



US 11 / US 78 EAST ALTERNATIVES ANALYSIS

BIRMINGHAM, AL

FINAL REPORT

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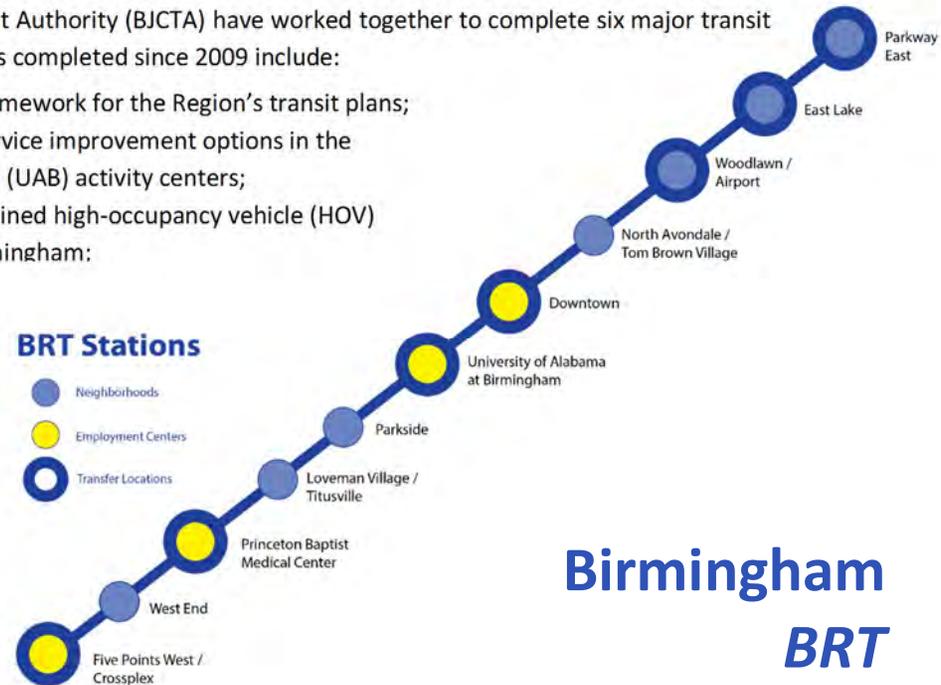
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EXECUTIVE SUMMARY

In recent years, the City of Birmingham has been evolving into a community of connected and walkable urban places where people choose to live. Through local and regional partnerships the new Birmingham is innovative and prosperous and will be the most sustainable and “greenest” city in the South. Recognizing that a revitalized and growing transit system is essential to Birmingham’s future, the Regional Planning Commission of Greater Birmingham (RPCGB) and the Birmingham-Jefferson County Transit Authority (BJCTA) have worked together to complete six major transit studies aimed at defining short and long term transit solutions. The studies completed since 2009 include:

- The Birmingham Regional Transit Plan established the corridor framework for the Region’s transit plans;
- The In-Town Transit Partnership Project (ITP) evaluated transit service improvement options in the Downtown Birmingham and University of Alabama at Birmingham (UAB) activity centers;
- The I-65/US 31 Mobility Matters Project (MMP) defined and examined high-occupancy vehicle (HOV) lanes for this strategic south-central corridor of metropolitan Birmingham;
- The US 280 Corridor Transit Study considered five alternatives for this highly congested corridor. BJCTA started the US 280 express bus services in 2015;
- The Southwest Corridor studied US 11 south and developed a Bus Rapid Transit (BRT) alternative between Bessemer and downtown Birmingham; and
- This US 11 / US 78 East Corridor Study considered transit, Complete Streets and land use from Birmingham to Leeds, Irondale and Trussville and recommended east and southeast BRT services.



Birmingham
BRT

As a direct result of these studies, the RPCGB, the City of Birmingham and the Birmingham-Jefferson County Transit Authority (BJCTA) decided to develop the 2015 TIGER grant application that combines the In-Town Transit Partnership, the Southwest Corridor Study and the US 11 / US 78 East Alternatives Analysis into the Birmingham *BRT* project which will connect Birmingham’s neighborhoods to opportunities and encourage long- term revitalization and renewal. The proposed BRT service to be implemented by BJCTA includes three lines linking Five Points West to the University of Alabama at Birmingham and Downtown and continue to Woodlawn, the Birmingham-Shuttlesworth International Airport and Parkway East. There are 58,000 Birmingham residents (27% of the City’s population) that live within a ½ mile walking distance of the Birmingham *BRT* stations and there are 130,000 jobs in the *BRT* corridor. One-third of the *BRT* service area residents are low-income – double the regional average. Opening prior to the 2021 World Games, the 15-mile long Birmingham *BRT* includes three *BRT* lines with 36 stations and 18 *BRT* vehicles operating at a minimum frequency of every 15 minutes during peak periods. Opening-day Birmingham *BRT* ridership is forecast to be 3,120 daily passenger trips.

The City of Birmingham through comprehensive planning and strategic investment by the public, private, non-profit and university communities is seeing signs of transformation and success. The Birmingham *BRT* project builds on these investments and is the next step in Birmingham’s reemergence as an innovative, thriving model of urban renewal. The United States Department of Transportation’s (USDOT) \$20 million 2015 TIGER grant for the Birmingham *BRT* ensures the community’s redevelopment efforts will be supported by a renewed, balanced, and complementary transit system.

The US 11 / US 78 East Alternatives Analysis defines a clear purpose and need and identifies transit, Complete Streets and land use investments that can be implemented with limited local and federal funds available. The recommended enhancements include the Birmingham *BRT*, local transit route realignment and frequency improvements, regional express bus services, bicycle routes, Complete Streets, pedestrian connections and the East Birmingham quiet zones. These projects may take years to complete. However, each of the projects is affordable and when implemented will improve the community’s mobility and livability.

The US 11 / US 78 East Alternatives Analysis has taken the collective effort of RPCGB staff who provided executive leadership, community coordination and geographic information systems, Whitman Requardt and Associates, LLP as the prime consultant, and, the innovation of five subconsultants. Birmingham based disadvantaged business enterprises (DBE’s) provided the traffic surveys (Dynamic Civil Solutions), public involvement meetings (Creative Directions), BJCTA maintenance facility storm water assessment (CEAssociates) and BJCTA maintenance facility building assessment (NHB Group). TND Planning Group from Baltimore contributed to the land use concepts while Partners for Economic Solutions from Silver Spring, Maryland developed the economic analysis.

Cooperation and guidance from the City of Birmingham elected officials and staff and the Birmingham-Jefferson County Transit Authority board and staff were vital to making the study’s recommendations relevant to Birmingham’s citizens and implementable. WRA focuses on delivering plans that result in community reinvestment and intends that this US 11 / US 78 Alternatives Analysis provides a menu of diverse projects forming the basis for continued reinvestment in Birmingham’s neighborhoods.

In the coming decades, there will be communities that rely upon the automobile as the sole source of mobility and others that build a balanced transportation system where transit is convenient and accepted, and walking and cycling are safe and preferred. We expect that a future relying solely on the automobile will suffer from crippling traffic congestion while walkable transit friendly communities will draw new residents and reinvestment. In its Comprehensive Plan, Birmingham has chosen the path of walkable communities and community reinvestment. The Regional Planning Commission of Greater Birmingham and Whitman, Requardt and Associates, LLP are grateful for the opportunity to plan for the transit investment in the US 11 / US 78 corridor and chart the path for Birmingham’s future.

Purpose and Need

The purpose of the transportation elements of the US 11 / US 78 East Corridor Study is to improve access and mobility for existing and future residents and workers by increasing transit and bicycle/pedestrian options, and provide links in and between those networks. In addition to its transportation purpose, the US 11 / US 78 East Corridor Study has a land use and economic development component that is intended to stimulate economic activity and structure growth.

“Focused transit and Complete Streets investment leads to continued community reinvestment”

**Charles Ball, Executive Director
Regional Planning Commission of Greater Birmingham**



PROJECT PURPOSE AND NEED

T A B 1



1 PROJECT PURPOSE AND NEED

Communities in Birmingham and particularly the US 11/US 78 corridor continue to face challenges due to decades of population loss and disinvestment, including poor access to goods and services; lack of quality, affordable housing; underutilization of existing transportation resources; and provision and maintenance of community infrastructure. These issues reduce quality of life and economic competitiveness. This study focuses on improving accessibility in the corridor and beyond through improved transit services and mutually supportive infrastructure and land use; it is an important component and early step in a larger, integrated approach to realizing a healthy, vibrant, sustainable city and region.

1.1 Planning Framework

The Birmingham Comprehensive Master Plan, adopted in October 2013, laid a critical foundation for the achievement of a more vibrant city and region: an inclusive vision for a vibrant, healthy, sustainable city and neighborhoods (see sidebar); and a planning strategy that acknowledges the need for an integrated, holistic approach to the complex challenges faced. The planning framework for this corridor study extends from that of the Comprehensive Master Plan and addresses the transit, multimodal travel, and economic development issues at the core of this study in a manner consistent with the visions, goals, strategies, and recommendations of the 2035 Regional Transportation Plan, the Trussville Downtown Master Plan, and the Leeds Master Plan.

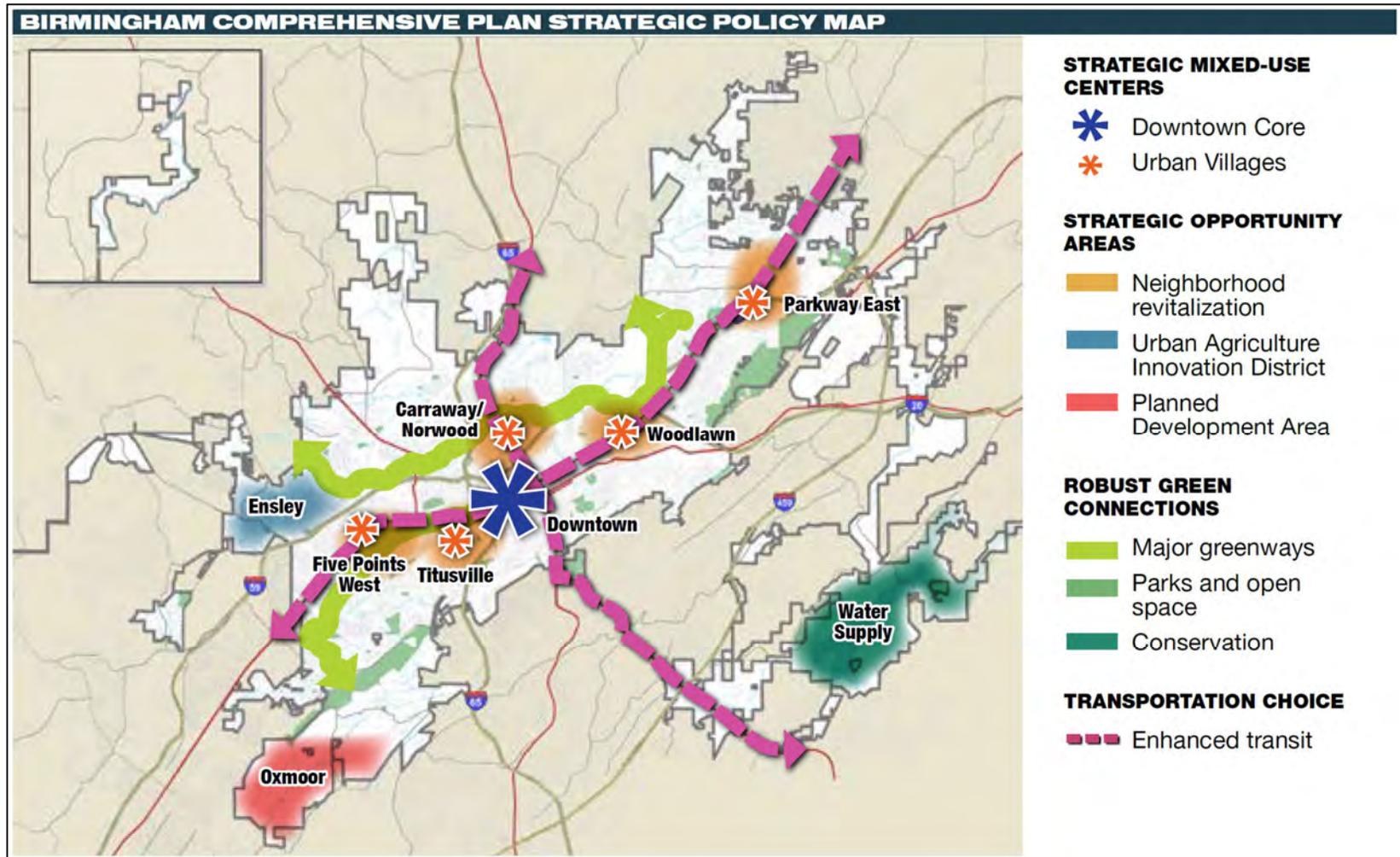
Poor transit service was identified as a primary challenge for the Birmingham community in the Birmingham Comprehensive Master Plan. The community visioning and outreach efforts of that planning process found that “lack of transportation alternatives, an inadequate transit system, and few bike trails or marked routes” was mentioned far more frequently than any other community concern and improving transit was second to improving education on the Birmingham Community’s Table of Priorities.” Participants (in the Master Plan Workshops) particularly emphasized the need for improvements in public transportation reliability, accessibility and facilities.” (Chapter 2 – The Community Speaks - Birmingham Comprehensive Master Plan). This study will serve as a natural continuation of efforts to focus on specific transportation corridors at a greater level of detail.

Recommended transit-related strategies from the Comprehensive Plan include the creation of transit-ready urban villages through investment in strategic neighborhood areas to make a visible difference, as well as focus on implementation of the City Planning Commission’s Complete Streets policy and development of a connections plan to link attractions and neighborhoods downtown. The Comprehensive Plan specifically identifies the US 11 corridor as a candidate for enhanced transit service, and highlights Woodlawn and Parkway East as future urban villages (*Figure 1.1*).

Vision for Birmingham

- People choose the City of Birmingham as a place to live.
- Birmingham has a connected network of walkable urban places.
- Birmingham is innovative and prosperous, with a diversified and sustainable economy.
- Birmingham is the most sustainable, “greenest” city in the South.
- Birmingham’s success is built on local and regional partnerships.

Figure 1.1: Birmingham Comprehensive Plan Strategic Policy Map

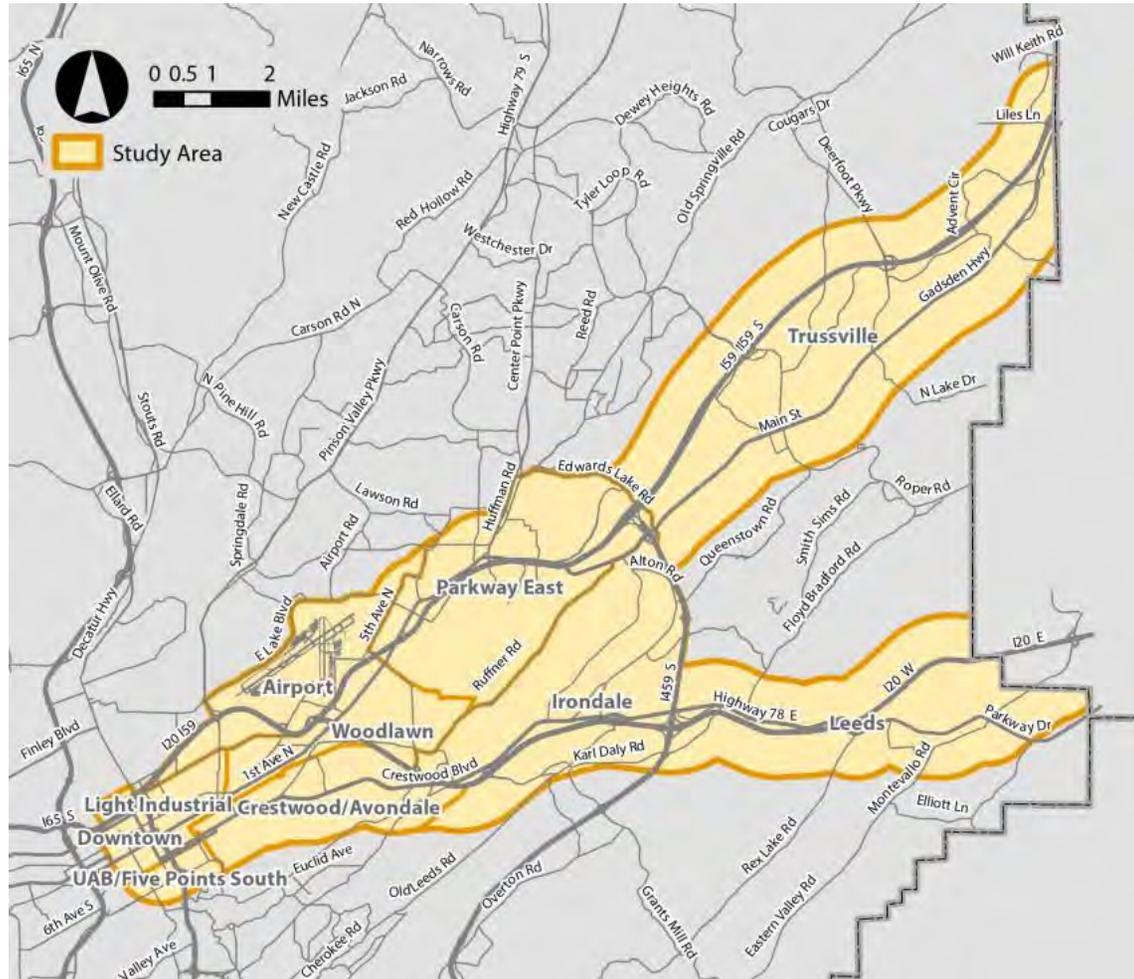


Source: Birmingham Comprehensive Plan (Executive Summary)

1.2 The Corridor

The US 11/US 78 Corridor extends approximately 20 miles in an east-west direction from downtown Birmingham east to the Jefferson County line. The study includes the area within approximately ¼ mile of US 11, US 78, and Interstates 20 and 59. Forty-four percent of the corridor falls within the City of Birmingham. US 11 (also State Route 7) is 1st Avenue North in downtown Birmingham. In portions of the corridor, US 11 is known as Parkway East, Gadsden Highway, or Main Street. US 11 roughly parallels I-59 and travels northeast to Trussville. US 78 (also State Route 4) downtown operates as a one-way pair on 3rd Avenue South and 4th Avenue South until 36th Street, where US 78 becomes a two-way street on 3rd Avenue South and then follows Crestwood Boulevard. US 78 roughly parallels I-20, and travels east through Irondale to Leeds. In Leeds, US 78 is named Bankhead Highway. West of I-459, the entire area between US 11 and US 78 is within the study area; east of I-459, the corridors diverge to Trussville and to Leeds. In the City of Birmingham the study includes portions of the communities of Northside, Southside, East Birmingham, Red Mountain, Crestwood, Woodlawn, East Lake, Southeast Lake-Roebuck, and Huffman. For analysis purposes, the corridor has been grouped into ten subareas based on location and general character. The study area and subareas are shown in Figure 1.2.

Figure 1.2: Study Area



The Norfolk Southern Railroad runs east-west between US 11 and US 78. In some areas, the railroad tracks limit north-south vehicle circulation. In downtown Birmingham, most cross streets are elevated over or tunnel under the tracks. Further east, only the main north-south streets are grade separated at the railroad; some streets have at-grade crossings and most local streets do not cross.

The City of Birmingham's downtown is a major employment center for government, healthcare, businesses, and education, and is home to the Convention Center complex and a minor league baseball stadium. The downtown Amtrak station provides daily train service to east coast cities via Atlanta and also to New Orleans. The station is being redeveloped as an intermodal center. Downtown is also emerging as a residential area. In the southern half of the downtown is the University of Alabama at Birmingham (UAB) and UAB Medical Center, which combined are the largest employer in the city. Just east of downtown, the US 11/US 78 corridor passes through an industrial area and south of the Birmingham-Shuttlesworth International Airport. Further east, the corridor consists of older neighborhoods that have a mix of service and retail uses along US 11 and US 78, but are largely residential. East of I-459, the developed area of Trussville is primarily single family suburban residential; with development along US 11 that includes shopping centers, a low density suburban commercial corridor at the downtown main street, and an industrial park. The City of Leeds, along US 78 east of I-459, is a traditional older town. The majority of the land within the study area east of I-459 is undeveloped or open space.

1.3 Purpose and Need Statement

The **purpose** of the transportation elements of the US 11 / US 78 East Corridor Study is to improve access and mobility for existing and future residents and workers by increasing transit and bicycle/pedestrian options, and by providing links in and between those networks.

There is a **need** to:

- Provide public transit improvements to accommodate growing population in the Center City and Five Points South while encouraging redevelopment in the study area.
- Increase transportation options in parallel with making changes in land use and development patterns in the study area to improve economic opportunities and quality of life.

The transit service is challenged by:

- Long term loss in ridership resulting from declining population
- With budget reductions, frequencies have been reduced to unattractive levels of more than one hour
- Downtown oriented system with poor crosstown connectivity; most riders must travel to the Central Station to transfer
- Some routes and segments have low ridership

1.3.1 Problem Statement

The City of Birmingham is challenged to meet its mobility, housing, and economic development needs by its continued loss of population, uneven and low-density land use patterns, a lack of affordable housing, poor transportation connectivity across all modes, underutilization of existing transportation resources, and limited transit, bicycle, and pedestrian options.

Individually, each of these issues contributes to reduced quality of life, mobility, and economic competitiveness. Together, they are a severe impediment to creating sustainable growth and a vibrant livable community in the years to come. If the City is to address these problems proactively, a comprehensive and progressive solution is required to integrate land use, economic development, social, and transportation needs holistically.

Mobility and access in the study area are challenged by a fragmented and discontinuous transportation network and a lack of transit, bicycle, and pedestrian options. These transit and non-motorized conditions are particularly evident when travel between communities and neighborhoods within the City is attempted. These local trips are the dominant type of travel in the City, and are most often accomplished by personal automobile. Transportation-related problems caused by these deficiencies include limited access and mobility and increased travel times. These problems also contribute to a lack of economic opportunity at the individual, communitywide, and citywide levels.

1.3.2 Project Purpose

The purpose of the transportation elements of the US 11 / US 78 East Corridor Study is to improve access and mobility for existing and future residents and workers by increasing transit and bicycle/pedestrian options, and provide links in and between those networks. In addition to its transportation purpose, the US 11 / US 78 East Corridor Study has a land use and economic development component that is intended to stimulate economic activity and structure growth.

1.3.3 Project Needs

1.3.3.1 Population Decline

Population in the City of Birmingham has decreased by 37.7 percent from 340,887 in 1960 to 212,237 in 2010. In the US 11 / US 78 corridor, population loss has been acute in the close in residential areas just east of Downtown. Based upon regional forecasts population in the Center City and Five Points South areas are expected to grow by 30% from 2005 to 2035 while population in the Southside/Avondale/Crestwood, East Lake / Woodlawn, and Tarrant / Airport areas are expected to decline by 18% during the same period. While population growth is welcome in the Center City and Five Points South sections of the City, a broader revitalization throughout the eastern portion of the study area is needed. These data point to a need to provide public transit improvements to accommodate growing population in the Center City and Five Points South while encouraging redevelopment in the study area.

1.3.3.2 Environmental Justice and Transit-Dependent Populations

Compared to combined population of Jefferson and Shelby Counties, the study area contains relatively high percentages of minority and low-income populations that qualify as environmental justice populations, as well as populations without access to automobiles. Public transportation options are often critical to the

mobility of these population groups. This indicates a need to provide public transit and bicycle/pedestrian options in those areas where environmental justice populations have been identified in the study area.

1.3.3.3 Land Use and Economic Development

Over the past 30 years, Birmingham’s real estate development pattern has been skewed to the southern portion of the Region. Much of this activity has been dominated by low-density, auto-centric development, such as single-family residential development. Meanwhile, in the northern, eastern and western portions of the City, little to no development occurred during the same period. Market and demographic analyses show that without intervention these trends are set to continue into the future. If the existing low-density land use patterns and skewed development trends continue, this may lead to increased roadway congestion, decreased mobility, and a reduced quality of life, while doing nothing to address the lack of economic opportunities and quality of life issues, or make use of infrastructure capacity and redevelopment opportunities in the City of Birmingham. Thus, there is a need to increase transportation options in parallel with making changes in land use and development patterns in the study area to improve economic opportunities and quality of life.

Population in the City of Birmingham has been decreasing since the middle of the 1900s, following a similar trajectory as other industrial “Rust Belt” cities. Between 2000 and 2010, the population of Birmingham dropped by approximately 12 percent while population in surrounding suburbs grew, such as the City of Hoover which grew approximately 30 percent. Investment has mirrored population dynamics: real estate development has been skewed to the suburbs and southern portion of the region. Much of this activity has been dominated by low-density, single-family, auto-centric development. Meanwhile, in the northern, eastern and western portions of the city, little to no development has occurred.

In the US 11/US 78 corridor, population loss has been acute in the residential areas east of downtown. Southside/Avondale/Crestwood, East Lake / Woodlawn, and Tarrant / Airport areas are expected to continue to lose population, despite forecasts for 30% growth in population for the downtown and Five Points South areas. This disinvestment in the US 11/US 78 corridor has resulted in lower property values and a declining quality of life. Market and demographic analyses show that without intervention these trends will continue. While population growth is welcome in the downtown and Five Points South sections of the City, a broader revitalization throughout the eastern portion of the study area is needed.

Fragmented land uses and sprawling development patterns, a discontinuous transportation network, and limited transit, bicycle, and pedestrian options cause accessibility problems throughout the corridor and sustain heavy reliance on personal motor vehicle travel. Increased travel times, higher transportation expenses, and safety hazards are some of the particularly evident manifestations. These problems also contribute to a lack of economic opportunity at the individual, communitywide, citywide, and regional levels.



TRANSIT ALTERNATIVES

T A B 2



2 TRANSIT ALTERNATIVES

The **US 11/78 Corridor Study Existing Conditions Report – February 2014** describes the existing conditions in the corridor including the five local routes and one express route. This section utilizes the existing conditions data and recommendations from the Southwest Corridor Study and the In-Town Partnership Corridor Study to evaluate transit alternatives in the corridor and region. The June 2015 Birmingham *BRT TIGER* grant application was developed utilizing this analysis.

2.1 Transit Service Design

The alternatives analyzed included: existing bus services; improvements to existing routes; US 11/78 arterial BRT network; and, a regional BRT network that includes the Southwest In-Town Partnership corridors. BJCTA’s transit service in the corridor has four service design related problems that the transit alternatives are intended to address including:

- infrequent bus service;
- long transit customer travel times;
- a hub and spoke system that requires all trips to travel Downtown to the Central Station; and
- some routing segments perform poorly with low riders per revenue hour.

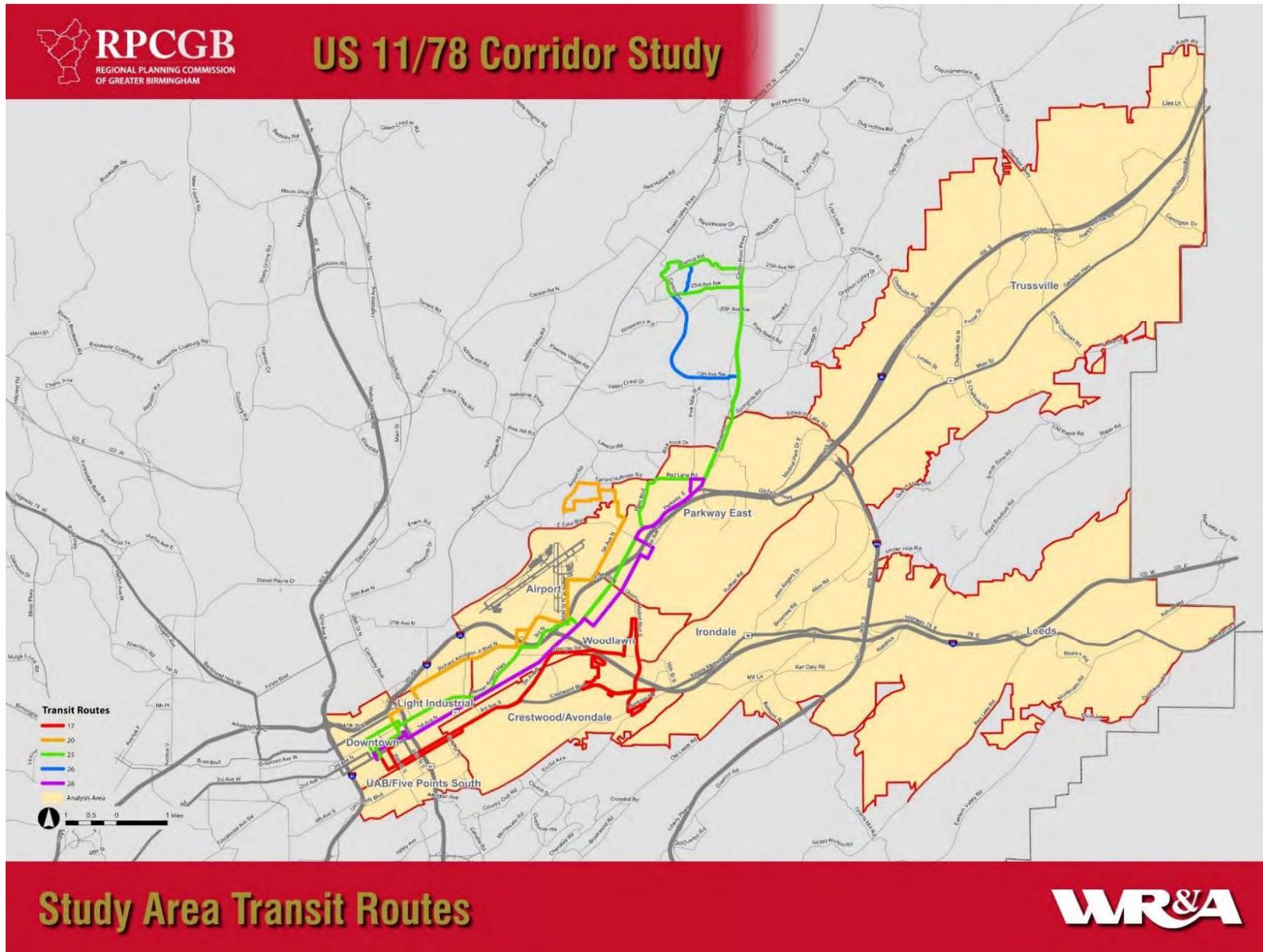
2.1.1 Existing Bus Services

Section 3.4 of the Existing Conditions Report described the performance of the corridor’s five local routes and one express route. Table 2-1 provides a performance summary and Figure 2-1 presents a map of the existing transit routes.

Table 2-1: Routes Operating in the US 11 / US 78 Corridor – May 2013

Route	Revenue Hours	Riders	Average Speed (MPH)	Riders per Revenue Hour	Cost per Rider	Recovery Ratio	Estimated Annual Net Cost
17-Eastwood Mall	1,176	18,675	13.0	15.9	\$ 6.43	12.6%	\$ 1,259,035
20-Zion City	401	4,097	12.8	10.2	\$ 9.95	8.1%	\$ 449,164
22-Tarrant	486	5,305	10.7	10.9	\$ 8.76	9.2%	\$ 506,005
25/26-Center Point	878	12,379	13.4	14.1	\$ 7.31	11.1%	\$ 965,775
28-South East Lake	564	12,727	16.5	22.6	\$ 4.94	16.4%	\$ 630,878
72-Express	73	878	21.6	12.0	\$ 10.44	7.8%	\$ 101,450

Figure 2-1: Study Area Transit Routes



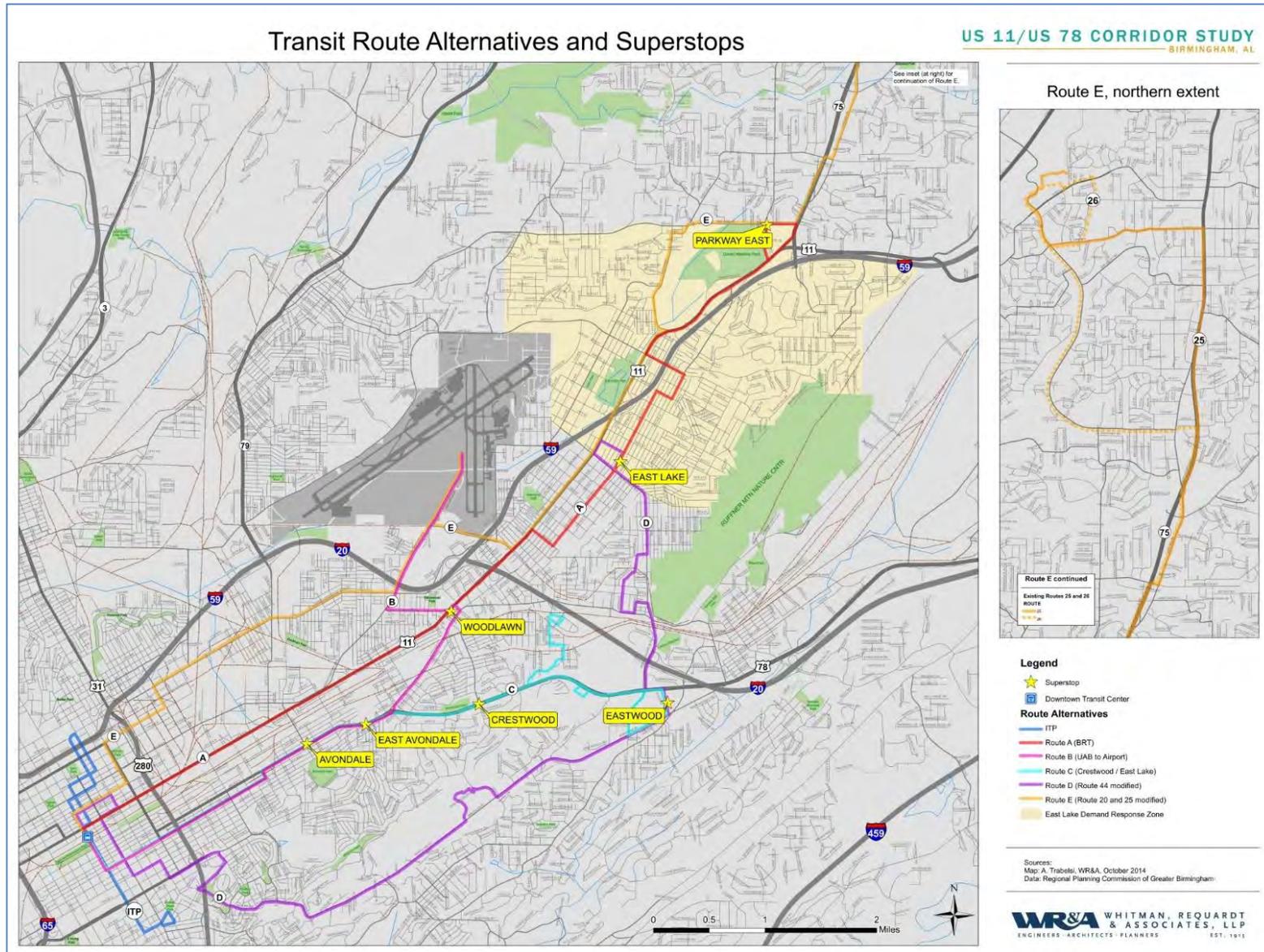
2.1.2 Revised Local Bus Services

The revised local bus service alternative as shown in Table 2-2 utilizes the same routes as the BRT proposal (Figure 2-2) but with less frequent services and no stop improvements. The advantage of the improved local bus service option is that it provides direct access to the Airport from Woodlawn, Avondale, South Side, UAB, Center Point, Parkway East and East Lake. The alternative also provides a direct route between East Lake and Eastwood Mall area and connects East Lake to UAB without a transfer at Central Station. Ridership for the revised local bus service alternative has been estimated using riders per revenue hour.

Table 2-2: Improved Local Bus Service

Existing US 11 / 78 Corridor Services							Alternative 1 – Improved Local Routes				
Route	Name	Headway	Peak Buses	Revenue Hours	2014 Riders	Riders Model	Change	Headway	Peak Buses	Revenue Hours	Riders Estimated
17	Eastwood Mall	30	4	48	1,000	928	Route 17 would have two legs with one leg serving Woodlawn and the Airport and the other leg serving the Eastwood Mall area	30/60	2	24	500
20	Zion City	50	1	16	252	200	Route 20 would be combined with routes 25 and 26				
25 & 26	Center Point	60	2	37	703	675	Routes 25 and 26 would use Richard Arrington Blvd and would serve the Airport before continuing to Center Point and Jefferson State	70	2	43	817
28	Parkway East	50	1.5	21.69	565	687	Headway on Route 28 would be increased to every 30 minutes	30	3	36	938
44	Montclair	90	2	15.75	255	188	Route 44 would be extended from Eastwood Mall to East Lake	90	2	21	340
	Total		10.5	138.44	2,775	2,678			9	124	2,832

Figure 2-2: Bus Routing Recommendations



2.1.3 US 11 / 78 Arterial Bus Rapid Transit

The Arterial BRT alternative as shown Table 2-3 utilizes the routes shown in Figure 2-2 but with more frequent services and stop improvements. The Arterial BRT alternative will improve frequencies over the revised local bus service option. It also provides direct access to the Airport from Woodlawn, Avondale, South Side, UAB, Center Point, Parkway East and East Lake. The alternative also provides a direct route between East Lake and Eastwood Mall and connects East Lake to UAB without a transfer at Central Station. Ridership for the improved US 11 / 78 Arterial Bus Rapid Transit service alternative has been estimated using a combination of the travel forecast model and riders per revenue hour.

Table 2-3: US 11 / 78 East Arterial Bus Rapid Transit Service

Existing US 11 / 78 Corridor Services							Alternative 2 – US 11 / 78 East Arterial Bus Rapid Transit				
Route	Name	Headway	Peak Buses	Revenue Hours	2014 Riders	Riders Model	Change	Headway	Peak Buses	Revenue Hours	Riders Estimated
17	Eastwood Mall	30	4	48	1,000	928	The Southside BRT would replace Route 17. It would have two legs with one leg serving Woodlawn and the Airport and the other leg serving the Eastwood Mall area.	15/30	4	48	1,000
20	Zion City	50	1	16	252	200	Route 20 would be combined with routes 25 and 26				
25 & 26	Center Point	60	2	37	703	675	Routes 25 and 26 would use Richard Arrington Blvd and would serve the Airport before continuing to Center Point and Jefferson State	70	2	43	1,054
28	Parkway East	50	1.5	21.69	565	687	The Eastside BRT would replace Route 28. The headway would be increased to every 15 minutes	15	6	60	1,240
44	Montclair	90	2	15.75	255	188	Route 44 would be extended from Eastwood Mall to East Lake and the frequency would be increased to every 30 minutes during peak periods	30/60	4	21	644
	Total		10.5	138.44	2,775	2,678			16	172	3,938

2.1.4 Express Bus Services

Express bus service will draw riders from a lower density suburban area in which people are not within walking distance of the bus route. One or more park and ride locations are needed along the express bus route to attract riders. The lot(s) need to be located so that express buses can reach the park and ride with minimum diversion from the express route and minimum delay. The lot also needs to be convenient and accessible to motorists. In addition, the park and ride location needs to be far enough from downtown that it is outside the area of traffic congestion.

BJCTA Route 78 currently provides two daily express round trips from Foxglen and Westchester and the Huffman Baptist Church to Downtown and UAB. Two additional express services should be considered including Trussville to Downtown / UAB and Leeds to Downtown / UAB. For the Leeds express service, a park and ride location near the junction of I-20 and US 78 is ideal, both for the bus route and driver convenience. Two potential alternatives exist for a park and ride. Leasing an area of the existing parking lots at the Outlet Shops of Grand River for a park and ride may be possible. The Outlet Shops of Grand River, located at I-20 exit 140 (US 78), is a distinctive outlet destination with over 70 shops within a 6,500-acre future development. The developer of Grand River envisions it as a Lifestyle Destination Community that combines residential neighborhoods, convenient shopping and dining, parks and green spaces, and world-class recreational amenities. Having direct express bus service between the Outlet Shops and downtown may be attractive to the developer in terms of appeal to future development residents and potential for attracting shoppers from downtown to the outlet stores.

A second alternative is to construct a new park and ride lot at the same interchange, using the ALDOT-owned right of way between I-20 and US 78. A concept plan was prepared in order to determine how a 200 to 300-space parking lot could fit within the right of way. Several principles were applied in developing the concept:

- Parking lot to have a minimum clearance of 50 feet from edge of shoulder of both highways, to avoid impacting existing swales and to provide a ‘clear zone’ for safety from run off the road incidents
- Parking lot driveway access to US 78 must provide safe access and egress in all directions
- Separation of bus and auto circulation
- Provision of auto drop-off pickup area for ‘kiss and ride’
- Safe pedestrian paths from parking to the bus platform
- Minimized bus travel time and distance to serve the park and ride

In the concept plan, the driveway to the park and ride is located at the existing traffic signal on US 78 at Grand River Parkway, converting the existing T intersection to a four-way intersection. This allows buses and drivers to make left turns to and from the park and ride under the protection of a signal. The existing intersection would need to be modified to construct a westbound left turn lane on US 78 within the existing wide median. The location and layout of the park and ride driveway takes into account the existing double left turn lanes for Outlets of Grand River.

Alternative Locations for Leeds Park and Ride



Concept Layout for Park and Ride Lot in ALDOT Right of Way



For the Trussville express service, the Northpark Baptist Church at 5700 Deerfoot Parkway, Trussville, AL 35173 may be a possible location. Vanpools are currently using this location and it may be possible to negotiate a lease agreement with the church.

2.1.5 Birmingham BRT - Combined Alternative

The **Southwest Corridor Study Part 4 Implementation Strategies – March 2015** describes an implementation strategy for the US 11 West BRT with two phases: Phase 1 – Downtown Birmingham to Five Points West, and Phase 2 – Five Points West to Bessemer / McCalla (Figure 2-3). The City of Birmingham, BJCTA and RPCGB jointly prepared the June 2015 **Birmingham BRT – Connecting Our Neighborhoods to Opportunities** TIGER 2015 grant application which proposed combining the US 11 East Arterial BRT with the US 11 West Arterial BRT permitting a seamless trip between east and west Birmingham. Birmingham’s BRT is designed to connect low-income and minority communities with jobs, educational opportunities, and vital services. It will improve the frequency on key public transit routes and make transit trips to employment and education destinations faster and more convenient. Birmingham’s BRT is a Ladders of Opportunity project comprised of a 15-mile corridor connecting 25 west and east Birmingham low-income and minority neighborhoods with key employment and educational opportunities along the route as well as in Downtown Birmingham and at UAB. Arriving well before the World Games in 2021, the Birmingham BRT will feature sections of exclusive bus guideway, distinctive stations, limited stops, more frequent service and traffic signal priority. Some stations will have pre-boarding fare payment to reduce the time at stops and all of the stations will be designed for customer safety and convenience. The combined BRT plan connects 58,000 Birmingham residents that live within a ½ mile walking distance of the proposed BRT stations with 130,000 jobs in the BRT corridor. As shown in Table 2-4, one-third of the BRT service area residents are low-income, seventy-one percent are minority and twenty-two percent are zero car households.

Table 2-4: Birmingham BRT Population Comparisons

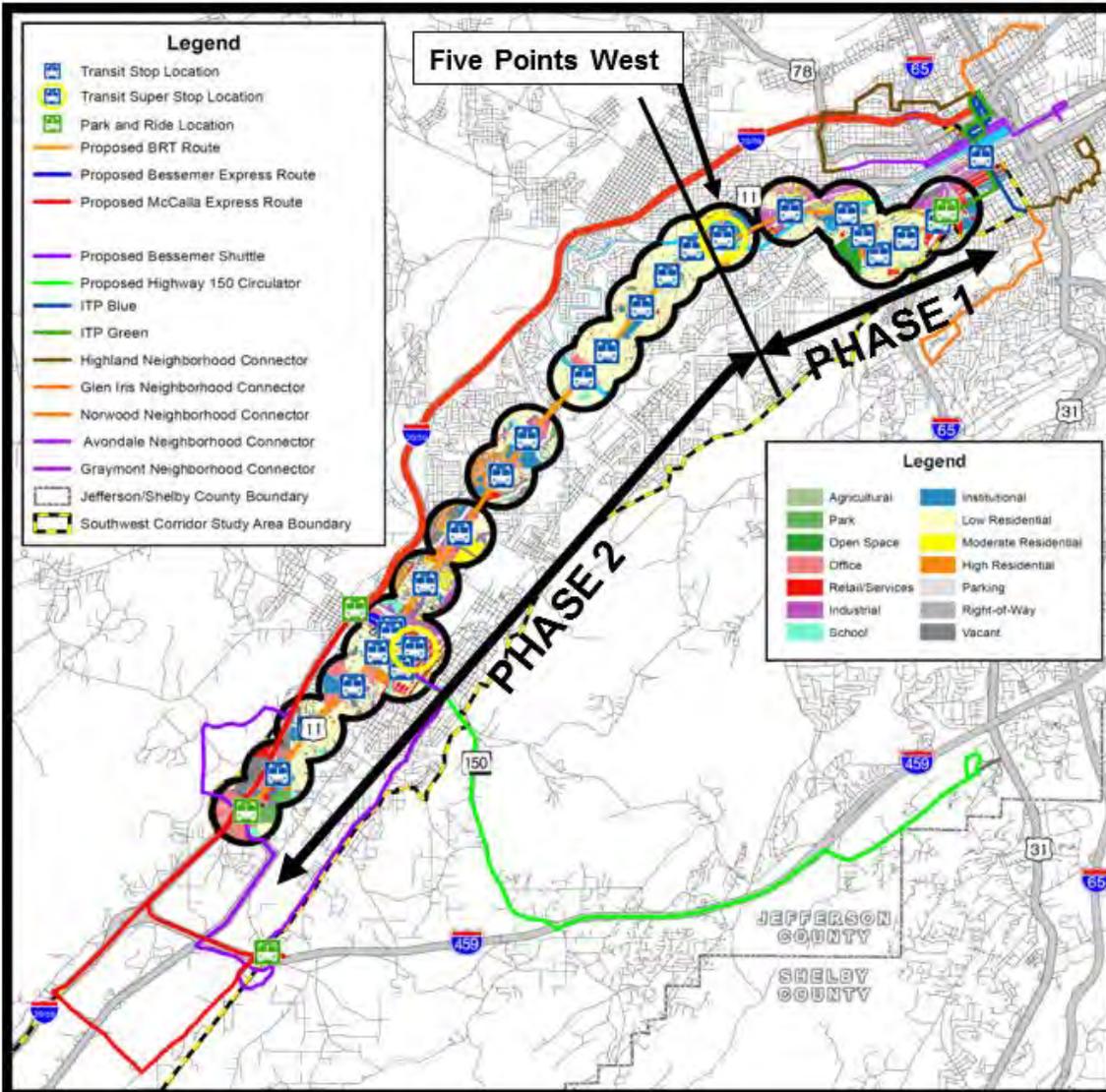
Area*	2010	2010 Minority Population		2010 Low-Income Population		2013 Zero-Car Households	
	Population	Estimate	Percent	Estimate	Percent	Estimate	Percent
Birmingham Region	755,033	408,054	54%	66,105	16%	22,086	7%
City of Birmingham	212,237	167,418	79%	56,030	26%	12,636	14%
Birmingham BRT	57,907	41,356	71%	19,804	34%	3,365	22%

*Area definitions: Birmingham Region – The US Census Urbanized Area: Birmingham BRT – within approximately ½ mile of the BRT routes.

Three existing routes will be combined into Birmingham BRT services (Figure 2-4) including Routes 8 and 28 which become the East-West BRT and Route 17 which becomes the Southside BRT. These BRT services will have a minimum 15-minute peak hour headway. As ridership grows, 10 minute or shorter frequencies may be needed on the BRT lines. Along with the BRT routes, the service plan for the US 11 / US 78 East Corridor will extend Route 44-Montclair to Parkway East and reduce the peak period frequency from 60 minutes to 30 minutes.

Table 2-5 compares the existing services with the proposed routes. Seven additional peak buses and 48 additional revenue hours would be required. Ridership on these routes would be expected to increase by 1,438 average weekday riders.

Figure 2-3: Southwest Corridor – US11 West Proposed Arterial BRT



Source: Southwest Corridor Study – Atkins 2015

Figure 2-4: Birmingham BRT Routes

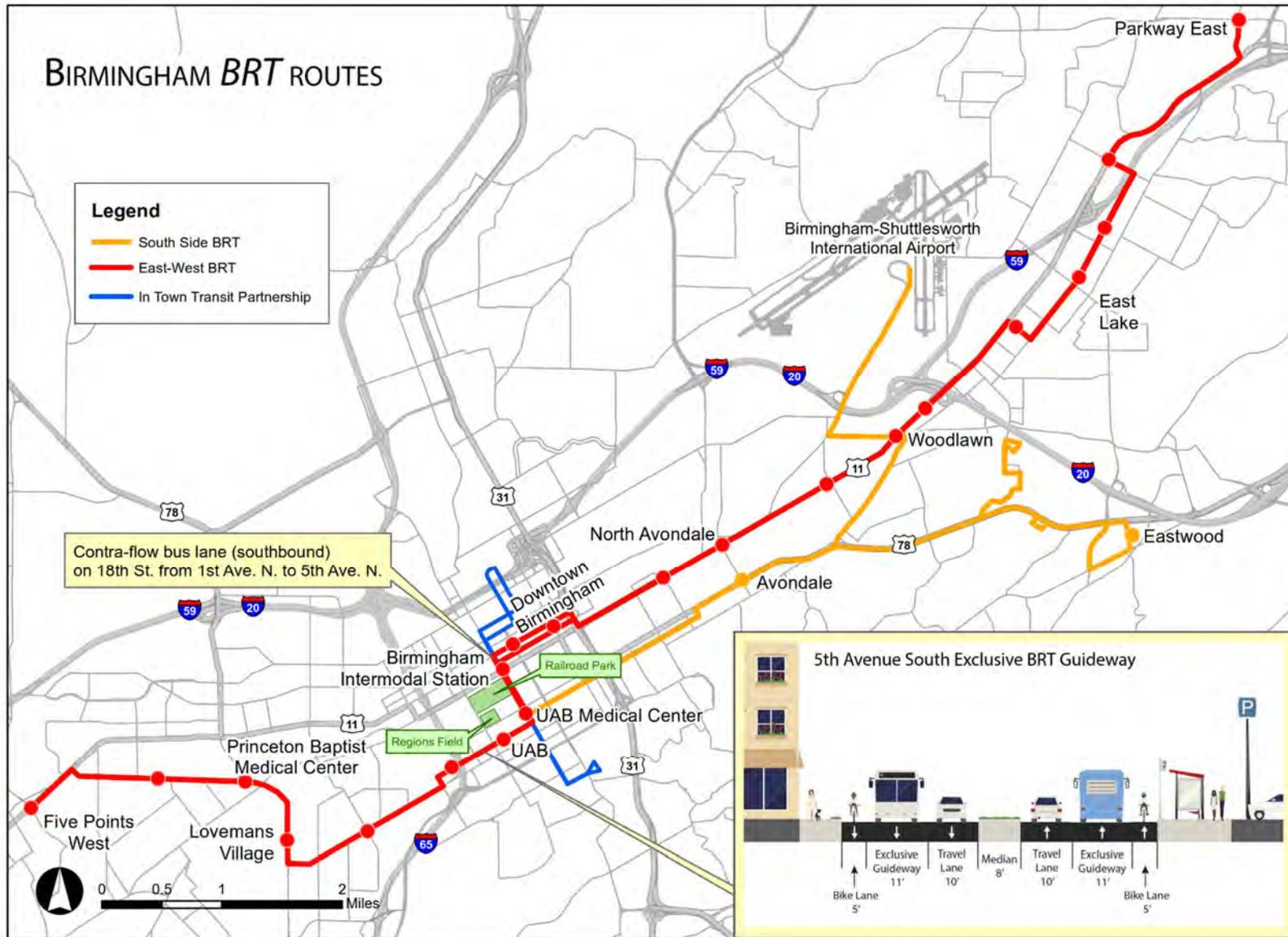


Table 2-5: US 11 / 78 East Arterial Bus Rapid Transit Service

Existing Corridor Services							Birmingham <i>BRT</i> – Combined East - West BRT Services				
Route	Name	Headway	Peak Buses	Revenue Hours	2014 Riders	Riders Model	Change	Headway	Peak Buses	Revenue Hours	Riders Estimated
8	Sixth Avenue South	30	2.5	26	454	386	Route 8 and 28 would become the East-West BRT connecting Five Points West to Titusville UAB and Downtown.				
17	Eastwood Mall	30	4	48	1,000	928	The Southside BRT would replace Route 17. It would have two legs with one leg serving Woodlawn and the Airport and the other leg serving the Eastwood Mall area.	15/30	4	48	1,000
20	Zion City	50	1	16	252	200	Route 20 would be combined with routes 25 and 26				
25 & 26	Center Point	60	2	37	703	675	Routes 25 and 26 would use Richard Arrington Blvd and would serve the Airport before continuing to Center Point and Jefferson State	70	2	43	1,054
28	Parkway East	50	1.5	21.69	565	687	The East-West BRT would replace Routes 8 and 28. The headway would be increased to every 15 minutes	15/30	10	100	1,804
44	Montclair	90	2	15.75	255	188	Route 44 would be extended from Eastwood Mall to East Lake and the frequency would be increased to every 30 minutes during peak periods	30/60	4	21	644
	Total		13	164	3,229	3,064			20	212	4,502

2.2 Transit Project Capital Elements

The Birmingham BRT TIGER 2015 grant application included a capital budget of \$68 million (Table 2-6). Note that the budget includes the renovation of the BJCTA maintenance facility and the Woodlawn Quiet Zone which were not fully funded in the USDOT award.

Table 2-6: Birmingham BRT Capital Budget

Cost Category	# of Units	Cost per Unit	Costs (2014\$)	Life (years)	Comments
Vehicles and Equipment					
Vehicles	18	\$ 550,000	\$ 9,900,000	12	
Traffic Preemption	110	\$ 15,000	\$ 1,650,000	10	Intersections - West 30, East 40, Southside 40
Real Time Information			\$ 3,500,000	10	
Subtotal Vehicles and Equipment			\$ 15,050,000		
Construction					
BJCTA Maintenance Facility	1		\$ 12,500,000	20	Major renovation to add 20 years to the facility
Community Transit Centers					
- Five Points West	1	\$ 2,500,000	\$ 4,891,250	40	Includes \$1,500,000 City ROW
- Woodlawn	1	\$ 3,500,000	\$ 4,365,000	40	Includes \$1,000,000 private ROW
Super Stops	5	\$ 600,000	\$ 3,000,000	20	Princeton Baptist, East Lake, Parkway East, Avondale, Eastwood
Neighborhood Stops	29	\$ 100,000	\$ 2,900,000	10	West - 6 stops, East 9 stops, Southside 14 stops
5 th Avenue South Complete Street			\$ 486,484	40	
18 th Street North Contraflow			\$ 280,802	40	
Woodlawn Quiet Zone			\$ 469,000	40	
Pedestrian Safety Improvements			\$ 2,700,000	40	
Subtotal Construction			\$ 31,592,535		
Professional Services and Contingency					
Professional Services			\$ 9,598,410	n/a	28% of construction and 5% vehicles and equipment
Unallocated Contingency			\$ 11,802,736	n/a	25% of construction and 10% vehicles and equipment
Project Total			\$ 68,043,682		

2.2.1 Fleet

As of March 2015, BJCTA had an active fleet of 85 buses including 36 that were eligible for retirement. The fleet inventory is shown in Table 2-7

Table 2-7: BJCTA Transit Fleet as of March 2015

Bus Type	Year	Year Eligible for Retirement	# of Buses	Average Miles
Chance Trolley	2001	2013	7	146,674
Chance Trolley	2002	2014	2	138,602
Orion 35' Transit	2000	2012	8	557,976
OPUS – 30' Transit	2004	2014	19	359,880
NABI – 40' Transit	2010	2022	12	187,285
New Flyer – 40' Transit	2013	2025	30	79,809
Goshen – 25' Express	2014	2024	7	2,997
Transit Fleet Total			85	

The peak vehicle requirements considering service plans as of March 2015 are shown in Table 2-8.

Table 2-8: Peak Vehicle Requirement Projections

Service Type	Peak Vehicle Requirement	Spare	Total
Existing Routes	58	12	70
In-Town Transit Partnership Buses	4	1	5
Net Additional Peak Buses	7	2	9
Total BJCTA Fleet	69	15	84
Regular Route Buses	51	11	62
In-town Transit Partnership Buses	4	1	5
BRT Buses	14	3	17
Total BJCTA Fleet	69	15	84

BJCTA is also evaluating additional service improvements not reflected in Table 2-8. The Birmingham *BRT* project includes the acquisition of 18 *BRT* buses, including eight replacement buses and 10 expansion buses.

2.2.2 Stations and Passenger Facilities

Birmingham’s *BRT* will utilize the City’s new Birmingham Intermodal Transportation Facility. Along the Birmingham *BRT* service there will be three types of branded stations (Figure 2-5): Neighborhood Station, Super Stop, and Community Transit Center. The Southwest Corridor Study – 2015 by Atkins developed concepts shown in Figure 2-5.

Each station will be sized to accommodate the forecast passenger volumes and the number of interfacing local bus routes. The station amenities will include branding graphics, wayfinding signage, and real-time transit information. Community Transit Centers are planned at Five Points West and Woodlawn. Princeton Baptist Medical Center, Loveman Village, UAB, NorthAvondale, East Lake and Parkway East will host super stops where multiple local bus routes will interface with the Birmingham *BRT*. Neighborhood stations throughout the corridor will provide convenient access for all.

Alternative conceptual design concepts for neighborhood and super stop stations are shown in Figures 2-6 and 2-7.

Figure 2-5 Station Concepts – Southwest Corridor Study



Source: Southwest Corridor Study – Atkins 2015

Figure 2-6: Neighborhood Station Concept



Figure 2-7: Super Stop Station Concept



2.2.3 Technology

Real-time transit information, cameras on vehicles and at select stations, off-board fare collection, and traffic signal preemption will be the primary technologies employed throughout the *BRT* system. Real-time transit information will be available at each *BRT* station, on the web, and through an app for mobile phone users. The TIGER grant budget includes a real-time information system for the BJCTA system at \$3.5 million and traffic signal preemption at \$1.65 million. There are 110 traffic signals along the *BRT* route. Signals will be selected for preemption during the environmental document preparation phase.

2.2.4 Maintenance Facilities

The BJCTA maintenance facility was constructed in 1966 while owned by the transit system's private operator. Following acquisition by the City of Birmingham the building was renovated in 1986 and 1987 with a 5-bay expansion and office space improvements. Compressed natural gas fueling facilities have also been added to the facility. The nearly 50-year-old facility includes a two story office building and maintenance building with 24 bays. While the facility is well located near Downtown Birmingham, it has serious infrastructure problems. The facility's bus service lane has regular pavement failures and the mechanical and electrical systems have deficiencies that must be brought up to code. The US 11/US 78 East Corridor Study evaluated the condition of the current facility and developed a program for a replacement facility (Appendix xx).

In order to remedy the facility's existing deficiencies and allow modest facility expansion, the Birmingham *BRT* TIGER grant application includes \$20 million for the maintenance facility including construction \$12.5 million, design \$3.5 million and contingency \$4.0 million. Unfortunately, Birmingham's TIGER 2015 grant award did not fully fund the facility renovation budget.

2.3 Transit Project Operating Cost Estimates

Table 2-9 estimates the operating expenses from 2014 to 2030. Operating expenses are assumed to be a function of the cost per revenue hour so that costs increase as bus revenue hours increase. According to the National Transit Database, in 2014 BJCTA had an operating cost per revenue vehicle hour of \$92.20 with 226,362 revenue hours. *BRT* operations are expected to begin in 2019 with an estimated 14,400 annual revenue hours. Costs are also estimated in Table 2-9 for the additional costs to maintain the additional technology (10% of the capital cost annually) and additional facilities (5% of the capital costs annually). Inflation has been assumed to be 2.5 percent per year and has been applied equally to all categories.

Table 2-9: Transit Operating Expense Estimate – 2014 to 2030

Transit Operating Expense Estimate in millions																	
Fiscal Year	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Base Rev Hrs (1,000)	226.4	226.4	226.4	226.4	226.4	226.4	226.4	226.4	226.4	226.4	226.4	226.4	226.4	226.4	226.4	226.4	226.4
BRT Rev Hrs (1,000)	-	-	-	-	-	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4
Cost per Rev Hour	\$92	\$95	\$97	\$99	\$102	\$104	\$107	\$110	\$112	\$115	\$118	\$121	\$124	\$127	\$130	\$134	\$137
Base Oper Expense	\$20.9	\$21.4	\$21.9	\$22.5	\$23.0	\$23.6	\$24.2	\$24.8	\$25.4	\$26.1	\$26.7	\$27.4	\$28.1	\$28.8	\$29.5	\$30.2	\$31.0
BRT Rev Hr Expense	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1.5	\$1.5	\$1.6	\$1.6	\$1.7	\$1.7	\$1.7	\$1.8	\$1.8	\$1.9	\$1.9	\$2.0
BRT Tech Expense	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.5	\$0.5	\$0.5	\$0.6	\$0.6	\$0.6	\$0.6	\$0.6	\$0.6	\$0.6	\$0.7	\$0.7
BRT Station Expense	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5
Total Oper Expense	\$20.9	\$21.4	\$21.9	\$22.5	\$23.0	\$26.1	\$26.8	\$27.4	\$28.1	\$28.8	\$29.5	\$30.2	\$31.0	\$31.7	\$32.5	\$33.3	\$34.1



LAND USE, COMPLETE STREETS AND COMMUNITY REVITALIZATION

T A B 3



3 LAND USE, COMPLETE STREETS, AND COMMUNITY REVITALIZATION

As demand for walkable communities, culture, character, and more modest home size grows, old urban neighborhoods like those found in the US 11 / 78 corridor have a new window of opportunity for revitalization. The challenge, however, is to overcome years of decline that have led to vacant and blighted property, perceptions or presence of crime, and general lack of investment in schools, infrastructure, and other elements of the community. This change is needed to attract the critical mass necessary for these neighborhoods to be reborn as the 21st century version of the vibrant places they once were. Fortunately, some sections of the corridor are seeing remarkable renewal as a result of community re-investment by the public and private not-for-profit sectors. General economic improvement is also contributing to private investment.

Despite years of decline, these places have many underlying qualities that create a good foundation on which to rebuild: charming buildings, history, and connected streets meet some of the market demands; vacant properties offer opportunities to reconfigure the layout of these places, including green space; and while neighborhoods vary across the corridor, they all have the proposed corridor transit investments in common, which can help stimulate a collective revitalization effort. While transit investments and “good bones” alone will not lead to fully revitalized communities, they offer a significant leg up toward sustained progress in revitalizing the neighborhoods in the corridor.

The communities in the US 11 / 78 corridor, which are the subject of this section, are at varying stages of revitalization and will need to develop strategies tailored to their unique strengths and weaknesses. This study considers some of the general conditions across the corridor and begins to develop a strategy to guide each community in further progress toward revitalization. This section presents a general framework and suggested land use, Complete Streets, and community design principles for revitalization in the corridor, using the transit investments and existing neighborhood revitalization efforts as a starting point from which broader revitalization will be generated. This framework and principles are applied to specific corridor neighborhoods in Section 3.3, where specific recommendations are given.

3.1 Transit-supportive Land Use and Revitalization Framework

3.1.1 Priority Transit-supportive Redevelopment Areas

The Birmingham Comprehensive Master Plan provides extensive information on land use, community development, and economic conditions in the city and a strategy/framework for revitalization. With regard to land use and economic revitalization, this study more closely examines opportunities for investment and development in the US 11 / 78 corridor, with emphasis on the areas adjacent to the proposed transit lines and within ½ mile of proposed transit super stops. In acknowledgement of previous work done, this analysis considers the existing policy and plan recommendations and deciphers where and how transit, land use, and streetscape design in the corridor can mutually benefit local neighborhood prosperity as part of the broader phased process of a revitalized and sustainable Birmingham city and region.

Building on the Birmingham Comprehensive Master Plan, this analysis identified specific target areas where investment would likely be most effective within the US 11/US 78 corridor, based on input that includes:

- proximity to the proposed transit routes and super stops presented in the previous chapter;
- target redevelopment areas featured in the comprehensive plan (commercial revitalization districts and revitalization districts featured in the strategic policy map, shown in the beginning of this document);
- other known redevelopment activity currently or soon to be underway; and
- concentration of blight.

These conditions and their analyses are explained further in this section of the report. Findings of the analyses led to establishment of the following priority transit-supportive redevelopment areas:

- Avondale/East Avondale
- Woodlawn
- Crestwood/Eastwood
- East Lake
- Parkway East
- Truck City
- Downtown/UAB (noted as part of the wider city and regional revitalization strategy only)

The framework described in this chapter is applied to these priority transit-supportive redevelopment areas in Section 3-3.

3.1.2 Transit-supportive Land Use Concept

An effective transit system requires that every segment of the user's trip be accessible, efficient, safe, and comfortable. Beyond the conditions determined by the transit authority/provider/operator—such as routing, vehicle characteristics, and driver—land use and urban design influence the success of the system.

A transit trip involves more than just the bus station or the bus itself. It encompasses all of the activities and movements required to go from one location to another – from a trip's point of origin to the final destination. From walking down the street to riding the bus, the rider's complete transit trip needs to be considered. It is imperative that all trip components put the rider first in terms of design and implementation of the transit environment. The complete transit trip includes the following place-based, urban-design-dependent components, which are the subject of this section: the development lot, the streetscape, the transit station, and the transit stop.

The Value of Transit-supportive Places (Adapted from PACE Guidelines, Chicago)

FOR THE RIDER

- Lower transportation costs
- Enhanced access to local goods and services, jobs, and regional destinations
- Greater mobility for citizens who cannot or choose not to drive
- Greater passive exercise and lower rate of obesity and related illness
- Easier and safer access to local and regional transit services

FOR SOCIETY

- Fewer environmental impacts than private automobile use
- Greater opportunities for housing choices that allow residents to age within their community
- Enhanced local and regional character
- Reduced congestion on non-transit systems

FOR MUNICIPALITIES AND AGENCIES

- More efficient infrastructure systems and maintenance
- Enhanced local services in more concentrated areas

FOR THE DEVELOPMENT COMMUNITY

- Greater utilization of available land
- Broader market diversity and feasibility

FOR TRANSIT SERVICE PROVIDERS

- Greater integration of facilities into local communities
- Lower operating costs
- More predictable ridership volume and behavior
- Enhanced local access to/from transit service
- Safer operations with fewer accidents

Not only are the transit-supportive land use and design guidelines presented below valuable to the rider and transit service provider, they also benefit other stakeholders and the broader community.

A transit-supportive land use and design strategy for Birmingham should promote compact, mixed-use development near transit hubs. The following are important guidelines for such a strategy, with examination of key indicators in the corridor:

- **Development density**—In general, places that attract higher populations per area of land—such as retail, office, and higher density residential—will best support transit. Manufacturing is an example of a use that is not as supportive of transit because of the relatively low population spread over a large area. Nonetheless, specific cases may merit manufacturing as part of transit-supportive community design in Birmingham.
- **Land use mix**—Encourage accessibility of goods and services and provide for activity throughout the day and week. Focus on matching types of uses suited to transit users. For example, a neighborhood market or grocery would be better suited to transit users who would not be able to carry large quantities, rather than a large discount superstore.
- **Human-oriented building design and amenities in public spaces**—Large parking lots are not ideal neighbors to transit, as they place pedestrians and vehicles in conflict and take up valuable space that could be used for more transit-supportive use. Flexible building space is also helpful to enable less costly adaptation when needed as the corridor and neighborhoods change. An effective land use plan and policies that support transit and encourage infill in the city will save taxpayers the high cost of building infrastructure to serve development far from traditional population centers.
- **Connected street network**—An interconnected system of streets is important for optimum transit, both from the perspective of providing the transit vehicles direct and dependable travel routes and providing the user best access to transit stops.
- **Streets designed for all users**—This element and the previous (connected street network) are examined thoroughly in the next section on Complete Streets.

Figure 3-1 illustrated the study corridor population density and employment, Figure 3-2 shows the study area land use and Figure 3-3 shows the land use around seven transit super stop locations. The commercial and residential mix varies by location.

Figure 3-1: Study Corridor Population Density per Square Mile and Employment

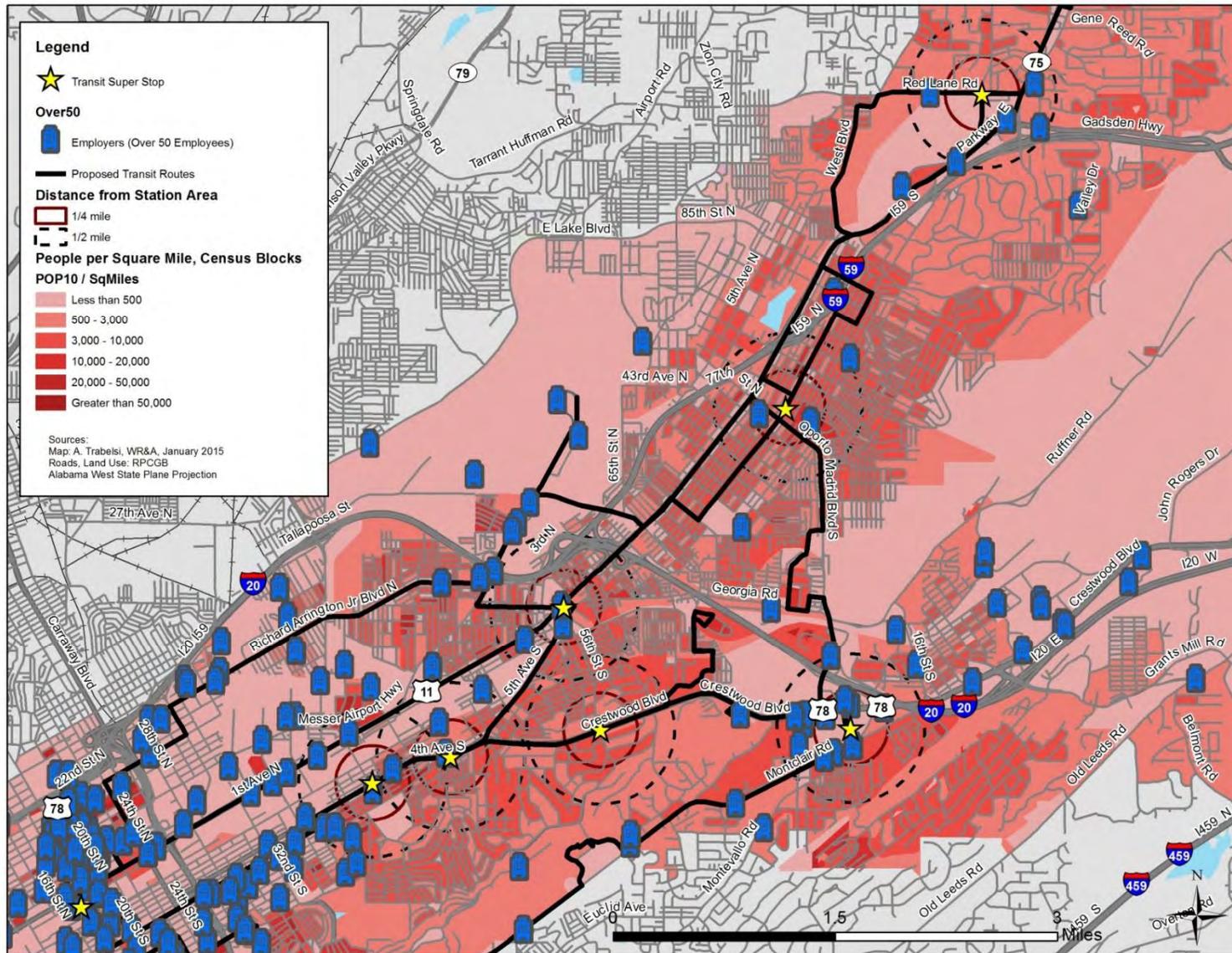


Figure 3-2: Study Area Land Use

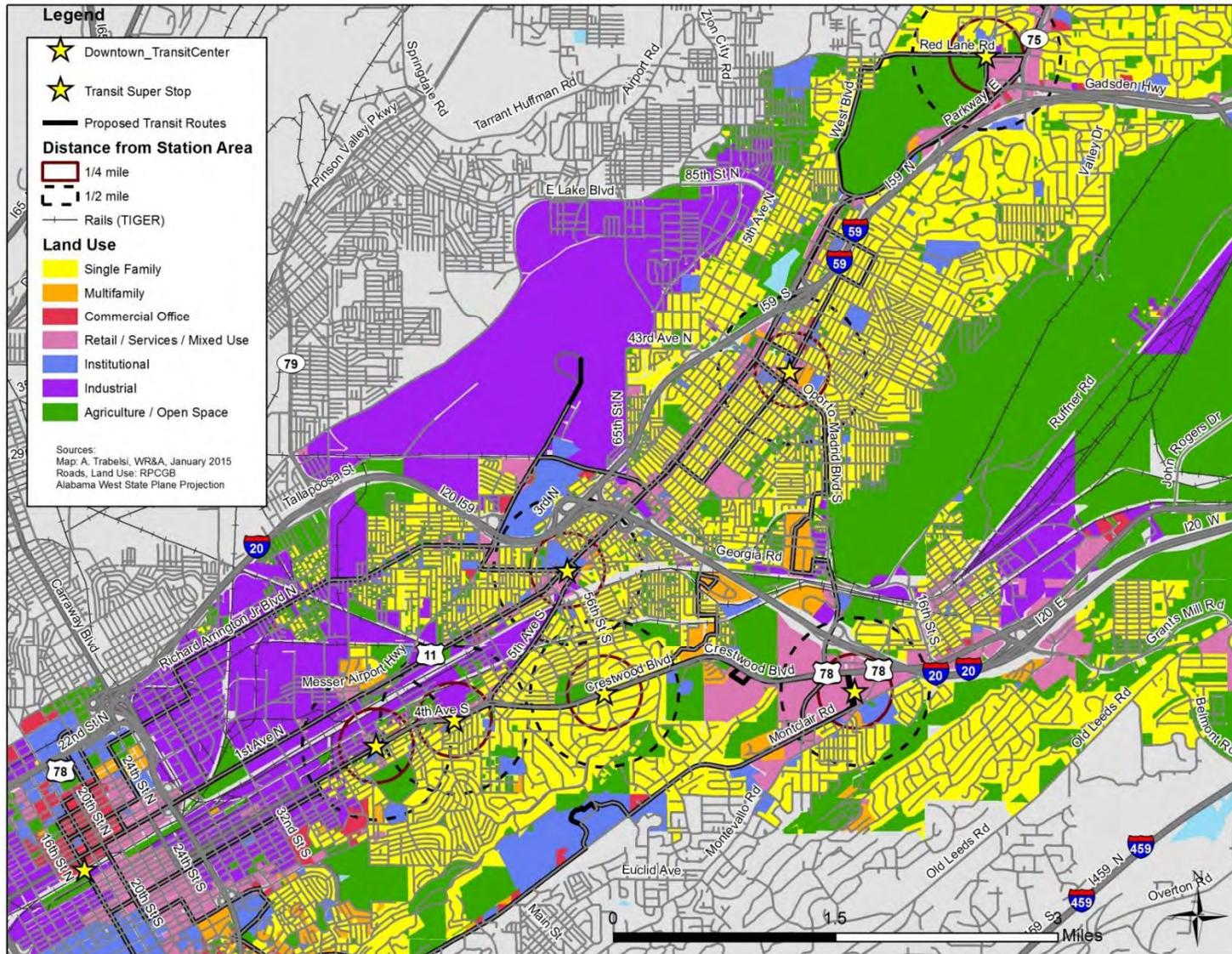


Figure 3-3: Proposed Super Stop Locations and Land Use



3.1.3 Corridor Revitalization Framework

This section examines two important characteristics of corridor communities—dominant land use type/community design and general stage of revitalization—to create a basic revitalization strategy: categorizing each priority revitalization area in terms of the dominant land use type/community design, and general stage of revitalization. Though simple, this framework:

- facilitates better understanding of the opportunities and challenges the six priority revitalization areas currently face,
- makes general revitalization strategies (described in the next section) available to them, and
- develops specific, phased recommendations for each area.

3.1.3.1 Community Type

Transit-supportive places do not all look the same and can be represented by a variety of community types. Communities in the US 11/US 78 corridor are made up of many different types of neighborhoods, land use mixes, and development patterns. Recommendations for creating more transit-supportive places need not require them to look and function the same way across the city; however, the above are fundamental characteristics of community development and design that increase the chances that an area will support transit and, furthermore, become revitalized.

Type 1: Mixed use neighborhood

These areas were originally developed in the pre-World-War-II era with interconnected street grid patterns, pedestrian scale urban design and form, and mixed land uses. They are, to varying degrees, already experiencing revitalization due to a combination of renewed market interest in places with character and walkability and a foundation of intervention. In addition, each had historically been a local commercial district, center, or downtown of the surrounding neighborhood, but have since experienced extended periods of distress. These places generally do not require reconfiguration of street networks or new subdivision, but rather will benefit from enhanced streetscapes, pedestrian/bicycle/transit improvements, and development design standards and incentives that promote pedestrian-friendly infill development and renovation.

US 11 / 78 Corridor Areas of this type:

- Avondale
- Woodlawn
- East Lake

Type 2: Neighborhood center

These areas or properties are modest in scale and are attractively located to become focal points as neighborhood scale and local destinations. They were not previously or currently designed as cohesive centers, but have the potential to be redeveloped in a new configuration that would create a sense of place and promote transit use and pedestrian activity. This in turn will create a stronger identity and market desirability for these areas.

US 11 / 78 Corridor Areas of this type:

- Crestwood
- East Avondale

Type 3: Regional retail center

These areas are currently large single-use, automobile-oriented shopping centers, which occupy prominent and visible locations on the regional suburban roadway network. These centers have experienced significant and ongoing decline and are recognized as potential locations for long term redevelopment or “retrofit” as attractive mixed-use centers that are transit-supportive and pedestrian-friendly. These areas would require significant private and/or public investment to reconfigure. Short-term opportunities to introduce modest, incremental changes to these locations to support and increase transit, cycling, and pedestrian activity/safety also exist.

US 11 / 78 Corridor Areas of this type:

- Parkway East
- Eastwood

Type 4: Urban industrial district

These consist primarily of older industrial, warehousing, and flex/office employment uses that could potentially be improved to leverage certain inherent advantages which newer comparable facilities typically do not possess. These include being developed in a relatively compact, transit-supportive development pattern and having close proximity to downtown and transportation hubs. These areas could become more desirable through streetscape improvements, Complete Streets treatments, and policies that encourage the integration of new amenities, services, and mix of use into the area that support the employment uses and increase the overall attractiveness of the district.

US 11 / 78 Corridor Areas of this type:

- Truck City

Transit-supportive land use and design guidelines will be critical to ensure the full potential of transit and transportation investments is achieved, and so those and other public and private investments translate to sustained revitalization. Transit-supportive land use policies need to be established, particularly in the strategic urban villages and transit super stop locations, so that future development/redevelopment is as impactful as possible and so investment in transit and/or property are mutually beneficial.

3.1.3.2 Revitalization Stage

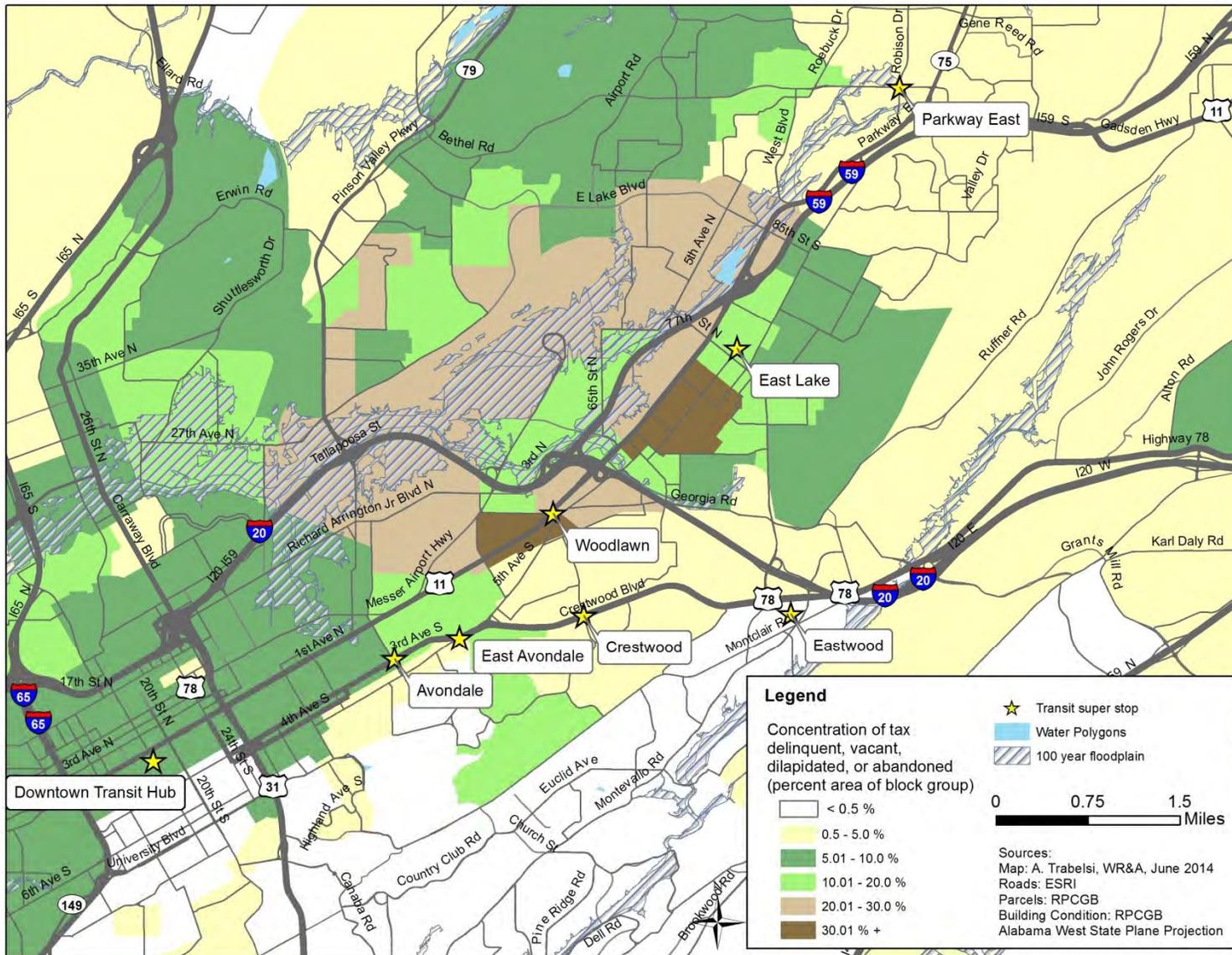
In addition to the existing community type, the location and concentration of blight is another factor which is important in shaping effective revitalization strategies because it helps determine what strategies are likely to be most effective immediately. Ultimately, this information can facilitate prioritizing interventions and develop a comprehensive revitalization strategy for a community. Generally, areas with very high concentrations of blight are likely to require more extensive public interventions to successfully stabilize and grow, whereas areas with lower concentrations of blight may only need more modest, if any, special public intervention.

Figure 3-4 presents the concentration of blighted property¹ in census block groups through the close-in section of the corridor, based on parcel-specific housing condition and tax delinquency data². Those areas shaded light yellow and white have less than 5 percent of the land area in blighted condition. Shades of green identify census block groups with moderate (i.e. five to 20 percent of land area) concentrations of blight, which may benefit most from coordinated public and private redevelopment strategies. Areas shaded brown have blighted property concentrations of more than 20%, which are likely to require more aggressive redevelopment strategies.

¹ Defined as dilapidated, abandoned, vacant, or tax delinquent.

² A field inventory was conducted in fall of 2013 in a portion of the study area to determine condition of properties. The inventory covered areas within the City of Birmingham and did not extend into Irondale, Leeds or Trussville. Surveyed parcels were rated as active and in good condition, active but dilapidated, abandoned (abandoned structure and lot), or vacant (abandoned lot, no structure).

Figure 3-4: Concentration of blight in the corridor



Using these general categories, each target redevelopment area was categorized by degree of blight concentration to help guide creation of an individualized strategy for each area. These strategies are presented in the following sections. The categories and classifications are as follows:

Stabilize: Concentrations of blighted properties are relatively high, suggesting that more aggressive public and coordinated revitalization efforts are needed and that revitalization will likely require more resources and/or time. Land use and economic development efforts should reinforce local transit efforts; mitigate population decline, blight, and disinvestment; and focus on safety, access to basic goods/services, and strategies that support people and businesses who will stick with the community for the long haul.

- Woodlawn (where significant efforts are currently underway)
- East Lake

Strengthen (or Specialize): Concentrations of blighted properties are moderate, suggesting that while coordinated public-private revitalization efforts will likely be needed, the resources and/or timeframe required may not be as extensive as described above. Efforts can begin to focus on supporting some existing success. The community is stable, but needs to take action to boost emerging industries and/or create a quality and unique sense of place. At this point, the community should build consensus for a collective community vision and begin working toward those goals, including development of a neighborhood scale plan (such as the Woodlawn Revitalization Plan described in Section 3.1.4.3) that fits under the City's Comprehensive Plan, but acknowledges local neighborhood issues and provides necessary detail to successfully address those issues.

- Avondale / East Avondale
- Truck City

Expand: Revitalization efforts should continue to build on local success, expanding to stabilize and strengthen surrounding areas to achieve greater city-wide and regional benefit. Work on attracting younger professionals and empty nesters back into the city from the wider region and beyond.

- Downtown / UAB
- Crestwood / Eastwood
- Parkway East

Any effective revitalization strategy must consider many more factors than just location/concentration of blight. In particular, local neighborhood goals and concerns should be sought to create a strategy for meeting the needs and desires of long-time residents and ensuring equitable redevelopment rather than displacement. For purposes of this section of the US 11/US 78 corridor study, emphasis is placed on generating mutually supportive transit and land use close to super stops and transit routes. Although this study has involved public/stakeholder input, the economic and land use redevelopment recommendations herein have not yet been thoroughly examined by local communities. Therefore, these recommendations should be used to initiate conversations for local transit-supportive redevelopment efforts. See the property condition inventory statistics in Appendix 3.

3.1.4 Current Land Use and Economic Revitalization Efforts in Birmingham

This section lists and briefly describes land use and economic development efforts underway and strategies available and/or being promoted in Birmingham. Using the framework described in the previous section, the following section organizes and recommends how the strategies described in this section may most effectively be applied in the corridor.

3.1.4.1 Overarching Strategies

Following the principles of transit-supportive land use/design, the 2013 City of Birmingham Comprehensive Plan recommends a strategy of focusing density in a few areas with potential to develop as “urban villages” and to serve as locations for enhanced bus service. Urban villages identified in the US 11/US 78 corridor are Woodlawn and some portions of Parkway East. Key locations are designated as mixed use and are suitable for multi-family development.

The City of Birmingham also designated Commercial Revitalization Districts to renew and revitalize designated areas into vital business and cultural districts. Those located in the US 11 / US 78 corridor include East Lake-First Avenue North, Woodlawn, Five Points South, Downtown Cultural, Downtown West, Downtown Northwest, Birmingham Green, 19th Street, 4th Avenue North, Midtown, Morris Avenue, 1st Avenue North, 2nd Avenue North, 12th Avenue North, Lakeview, Phelan Park, Roebuck Parkway East, and 41st Street (Avondale) districts. Goals of the districts include improving infrastructure, making the areas safer places to live and work, decreasing building vacancy, preserving culturally or architecturally significant buildings, improving the aesthetic appearance of the areas through landscaping and other activities, and making the areas more attractive overall to potential businesses or residents.

The Comprehensive Plan recommends protecting low-density, single-family neighborhoods from added density. In many city areas, larger multifamily developments are located in single-family neighborhoods, isolated from transit and access to goods/services, and not contributing to improved harmony of urban design and form. Both circumstances are missed opportunities: locating higher density residential purposefully—near transit, retail, and other community resources—and with attention to design and location details -- can benefit individual residents and the broader community.

The decline in the city’s population has correlated with a decline in school student population. Because of the demographic change and state funding cuts the school board has closed over 30 schools city-wide since 2000. Most school sites are located in residential areas. The presence of vacant school sites along with vacant houses within the neighborhoods discourages investment, but can be opportunities for larger-scale redevelopment and adaptive reuse.

Birmingham has a number of defunct industrial plants that leave behind thousands of acres of underutilized land and countless vacant structures. The perceived risk of developing potentially contaminated brownfield sites drives development to greenfield sites outside of the city. Low property values due to conditions of nearby brownfield sites have resulted in a lack of upkeep on commercial and residential properties. REV Birmingham, an economic development organization that stimulates business growth and improves quality of life in the City Center and Neighborhood Commercial Centers, has created a database to market abandoned industrial sites to developers.

In industrial areas, the plan calls for continued industrial use in the operating properties. The City’s economic analysis concluded that over time some of these areas will transition to more office, technology, research, and bio-medical uses. The future use for large inactive heavy industry sites is uncertain because no new

heavy industry is foreseen and environmental mitigation is needed for any new use. Areas with light industrial properties in the downtown and proposed urban village areas have been designated with the Mixed Use land use category in the Comprehensive Plan.

Both the designated urban villages and the commercial revitalization districts are areas with particular potential to benefit (and be enhanced by) transit investment. Meanwhile, strategies to shift uses according to Comprehensive Plan goals and guidelines for transit-supportive land use and design should be enacted in all areas of the city.

3.1.4.2 Specific Strategies

Numerous action steps relating to land use and economic renewal were presented in the Comprehensive Plan and additional strategies have been noted elsewhere. While much work is to be done to achieve the vision and goals of the plan, steps are already being taken. For example, Project 9-N-9, a community investment initiative, is enacting economic development and other strategies presented in the Birmingham Comprehensive Plan to attract investment and development across all nine districts of the city. REV Birmingham, an economic development organization and public-private partnership, works to stimulate business growth and improve quality of life in Birmingham's commercial centers through proactive business recruitment, retention activities, and encouragement of private/public investments. Blueprint Birmingham is an economic growth plan for the Birmingham region with measurable goals and a realistic approach to achieving them.

As part of and in addition to the above efforts, individuals, government agencies, and other organizations/businesses have many revitalization efforts currently underway in the corridor. Those efforts with relevance to transit-supportive revitalization which have potential for application in the corridor are listed below:

Adaptive reuse / historic building restoration

- State and Federal Historic Tax Credits

Land banking / large scale redevelopment

Downtown Reinvestment

The Birmingham Jefferson Convention Complex (BJCC) is located on the north end of downtown and contains 220,000 square feet of exhibit space along with a 19,000 seat arena. A recent addition to the BJCC has been the 2013 opening of the Uptown Entertainment District which contains over 60,000 square feet of restaurant and retail space along with a new 303-room Westin Hotel.

In April 2013, the City of Birmingham opened Regions Field as the new ball park for the Birmingham Barons minor league baseball club. The 8,500 seat facility is in the heart of downtown between Railroad Park and UAB.

Railroad Park is a 19 acre green space in downtown Birmingham that celebrates the community's industrial and artistic heritage. Located along 1st Avenue South between 14th and 18th Streets, the park is a joint effort between the City of Birmingham and the Railroad Park Foundation. Hailed as "Birmingham's Living Room," Railroad Park provides a historically rich venue for local recreation, family activities, concerts, and cultural events, and connects Birmingham's downtown area with Southside and UAB's campus.

Innovation Depot is a technology center and business incubation program that focuses on developing emerging biotechnology/life science, information technology, engineering, and service businesses. It operates in partnership with the University of Alabama at Birmingham (UAB). A public-private economic development effort, Innovation Depot is funded by the Birmingham regional business community, the Community Foundation of Greater Birmingham and other leading private foundations, UAB, the City of Birmingham, and Jefferson County. The 140,000-square-foot facility provides office space for new and growing firms.

- Redevelopment authority
- Catalogue available sites for redevelopment, expansion, and new business
- Greenways/green infrastructure ROW acquisition and management

Brownfields redevelopment (REV Birmingham is a primary resource)

Public-private-non-profit partnerships

Regional target industries

- Support industries identified in Blueprint Birmingham, which include healthcare; finance and insurance; biological and medical technology; arts, recreation, and tourism; and the potential growth industry of automotive-related manufacturing

Transitional use of vacant property

- Urban agriculture—addresses food access and blighted property problems (IBM Smarter Cities Grant)
- Low management green infrastructure

Fast Track Permitting

Business/Entrepreneur incentives:

Birmingham Business Development Loan (City offers bank guaranteed loans for eligible commercial projects that will have a positive impact on the city; from \$100k to \$1 million at current market rate for a term of 12-24 months with no principal or interest payments required)

Sharing of new city revenues—negotiated on a case-by-case basis

City-owned property available at reduced rates—intended to assist developers in the implementation of economic growth projects

Connecting success: a look at revitalization progress downtown and opportunities to extend success throughout the US11 / US 78 corridor

Downtown: Birmingham’s Central Business District, or “downtown,” plays a significant role as a regional employment and cultural center. Downtown has approximately 40,000 jobs and 5 million square feet of office space, 87% of which is currently occupied. The amount of employment in downtown has increased in recent years, as has the amount of housing. Through ongoing revitalization efforts downtown population and employment growth is expected to continue. Downtown contains an impressive array of preserved historic buildings. Significant cultural assets are also downtown, particularly those associated with the Civil Rights movement, including Kelly Ingram Park, the 16th Street Baptist Church, the 4th Avenue Historic District, and the Birmingham Civil Rights Institute. The Alabama Theatre, Hotel Redmont, and Empire Building are among 33 registered historical sites in the downtown.

The *Birmingham City Center Master Plan Update* (2004) presented goals for the future development of Birmingham’s City Center (downtown and UAB areas). These goals remain relevant in the City’s Comprehensive Plan and are factors in this corridor study. Those factors include creating a network of attractive and well-maintained “green streets” and gateways to connect downtown destinations such as parks and adjacent neighborhoods; designing and placing public spaces to encourage the attention and presence of people at all hours of the day or night; and strengthening and expanding downtown and in-town residential neighborhoods and housing opportunities.

Right-of-way Improvements—sidewalk repair, drainage, and streetscaping may be offered by the city on a case-by-case basis

Alabama Constitutional Amendment 772

New Market Tax Credit

Alabama Enterprise Zone Tax Credit

Jefferson County Workforce Investment Board

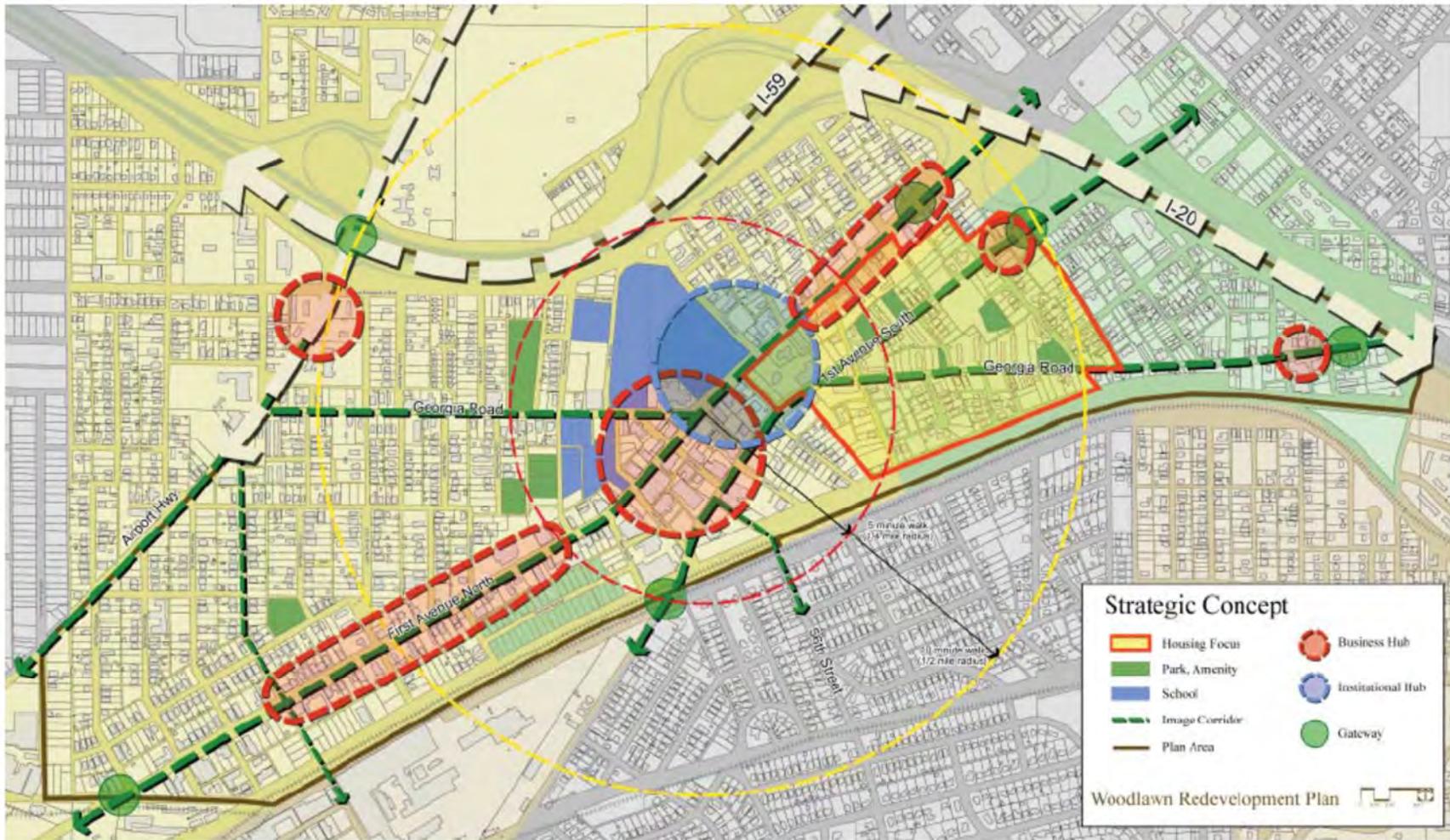
3.1.4.3 Local neighborhood planning – Example Woodlawn

Woodlawn United is a comprehensive community change effort. It is a coalition of organizations working together to break the cycle of poverty and grow a safe community where children learn and play, families live in quality housing, parents work in stable jobs, and businesses grow. Woodlawn United has adopted the Purpose Built Communities framework of holistic community revitalization that includes a cradle-to-college-to-career education pipeline, a mixed-income housing strategy, a vibrant commercial district, and a rich network of community and support services.

The Woodlawn Community Foundation worked closely with the residents and stakeholders of Woodlawn for over a year to develop a Master Plan and establish a Redevelopment District through a resolution passed by the Birmingham City Council. The Foundation is working to establish a healthy mix of housing that builds on high-quality affordable housing the YWCA has already developed in Woodlawn. Construction on the first phase has been completed and includes 64 townhouses in The Parks at Wood Station. Through their Housing Rehabilitation Program, 44 homes have been rehabilitated. Revitalization of the Woodlawn Commercial Area is being led by the Woodlawn Foundation and REV Birmingham. Community workshops completed in 2013 have explored Woodlawn’s redevelopment potential.

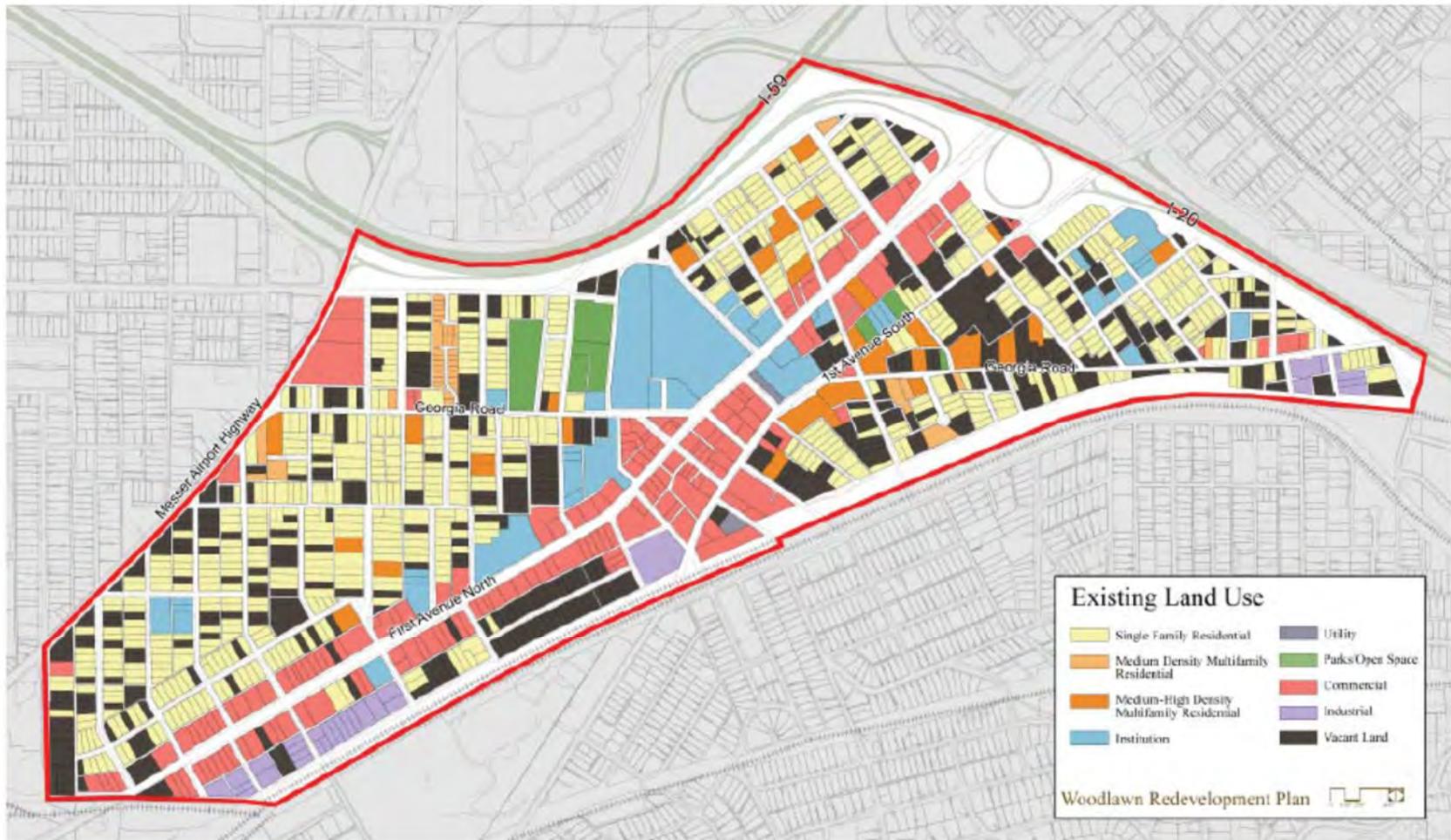
The Woodlawn Community Revitalization Plan/Woodlawn Redevelopment Plan (2012) (Figure 3-5, 3-6, and 3-7 offers community-generated goals and detailed strategies for redevelopment. This kind of neighborhood-based planning approach is recommended for other transit super stop areas in the corridor to help achieve transit-supportive land use and design. Doing so will help a neighborhood move from general transit-supportive land use/design guidelines to generating the neighborhood-specific details necessary for effective implementation.

Figure 3-5: Woodlawn's Strategic Concept for Revitalization



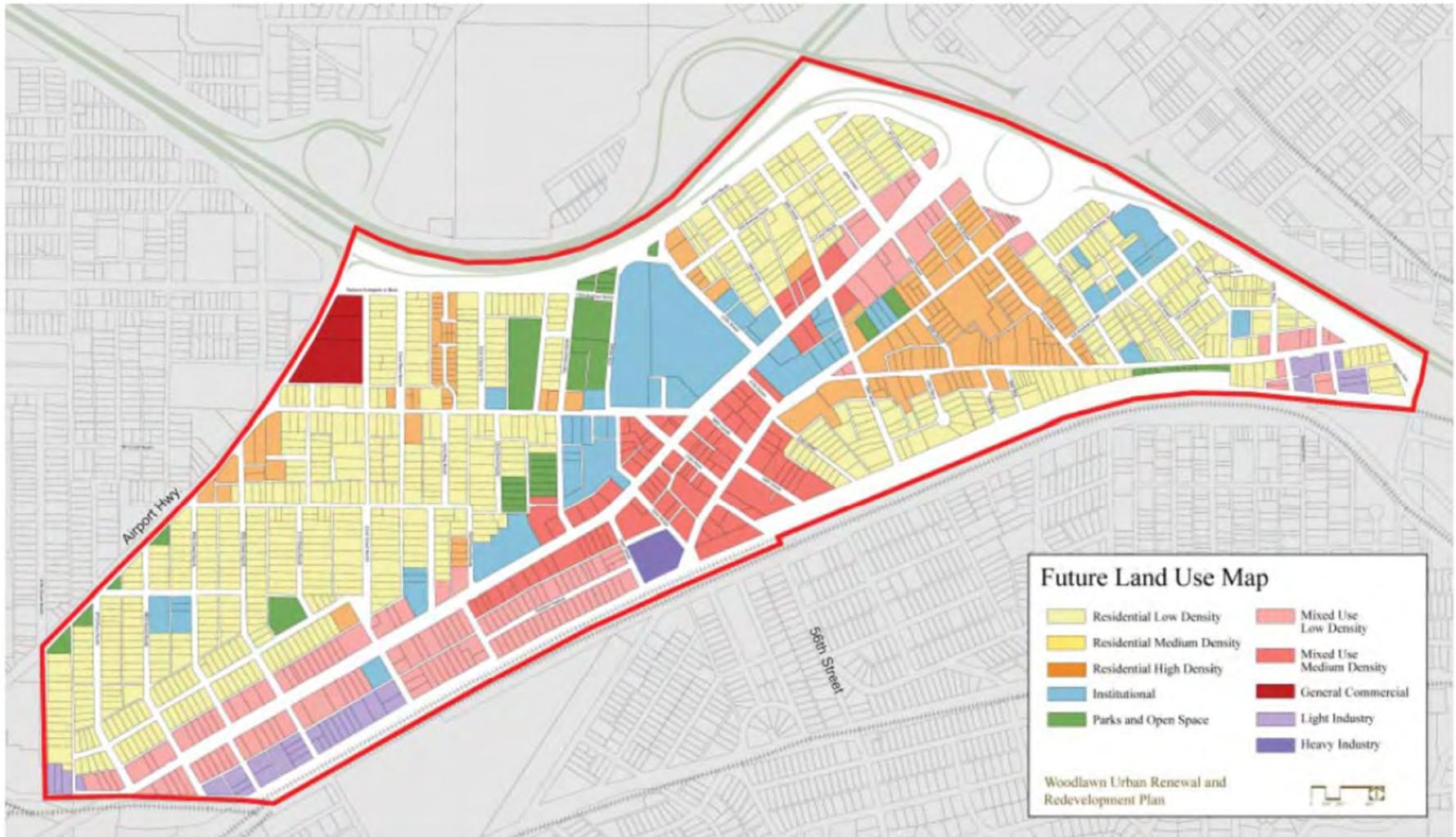
Source: Woodlawn Community Revitalization Plan/Woodlawn Redevelopment Plan (2012)

Figure 3-6: Woodlawn Existing Land Use - 2012



Source: Woodlawn Community Revitalization Plan/Woodlawn Redevelopment Plan (2012)

Figure 3-7: Woodlawn Future Land Use



Source: Woodlawn Community Revitalization Plan/Woodlawn Redevelopment Plan (2012)

3.1.5 Applying Transit-Supportive Land Use and Economic Renewal Strategies

The opportunities and strategies presented in the previous section have been organized according to broadly accepted approaches to transit-supportive land use and community revitalization (Table 3-1). These strategies/recommendations/actions are presented with notes regarding their applicability in terms of the corridor revitalization strategy for the US 11/US 78 corridor.

Table 3-1: Transit Supporting Land Use and Economic Renewal Strategies

Goal / Strategy / Actions	Notes	Strategy in Comp Plan?
Goal: compact, mixed use development near transit		
Conduct station area planning around planned and existing transit stations	See Comp Plan Chp. 14: “promote development that can strengthen the city’s tax and job base while serving citizen, workforce and tourist needs and preserving city character.”	Y
Work with transit providers to target investments to areas with higher intensity/density land use designations	See Comp Plan Chp. 14: “Create incentives for major mixed-use centers downtown and in other job-rich locations, and to support major transit stops.”	Y
Establish transit-supportive design standards in the Comprehensive Plan and other area plans	See Comp Plan Chp. 14: Establish urban design frameworks to guide new development so that it improves the public realm and fits into the urban fabric.	Y
Ensure consistency of plans at various levels and coordination among agencies	See Comp Plan Chp. 14: Continue/Initiate amendments to zoning code and /or establishment of unified development code to ensure the land use goals are more easily achieved; streamlining for benefit of developers looking to redevelop in accordance with plans/recommended strategies.	Y
Develop clear, formalized, and interconnected streets and small blocks to make destinations visible and easier to access		
Goal: thriving, equitable communities around transit		
Provide diverse housing types affordable to a full range of incomes within transit-oriented communities and establish policies that encourage this to meet regional and local needs		
Preserve and increase the supply of affordable housing near transit with a broad range of innovative approaches such as incentives, inclusionary zoning, targeted financing tools, public-private partnerships, and others		
Prioritize public investments and partner with other public and private agencies to encourage siting of community, cultural, institutional, and social service facilities along high capacity transit corridors	See Comp Plan Chp. 14: “create incentives for compact, mixed-use urban villages that concentrate retail and services in walkable environments”	Y

Goal / Strategy / Actions	Notes	Strategy in Comp Plan?
Assess and prioritize investments to address local community needs in the areas of public health economic development, mobility, education, and public safety to increase the equitable access to opportunity for all residents		
Work with local stakeholders to develop transit-oriented community plans aligned with current needs and future vision		
Promote high-quality station design standards creating sense of place and utilizing local craftsmen and artists to help keep dollars local and contribute to civic pride and sense of place		
Work with local community members and organizations to draw positive attention to local community, transit, and events. For example, a “pop-up” transit market, where impermanent uses/activities draw attention and people to the transit station area and help it thrive. (A couple times a year, markets or festivals could be held near transit super stops or regular monthly/weekly farmers markets and other retail/event options supported by city and redevelopment groups could open up underused buildings for activity)		N
Goal: Increase transit-use, walking and bicycling in the corridor		
Develop area-wide parking strategies		
Reduce minimum parking requirements in areas well-served by transit		
Support reduced parking requirements with incentives such as transit pass subsidies for building tenants, bicycle parking, car share parking, or other amenities	This will need to adjust over time to effectively match market conditions.	
Use pricing strategies for public and on-street parking to manage area-wide parking supply and “unbundle” the cost of parking from the rent or purchase price of housing		
Allow and encourage shared parking among neighboring land uses or community parking facilities in commercial districts		
Require a TDM plan as part of site plan review for larger developments.		
<p>Create marketing programs that encourage the use of transit and other alternatives for commute, shopping, leisure, and other trips. For example:</p> <ul style="list-style-type: none"> • Organize a “Celebrate Birmingham Transit” event when new routes go into effect and new buses are introduced to encourage potential new users to try the buses and see the super stop areas 		

Goal / Strategy / Actions	Notes	Strategy in Comp Plan?
<p>(should be a regional activity that draws potential new residents from suburbs)→every weekend through the spring or fall features a different route/corridor</p> <ul style="list-style-type: none"> • Use “free ride” or “reduced fare” promotions to attract ridership, especially among customers who are among high potential for ridership market but not yet users. (Examples include Minneapolis’ Nicollet Mall and Breckenridge, Colorado) These programs often target visiting transit users. Such a program may be effective on Birmingham’s proposed Route B, where riders arriving from the airport and residents of downtown/UAB are encouraged to see and able to visit burgeoning districts such as Woodlawn and Avondale. 		

3.2 Complete Streets

The purpose of this study is to develop recommendations to improve transit efficiency and service, and enhance overall community accessibility in the US 11/US 78 corridor with emphasis on targeted super stop locations and as an integrated part of the broader Birmingham planning and revitalization efforts.

Transit is only successful to the extent that travelers can access the stops. The safety, comfort, and convenience a traveler experiences between the trip origin (or destination) and the transit stop are significant factors in that traveler's choice to use transit. Moreover, people are much more likely to take transit if they can get around comfortably by walking or bicycling once they get off the bus near their destination. That is why this study includes comprehensive recommendations on how to connect city residents and workers in the US 11/US 78 study area with major transit stops. By making the streets that connect their homes and businesses with bus stops "Complete Streets," travelers will have the freedom to choose how they travel - by walking, bicycling, riding transit, driving, or a combination of these travel modes.

A **Complete Street** is one that is planned, designed, operated and maintained to enable safe, convenient and comfortable travel and access for users of all ages and abilities, regardless of their mode of transportation.

On average, streets make up more than 80% of all public space in cities; streets that are safe, comfortable, and inviting attract use and investment, fostering a positive cycle of renewal. The Birmingham Comprehensive Plan calls for Complete Streets elements and principles throughout its chapters. In addition to its transportation-specific recommendations, the land use and community development components of the plan suggest strategies such as creating human-scaled environments through design guidelines and pedestrian-friendly spaces by relocating parking. Complete Streets contribute many benefits to the surrounding community:

- **Improve Public Health**--Wide, attractive sidewalks and well-defined bike routes, where appropriate to community context, encourage healthy and active lifestyles among residents of all ages. Multimodal transportation networks provide alternatives to sitting in traffic.
- **Foster Equity**--A variety of transportation options allows everyone – particularly people with disabilities and older adults – to get out and stay connected to the community. According to the American Community Survey (5-year estimates, 2013), approximately 15% of households within Birmingham's city limits do not have access to a car, yet city streets and the transportation network heavily favor motor vehicles. Designing a street with pedestrians in mind – sidewalks, raised medians, better bus stop placement, traffic-calming measures, and treatments for travelers with disabilities – may reduce pedestrian risk by as much as 28 percent.
- **Stimulate the Economy**--Better integration of land use and transportation through a Complete Streets approach creates an attractive combination of buildings – houses, offices, shops – and street designs, which attract investment. When a bike lane was added along Valencia Street in San Francisco's Mission district, nearby businesses saw sales increase by 60 percent, which merchants attributed to increased pedestrian and bicycle activity. Similarly, a study in Toronto showed that nearly three-quarters of merchants along Bloor Street expected that better bicycle and pedestrian facilities would improve business. Complete Streets policies lead to networks of streets that are safe and accessible for people on foot or riding bikes, which in turn raises property values. In a survey of 15 real estate markets nationwide, a one-point increase in the walkability of a neighborhood as measured by

WalkScore.com increased home values by \$700 to \$3,000. This increase is amplified when walkable neighborhoods are near each other, demonstrating the value of networks of Complete Streets connected throughout a community.

The total savings from biking, walking, or taking transit instead of driving can really add up across a city, ranging from \$2.3 billion in Chicago to an astounding \$19 billion a year in New York City. This “green dividend” means that residents can spend that money in other ways, such as housing, restaurants, and entertainment, which keeps money circulating in the local economy. Providing the infrastructure for people to get to work by walking, biking or taking transit can provide a boost to the economy in other ways, too: traffic congestion costs businesses in the San Francisco Bay Area over \$2 billion a year due to time employees spent stuck in traffic, and the total cost of congestion in the Los Angeles region tops \$1.1 billion each year. A Complete Streets approach has the power to recapture some of that cost.

Implementing Complete Streets policies can have economic benefits even before the projects are finished. Road improvement projects that include bike and pedestrian facilities create more jobs during construction than those only designed for vehicles, per dollar spent. Adding or improving transit facilities is good for jobs, too. During the recent economic downturn, each stimulus dollar invested in a public transportation project created twice as many jobs as one spent on a highway project. Better bicycle infrastructure can also create jobs directly, through increased tourism, bicycle manufacturing, sales and repair, bike tours, and other activities.

- **Protect the Environment**--A livable community is one that preserves resources for the next generation: Complete Streets help reduce carbon emissions and are an important part of a climate change strategy.

Complete Streets transform the way transportation serves people by creating more choices, shortening travel times, and encouraging less carbon-intensive transportation. A community with a Complete Streets policy values the health, safety, and comfort of its residents and visitors. These policies provide opportunities for people of all ages and abilities to contribute to, and benefit from, a livable community.

This and the following section explore opportunities to incorporate Complete Streets elements in the US 11/US 78 corridor. This Complete Streets approach will reinforce and better accommodate the variety of users along the US 11 and US 78 focal corridors including residents and communities, tourism and visitors, arterial/commuter traffic, parking, ped/bike/transit traffic, school traffic, and community business access. While Complete Streets concepts should be considered throughout the study area, for purposes of this study Complete Streets recommendations are given in a more strategic manner for exceptionally well-suited corridors, transit super stops, and other areas of focused activity and high potential for success and impact.

3.2.1 Birmingham’s Complete Streets Background

The City of Birmingham adopted a Complete Streets resolution in September 2011. The resolution advises the City’s Department of Transportation and other relevant agencies to approach street design with Complete Streets principles, which foster access and mobility for users of all types and furthermore as a strategy for improved quality of life.

Subsequently, the Birmingham Planning Commission updated the subdivision regulations to ensure that design standards are more inclusive of Complete Streets principles. The regulations define Complete Streets as streets that are designed to accommodate all users – motorists, pedestrians, bicyclists, and transit riders. Complete Streets design elements may include, but not be limited to, sidewalks, signage, paved shoulders, bicycle lanes, traffic lanes shared with motorists including sharrows and other bicycle pavement markings, crosswalks and other pavement markings for pedestrians, pedestrian control signalization, bicycle

actuated traffic signals, bus pull outs, curb cuts, raised crosswalks, roundabouts, traffic islands and other traffic calming measures. The City's regulations emphasize that Complete Streets principles should guide future street and transportation plans for both new and retrofit projects in the City of Birmingham, and any exception to this approach should be appropriately justified. The subdivision regulations further highlight the potential benefits of a Complete Streets planning and design approach. Benefits include promoting multiple transportation options for all people; sparking economic development and community development by helping to create walkable, vibrant communities; playing a role in the reduction of pedestrian and bicyclist injuries and deaths; and reducing traffic congestion while improving air quality both by promoting alternative forms of transportation and by helping to improve traffic flow.

3.2.2 Complete Streets Analysis

Walking and bicycling in particular expand the reach of transit well beyond the bus stop, increasing travel opportunities for Birmingham residents and workers. These modes of travel can be combined in many ways to support transit ridership, each requiring different policies and design treatments. Bike sharing is a great tool to expand the reach of the transit service. The ZYP Bike Share program an initiative of REV Birmingham was initiated October 2015 and was developed cooperatively with the Regional Planning Commission of Greater Birmingham. As the transit recommendations are implemented, bike share should be an integral element of the transit investment with stations adjacent to major transit stops.

3.2.2.1 Complete Streets for Walking

In urban areas access to transit is most commonly by walking. Ensuring that sidewalks within a reasonable travel distance of each major transit stop are complete, well maintained, and connected by safe and comfortable street crossings is essential to maximizing potential transit ridership. National research shows that most walk-to-transit trips are ½ mile or less. Sidewalks are more important in commercial and higher traffic areas, whereas people may be comfortable walking without separate facilities on local, low-volume, low-speed streets.

An analysis of pedestrian infrastructure within approximately ½ mile of the East Avondale, Avondale, Woodlawn, and East Lake transit super stops was conducted to better understand challenges and opportunities for pedestrian accessibility to/from transit.

3.2.2.1.1 Pedestrian Analysis

Using GIS, existing pedestrian infrastructure (sidewalks and crosswalks) within ½ mile of super stops was mapped along with key destinations, such as schools, churches, and large employers, to reveal how connected the pedestrian network is and identify important gaps in the network. The analysis was done with a conservative concept of what is traversable by a pedestrian. The analysis generally considered whether the infrastructure would be usable by someone in a wheelchair. In locations where a sidewalk was interrupted by overgrowth, a driveway caused a sidewalk to slope significantly to one side, or a similar obstruction was present, it was considered a break in the network. The locations of breaks resulting from either non-existent or inadequate sidewalk and lack of pedestrian crossing facilities were identified according to the following criteria:

1. Gaps in sidewalk within ¼ mile of super stop
2. Gaps in sidewalk to key destinations, between ¼ and ½ mile of super stop (The locations of key origins/destinations surrounding the super stops are shown as a blue dot on the map)

3. Pedestrian crossings of non-local roads within ½ mile of super stop (non-local roads were identified per the RPCGB centerline file classifications and any other roads where a centerline is marked)

3.2.2.1.2 Findings

The analysis revealed that sidewalks are generally present in the areas surrounding proposed transit super stops. Nonetheless, sidewalk conditions are poor in many locations; vegetation is overgrown and has lifted sidewalks; curb ramps are absent, posing challenges to those with physical limitations; and motor vehicles remain favored in the street environment over pedestrians. These conditions present an impediment to transit use and mobility, particularly for certain groups of travelers, and more generally might discourage potential pedestrian activity that would advance community revitalization goals.

Figures 3-8, 3-9 and 3-10 highlight the findings of this analysis for super stops proposed for Woodlawn, Avondale, East Avondale and East Lake. Tables containing specific locations and infrastructure deficiencies are presented in Appendix 3. Sidewalk and crossing improvements identified through this analysis could be a good starting point for enhanced pedestrian activity. Further analysis is recommended to identify more specific opportunities to improve conditions for pedestrians. A walking audit and/or the Pedestrian Environmental Quality Index tool from the San Francisco Department of Health should be considered for further evaluation of pedestrian accessibility. These tools would enable more specific understanding of issues and help with prioritizing improvements. A first step would be to examine pedestrian connectivity and infrastructure between each transit super stop and key destinations for transit users, such as schools or stores.

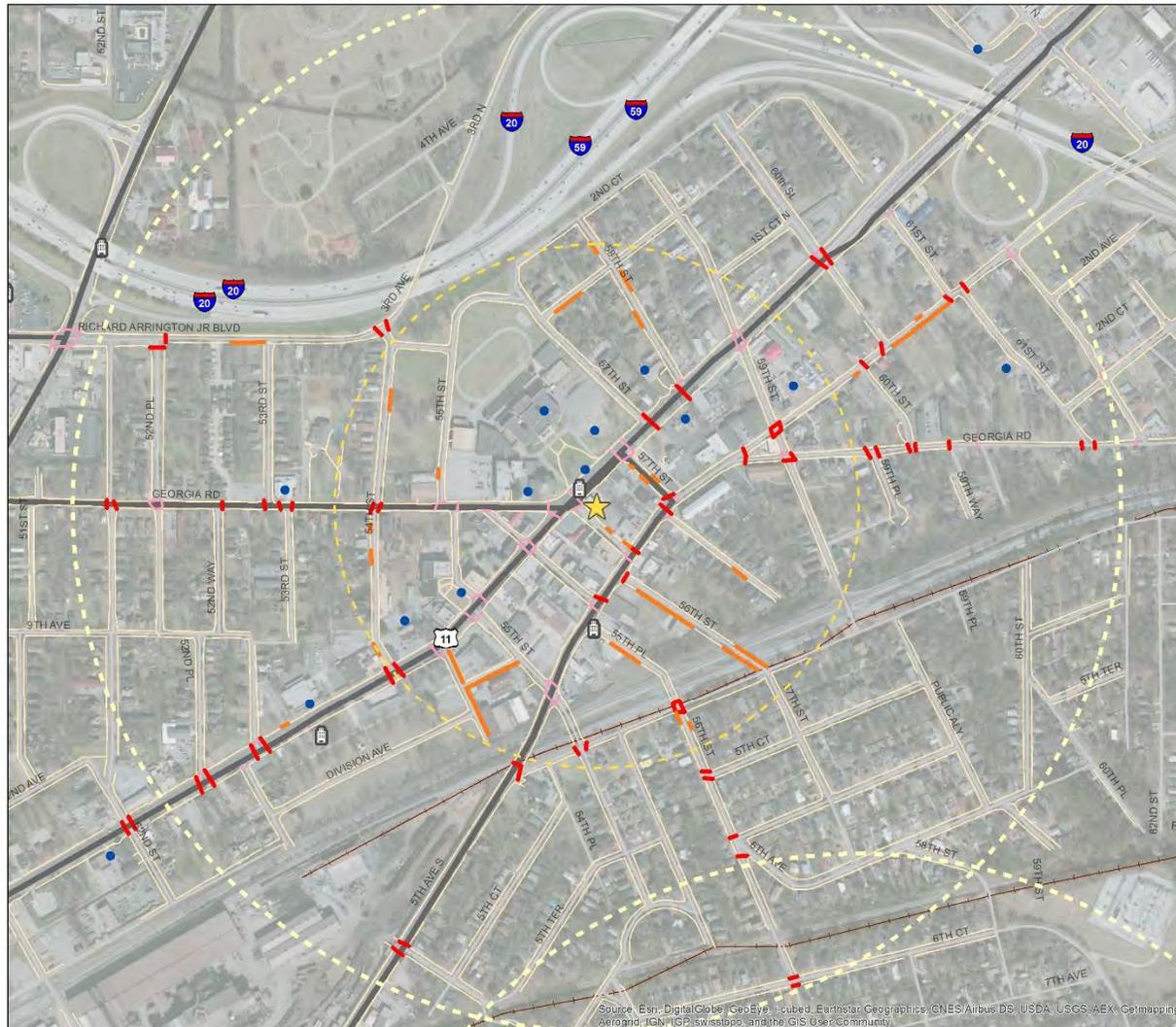
Additional general findings and recommendations:

In locations identified for the addition of crosswalks where vehicles are not currently required to stop, further analysis should be done to determine the specific final design and operation of those streets and crossings. Examples of elements that may be included in facility design and subsequent operation include an overhead flashing beacon or a safety island. The National Association of City Transportation Officials *Urban Street Design Guide* recommends the following general principles for intersection design that accommodates pedestrians as part of a multimodal transportation system:

- Design intersections to be as compact as possible
- Create a space in which different modes of users are aware of one another
- Utilize excess space as public space
- Design for existing use as well as future use
- Analyze intersections as part of a network, not in isolation, to balance traffic volume and capacity of the intersection and network
- Integrate spatial and temporal intersection design strategies throughout a project

It would be worthwhile to integrate topography, multimodal networks, local/low volume roads, and sidewalk condition data into a network dataset to run a ped network analysis. This would produce more robust information prioritizing best opportunities/most need for sidewalks. Some roads appear to have such low volume that adding sidewalks is not critical. Some roads are also very steep and would be less likely a pedestrian route.

Figure 3-8: Woodlawn Super Stop Pedestrian Connectivity Analysis



WOODLAWN
 Superstop Pedestrian Connectivity Analysis
 US 11 / US 78 Corridor Study

Legend

- Superstop
- 1/4 mile radius of superstop
- 1/2 mile radius of superstop
- Key origins / destinations (includes churches, schools, daycares, health services, etc.)
- Employers (Over 50 Employees)
- existing sidewalk
- Proposed Transit Routes

Recommended connections

- new crosswalk
- new sidewalk

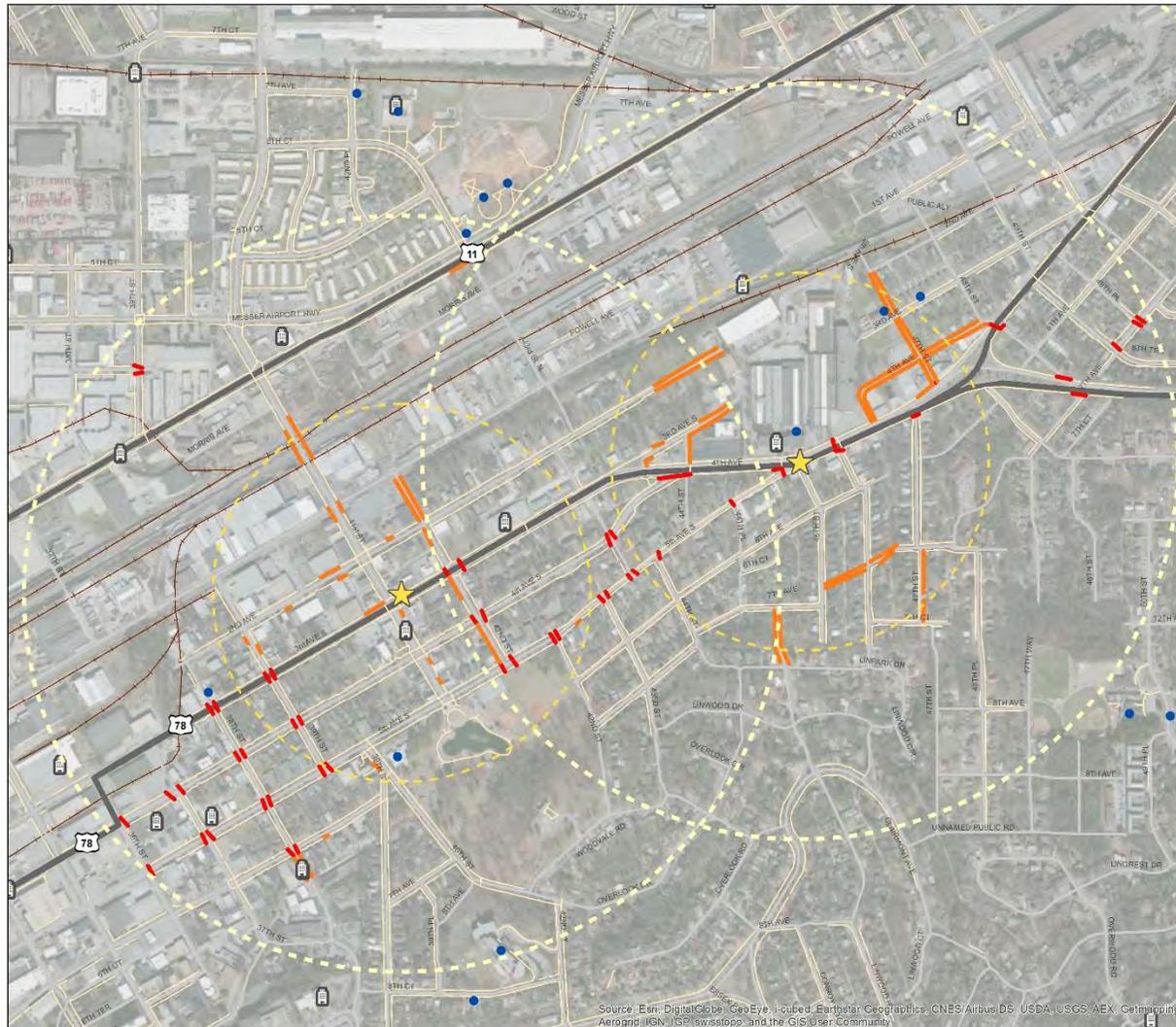
Crosswalks are being recommended for crossing roads within 1/2 mile of the superstop classified as non-local, per the RPCGB centerline file, and segments of other roads where a centerline exists. (Roadway centerlines for local roads appear to be located in areas of non-single family residential or mixed uses and/or around locations that are likely to attract higher pedestrian traffic.)

Sidewalk connections are being recommended on both sides of any road within 1/4 mile of the superstop and along routes to important destinations between 1/4 to 1/2 mile of the superstop.



Map Created: October 2014 By: A. Trabelsi
 Data Sources: Regional Planning Commission of Greater Birmingham

Figure 3-9: Avondale and East Avondale Super Stop Pedestrian Connectivity Analysis



AVONDALE and EAST AVONDALE
 Superstop Pedestrian Connectivity Analysis
 US 11 / US 78 Corridor Study

Legend

- Superstop
- 1/4 mile radius of superstop
- 1/2 mile radius of superstop
- Key origins / destinations (includes churches, schools, daycares, health services, etc.)
- Employers (Over 50 Employees)
- existing sidewalk
- Proposed Transit Routes

Recommended connections

- new crosswalk
- new sidewalk

Crosswalks are being recommended for crossing roads within 1/2 mile of the superstop classified as non-local, per the RPCGB centerline file, and segments of other roads where a centerline exists. (Roadway centerlines for local roads appear to be located in areas of non-single family residential or mixed uses and/or around locations that are likely to attract higher pedestrian traffic.)

Sidewalk connections are being recommended on both sides of any road within 1/4 mile of the superstop and along routes to important destinations between 1/4 to 1/2 mile of the superstop.



Map Created: October 2014 By: A. Trabelsi
 Data Sources: Regional Planning Commission of Greater Birmingham

Figure 3-10: East Lake Super Stop Pedestrian Connectivity Analysis



EAST LAKE
 Superstop Pedestrian Connectivity Analysis
 US 11 / US 78 Corridor Study

Legend

- Superstop
- 1/4 mile radius of superstop
- 1/2 mile radius of superstop
- Key origins / destinations (includes churches, schools, daycares, health services, etc.)
- Employers (Over 50 Employees)
- existing sidewalk
- Proposed Transit Routes

Recommended connections

- new crosswalk
- new sidewalk

Crosswalks are being recommended for crossing roads within 1/2 mile of the superstop classified as non-local, per the RPCGB centerline file, and segments of other roads where a centerline exists. (Roadway centerlines for local roads appear to be located in areas of non-single family residential or mixed uses and/or around locations that are likely to attract higher pedestrian traffic.)

Sidewalk connections are being recommended on both sides of any road within 1/4 mile of the superstop and along routes to important destinations between 1/4 to 1/2 mile of the superstop.



Map Created: October 2014 By: A. Trabelsi
 Data Sources: Regional Planning Commission of Greater Birmingham

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA/USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

3.2.2.2 Complete Streets for Biking

Bicycling is an important mode of travel and popular recreational activity for people of a broad range of ages and backgrounds. Among those different types of riders are varying degrees of skill and comfort with different riding conditions. Understanding and acknowledging the different ability levels of riders is important in establishing an effective bicycle system because it will lead to more comfortable and desirable riding for a greater proportion of riders and potential riders.

A growing body of research on riders' perceptions and tolerance of different riding conditions has produced a widely accepted categorization of rider ability, used to contribute to more effective bicycle networks and facilities. Roger Geller, as Portland's bicycle coordinator, developed a four tier classification scheme of bicyclists based on a survey of residents' attitudes both in general and toward bicycle facilities available in the Portland area³:

The bicyclist's comfort level with the varying conditions can be thought of in terms of "level of traffic stress," a method used to evaluate the impact that facility design and conditions (e.g. volume, speed, and proximity of adjacent traffic) have on the rider. Their tolerance may vary by time of day or trip purpose. A person's tolerance is likely to change over time and with bicycling experience. The analysis is based on the concept of increased separation from traffic as volume and speed increase along with the provision of safe crossings of major roadways, which originated with the Dutch—a population known for highest rates of bicycling in the world—and has since been used as a model in communities all over.

Understanding conditions that contribute to low-stress bicycle networks is important for improving access to transit and other important community resources. To get a significant number of people to ride, it is essential to create low-stress networks. The following variables should be considered when designing a bikeway (from Complete Streets Summit, Cock, 2014):

- Roadway function
- Traffic volume
- Speed
- Traffic mix (e.g. % truck)
- Probable users
- Road conditions (space, intersections, parking demand, etc.)
- Topography, land uses
- Bikeway network connectivity/continuity

The following list explains general categories of bicycle (and pedestrian, in some cases) facility designs. (These designs correspond with the guidelines presented in Chapter 4 of the Red Rock Ridge and Valley Trail System Plan. Consult that document for more detailed pedestrian and bicycle facility design specifications.)

³ Geller, Roger. *Four Types of Cyclists (updated)*. Portland, OR: City of Portland Office of Transportation. 2009 (updated). Accessed January 29, 2015 at: <<https://www.portlandoregon.gov/transportation/article/264746>>

Types of bike facilities

Shared-use / Multi-use Trails are designed to accommodate bicyclists as well as pedestrians and other non-motorized trail users. These facilities can be constructed adjacent to roads, through parks, or through other linear rights-of-way, such as active or abandoned railroad lines. Trails are generally 10 to 12 feet wide, but can be as narrow as 8 feet and have an asphalt, crushed stone, or concrete surface.

Traffic-calmed neighborhood streets, also referred to as “neighborhood paths,” are low-volume streets where motorists and bicyclists share the same space. These facilities are often marked with roadway paint and other signage to indicate the presence and intentional design for cyclists. Shared lane markings (“sharrows”) are high-visibility pavement markings that help position bicyclists within the travel lane; they are typically used where dedicated bike lanes are desirable, but not possible⁴.

Dedicated facilities on major streets, are some variation of a separate bicycle lane. Ideally, these facilities are protected from motor vehicle traffic by a physical barrier, such as a curb, bollards, or flexible tubes. When space or other factors do not allow, these facilities may simply be an approximately 5-foot wide painted lane.

3.2.2.2.1 Bicycle Analysis

- A. **Integration with existing projects** (see Figure 3-11, which shows the below projects in pink, purple, and blue.)
- TIGER IV—Powell Avenue Rail Greenway (Jones Valley Trail project)
 - TAP 2014—will enhance pedestrian and bicycle connectivity between the Powell Avenue Rail Greenway (TIGER IV) and East Lake pedestrian improvements funded by TAP 2013. The project includes construction of new sidewalks and installation of curb ramps, bicycle sharrows, way-finding signage, and pedestrian lighting.
 - TAP 2013—East Lake Area Improvements—includes sidewalk and pedestrian improvements
 - Railroad Park Greenway and the Rotary Trail (Powell Avenue Rail Greenway), which run from 14th Street South along 1st Avenue South to 24th Street South.
 - Clairmont Trail (connecting into 56th Street at Crestwood)
 - 14th Street Bike Trail
 - 7th Avenue South

⁴ According to the 2009 MUTCD, sharrows should not be placed on roads with a speed limit over 35 mph.

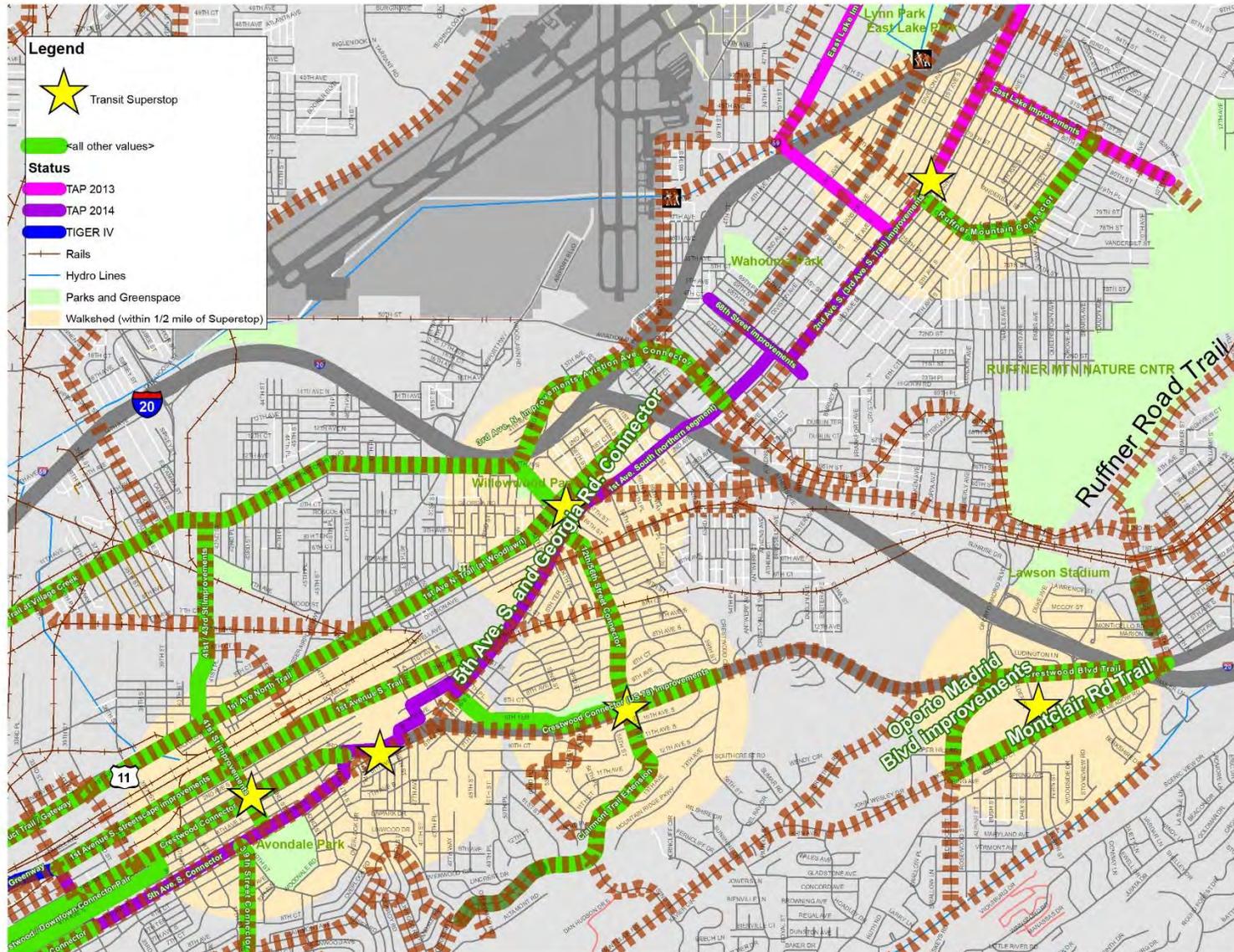
B. Support of Existing Plans

The Red Rock Ridge and Valley Trails (RRRVT) Plan has been identified in Birmingham's Comprehensive Plan as the current reference guide for building the City's bicycle network. Several streets overlapping the US 11/78 study area are included in various future bicycle corridors designated in the Red Rock Ridge and Valley Trail System. Figure 3-11 shows planned trails (brown) in the core US 11 / 78 study area, and routes for which recommendations are being made in this plan, including:

- 35th Street Bridge Trail – a street-based trail that would reduce the 35th Street Bridge crossing from four lanes to two lanes.
- 1st Avenue North Trail – a street-based trail that would reduce lanes along 1st Avenue North from approximately 14th Street to the Roebuck Springs Golf and Recreation Center. Accompanying road diet proposals include four-lane to three-lane reductions as well as conversion of the existing shoulder lane along the Sloss Furnaces Bridge to install bike lanes.
- Crestwood Connector – a proposed sidewalk and sharrow installation (i.e., bicycle travel in the vehicular lane with shared use pavement markings and signage) along portions of US 78 on 3rd Avenue South and Crestwood Boulevard from approximately 35th Street to Cresthill Road.

Additional roadways throughout the broader study area would also be influenced by other RRRVTS corridors. The Village Creek Corridor would impact Richard Arrington Jr. Boulevard, 65th Street, and other roadways around the Airport and through the East Lake community. The Shades Creek Corridor would influence sections of US 78/Crestwood Boulevard in Irondale and Leeds. And the Cahaba River Corridor would influence various roadways throughout Leeds and Trussville. The Comprehensive Plan also identified a series of ten street sections for incorporating bicycle travel into street rights-of-way.

Figure 3-11: Bicycle Facility Integration with Existing Projects



C. Prioritization of improvements for bicycling within ½ mile of station area and on key arterials and connecting routes

41st Street: This north-south street provides a localized link across the existing rail lines that divide the north/south portions of East Birmingham in the vicinity of the Light Industrial and Avondale subareas. Specifically, this cross connection ties the US 11/1st Avenue North corridor with the US 78/3rd and 4th Avenue South corridor and provides access to the Avondale super stop.

5th Avenue South and 1st Avenue South: Various segments of 5th Avenue South, 1st Avenue South, and other local streets provide an important link between the US 78 corridor in the vicinity of Avondale (near 47th Street South) to the US 11 corridor in Woodlawn (near Georgia Road). They provide access to the Woodlawn and East Avondale super stops.

2nd Avenue South from Woodlawn through East Lake: 2nd Avenue South provides access to Woodlawn to the west via 68th Street and 1st Avenue South. 2nd Avenue South connects the East Lake commercial center at Oporto Madrid Boulevard and the East Lake super stop to the residential neighborhoods to the east and west.

Georgia Road: Various segments of Georgia Road provide a cross connection between Messer-Airport Highway, US 11/1st Avenue North, and the 5th Avenue South / 1st Avenue South link noted above. The route is also relevant in light of existing and future community redevelopment opportunities within the Woodlawn area.

65th Street North: 65th Street North from its intersection with US 11/1st Avenue North provides a direct link to the Birmingham-Shuttlesworth International Airport. This access includes a connection to Aviation Avenue and may be relevant to existing and future airport area redevelopment opportunities.

Oporto Madrid Boulevard: Oporto Madrid Boulevard runs north/south as a de facto 77th Street and provides an essentially direct cross-connection between the US 11/1st Avenue North corridor in the Woodlawn and East Lake areas to the US 78/Crestwood Boulevard corridor in the vicinity of Crestwood and just west of Irondale. The route serves a number of residential areas along its length, but also provides convenient access to the Airport and I-59 at its northern junction with US 11, as well as commercial areas and I-20 at its southern junction with US 78.

56th Street South: 56th Street South is the first street west of Oporto Madrid Boulevard that is a continuous street from 1st Avenue S. to US 78, providing a connection between the Woodlawn and Crestwood communities across the railroad, and access to the Woodlawn and Crestwood transit stops.

3.2.2.2.2 Findings

Bicycle accommodations are limited throughout the corridor. Roadway designs generally do not accommodate bicyclists, but the lower motor vehicle traffic volumes present opportunities currently and for future improvements. The limited pedestrian and bicycle infrastructure offer one likely cause of limited field observations, which revealed only minimal pedestrian or bicycle traffic along most of the broader US 11 and US 78 corridors. Where activities were observed, safety concerns were typically apparent. For example, pedestrians were often seen crossing at random midblock locations (not at an intersection or traffic signal), and cyclists were found to squeeze alongside vehicular traffic along 40-45 MPH stretches of road with no additional shoulder or recovery area.

While traffic volumes remain low, particularly on narrower streets with lower posted speeds, bicyclists have the opportunity to ride more comfortably without any changes to streetscape design. Between now and when the community population rebounds and activity and traffic increases, this is an opportune time to begin redistributing roadway from one that is primarily dedicated to motorists to one that is more balanced. In cases where volumes and LOS are undesirable for motor vehicles, making such a shift in roadway distribution is usually much more difficult.

3.2.3 Complete Streets General Recommendations

In addition to the presence and condition of facilities for walking and bicycling, a person's willingness to walk, bike, or take transit is also affected by the purpose of the trip, the quality of reachable attractions, the ease and directness with which trip ends can be reached over the available network, characteristics of the traveler, geography and climate, daylight conditions, and a variety of safety factors (from NCHRP Report 770). These variables should be examined more closely in further planning and project development.

Street context—both current and desired future conditions—is crucial to effective transformation of the transit and transportation systems. As transit changes get underway, roadway reconfiguration and street design will be most effective only if the community type is taken into account. Designs should take into account current conditions and also reflect the vision for the future of the surrounding community.

RPC data identify congestion as being mostly confined to highway ramp junctions and major commuter routes during peak periods. Evaluation of roadways show that many of the area's arterials and downtown streets have excess capacity, or more lanes than needed to support motor vehicle traffic demand. Available roadway capacity and vacant property present great opportunities to add bicycle and pedestrian facilities and make other Complete Streets improvements.

In order to achieve Complete Streets concepts, it is often necessary to gain additional space for improvements by either widening a corridor or by removing/repurposing lanes (i.e., a Road Diet). The Road Diet Handbook generally defines a road diet as a project that “entails removing travel lanes from a roadway and utilizing the space for other uses and travel modes.” Potential benefits of road diets include reduced travel speeds, reduced crash frequencies, improved pedestrian safety, or a general reduction of passing, multilane crossing, or other driving maneuvers that may otherwise increase the chance for vehicle-vehicle or vehicle-pedestrian conflicts to occur. The reallocated space may be used to introduce or better accommodate parking, bus pull-offs, bike lanes, transit lanes, sidewalks, or even street café areas. Candidate locations should be done on a case-by-case basis. This study looked at some key segments in the station areas and those findings and design recommendations are presented in the next section.

Potential issues or drawbacks of implementing a road diet may include congestion or diversion, construction costs, adverse public opinions, emergency or alternate route conflicts, slow-moving vehicle impacts with fewer passing opportunities, or truck maneuverability and related freight/goods movement concerns.

According to *Road Diets: Fixing the Big Roads* (Burden and Lagerway), road diet candidates are often four-lane roads carrying 12,000 to 18,000 vehicles per day (vpd) or, in some circumstances, as much as 25,000 vpd or higher. More than one source, however, cautions that the likelihood of introducing congestion or diverting traffic to an alternate route increases for facilities carrying more than approximately 20,000 vpd (FHWA-HRT-04-082). Peak hour thresholds for LOS D have specifically been cited as 1,050 vehicles per hour per direction (vphpd) for a three-lane arterial, and only nominally higher at 1,150 vphpd on a four-lane

arterial (Road Diet Handbook). While conditions vary widely and detailed case-by-case assessments are absolutely critical, Burden and Lagerway suggest that ideal factors to ensure successful implementation may include the following:

- Daily volumes of 8,000-15,000 ADT
- Roads with safety issues
- Transit corridors
- Bicycle routes/corridors
- Commercial reinvestments areas or economic enterprise zones
- Historic streets, scenic routes, entertainment districts, or main streets.

Given these criteria and in comparison to existing traffic volumes, it is expected that detailed analyses will be needed to fully assess the potential impact of possibly implementing road diets along segments of US 11, US 78, or other study area streets. Many of the candidate segments are already within, or at the high end of, the aforementioned thresholds based on 2012 traffic estimates; future traffic increases would likely push these volumes higher. For example, estimated 2012 ADT's for US 11 through Woodlawn range from 15,000 to 20,000; through Parkway East they increase to 16,000 to 24,000. Estimates for US 78 along the 3rd/4th Avenue South one-way couplet are 11,000 to 13,000 on each street; nearby Crestwood Boulevard increases to approximately 18,000. What can be concluded is that a thorough investigation and analysis would be needed, as the rule-of-thumb thresholds do not provide a clear-cut answer to the road diet question.

The following are general recommendations for implementing Complete Streets in the corridor. (Complete Streets recommendations specific to station areas are presented in the next section.)

- When considering areas for redevelopment and the relevant land use, community design, and infrastructure improvements needed, consider the presence and quality of sidewalk/bicycle infrastructure and how well people are connected to transit routes.
- Consider prioritizing sidewalk crossing improvements according to street volumes
- Look at vacant properties layer to see where any key connections could be made by purchasing property for ROW, etc.
- Prioritize connections to existing and under-construction multi-modal trails and bike/ped routes
- Align transit super stop plans to integrate with the Red Rock Ridge and Valley Trail System Master Plan
- Lighting conditions (an issue reported by the community in multiple planning documents, including the Woodlawn Redevelopment Plan)
- Create comprehensive bicycle/pedestrian/Complete Streets inventory and plan for the station areas. The Comprehensive Plan recommends establishing Mode Priority Streets for truck, transit and bicycle routing to guide public and private improvements to City streets as a means to implement the Planning Commission's Complete Streets Policy Resolution.
- Establish a process that ensures the recommended Complete Streets elements are integrated into all transportation projects and implemented, to the extent possible

- Wayfinding will become increasingly important and based on best practices, should be done uniformly across the region. This element, though not a top priority, should be considered as progress is made toward a more comprehensive bicycle/pedestrian network
- Adjust policies to rely on multimodal performance measures and standards rather than more singularly focused on motor vehicles. Historically, standards have focused primarily on road capacity for motor vehicles. Birmingham’s Comprehensive Plan recommends the use of multimodal performance-based approaches during the development and assessment of future improvement alternatives. (See City of Bellingham Multimodal Transportation Concurrency Program, which classifies each of its Concurrency Service Areas according to land use typology, availability of multimodal transportation facilities, and transit service.)
- Allow transit projects as mitigation for development impacts
- Expand the sidewalk network in areas where it is incomplete or insufficient
- Design park-and-ride facilities to meet the needs of all users, while supporting efficient transit operation
- The Comprehensive Plan included a Traffic Calming & Active Transportation Safety Toolbox to address a variety of potential improvement areas including high vehicle speed traffic calming treatments, high traffic volume control treatments, pedestrian intersection safety enhancements, pedestrian safety crossing improvements, and bicycle accommodations contributing to traffic calming
- The toolbox also proposes a series of location-specific street sections, including 1st Avenue North at 55th Place in Woodlawn as well as locations along 20th Street North downtown, 5th Avenue South in Avondale and Lakeview, 83rd Street South in East Lake, and others
- The bicycle mode competes with local transit under certain conditions, mainly because bicyclists are able use their bicycles for some short to medium distance trips that non-bicyclists would make using transit. However, bicycling is particularly suited for BRT; together bicycling and BRT can extend the reach of the traveler in a way that is efficient and beneficial. Bike Share stations should be located at BRT super stops and community transit centers
- Ensure that measuring pedestrian and bicycle travel (counts) is part of plans. These data are critical to measuring how well a system is working, identifying changes that will lead to better outcomes, and for attracting funding, among other reasons

These recommendations should be incorporated, as feasible, into the TAP 2014 and 2013 projects along the 3rd Avenue South Trail (as designated in the Red Rock Trails Plan), which runs along 2nd Avenue S., 1st Avenue S., and 5th Avenue S., before connecting to the Tiger IV funded connection to the Regional Park and existing Rotary Trail. (See Station Area Sections for specific recommended design interventions.)

3.3 Station Area Transit, Land Use and Complete Streets Concepts

The study team has identified redevelopment opportunities within the US 11/US 78 corridor that would support and be supported by improved transit services. Revitalization has already begun to occur in some areas of the corridor through a combination of market interest, institutional, and public support. This section identifies opportunities and recommendations to support and expand successes within those areas as well as to other parts of the corridor.

Revitalization Framework

Building on the concept of transit-supportive development and taking into account the different conditions of corridor communities, discussed in Section 3.1, the following principles and components form the framework of a coordinated approach to revitalization in the corridor:

- **Focus on key redevelopment nodes.** Concentrate efforts where there will be maximum effect, particularly actions that improve the market perception and appeal of the corridor, and fully leverage its unique assets. Six priority redevelopment nodes have been identified:
 - Woodlawn
 - Avondale / East Avondale
 - East Lake
 - Parkway East
 - Crestwood / Eastwood
 - Truck City
- **Integrate and coordinate land use and transportation.** For each node, address and integrate the following three distinct and vital elements:
 - Land use/development/urban form and design – Encourage renovation and infill development that strengthens sense of place, identity, security, and pedestrian orientation through building placement, orientation, and design.
 - “Complete Streets” retrofits – Improve pedestrian and bicycle experience, comfort, and safety within the node and to/from adjacent areas.
 - Transit stop improvements – Enhance the user experience in terms of comfort, safety, and attractiveness of transit facilities including design and placement of shelters, seating, lighting, and other amenities.
- **Emphasize transit-supportive, pedestrian-friendly place-making.** Each of the nodes, including the transit stops, signage, and the surrounding vicinity, should be designated to create a strong identity that recognizes the uniqueness of each place. This should include the use of civic art that takes advantage of local talent and history.
- **Create a connected system.** Link transit-supportive nodes together as a “branded” network in a system of user-friendly transit service improvements
- **Implement strategically.** Create a phased approach for implementing recommendations, which factors in an area’s stage of revitalization and unique conditions. Begin with modest, low-cost improvements that can be done relatively quickly (i.e. Tactical Urbanism) and improve the appeal and image of the corridor, while setting the stage for longer term transformation.

The following sections present the analysis, alternatives and recommended transit-supportive redevelopment strategy for each of the six redevelopment nodes.

3.3.2 Woodlawn Community Transit Center, Land Use and Complete Streets Concepts

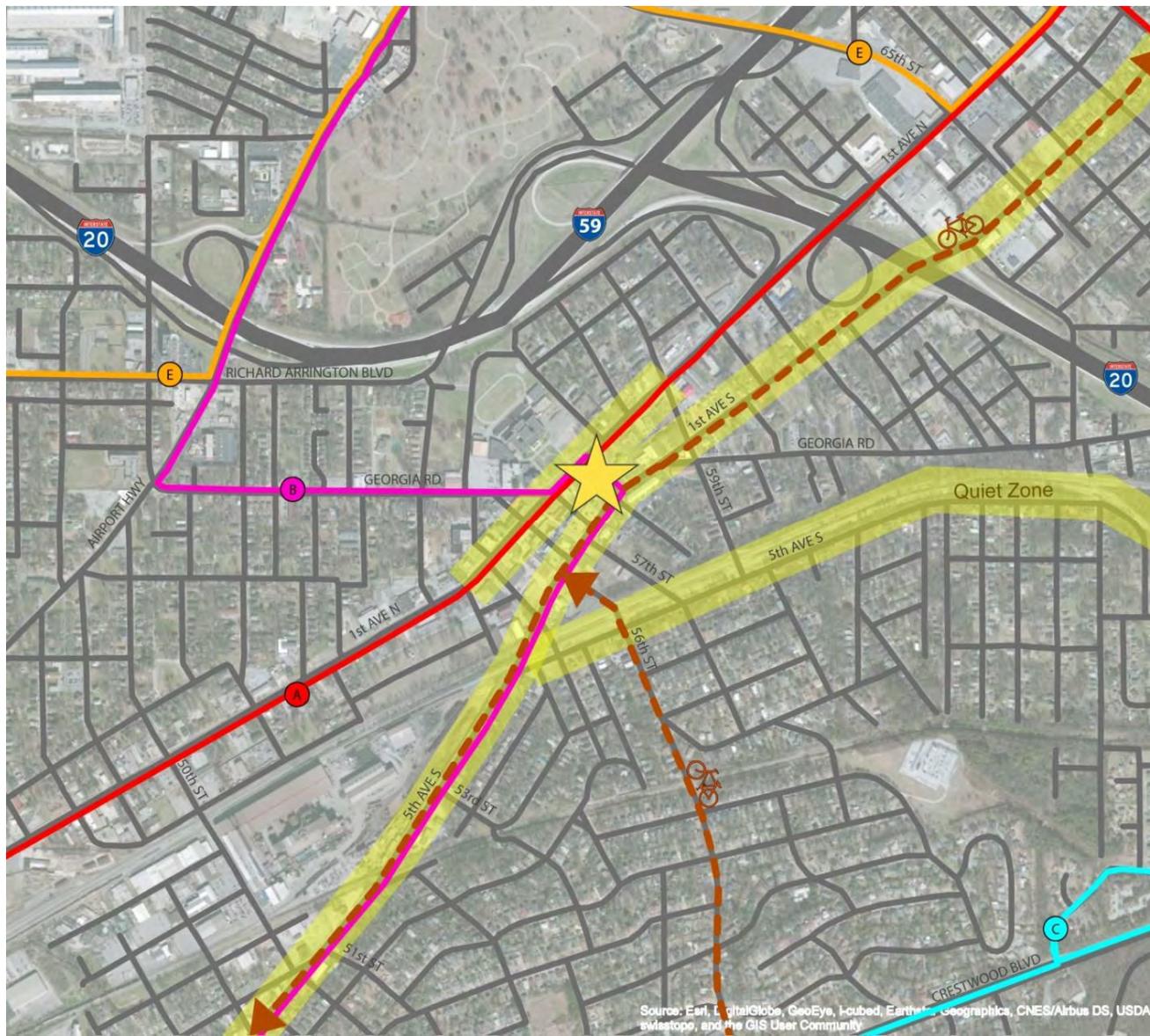
Woodlawn is a historic neighborhood nestled between Avondale and Birmingham-Shuttlesworth International Airport. Established in the late 19th Century, Woodlawn was developed as a traditional network of interconnected, pedestrian-scale streets on a grid, with worker housing for several nearby steel mills and industrial establishments. Much of Woodlawn's housing stock consists of modest one- and two-story frame houses built before World War II. After the steel mills closed, like other older neighborhoods in this part of Birmingham, Woodlawn saw dramatic disinvestment and abandonment. Its population has fallen from 20,189 in 1960 to 10,123 in 2010. The most recent housing survey shows that of a total of 5,741 dwelling units, 1,742, or 30%, are vacant. Many of these are in various stages of disrepair and abandonment. Once a vibrant African American neighborhood with a thriving downtown district centered on 1st Avenue North (US 11) and 56th Place North, Woodlawn faced construction of the interstate highways and interchanges, loss of manufacturing jobs, and the steady expansion of Birmingham Airport and is now working to re-establish the liveliness of its earlier self.

In recent years there has been a concerted revitalization effort to turn Woodlawn around. Woodlawn has become a model in Birmingham of highly focused, proactive neighborhood revitalization efforts. The Woodlawn Foundation, a dedicated community development corporation, works aggressively to revitalize Woodlawn through myriad programs and redevelopment efforts. Support for these efforts also comes from REV Birmingham, the City of Birmingham, and other funding sources and resources. In 2012, the City of Birmingham developed the Woodlawn Community Revitalization Plan, which created a framework that the Woodlawn Foundation is using to guide redevelopment.

Several successful efforts to date have improved key properties in the downtown Woodlawn area, ranging from commercial property renovations to multifamily housing redevelopment initiatives. These successes have led to a sense of optimism and allocation of additional resources for planning and revitalization initiatives. This includes a recent revitalization plan completed by the City of Birmingham for the Woodlawn commercial district and the identification of Woodlawn as a regional mixed-use Transit-Oriented Development Opportunity Area in the 2013 Comprehensive Plan. A significant challenge for revitalization projects through the Woodlawn area is the current character of US 11 (1st Avenue North). The current design of the roadway promotes vehicle speeds that are too high for creating the kind of pedestrian- and transit-friendly character required to achieve the comprehensive plan vision and goals.

Figure 3-12 presents the Woodlawn recommended transit and bicycle routes.

Figure 3-12: Woodlawn Recommended Transit and Bicycle Routes



3.3.2.1 Woodlawn Community Transit Center Concepts

Several alternatives were developed for location and configuration of the Woodlawn Community Transit Center. This facility will serve the proposed Birmingham BRT (Route A) and the UAB – Airport route (Route B). The Community Transit Center should provide space for one stopped bus of each route in each direction. Alternatives are illustrated in the figures below.

Both on-street and off-street alternatives were considered including:

- 56th Street at 1st Avenue North - Options 1A (Figure 3-13) and 1B (Figure 3-14) show on-street stops using 56th Street.
- Off-street between 56th and 57th Streets - Options 2A (Figure 3-15) and 2B (Figure 3-16) create an off-street station within the block bounded by 56th Street, 57th Street, 1st Avenue N. and 1st Avenue S.
- 1st Avenue North at 57th Street - Option 3 (Figure 17) is an on-street stop alternative using bus bays on 1st Avenue North and 57th Street.

Options 1A, 1B and 2A illustrate the opportunity to align 56th Street with Georgia Road at 1st Avenue North. Option 2B illustrates how 57th Street North could be realigned across from 57th Street South at 1st Avenue South. Each of the options provides different opportunities for streetscape or creation of parkland.

The Birmingham *BRT* TIGER 2015 grant application included option 2A. The Woodlawn Community Transit Center site selection evaluation process should continue through the environmental document preparation and these alternatives as well as others should be consider.

Figure 3-13: Woodlawn Community Transit Center – Option 1A – 56th Street



Figure 3-14: Woodlawn Community Transit Center – Option 1B – 56th Street



Figure 3-15: Woodlawn Community Transit Center – Option 2A – Off-street Station

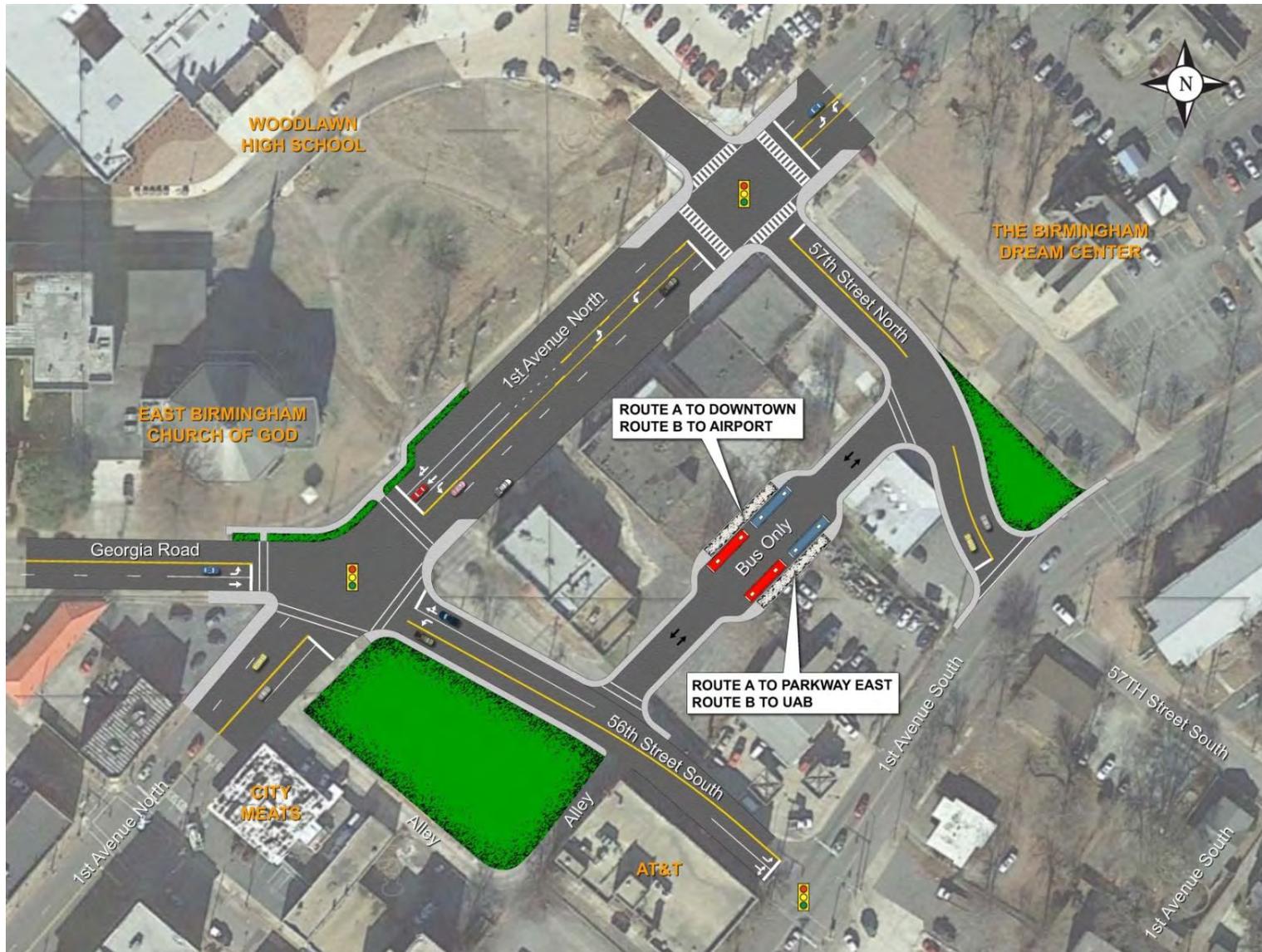


Figure 3-16: Woodlawn Community Transit Center – Option 2B – Off-street Station

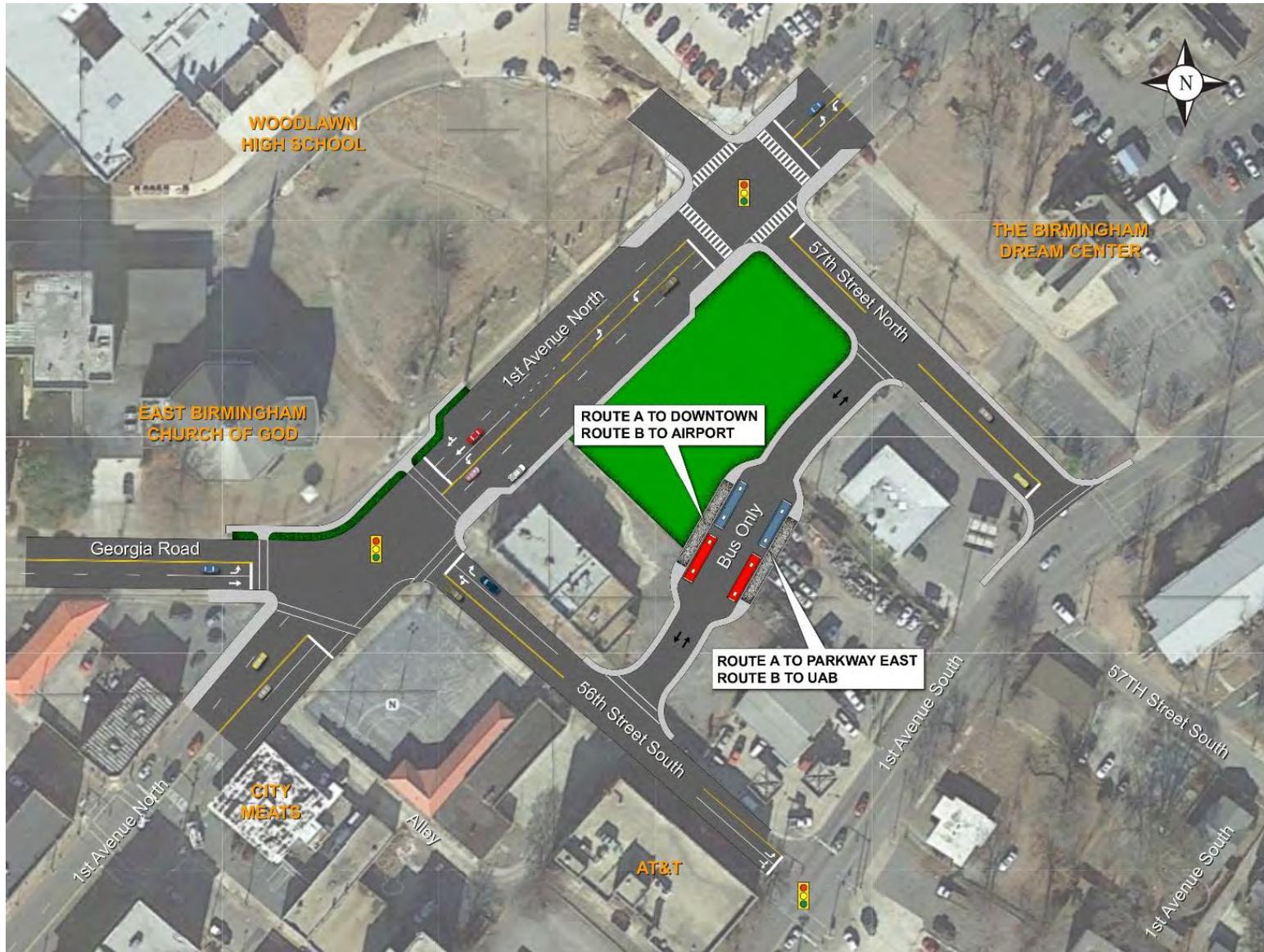
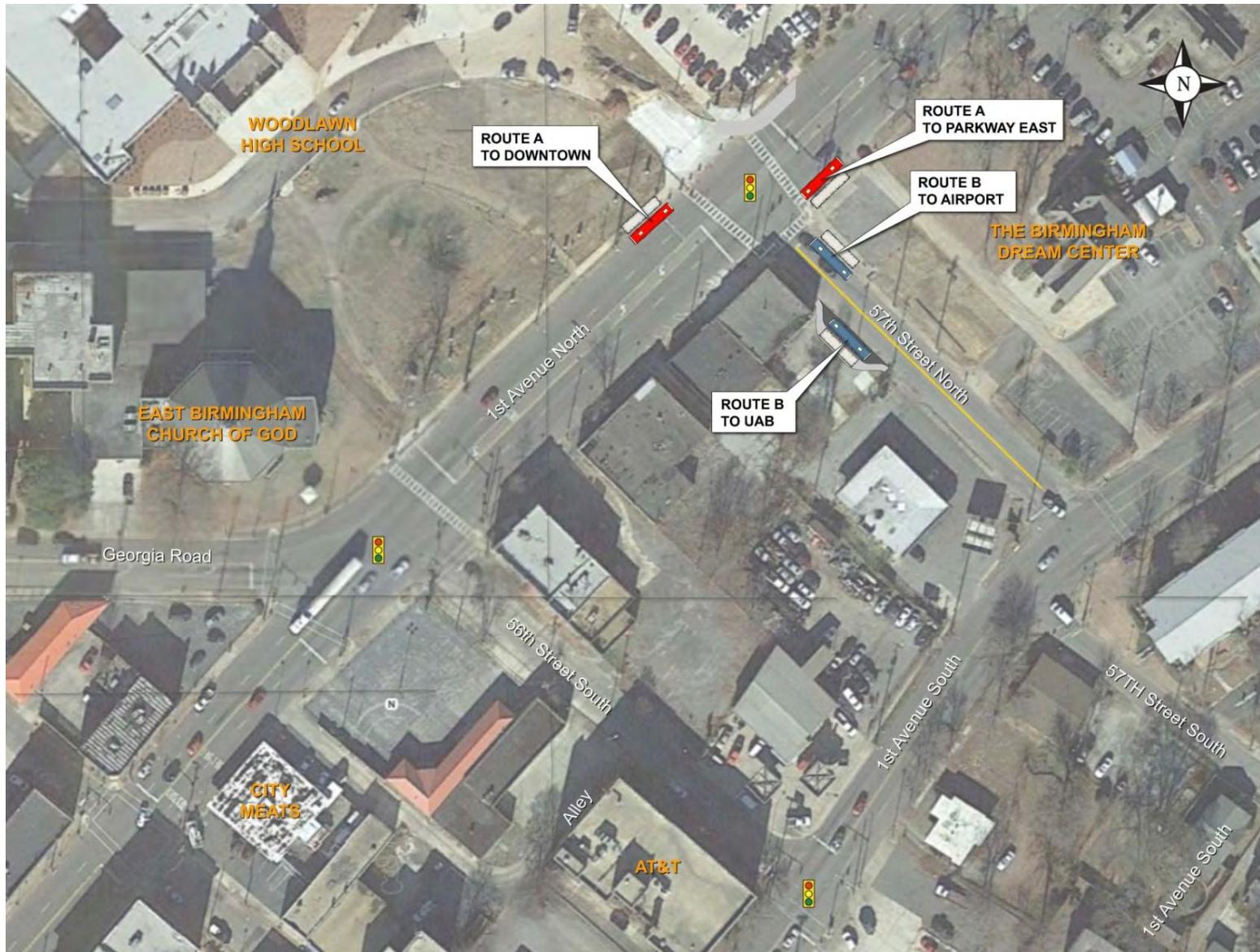


Figure 3-17: Woodlawn Community Transit Center – Option 3 - 1st Avenue North and 57 Street On-street Station



3.3.2.2 Woodlawn Land Use Concepts

In order to continue building on Woodlawn’s remarkable early successes, the City and REV Birmingham should continue to support the existing efforts of the Woodlawn Foundation and support the ongoing implementation of its revitalization plan. The revitalization plan should be updated in the near future with assistance from Woodlawn United to reflect the dynamic nature of market conditions.

The following land use concepts suggest ideas where targeted redevelopment efforts could enhance the transit-supportive environment and sense of place in Woodlawn which could accelerate its overall revitalization and attract additional market interest.

The redevelopment concepts illustrated in these series of diagrams show how framing new development, renovation and repositioning of historic properties, and creation of new public space and streetscape elements would work together to create an attractive, transit-supportive environment in conjunction with enhanced transit service and Complete Streets design.



Concept showing redevelopment of block and creation of public space and on street bus stops.



Concept variation showing redevelopment of block with mid-block super stop and distributed public spaces.



Concept variation showing redevelopment of block mid-block super stop, and new central park in addition to smaller distributed public spaces.



Scene looking toward redeveloped block from 1st Ave. N.

These concepts illustrate how the renovation of key existing buildings, combined with new construction, creation of new park and plaza spaces, streetscape and Complete Streets enhancements can transform Woodlawn's core block into an inviting public realm and destination. This can become a catalyst that will build on and support other redevelopment efforts underway in Woodlawn. This concept also creates an attractive transit-friendly environment, which is also key in connecting Woodlawn to other destinations along the corridor and to downtown Birmingham.



Scene looking north on 56th St. S toward 1st Ave. N.

NOTE: While several existing businesses occupy key sites, which are incompatible with this redevelopment concept, any redevelopment efforts would include discussion with these business and property owners to gauge and assess their interest in relocating, selling, or participating in the redevelopment process. The intent would be to work with these property owners and businesses in a voluntary way which benefit them, not involuntary displacement.

3.3.2.3 Woodlawn Complete Streets Concepts

1st Avenue North

The potential for adding bicycle lanes to 1st Avenue North was examined. In the center of Woodlawn, 1st Avenue North is 52 feet wide and provides two minimal-width travel lanes in each direction plus parking on both sides. Widening the street for bike lanes is not an option, since the building line is ten feet from the curb and existing sidewalk width needs to be preserved for pedestrians. In order to provide bike lanes, one alternative is to remove parking. However, parking is important to the businesses along 1st Avenue North. The other alternative is to use a “road diet”, changing 1st Avenue North from four lanes (two each direction) to three (one lane each direction plus a center left turn lane). The traffic feasibility of a road diet was investigated.

The average daily traffic on 1st Avenue North is 18,000 vehicles. The traffic analysis showed that four lanes are needed during peak hours. Birmingham on 1st Avenue North through Woodlawn experiences a very sharp, high peak volume. With one lane per direction, westbound traffic on 1st Avenue North would back up past the I-20 interchange during the morning commuter peak. Because 1st Avenue North (US 11) is a state roadway, approval from ALDOT is needed for any lane changes. A road diet would be difficult to obtain at this time. In the future as Woodlawn develops the concept should be revisited.

Complete Streets improvements for pedestrians can include bumping out the curblines at intersections to reduce pedestrian crossing times.

1st Ave. S road diet with bike lanes, 5th Ave. S. to 65th Street:

1st Avenue South in central Woodlawn is 43 feet wide and carries two vehicle travel lanes in each direction. The weekday 24-hour traffic volume is 7,000 vehicles, which is clearly in the volume range that is suitable for a road diet. Therefore, it is recommended to add bicycle lanes. A plan and cross section were prepared to illustrate dimensions as shown in Figures 3-18, 3-19 and 3-20. Because the numbered cross streets are usually not aligned directly across 1st Avenue South, a left turn lane can only be provided in one direction at some intersections. Between 57th Street and Georgia Avenue, there is no vehicle entrance and therefore no need for a center left turn lane. The existing Y intersection of Georgia a Road and 1st Avenue South would be changed to bring the eastbound 1st Avenue through movement and the westbound 1st Avenue right turn movement, which are free today, under the control of the traffic signal. 1st Avenue South from Georgia Road to 62nd Street has one lane per direction and bicycles would share the road with vehicles. East of 62nd Street and through the interchange with I-20, 1st Avenue South widens to two lanes per direction plus left turn lanes. The second lane is not needed for traffic volume, and the main effect is to increase vehicle speed. This section should remain one lane per direction with left turn lanes, and bicycle lanes should be added separated by a striped buffer. To increase bicycle safety, the I-20 ramp intersections should be physically modified with reduced turn radii to slow the speed of traffic entering and exiting the ramps. At 65th Street the existing road narrows to two lanes and bikes once again share the road.

Figure 3-18: 1st Ave. S Road Diet from 55th Place to 62nd Street

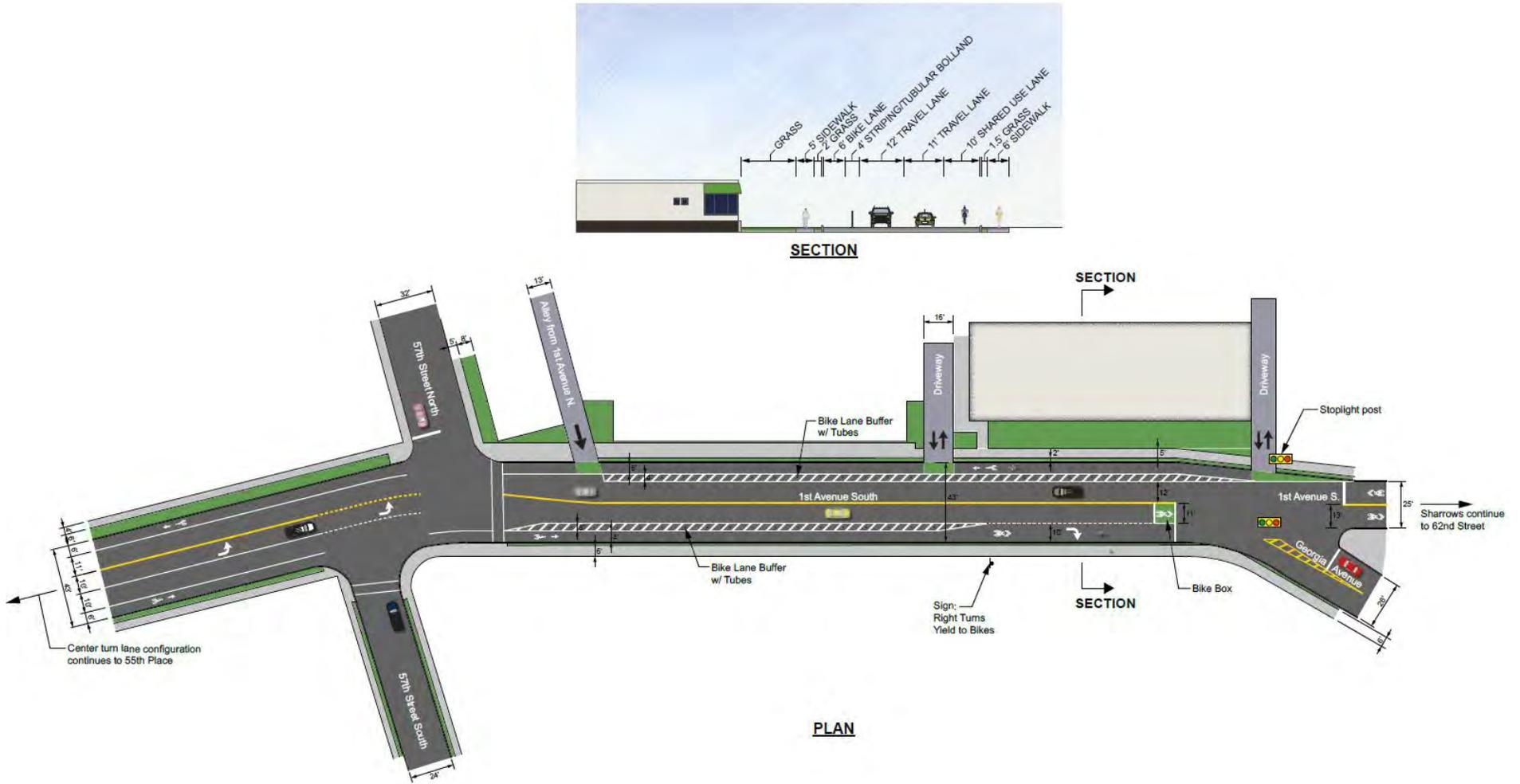


Figure 3-19: 1st Avenue S. at I-20 Overpass (North Side)

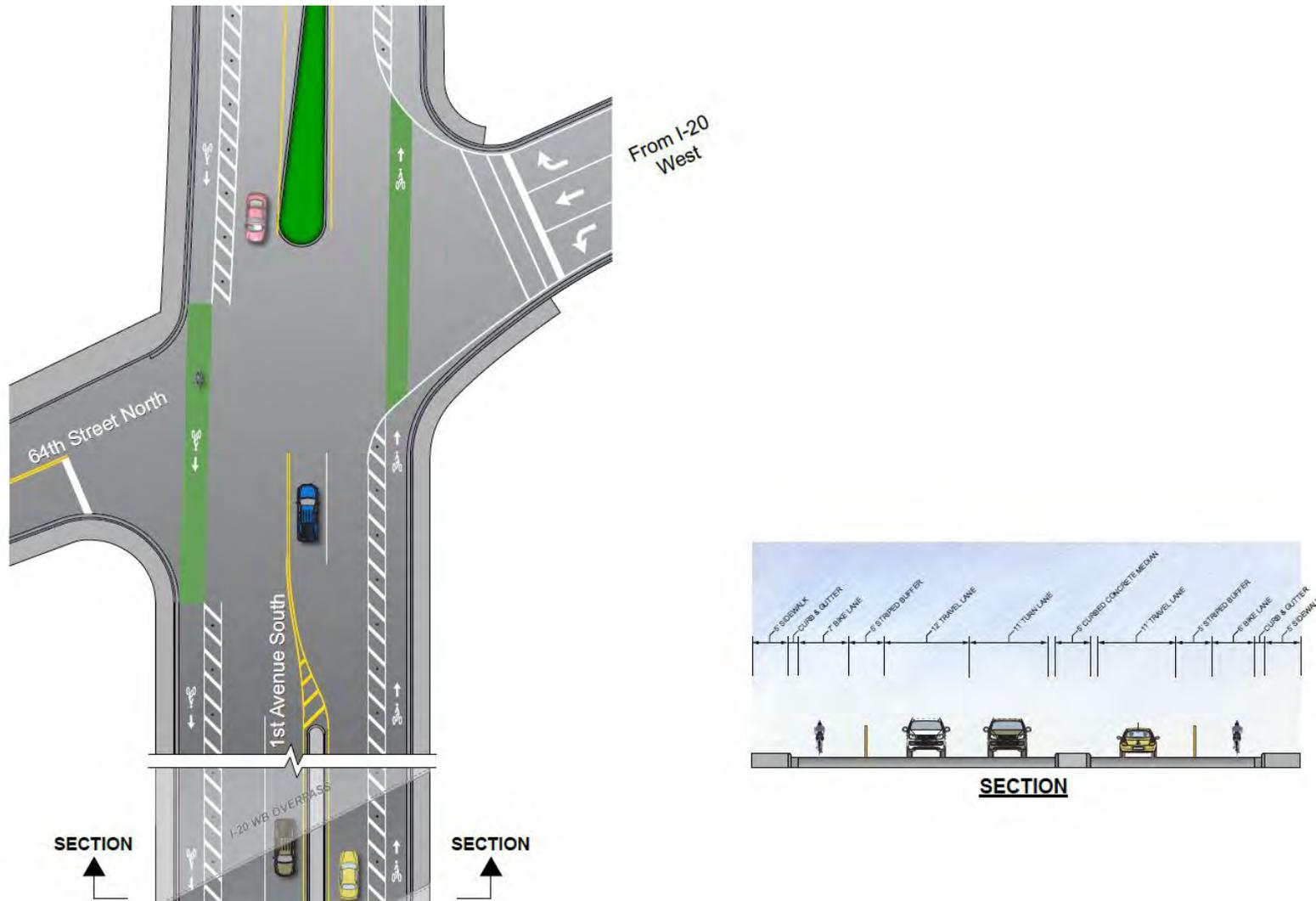
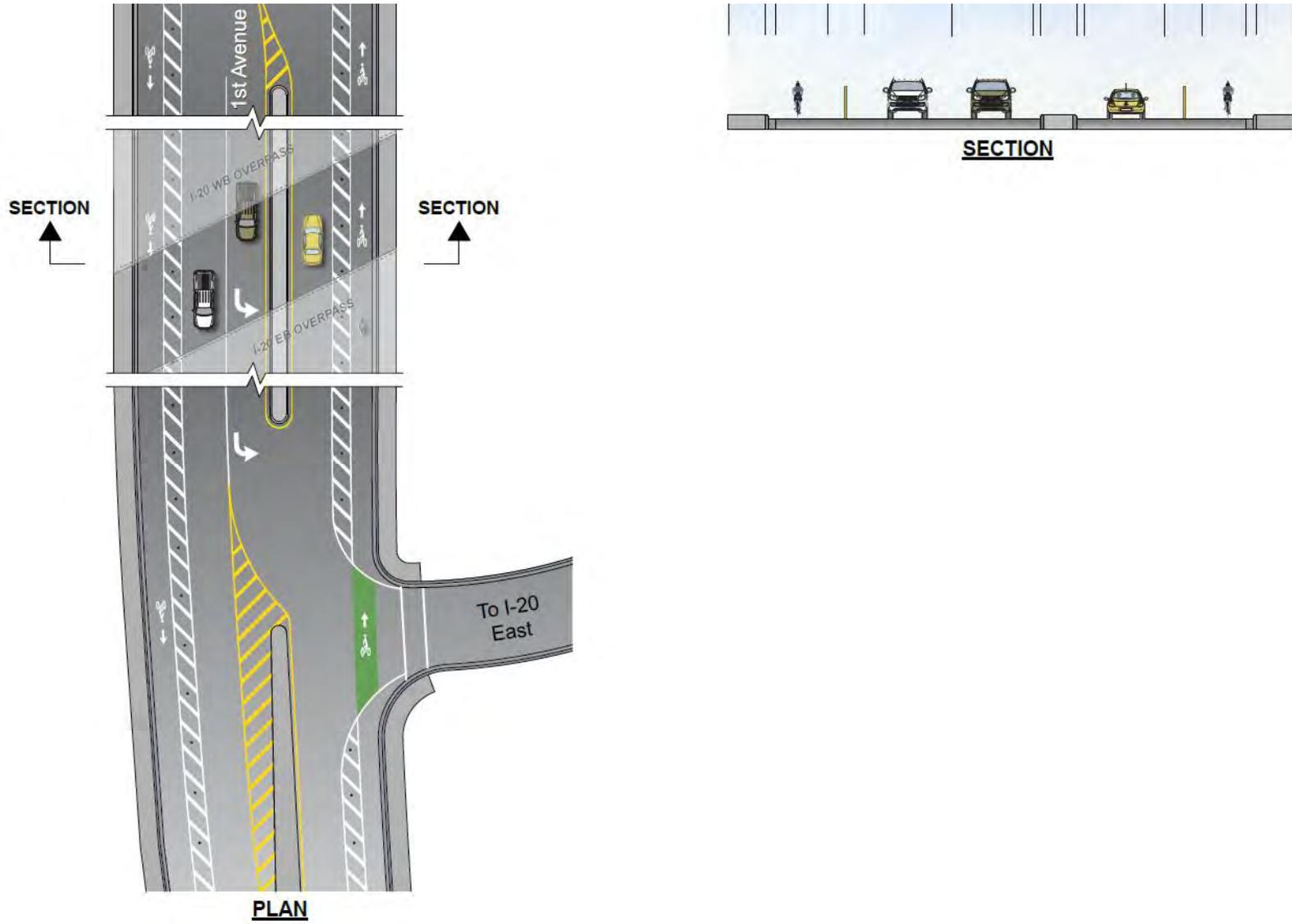


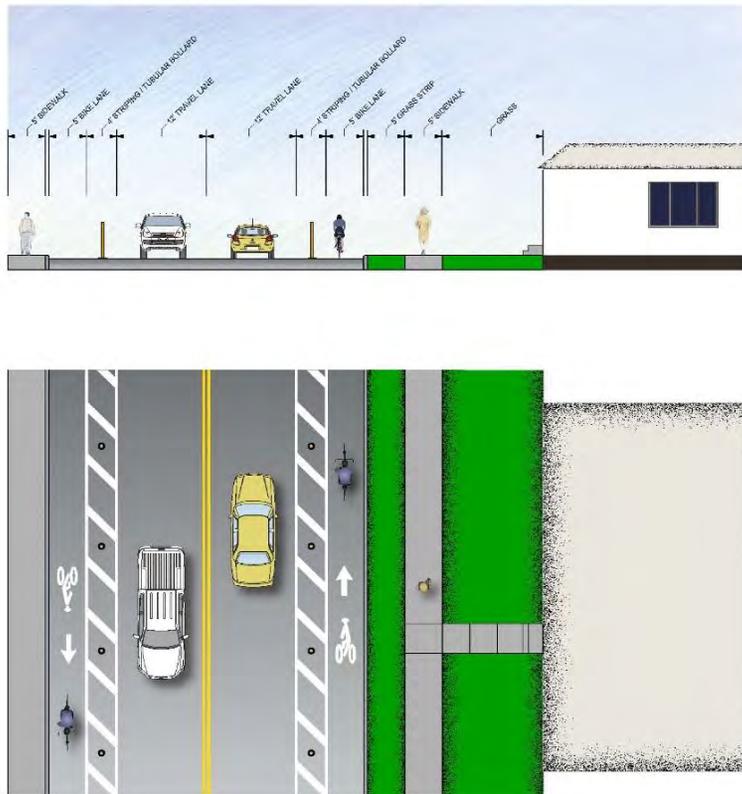
Figure 3-20: 1st Avenue S. at I-20 Overpass (South side)



5th Ave. S. Road Diet from 1st Avenue S. to US 78 with Bike Lanes

Bike lanes are proposed along 5th Avenue South to connect the East Avondale area with Woodlawn. Near the junction of 5th Avenue South and US 78, off-street paths should be established for bicyclists to travel through this area. North of this junction area, on-street bike lanes can be added. 5th Avenue South is 42 feet wide and currently provides two travel lanes in each direction. The weekday 24-hour traffic volume is approximately 8,000 vehicles, and traffic will operate well with a road diet from four lanes to two lanes. Speed is likely to be reduced, and there will be occasional delays from left turn vehicles. However, there are no major intersections or driveways that would require turn lanes. Five-foot wide bike lanes separated by a four-foot wide striped buffer are proposed in each direction. Additionally, flexible bollards in the buffer area would prevent vehicles from encroaching into the bike lane, to get around a stopped vehicle waiting to turn left. A proposed cross section is shown at Figure 3-21.

Figure 3-21: Proposed Cross Section adding Bike Lanes at 5st Avenue S. at 48th Street



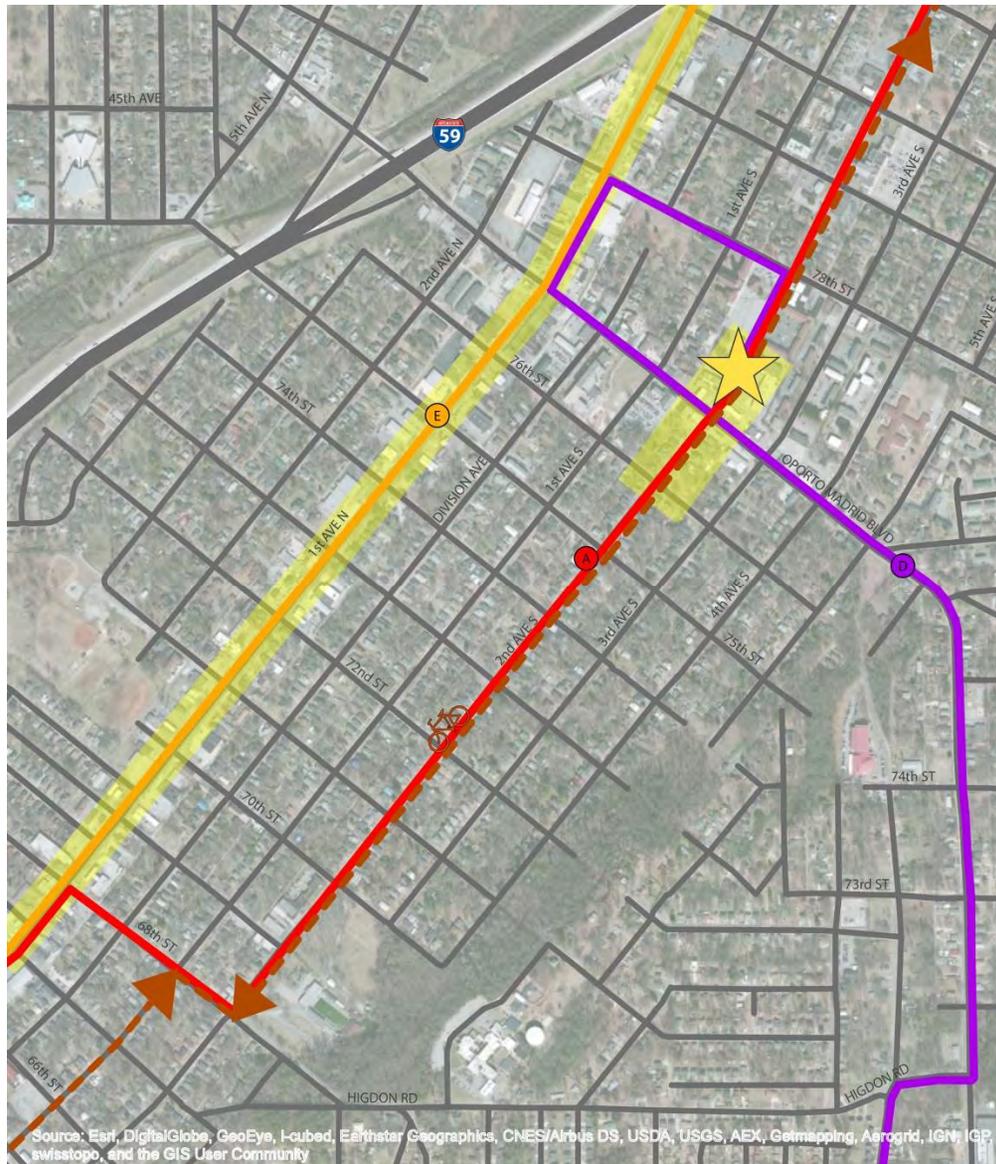
3.3.3 East Lake Transit Super Stop, Land Use and Complete Streets Concepts

The East Lake neighborhood has a number of appealing characteristics and “good bones” that create the potential for revitalization. These include an interconnected street grid of residential streets developed in the pre-war era and affordable housing stock that has character and potential. East Lake also has the remnants of an identifiable center with a cluster of traditional commercial buildings. East Lake also possesses a concentration of retail uses substantially larger than either Avondale or Woodlawn, although it consists primarily of auto-oriented strip centers along 1st Avenue North which are not particularly transit-supportive.

While East Lake shares some intrinsic urban design qualities with Avondale and Woodlawn, it has not attracted significant market interest thus far. This is attributed to a combination of factors including that it is substantially farther away from downtown Birmingham than Avondale or Woodlawn, the dominance of 1st Avenue North with a degree of automobile oriented strip commercial development and design that prioritizes vehicular traffic throughput, the loss of a significant amount of its historic building stock along its thoroughfares, and the relatively poor state of buildings and marginal uses around the intersection of 1st Avenue north and 77th St. N/Oporto Madrid. Despite those challenges, interest in East Lake’s surrounding residential neighborhoods may provide the basis for some modest degree of revitalization in the near to mid-term.

Figure 3-22 presents the East Lake recommended transit and bicycle routes.

Figure 3-22: East Lake Recommended Transit and Bicycle Routes



3.3.3.1 East Lake Transit Super Stop Concepts

The East Lake Super Stop is recommended to be in the vicinity of 2nd Avenue South and Oporto Madrid Boulevard (77th Street). The super stop should accommodate the East-West BRT labeled as route A and the extension of Route 44 (labeled as Route D). Figure 3-23 shows a mid-block concept on 2nd Avenue South north of Oporto Madrid.

Transit stop improvements are also needed on 1st Avenue North. Figure 3-24 shows a bulb-out for a far-side bus stop at 1st Avenue North and 77th Street.

Figure 3-23: East Lake Super Stop Concept

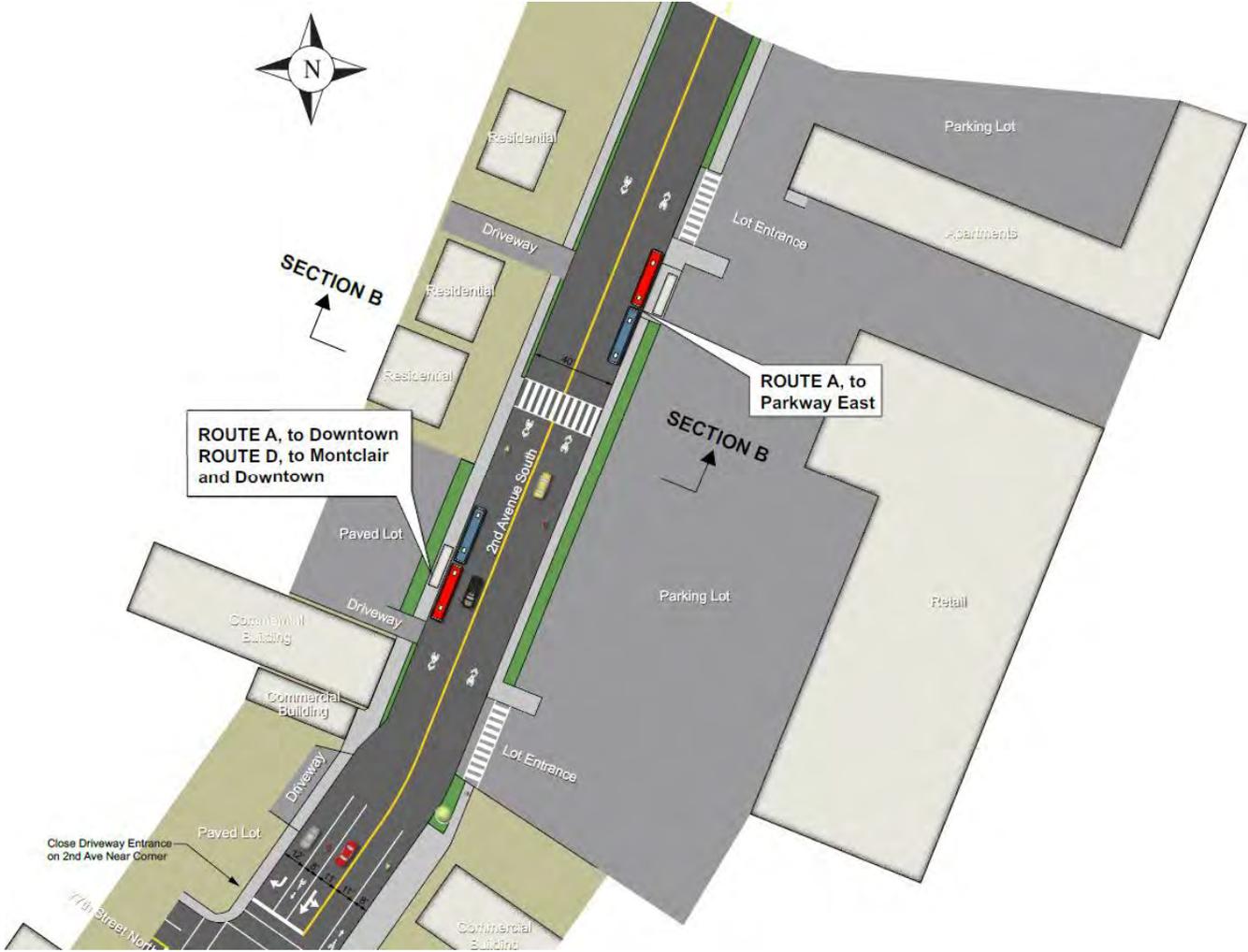
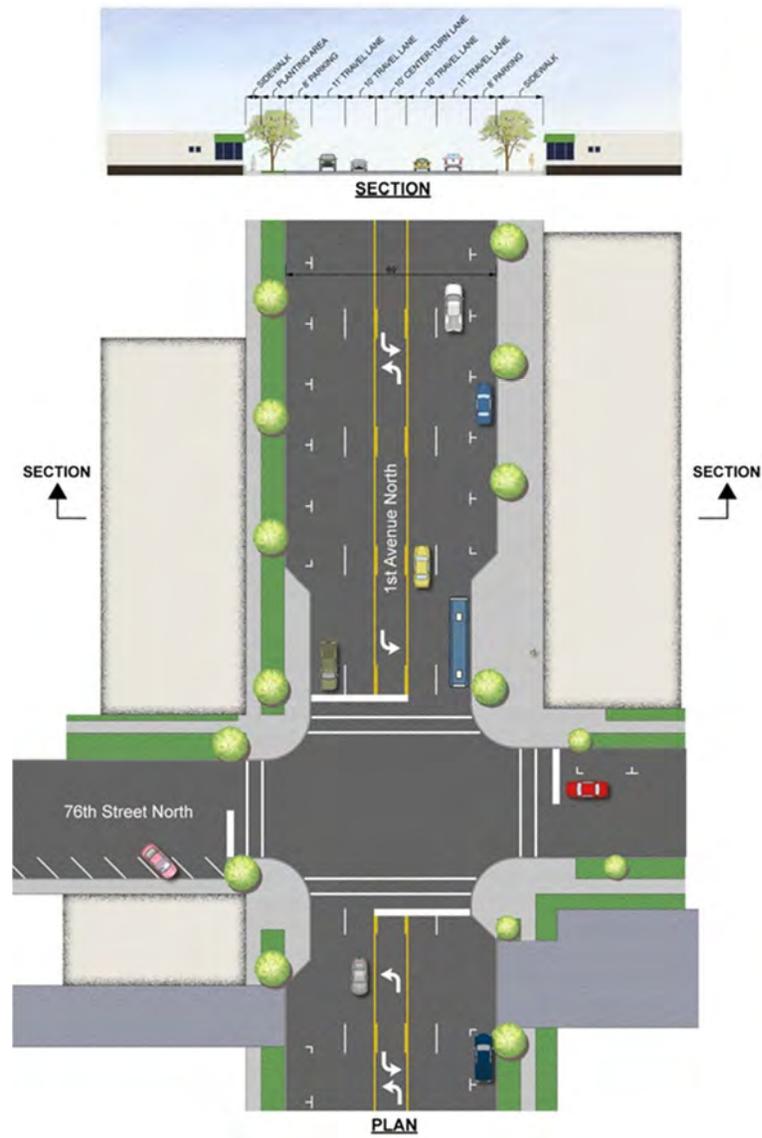


Figure 3-24: Bus stop improvement at 1st Avenue North at 77th Street



3.3.3.2 East Lake Land Use Concepts

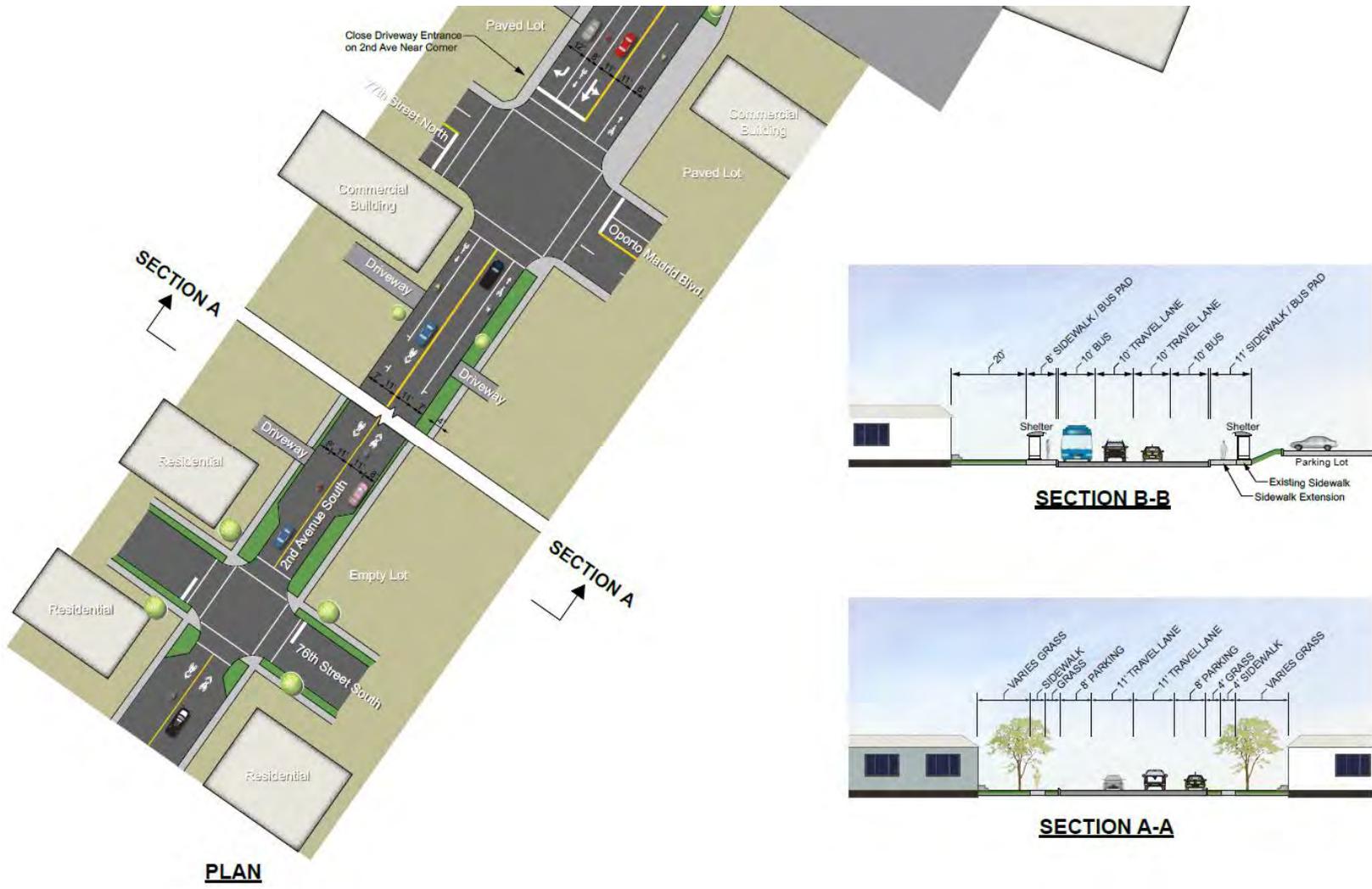
Left to the market, East Lake will likely experience modest revitalization over the long term through gradual renovation of individual residential properties. East Lake may also experience a spillover effect as Avondale and Woodlawn continue to revitalize and values increase there. This may increase market demand as East Lake becomes the “next hot place.” Under a status quo scenario, this will likely take many years to occur. The constraints described in the previous section will also continue to be a market inhibitor. To overcome these constraints, a proactive strategy of interventions to “jump start” East Lake in a shorter timeframe would be required. This should include the following:

- Targeted property acquisitions, assembly for redevelopment, either by a redevelopment agency or a CDC, combined with significant public investment in streetscape and Complete Streets reconfigurations. This would include renovation of existing commercial main street type buildings and new infill development along 1st Ave N, 2nd Ave S, and 77th St. N/Oporto Madrid in order to create a more appealing destination and sense of place.
- Substantial Complete Streets retrofits and streetscape enhancements along 1st Avenue North and 77th North.
- Establish policy incentives and “green-tape” to help catalyze new transit-supportive development along East Lake’s commercial thoroughfares.
- Investigate creation of a CDC or BID type entity to oversee improvement of the core area, which would also work to incubate destination “third-place” type establishments like a coffee shop/café for neighborhood.
- Undertake a redevelopment /master planning process for the entire East Lake Community including potential redevelopment sites.

3.3.3.3 East Lake Complete Streets Concepts

Complete Streets (roadway, bicycle and pedestrian) concepts should be considered in the East Lake vicinity including 1st Avenue North, Oporto Madrid, 2nd Avenue South, 3rd Avenue South Bike Trail and East Lake area-wide pedestrian improvements. Figure 3-25 shows a Complete Streets concept for 2nd Avenue South.

Figure 3-25: 2nd Avenue South Complete Streets Concept



3.3.4 Parkway East Transit Super Stop, Land Use and Complete Streets Concepts

Parkway East consists of a large cluster of automobile-oriented shopping centers and strip retail uses at the confluence of several major highways, including the I-59/Parkway East interchange, US Rte 11, and AL Rte 75. This area is experiencing ongoing decline and disinvestment. The shopping centers are widely perceived as struggling, and high vacancy rates are a constant threat to their viability. The current condition also contributes to a perception of Parkway East as a distressed area, which affects real estate values of surrounding communities. Figure 3-26 presents the Parkway East recommended transit and pedestrian routes.

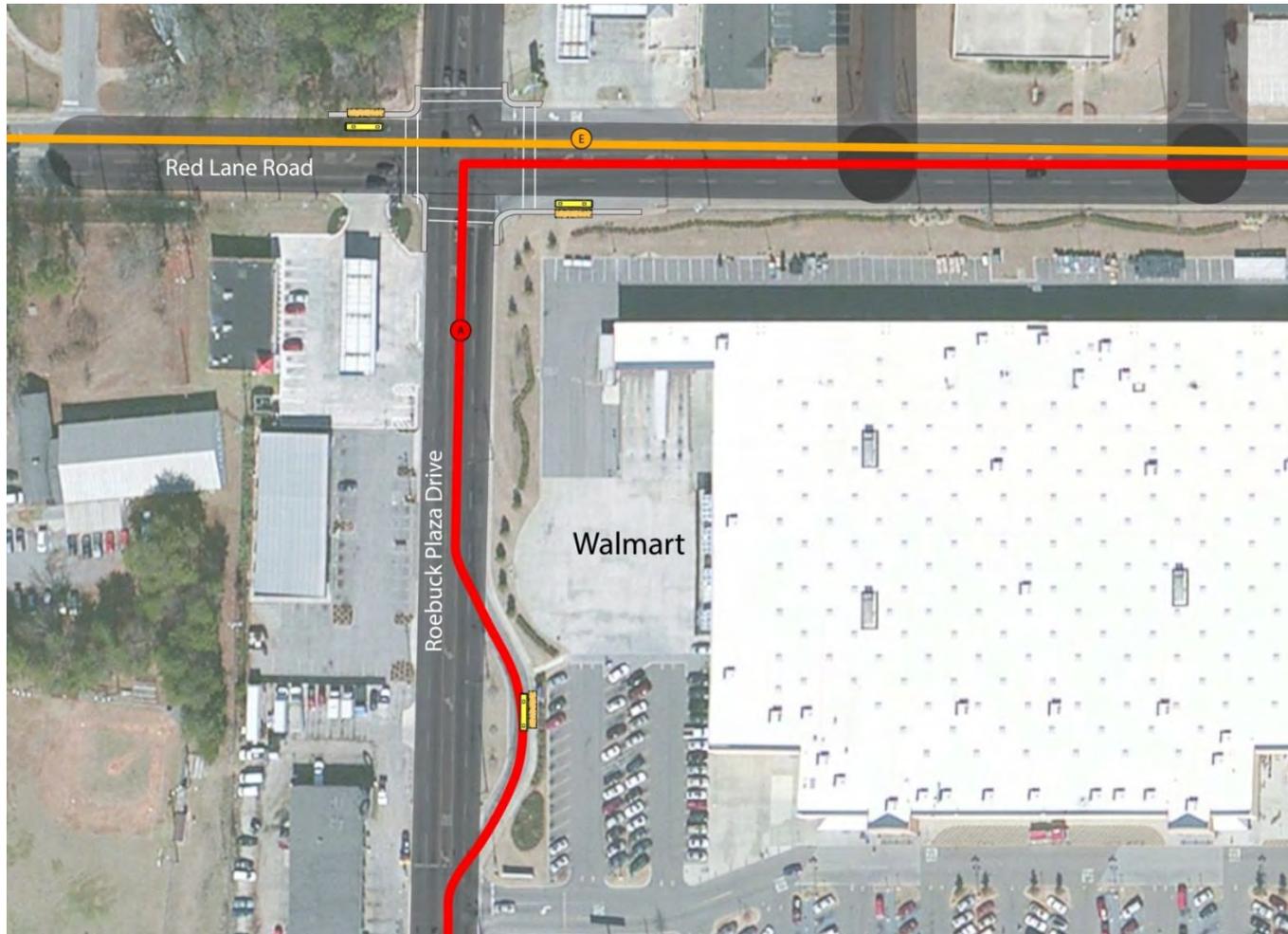
Figure 3-26: Parkway East Recommended Transit and Pedestrian Routes.



3.3.4.1 Parkway East Transit Super Stop Concepts

The East Lake Super Stop is recommended to be in the vicinity of the current stop at Roebuck Plaza Drive and Red Lane Road. The super stop should accommodate the East-West BRT labeled as Route A and the combined Routes 25 and 26 labeled as E. Figure 3-27 shows the super stop utilizing the existing bus pull-off at Walmart. Note that pedestrian improvements will be needed on Red Lane Road.

Figure 3-27: Parkway East Super Stop Concept



3.3.4.2 Parkway East Land Use Concepts

The recently adopted Birmingham Comprehensive Plan acknowledges the area's decline, and proposes to establish Parkway East as one of several "transit villages" in the region. This is envisioned as a "suburban retrofit" that would include redevelopment of part of some of the shopping centers as a walkable, mixed-use area which would also be transit-supportive. Redevelopment recommendations include:

- Develop an implementation strategy for the Parkway East transit village concept that includes an action plan and identifies funding strategies and other catalytic measures to support redevelopment
- Create a business improvement district or similar entity to focus energy and resources on short and long term improvements.

3.3.4.3 Parkway East Complete Streets Concepts

Pedestrian improvements including sidewalks and crosswalks are needed all along US 11 in the vicinity of Parkway East. The roadway is typically eight to ten lanes wide including turning lanes and is quite hostile to pedestrians. It can be very difficult for bus riders to cross US 11. An evaluation of the traffic operations and pedestrian improvements should be undertaken including a relocation of bus stops to facilitate safe pedestrian crossings. Pedestrian improvements are also needed on Roebuck Plaza Drive and Red Lane Road so that ADA compliant sidewalks provide access to the Parkway East Super Stop.

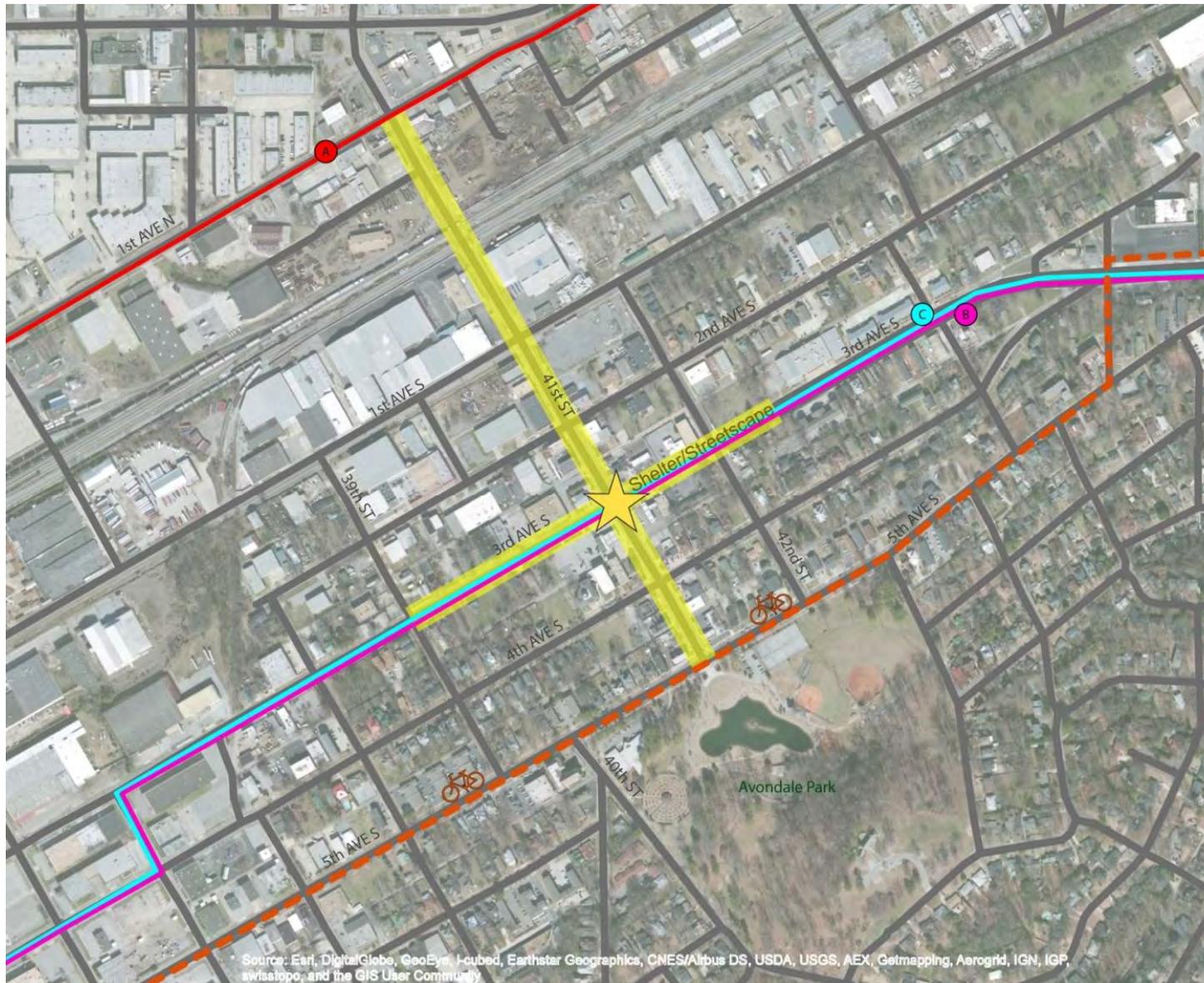
3.3.5 Avondale Transit Super Stop, Land Use and Complete Streets Concepts

Avondale is a transitional area between the light industrial area and suburban residential neighborhoods of Birmingham to the south and east. Approximately half of its total land is in residential use and eight percent is dedicated to light industrial and manufacturing uses. While many of the older manufacturing plants and factories in this area have closed down, this area has also experienced a modest renaissance in recent years: numerous one story industrial and manufacturing buildings have been renovated as light manufacturing start-ups, artisan shops, and other eclectic businesses; several micro-breweries and upscale restaurants have opened in the area; and local entrepreneurs are renovating smaller commercial buildings in downtown Avondale. After experiencing dramatic decline like many close-in neighborhoods and industrial districts in the City of Birmingham since the 1970's, Avondale today is starting to emerge as a trendy neighborhood with a quirky identity, interesting restaurants and pubs such as the Avondale Brewing Company, and charming but relatively affordable housing stock. Much of Avondale's rebirth has primarily been market-driven with a modest helping hand from organizations like REV Birmingham and the City of Birmingham. A primary example of this is the temporary "Park(ing) Day" installations sponsored by the RPC which helped demonstrate how modest interventions including parklets and bike lanes can help increase the attractiveness of an area and improve its identity.

Adjacent to the commercial and light industrial portions of Avondale are modest residential neighborhoods consisting of early to mid-20th century housing stock, mostly small lot bungalows and ranch style single family homes on tree-lined streets. Significant disinvestment in this part of Birmingham over the last forty plus years resulted in a significant decrease in the population and employment base of the Avondale area. In recent years, the residential neighborhoods have struggled to stabilize and begun to improve. Modest progress has been made and steady reinvestment is evident, not only in commercial but also residential properties. Homeownership in this area is at approximately 70% (2010), compared to less than 50% on average in the close-in section of the corridor and 66.8% in Jefferson County. Recent revitalization activity happening on 41st Street since 2011 includes establishment of a handful of healthy businesses, a \$3 million renovation to Avondale Park, and a 75% occupancy rate (according to a 2012 article on fastcoexist.com).

Figure 3-28 presents the Avondale recommended transit and bicycle routes. The existing Route 17 is proposed to be converted into the Southside BRT with the Route B serving the Airport and Route C serving the Eastwood Area.

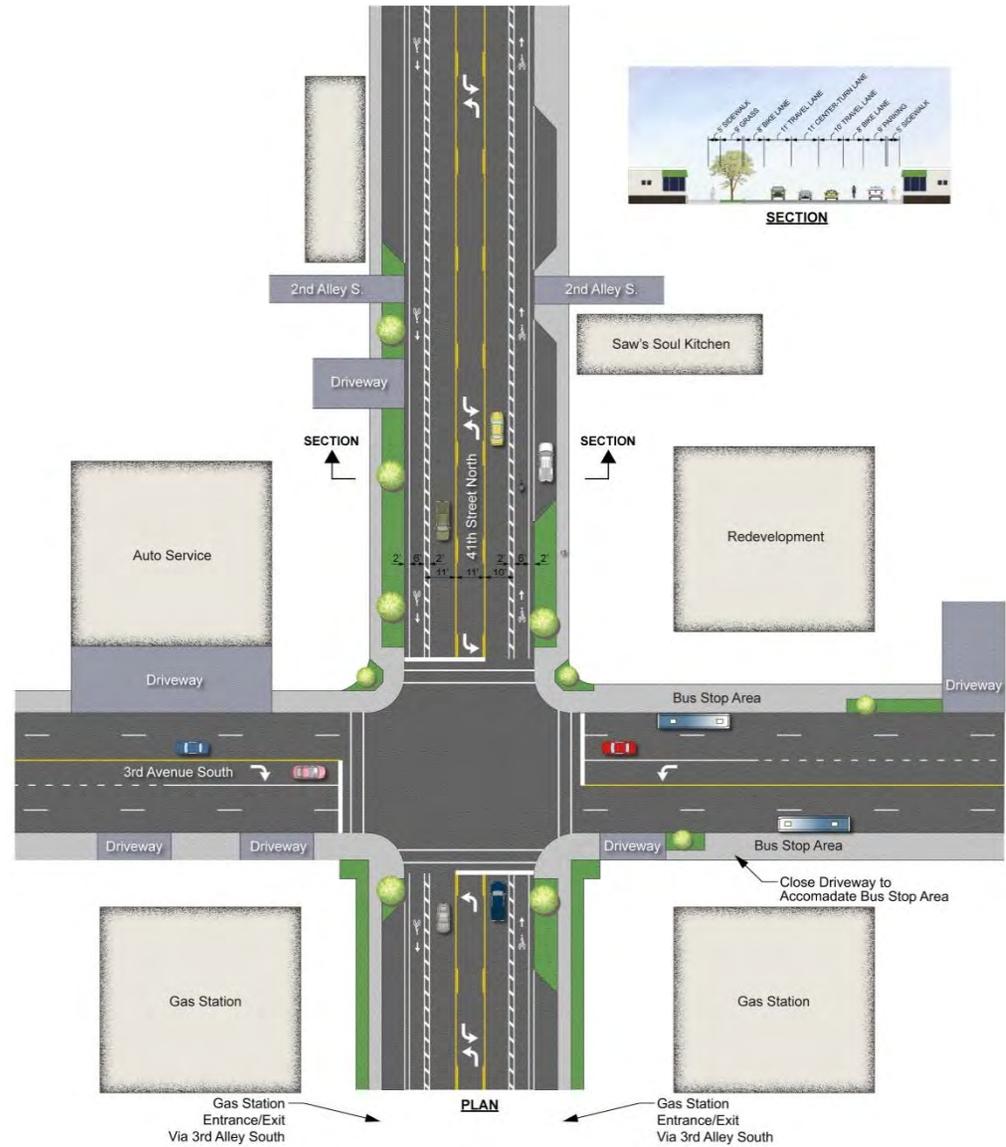
Figure 3-28: Avondale Recommended Transit and Bicycle Routes



3.3.5.1 Avondale Super Stop Concepts

The Avondale Super Stop is recommended to be in the vicinity of the current bus stops on 3rd Avenue South at 41st Street. The super stop would be on-street and should accommodate four buses per hour in each direction. Figure 3-29 illustrates the super stop, streetscape investments and Complete Streets improvements recommended for 3rd Avenue South and 41st Street.

Figure 3-29: Avondale Super Stop and Complete Streets Concept



3.3.5.2 Avondale Land Use Concepts

Avondale's close proximity to downtown Birmingham, attractive location in the region along major roadway corridors between downtown and the airport, and walkable urban form and character have all contributed to its renewed appeal and growing vibrancy fueled by young professionals, families, and entrepreneurs looking for the right kind of place to call home. REV Birmingham has also been instrumental in promoting Avondale and helping to facilitate revitalization efforts. Because of these factors, Avondale has perhaps the highest short-term potential for market-driven revitalization.

At the same time, however, Avondale has lost a great deal of its transit-supportive building fabric over the years through demolition of early 20th century commercial buildings that once lined its main thoroughfares, replaced by auto-oriented and utilitarian establishments and parking lots that have diminished the transit-supportive, walkable environment or sense of place. The current roadway configuration of the main thoroughfares through Avondale, which prioritizes and maximizes automobile throughput over other modes, further diminishes the potential for transit-supportive redevelopment projects.

Avondale's revitalization has largely been market-driven as a result of the inherent assets described above, despite the challenges described regarding its current development pattern and roadway configuration along its main thoroughfares. To overcome those challenges and maximize the market driven revitalization that has been gradually occurring in Avondale, a high degree of intervention via a public sector or a community development corporation-led redevelopment effort in the form of property acquisitions, assembly and redevelopment is clearly not needed. However, the public sector can take measures and strategies to maximize and unlock Avondale's full revitalization potential which could create a ripple effect with spill-over benefits to other redevelopment nodes further out from downtown Birmingham, increasing redevelopment potential in those places. This strategy consists of the following:

- The City of Birmingham should establish a redevelopment zone in Avondale which requires or incentivizes new development through new transit-supportive, pedestrian friendly design guidelines or form-based zoning standards.
- Such standards could either be implemented as mandatory standards or as an optional overlay. If implemented as an overlay, development proposals would be fast-tracked or otherwise incentivized if they adhere to the standards.
- The redevelopment zone would include properties along Avondale's main thoroughfares: 41st St. South from 1st Ave North (US 11) to Avondale Park and along 3rd Ave South (US 78) between 38th St. South and 43rd St. South.

Figure 3-30: Avondale Land Use Concept



Figure 3-30 illustrates the potential for Avondale's re-development

3.3.5.3 Avondale Complete Streets Concepts

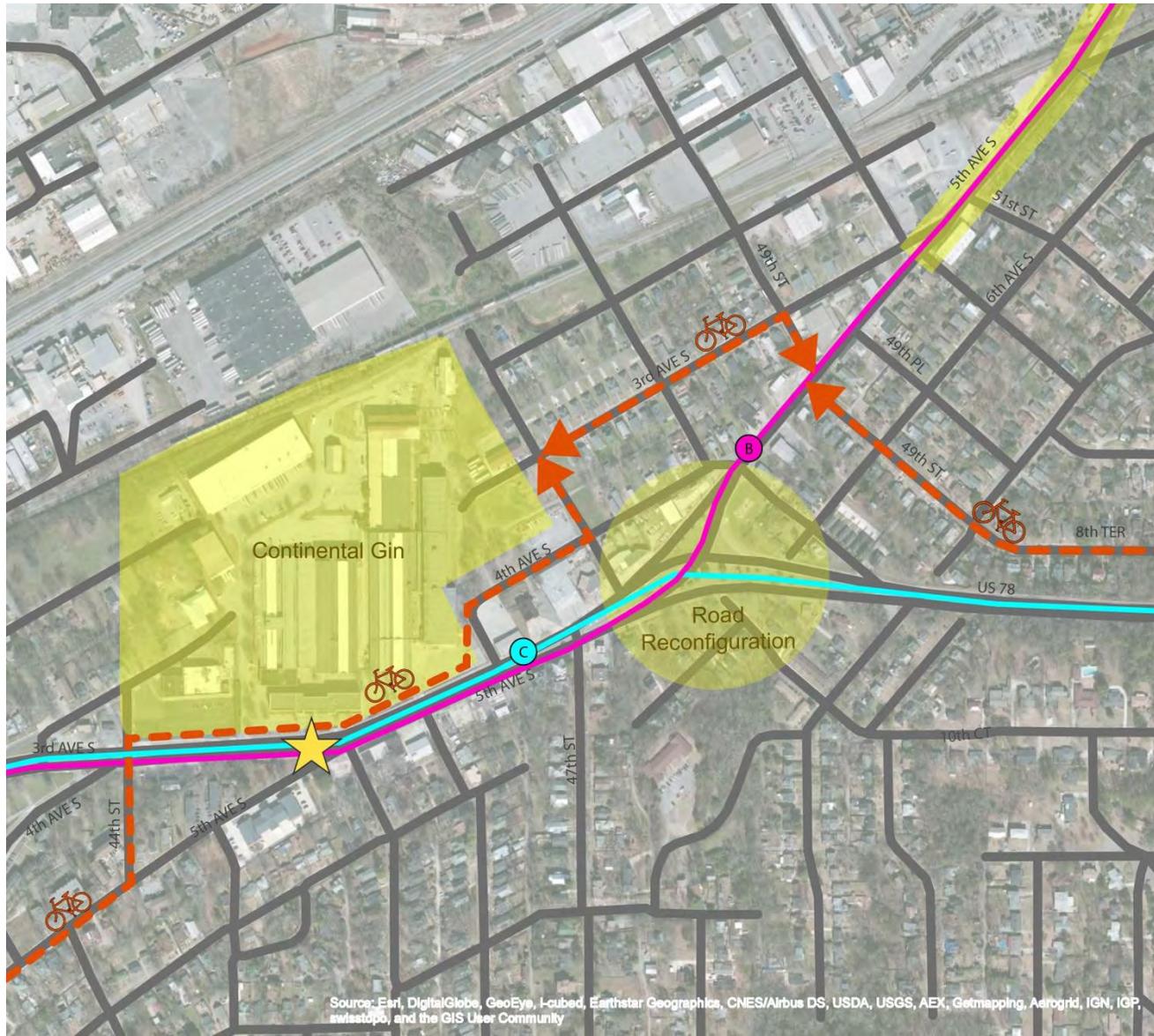
To stimulate investor interest in redeveloping commercial properties along Avondale’s main thoroughfares, a Complete Streets retrofit which creates a more balanced multi-modal environment should be studied and implemented. Complete Streets and streetscape investments are recommended along 41st Street from 1st Avenue North to the Avondale Park and along 3rd Avenue South.

3.3.6 East Avondale Transit Super Stop, Land Use and Complete Streets Concepts

East Avondale is a small, defined area between Avondale and Crestwood consisting mainly of industrial and commercial properties along the north side of US 78, which is also 5th Ave S, as well as a cluster of modest bungalow homes. The focal point of this area is the former Continental Gin plant that includes a handsome brick office building called the Hill Building, which faces the road. The south side of US 78 is the edge of the Forest Park neighborhood, which contains numerous larger historic homes in varying conditions from restored to neglect. There is also an active firehouse just off the main road, and across 5th Ave S. there is a small cluster of shuttered one-story main street type buildings. A handful of free-standing businesses on 5th Ave S in this area include a scuba dive shop and an auto body establishment. This area overall has unique potential because it sits at the confluence of several converging thoroughfares that carry considerable amounts of traffic, while possessing a substantial cluster of potential redevelopment sites at its focal point, and being walkable to a significant amount of adjacent residential streets.

Figure 3-31 presents the East Avondale recommended transit and bicycle routes. The existing Route 17 is proposed to be converted into the Southside BRT with the Route B serving the Airport and Route C serving the Eastwood Area.

Figure 3-31 East Avondale Recommended Transit and Bicycle Routes.



3.3.6.1 East Avondale Super Stop Concepts

The East Avondale Super Stop is recommended to be in the vicinity of the current bus stops on 3rd Avenue South at 5th Avenue South. The super stop would be on-street and should accommodate four buses per hour in each direction. Figure 3-32 illustrates the proposed super stop location.

Figure 3-32: East Avondale Super Stop Concept



3.3.6.2 East Avondale Land Use Concepts

Located between Crestwood and Avondale, East Avondale has the potential for a mixed use community that includes multiple uses. With the availability of the old Continental Gin site, many vacant and underused nearby properties, and proposed transit route and major hub, opportunity exists to foster comprehensive redevelopment of the area using many of the guidelines suggested in the Comprehensive Plan. One example would be to emphasize non-motorized modes and create a place that heavily caters to bicyclists, walkers, and transit users. The Midtown Greenway and Midtown Global Market in Minneapolis, MN (Figure 3-33) offers an example of this kind of neighborhood revitalization strategy that has successfully fostered equitable, revenue-generating redevelopment of long-vacant properties in a diverse, blighted community.

The large Continental Gin property, former residential apartments on 4th Avenue South and other adjoining properties have the market potential for a significant new community. The East Avondale recommendations include:

- Short term: the City should create a redevelopment master plan for East Avondale that includes strategies for the re-use and/or redevelopment of the former plant, surrounding properties, and the potential reconfiguration of streets and blocks in a targeted area along and around US 78 through place-making and urban design principles. This will improve the pedestrian friendliness of the area as well as the market appeal and identity as a destination.
- Other short term activities should include encouraging temporary re-use of the plant site for “pop-up” retail, art/artisan studio space, farmers market, or other short-term periodic uses, as well as renovation of commercial properties along US 78 and promoting new infill development and business activity in a compatible manner with the small area plan.
- Long term: Implementation of the permanent redevelopment elements of the small area plan including Complete Streets improvements. The former Continental Gin plant should become a major mixed-use destination and anchor/activity center, potentially including multi-family housing.
- The City and State should consider incentives for targeted redevelopment of East Avondale.

3.3.6.3 East Avondale Complete Streets Concepts

To stimulate investor interest in redeveloping commercial properties in East Avondale, a traffic circle should be considered for the Crestwood Boulevard – 5th Avenue South interchange (Figure 3-34). Other Complete Streets elements that should be considered include:

Figure 3-33: Midtown Global Market - Minneapolis

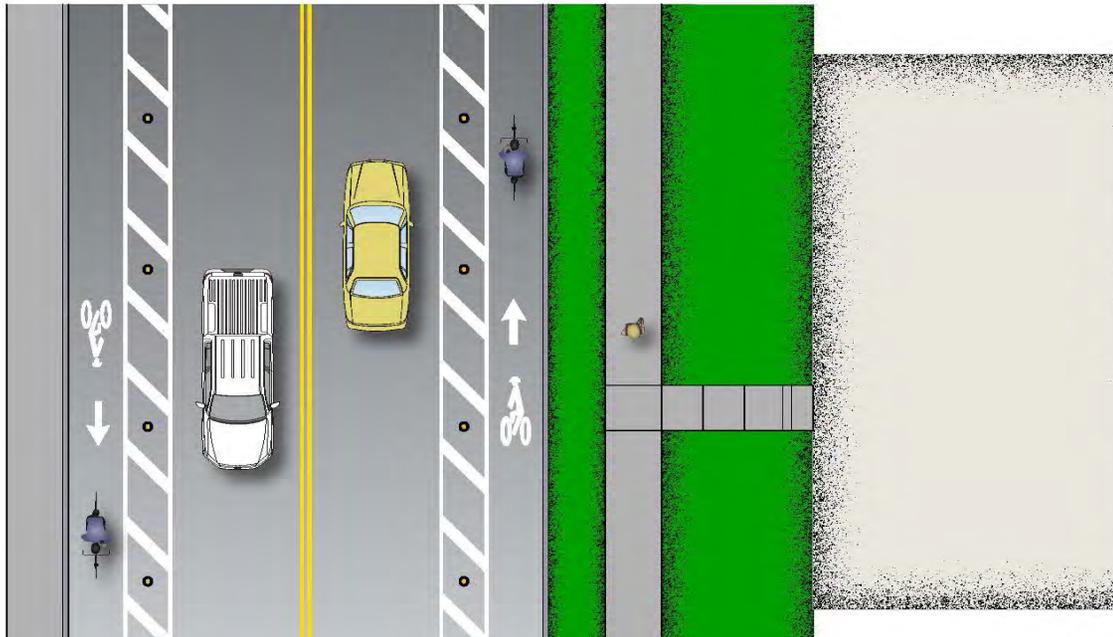
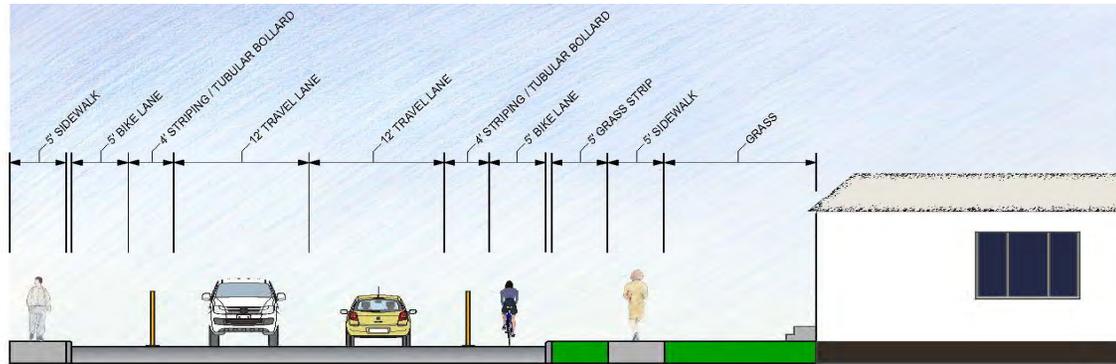


- 5th Avenue South bike lanes as also described in the Woodlawn section (Figure 3-35).
- Traffic calming on US 78 and pedestrian crossings / crosswalks, sidewalks along US 78 to Eastwood
- 1st Ave S bike trail from 5th Ave S to UAB
- Bike trail incorporated into the Continental Gin redevelopment permitting easy access along the 1st Avenue S bike trail from Crestwood to Avondale and to UAB / Downtown.
- Clairmont greenway extension

Figure 3-34: Crestwood Boulevard at 5th Avenue S. Traffic Circle



Figure 3-35: 5th Avenue S., between East Avondale and Woodlawn



3.3.7 Crestwood / Eastwood Transit Super Stop, Land Use and Complete Streets Concepts

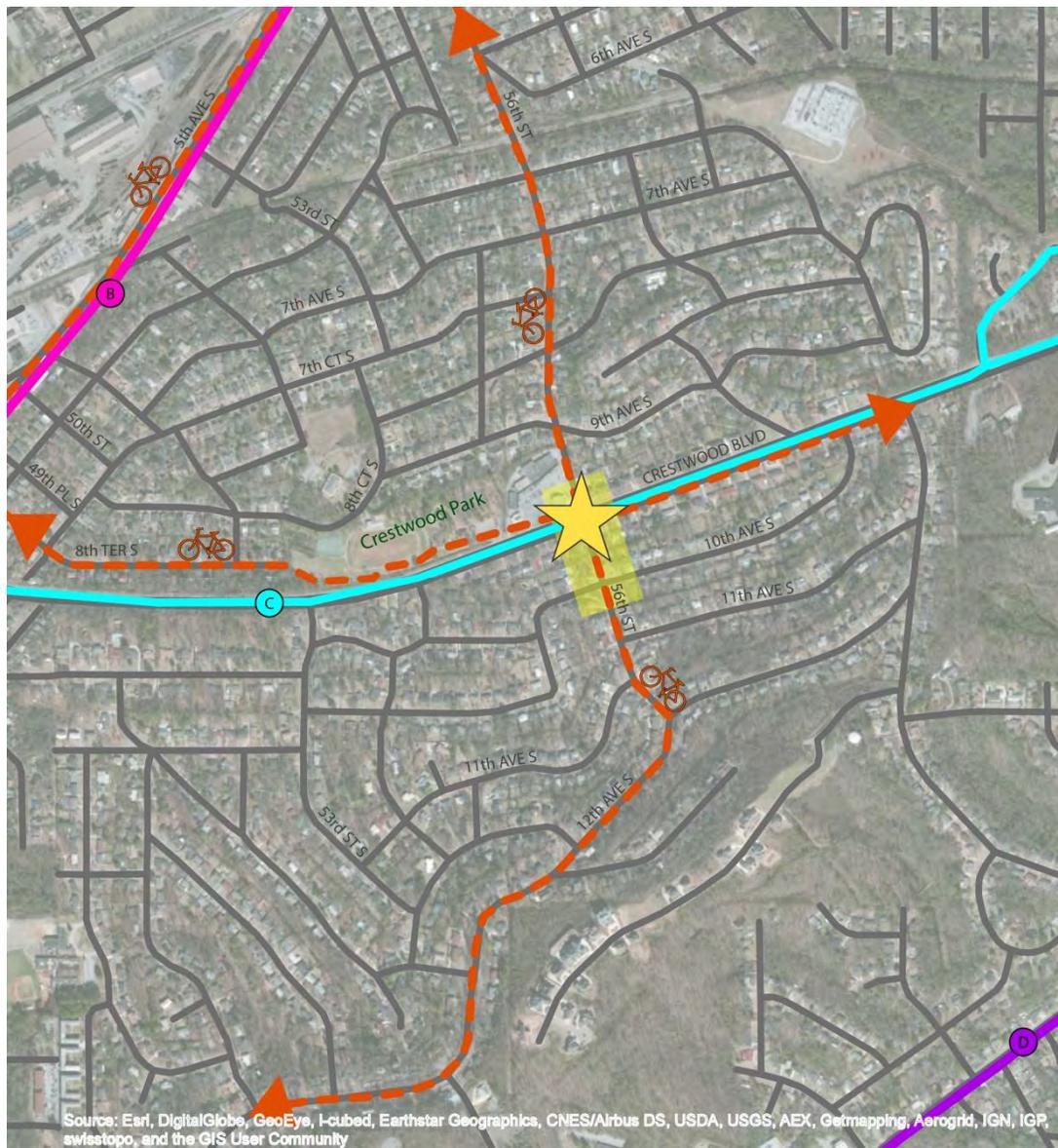
Crestwood is a postwar neighborhood that actually consists of two distinct parts separated by Crestwood Boulevard (US 78) – Crestwood South, which dates to the early 20th century but mostly developed in the late 1940's, and Crestwood North, developed in the 1950's. Crestwood is almost entirely residential except for a local shopping center and several community parks. Crestwood is a stable neighborhood with well-kept homes and high rate of owner occupancy.

Along Crestwood Boulevard (US 78) at the eastern end of this subarea exist more conventional, auto-oriented suburban developments: several large shopping centers including a Walmart Supercenter and a Home Depot, and single family neighborhoods with larger lots, winding streets, and cul-de-sacs. The Crestwood Shopping Center is an older, auto-oriented retail center of approximately 30,000 square feet. It also includes the Crestwood Tavern, a freestanding eating and drinking establishment, plus a Chevron gas station. The shopping center is also directly adjacent to Crestwood Park which was recently renovated.

The Eastwood commercial area is a very large concentration of automobile-oriented shopping centers, big box stores, and strip retail establishments along Crestwood Blvd (US 78) at the interchanges with I-20. These include a mixture of older, declining centers including a shuttered shopping mall, and newer power centers and big box hardware stores.

Figure 3-36 shows the proposed Crestwood Super Stop location and bicycle routes.

Figure 3-36: Crestwood Super Stop Location and Bicycle Routes



3.3.7.1 Crestwood / Eastwood Transit Super Stop Concepts

For Crestwood, a new super stop would be established at 56th Street at Crestwood Boulevard (Figure 3-37) and a controlled pedestrian crossing with sidewalks on each side of Crestwood Boulevard should be installed at the William K. Mathews and Crestwood stop.

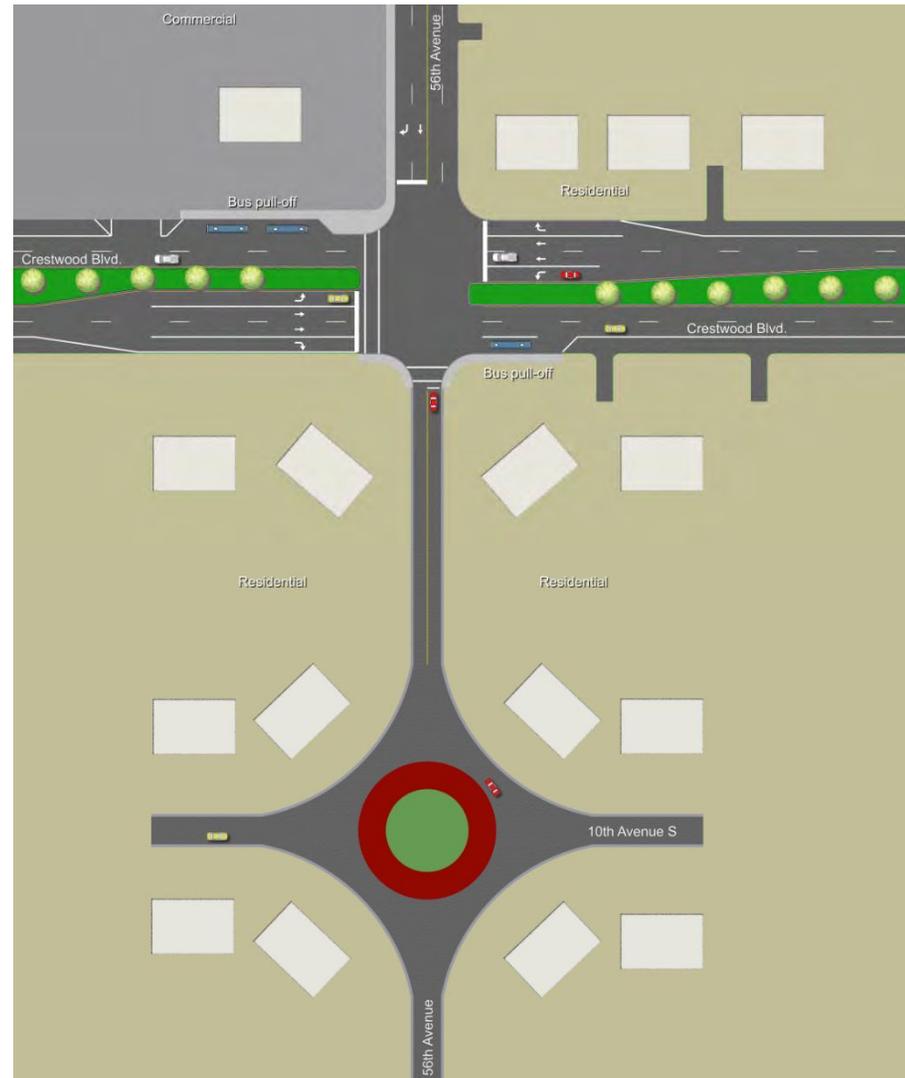
In the Eastwood area the Crestwood Boulevard stops at Home Depot and Cresthill Road should have a controlled pedestrian crossing and with sidewalks on both sides of Crestwood Boulevard. And, the stop currently in-front of the Walmart should be shifted to a new super stop to be located on either Oporto Madrid or Elder Street. The Eastwood Super Stop will be an important transfer location and would be served by both the Southside BRT and the revised Route 44. With the direct connection to Downtown and UAB, a small park and ride lot could be incorporated into the Eastwood Super Stop location. A significant redevelopment at the old Eastwood Mall could also change the preferred location for the Eastwood BRT Station.

3.3.7.2 Crestwood / Eastwood Land Use Concepts

Crestwood’s stable population and easy access to downtown create good market potential for transit-supportive development. However, much of Crestwood lacks a transit supportive development pattern or commercial center. It also has very little in the way of property available for redevelopment. The singular opportunity to create a transit-supportive destination and identifiable center in Crestwood is at the Crestwood Shopping Center. The shopping center and adjacent Crestwood Park have the potential to form a unique, central destination and place that knit together the two halves of Crestwood, further enhancing Crestwood’s appeal and strengthening its sense of place.

The Crestwood Shopping Center is performing fairly well and is fully leased. The opportunity to create a center lies largely with the willingness of the shopping center owner to redevelop or retrofit the property to become more

Figure 3-37: Crestwood Super Stop Concept



pedestrian-friendly. While a complete redevelopment of the center as a mixed-use development would be ideal, it is unlikely that doing so would be economically feasible or that sufficient financial incentive exists for such a dramatic change anytime in the foreseeable future. However, the potential does exist for more modest, incremental changes and improvements over time that could transform this property into the kind of amenity and destination envisioned.

Near-term improvements could conceivably include working with the shopping center owner to improve and rebrand the aesthetic appearance, branding, and facade of the main retail center as well as improve pedestrian facilities along the edges and interior of the property. This could entail planting street trees, landscaping, improving sidewalk and walkways and pedestrian and bicycle facility connections to Crestwood Park and the adjacent neighborhood.

A longer-term strategy could include redevelopment of the gas station site as an attractive commercial building or buildings along with a public gathering space. These buildings could contain retail and eating establishments on the ground floor with office or residential above. This redevelopment could add significant value to the shopping center and dramatically improve its desirability. It would also create a popular destination and identifiable community focal point for Crestwood. Figure 3-38 illustrates a concept for building massing at the Crestwood Shopping Center.

Figure 3-38: Crestwood Shopping Center Land Use Concept.



NOTE: This concept suggests that the existing gas station site could be redeveloped only if the opportunity exists (e.g. if the gas station site becomes vacant or if the gas station operator is willing and interested in selling or relocating). It does not suggest in any way that this existing business should be involuntarily displaced.

In 2006, the City of Birmingham completed a redevelopment plan for the Eastwood area called the Crestwood-Oporto Redevelopment Concept Plan. Like Parkway East, the concept envisions an ambitious suburban-retrofit that would transform select portions of the retail centers into a more pedestrian-friendly environment through a combination of new infill development and selective reconfiguration of roadways and parking lots to create a sense of place and a more transit-supportive environment.

The primary land use recommendation for the Crestwood / Eastwood area is to develop an implementation strategy for the Crestwood-Oporto Redevelopment Concept Plan, including incremental improvements that will support transit use and walkability.

3.3.7.3 Crestwood / Eastwood Complete Streets Concepts

Crestwood Boulevard is a higher speed facility. In the immediate proximity to the Crestwood neighborhood where single family homes front the roadway, traffic calming and speed controls should be evaluated. Sidewalks should be developed on both sides of Crestwood Boulevard from East Avondale to Eastwood and safe pedestrian crossings should be planned to transform this corridor from an auto centric to mixed mode corridor.

3.3.8 East Birmingham Gateways (TRUCK CITY) Complete Land Use and Streets Concepts

“Truck City” is a nickname for a large cluster of active light industrial/warehouse uses just east of downtown Birmingham. As the name implies, a large amount of goods are moved by trucks associated with businesses in this area, and many store large trucks on-site. While this is an area of significant employment, few amenities or services exist for workers. To maintain the viability and attractiveness of this district, several business owners have recently organized to discuss how to make Truck City a more appealing place and attract and retain workers. A key idea that has emerged is the notion of improving the streetscape along the streets in Truck City and there may be the opportunity to introduce amenities such as cafes, coffee shops, health clubs, and other retail uses and services within or near Truck City.

3.3.8.1 East Birmingham Gateways Complete Streets Concepts

The East Birmingham Gateways including 1st Avenue North, Messer Airport Highway and Richard Arrington, Jr. Boulevard connect East Birmingham and the Birmingham-Shuttlesworth Airport to Downtown. Each of these corridors shows significant amounts of decay and do not well represent the re-emerging Birmingham. Complete Streets concepts have been developed for the 1st Avenue North railroad viaduct and Richard Arrington, Jr. Boulevard. Figures 3-39 and 3-40 show the 1st Ave N. railroad viaduct road diet concepts.

Richard Arrington Boulevard, between the Birmingham-Shuttlesworth Airport and downtown, serves as a prime gateway for travelers going to and from the airport, convention center, and downtown and is being recommended in the proposed transit alternatives for use by the combined routes 20, 25 and 26 (transit Route E). The segment is approximately 2 miles long and runs along the boundaries of the Woodlawn, Light Industrial and Airport subareas. Figure 3-41 shows a concept for streetscape and sidewalk improvements along Richard Arrington Boulevard.

Figure 3-39: 1st Ave North Railroad Viaduct Road Diet with Bike, Pedestrian and Downtown Gateway Investments

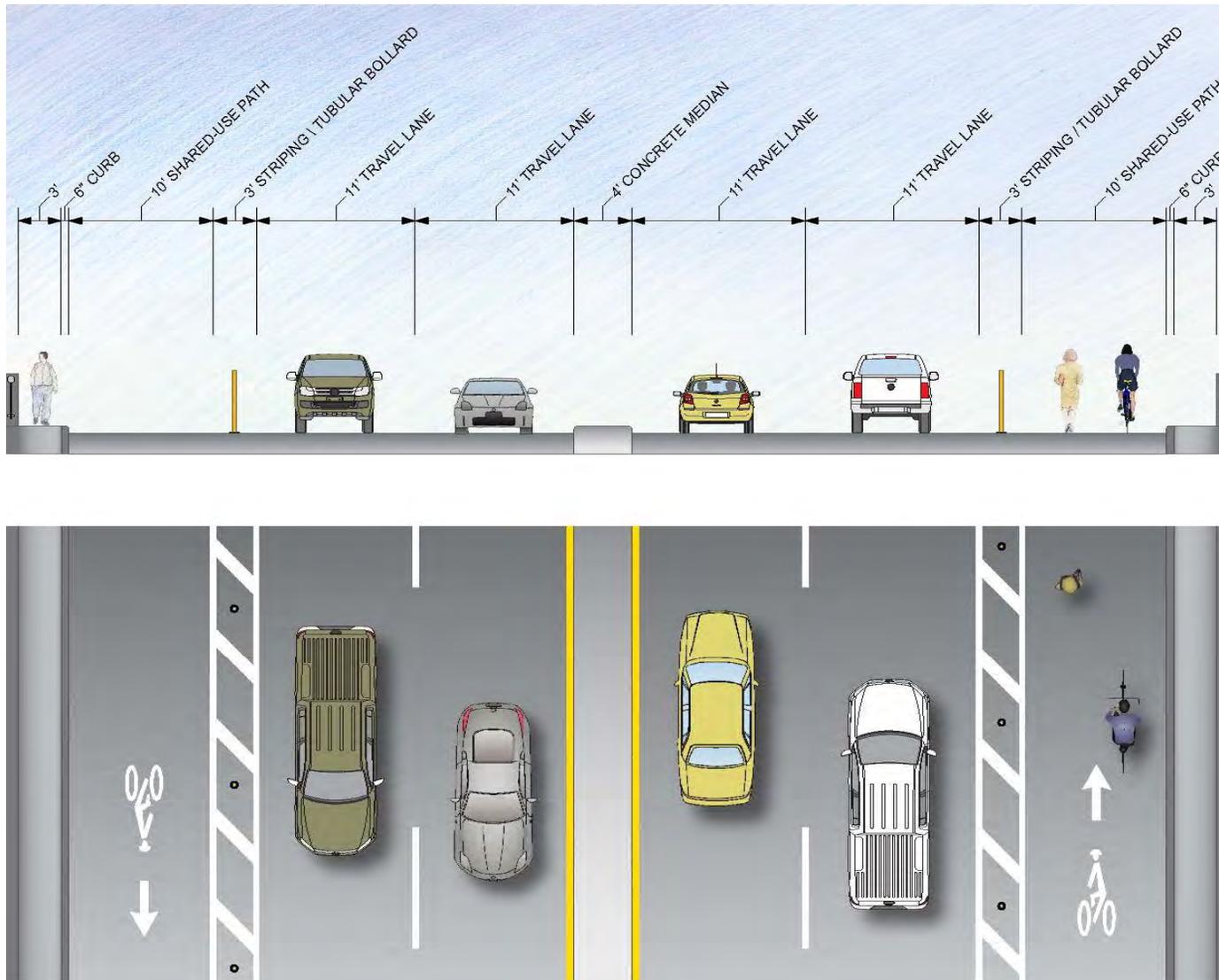


Figure 3-40: 1st Ave North Railroad Viaduct Road Diet with Bike, Pedestrian and Downtown Gateway Investments



Figure 3-41: Richard Arrington Boulevard Gateway Complete Streets Concept



3.4 East Birmingham Quiet Zone

This East Birmingham Quiet Zone was considered as a way to improve the livability and property values for the Crestwood, Woodlawn and Irondale communities. It is related to the transit alternatives analysis as a way to improve the economic conditions for a significant portion of the study area.

Two Norfolk Southern Railroads, the East End and the Alabama Great Southern converge at Irondale.

The **East End** is from Austell, Georgia to Birmingham, Alabama. It connects major freight yards at Austell, Atlanta, and Irondale. The East End measures 148.2 miles in length. The line is a FRA Class 3 Railroad with speeds up to 60 MPH. Many curves along the corridor restrict the speeds to 35 MPH. Through Woodlawn the East End is on the south side of the corridor. It is often used by the Amtrak.

The **Alabama Great Southern (AGS)** is from Chattanooga, Tennessee to Meridian, Mississippi and New Orleans, Louisiana. The corridor measures 295 miles in the Alabama Division. From Chattanooga to Irondale, the AGS has a track speed of 50 MPH and from Birmingham to Meridian the line has a track speed limit of 60 MPH. Through the Woodlawn area the AGS has two tracks on the northern side of the corridor.

The railroad grade crossings through the Woodlawn / Irondale area include:

Crossing	Railroad	Crossing #	Type of protection
Irondale - 20 th Street	AGS / East End	727995M	Lights and gates
Railroad Avenue	AGS	728001W	Cross bucks
Brussels Avenue (Harris Homes)	AGS	728003K	Lights and gates
Brussels Avenue (Harris Homes)	East End	728005Y	Lights and gates
Antwerp (64 th Place)	AGS / East End	728004S	Lights and gates
59 th Street	AGS / East End	728006F	Lights and gates
57 th Street	AGS / East End	728007M	Lights and gates field condition is lights only
56 th Street	AGS / East End	728008U	Lights
50 th Street	AGS / East End	728012J	Lights and gates

Appendix 2 includes analysis and recommendations for two East Birmingham and Irondale quiet zones.