Open Space			Short (1-3 years)	Mid (4-10 years)	Long (>10years)				
OPEN SPACE									
Better utilize and improve existing open spaces	Though the Central Rail Corridor spans multiple neighborhoods, it lacks in useable open green spaces. It is critical to utilize the existing assets better before planning for new additions.	1. Shelby Park is a historic public open space within the study area. A community-driven Shelby Park Master Plan was developed, portions of which have been implemented. The remaining improvements should be completed according to the Master Plan.	X			Office of Sustainability, MSD, Develop Louisville, Metro Parks			
		2. Working with Jefferson County Public Schools, additional programming and publicly accessible facilities could be considered for Lincoln-Preston Park.		X		Jefferson County Public Schools, Louisville Metro Parks			
Develop new small-scale open spaces throughout the study area	Complete the framework of open spaces by developing new small-scale open spaces in areas which lack immediately accessible open space. The landscape element would provide gathering space as well as access to more regional open space such as Cherokee Park and the Louisville Nature Center.	1.Activate the intersection of Broadway and Brent Street/Overpass as an open space with landscaping and with possible access to the proposed Beargrass Creek trail.	X			Office of Sustainability, MSD, Develop Louisville, Louisville Metro Parks			
		2. The MSD basin is a large site with excellent frontage on Beargrass Creek, and will only be partially occupied by the basin structure leaving room for other landscape improvements. Work with MSD to create an opportunity for a community gathering/educational space.	X			Office of Sustainability, MSD, Develop Louisville, Louisville Metro Parks	University of Louisville and Jefferson County Public Schools		
		3. Another opportunity area exists at the paved storage area at the intersection of Goss and Logan. Like the MSD site, this marks a transition – in this case defining the "Three Points" area and the curve of the railroad. Work with local businesses/property owners to convert the area into a gateway plaza. The plaza could extend across Goss and be incorporated into a long-term intensification of the Save-A-Lot property.			X	Office of Sustainability, Develop Louisville, Louisville Metro Parks	Local Businesses and Property Owners		
		4. The area including Catalyst Sites B and D which includes adjacent vacant land and available property is another open space "opportunity area" that is mostly in public ownership and can have a significant green program. Work with any development interest to create a new open space as an anchor for the west end of the study area in a system of parks, gardens and pathways.			X	Office of Sustainability, Develop Louisville, Louisville Metro Parks			
Create a network of greenways to connect the existing and proposed open spaces	Green street infrastructure is critical to tying the Central Rail Corridor's open spaces into one organized system. Proposed Beargrass Creek trail and greening Dandridge Avenue, Steve Magre Alley, Bergman Street, Hancock Street and Clay Street would achieve that objective.	1. Create a network of greenways including the proposed Beargrass Creek Trail, Dandridge Avenue, Steve Magre Alley, Bergman Street, Hancock Street and Clay Street, through ped-bike green enhancements and plantings.			X	Office of Sustainability, MSD, Develop Louisville, Louisville Metro			
Incorporate useable open space into new larger scale developments	Encourage green infrastructure over grey infrastructure.	1. Incorporate useable open space into new larger scale developments through minimum open space requirements.		X		Office of Sustainability, Develop Louisville, Louisville Metro			
Encourage public art and local artists	Celebrate local assets through art and establish an identity for the Central Rail Corridor.	1. Encourage public art and local artists, such as the mural painting at the Three Points junction through public-private partnerships and pursuing grant initiatives.	X			Develop Louisville, Louisville Metro	Local museums and art organizations, existing retails and businesses		

Initiative	Description	Recommended Action	Timeframe			Responsible Entities / Partners	Other Partners	Potential Brownfields Assistance Programs	Other Potential Resources
Identifying, Remediating and Redeveloping Brownfield Sites			Short (1-3 years)	Mid (4-10 years)	Long (>10years)				
DEVELOPMENT DISTRICTS									
Broadway/Barret Mixed Use District	This portion of the Central Rail Corridor is dominated by Beargrass Creek and heavily influenced by market interest and redevelopment initiatives in the East Broadway corridor. The primary planning and redevelopment objectives are to encourage adaptation of existing historic buildings (including brownfields) into residential mixed-use projects; to support the growth of current businesses; and move towards reclaiming Beargrass Creek as a more environmentally sustainable waterway that is a community green space amenity as well as a link to the Ohio River.	1. Conduct a planning study for the Broadway/Barret Mixed-Use area that centers on the opportunities of: Short-term redevelopment of the Louisville Metro Government Center; Long-term future of Paristown Pointe and the East Broadway corridor; Louisville Stoneware expansion as a larger economic anchor and destination.	X			Develop Louisville, Office of Advanced Planning, Louisville Metro Council, Neighborhood Associations, Businesses and other stakeholders		Local and State Brownfield Programs	
Three Points Neighborhood District	The commercial section of the Central Rail Corridor includes the historic textile mills and other structures that have a strong cultural and economic link to the adjacent neighborhoods. The planning and redevelopment priorities along this segment should be to support existing retail uses area; to undertake streetscape and pedestrian improvements; to explore the feasibility of converting historic resources into mixed-use space; and to work with property owners and small businesses to brand the district.	1.Develop a long-term "Main Street" approach and a business association for the Three Points Neighborhood District to develop Logan Street and Shelby Street and to redevelop this district as a mixed-use/neighborhood commercial spine, serving and uniting the adjacent neighborhoods. Some initial steps include testing the viability of a business association; maintaining an inventory of vacant properties and assisting with marketing to prospective buyers / tenants.	X			Develop Louisville, Office of Advanced Planning		Local and State Brownfield Programs	
Eco-Industrial District	This is the most challenging redevelopment area in the Central Rail Corridor to undertake because there are very few models of eco-industrial parks to provide guidance.	1. Conduct additional research and planning to identify potential uses for the Eco-Industrial District; devise area-wide sustainable infrastructure concepts including alternative energy, water conservation and zero-waste strategies; develop a consortium/working group to coordinate research, assemble / redevelop / market property and explore public-private partnerships.	X			Metro staff, University of Louisville faculty, US-German Bilateral technical experts, and others		US EPA Technical Assistance for AWP grantees	
		2. Utilize publicly owned properties as pilot projects to demonstrate economic potential of environmentally sustainable industries and advance the city's Sustainability Plan.		X		Develop Louisville , Office of Sustainability			
TARGET CATALYTIC SITES									
Louisville Cotton Mill 946 Goss Avenue (SITE A)	Phased construction currently underway. First phase of completion anticipated in late 2015	1. Continue discussions as construction and redevelopment is completed.	X			Owner: Mill Lofts LLC Developer: Underhill Associates Previous Owners: JYJ LLC; Fincastle Investment	Private development, Louisville Metro, MSD		
Former Exmet Parcel 535 Meriwether Ave 1400 S Hancock St (SITE B)	Previously a fertilizer manufacturing operation, the property is located on a rail line within an industrial corridor and is well suited for future commercial use. Currently the property is used for the storage of municipal waste collection equipment.	1. Undertake a feasibility study to evaluate the role of the parcel in the plan to convert the existing waste transfer station (Catalyst Site D) into a comprehensive resource recovery facility.	X			Owner: Metro Louisville Properties Previous Owner: Exmet of Kentucky	Public or public-private joint venture, Louisville Metro, Develop Louisville, MSD, University of Louisville, Center for Environmental Policy and Management	U.S. EPA assessment/remediation grants U.S. EPA Sustainable Materials Management (SMM) resources, KDEP Brownfields Program	Metro Solid Waste Management funds Revolving Loan Fund
	Depending on the outcome of the feasibility study, recycling operations may be transferred to the site. Alternatively, the potential future sale of the property may be facilitated through the KDEP Brownfield Program KRS 224.1-415.	2. Develop a plan to bring this property back to productive use as a waste recycling center or assist in identifying a developer for use as a potential flexible industrial space.		X					
Bradford Mills 1034 East Oak Street and 1124 Reutlinger Ave (SITE C)	This former textile mill is currently used as a commercial property and is listed on the National Register of Historic Places. The property is a landmark that holds a key position in the neighborhood and has strong potential as a catalyst for growth in the surrounding area.	1. Provide support for private redevelopment through historic preservation tax credits and other programs as applicable.	X			Owners: Carl & Charles Boyd & Bradford Mills LLC	Private development, Louisville Metro, MSD	Louisville Metro and KDEP programs.	Revolving loan fund Historic Preservation Tax Credits
		2. Evaluate potential traffic pattern alterations to enhance access and redevelopment of surrounding area (i.e. conversion of Oak Street to two-way traffic)		X					

Initiative	Description	Recommended Action	Timeframe			Responsible Entities / Partners	Other Partners	Potential Brownfields Assistance Programs	Other Potential Resources
Identifying, Remediating and Redeveloping Brownfield Sites			Short (1-3 years)	Mid (4-10 years)	Long (>10years)				
TARGET CATALYTIC SITES									
Waste Transfer Station 1415 South Clay Street (SITE D)	Currently the recycling service at the Waste Reduction Center is a convenience for city residents and not a value proposition for Metro Solid Waste Management (MSWM). A feasibility study is planned to determine how much additional recyclable material can be diverted from the waste stream. Some (or all) of that process might be transferred to the Exmet parcel (Catalyst Site B).	1. Undertake a feasibility study to determine whether the existing recycling drop-off and solid waste transfer operation could be converted into a comprehensive resource recovery facility, and whether that facility could generate sufficient revenue to offset any capital costs of process equipment.	X			Owner: Louisville Jefferson County Metro Government	Public or public-private joint venture, Louisville Metro, Develop Louisville, MSD, University of Louisville, Center for Environmental Policy and Management, Metro Solid Waste Management, Metro Office of Sustainability, Metro Economic Development, Louisville Forward, Community Stakeholders	U.S. EPA Assessment/ remediation grants. U.S. EPA Sustainable Materials Management (SMM) resources, KDEP Brownfields Program	Metro Solid Waste Management funds Revolving Loan Fund
	The old City Incinerator is a historic and architecturally significant building that could be potentially repurposed for a more productive use. Community input identified possible uses such as arts-related rentals or local food initiative incubator space; research space for the University of Louisville's renewable energy/sustainability programs; a waste-to-energy installation; or, mixed-use retail/office.	2. Undertake an architectural and engineering assessment of the historic City Incinerator building that examines the opportunities and limitations of converting it to an alternative use. The potential future sale of the property may be facilitated through the KDEP Brownfield Program KRS 224.1-415.	X						
Hope Worsted Mills/ Bluebird Pie Factory 942 E Kentucky Street 1001 E Kentucky Street (SITE E)	The historic mill was constructed in 1904 and is currently used for a variety of commercial retail and art studio rentals. The former pie factory was constructed in 1936 and is now dilapidated and vacant.	1. Provide support for private redevelopment through historic preservation tax credits and other programs as applicable.	X			Owner: Acme Lupine & Co, Inc.	Private development, Louisville Metro, MSD	Louisville Metro and KDEP Brownfield programs	Revolving loan fund Historic Preservation Tax Credits
		2. Assist property owner to obtain additional funding sources for site improvements.	X						
ADDITIONAL BROWNFIELD SITES									
Continue brownfield assessment and remediation efforts for additional sites	Henry Pilcher's Sons Organ Company Complex and adjacent properties (SITE: 901-924 Mason, including Applegate Plumbing): The historic buildings that housed the Henry Pilcher's Sons pipe organ company until 1944 are candidates for adaptive reuse in the same spirit as the textile mills on target Catalyst Sites A,C &E. The complex has the added advantage of direct exposure to Beargrass Creek, and could benefit from the positive market dynamics associated with East Broadway. It is a key second-phase brownfield catalyst site.	1. Utilize additional local and state Brownfield programs and grants to continue brownfield assessment and remediation efforts for additional sites: 2. Contact owners to discuss future plans for property, and to determine interest in participating in brownfield assessment program 3. Submit for brownfield assessment grant funding	X X X			Private	Develop Louisville Kentucky Cabinet for Economic Development Develop Louisville, U.S. EPA	U.S. EPA Assessment and Cleanup grants	
	761 Swan is a site only partially occupied that MSD is interested in for another stormwater improvement efforts. It is near Louisville Stoneware and could be an open space (and possibly a development opportunity with adjacent land) that could offer creek access								
	Peter & Melcher Steam Stone Works (SITE: Shelby Parkway/Rupp Street at the railroad):This site contains the remaining buildings of the Peter & Melcher Steam Stone Works, a construction cut and dressed stone fabrication company established in 1885. While the site is mostly vacant, a historic mill structure is still extant. The site occupies a similar strategic location in the Germantown neighborhood as the Bradford Mill, and should be given equal consideration for a reuse program appropriate to the neighborhood context.								
	500 Bergman Street (SITE 4): 500 Bergman is a strategic property in the southern portion of the Rail Corridor. It includes 77,840 square feet of warehouse space in several buildings and is located across the CSX tracks from the Exmet site. It is currently on the market. Because of its size and proximity to other catalyst sites, it could form the nucleus of a eco-industrial district and possibly benefit from both recovered material from the recycling operation, and energy from a waste-to-energy installation.								
	Vacant Parcels 1401 South Clay Street (Site 5) 1411 & 1440 Bland Street (SITE 6): These three vacant parcels are contiguous to the Waste Reduction Center/old city incinerator and could be used over time to enhance/expand the program at the repositioned building								
TECHNICAL ASSISTANCEAND PUBLIC INVOLVEMENT									
Community Engagement		1. Continue community engagement efforts, neighborhood organizations and communication tools for implementation	ongoing			Develop Louisville			
Underutilized buildings and properties inventory		1. Maintain an inventory of underutilized buildings and properties for potential infill redevelopment with information on ownership and potential uses.	X			Develop Louisville			
Brownfield Development Handbook		1.Formalize the development handbook and use it to educate property owners and developers as a resource for redevelopment process and applicable incentives.	X			Louisville Metro			