



IMAGINE MEMORIAL

EXECUTIVE SUMMARY

• Edgewood • Kirkwood • Grant Park • Glenwood Park • Cabbagetown • East Lake • Oakhurst • Reynoldstown • East Atlanta •



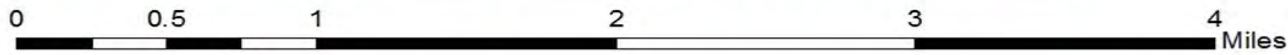
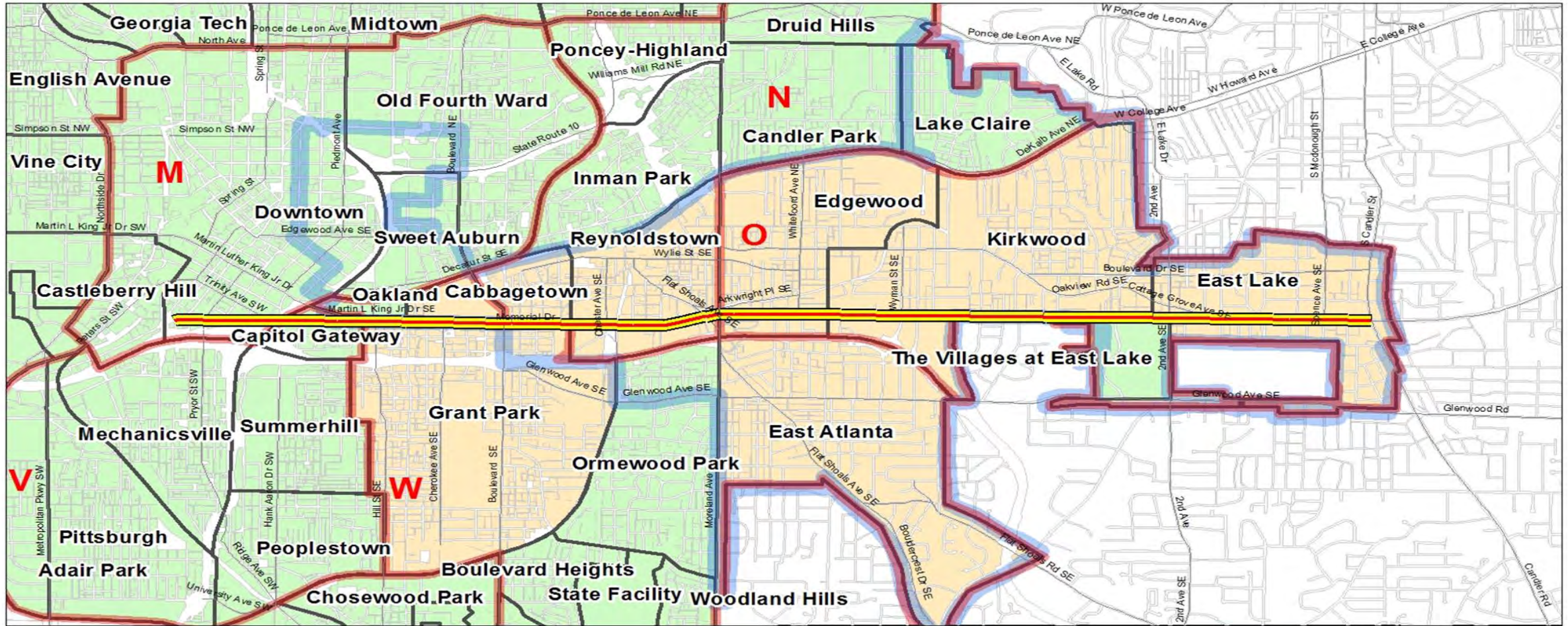
OVERVIEW

More than just a road, Memorial Drive is a key corridor with many stakeholders. Thousands of people live and work near the corridor. Dozens of businesses operate there. And many, many thousands of motorists, bicyclists and other people move through the corridor in all forms of transportation.

This executive summary is a high level overview of the Memorial Drive corridor findings. Guided by the honorable Natalyn Archibong, this executive summary and its findings were compiled by graduate students at the Georgia Tech School of City and Regional Planning, under the direction of Professor Michael Dobbins.

Stakeholder input was key to each of the findings herein. These findings reflect the values of these stakeholders, and are currently being compiled into a Livable Centers Initiative (LCI) report. We hope that the reader sees the value in the proposed improvement.

Outreach Neighborhoods



- Memorial Corridor**
- Meeting Neighborhoods**
- City Limits**
- Neighborhood Planning Units**
- Neighborhood Borders**
- District 5 Border**

OUTREACH

Outreach was the cornerstone of Imagine Memorial's findings. A corridor as sophisticated as Memorial Drive has many stakeholders with many complementary desires. Below is a description of those desires.

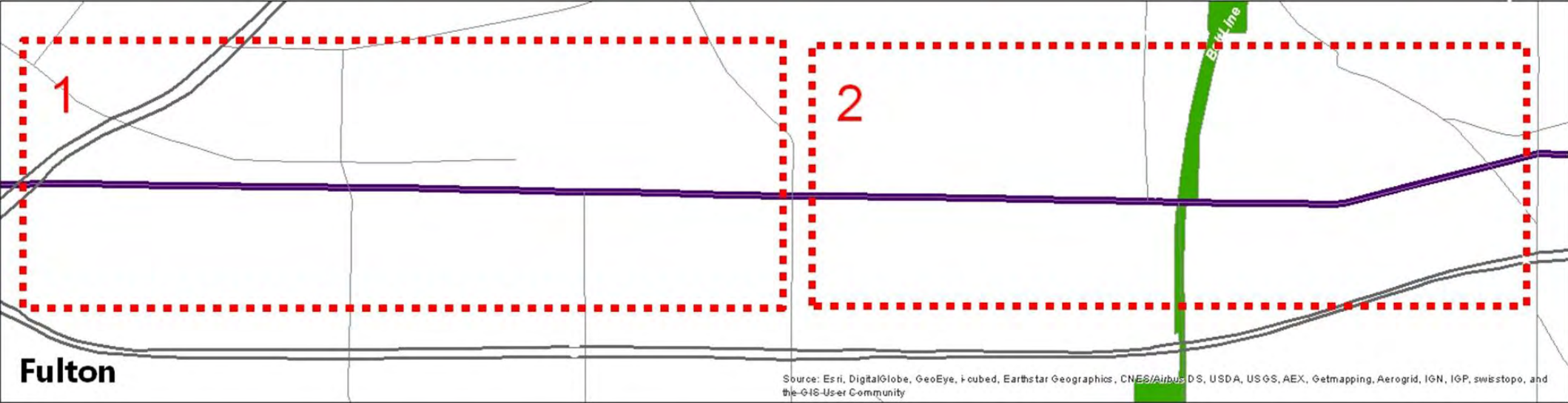
Residents

The studio attended every meeting for the seven neighborhood associations and five neighborhood planning units (NPU) that are adjacent to the corridor during August and September. At several of the meetings, Imagine Memorial students brought a map and post-it notes (opposite) to encourage resident ideas.

Institutions

Memorial Drive has a rich web of institutional stakeholders that maintain the road, provide transit, fund and build developments, and otherwise make the corridor a livable place. Imagine Memorial reached out to several of these stakeholders to provide intelligence, and give feedback on plan feasibility and implementation. The City of Atlanta, the Georgia Department of Transportation, Atlanta Public Schools, and the PATH Foundation are just some of the stakeholders we spoke with.

MEMORIAL DRIVE REAL ESTATE FOCUS AREAS



MARKET FEASIBILITY

Memorial Drive Corridor has grown exponentially in the last few years, with many more developments planned and in progress. The rapid land use changes will continue to happen with or without the LCI transportation infrastructure intervention. However the LCI has the potential to change the direction of future growth towards a more sustainable model that recasts the quality and character of the Drive.

Currently, almost anyone who needs to traverse Memorial Drive with access to a car will choose to drive. In the high growth areas of the corridor at risk for unbearable traffic, the streetscape improvements like consistent tree planting, lighting continuity, decreased traffic speeds, and reclamation of right of way for pedestrian infrastructure all work to promote walkability and access to transit. By giving travelers options, the number of single occupancy vehicle trips will go down and alleviate traffic pressure. Increased pedestrian street life will drive demand for new retail in mixed use developments.

The existing neighborhoods in the lower density areas along the corridor have echoed the need for pedestrian and biking infrastructure in every NPU and neighborhood meeting. Children have been hit crossing Memorial Drive trying to walk to school just in the last few months. In these areas, the streetscape improvements would increase neighborhood connectivity and spark neighborhood and private developers' interest in reimagining the commercial nodes and intersections. The investment in the livability and access to the Memorial Drive corridor would hopefully attract new job centers and kickstart grassroots neighborhood efforts like ecorestoration as well.



FUTURE LAND USE, ZONING AND URBAN DESIGN

To take full advantage of the LCI, targeted to improve connectivity, functionality, and access to the corridor, the development and planning community must consider the role that land uses and site design themselves contribute to this effort. This LCI responds to the needs of the community and aims to unify independent segments and neighborhoods with a walkable, well designed urban travelway. The development goals and future land uses must be guided by complementary principles of smart growth: Memorial should be a corridor for all, with a mix of housing options, a lot of greenspace, a focus on preservation of assets, and a vibrant, diverse economy.

The corridor can be divided into four unique sections, each with different challenges and opportunities. A description of these sections and opportunities is in the overleaf table.



Maynard Terrace and Clifton

- Adequate pedestrian access
- No disappearing lane at reversible transition
- Access management
- Level of Service



Examples of speed-reducing strategies



Moreland



Whitefoord "Ovalabout"



ROADWAY AND INTERSECTION DESIGN

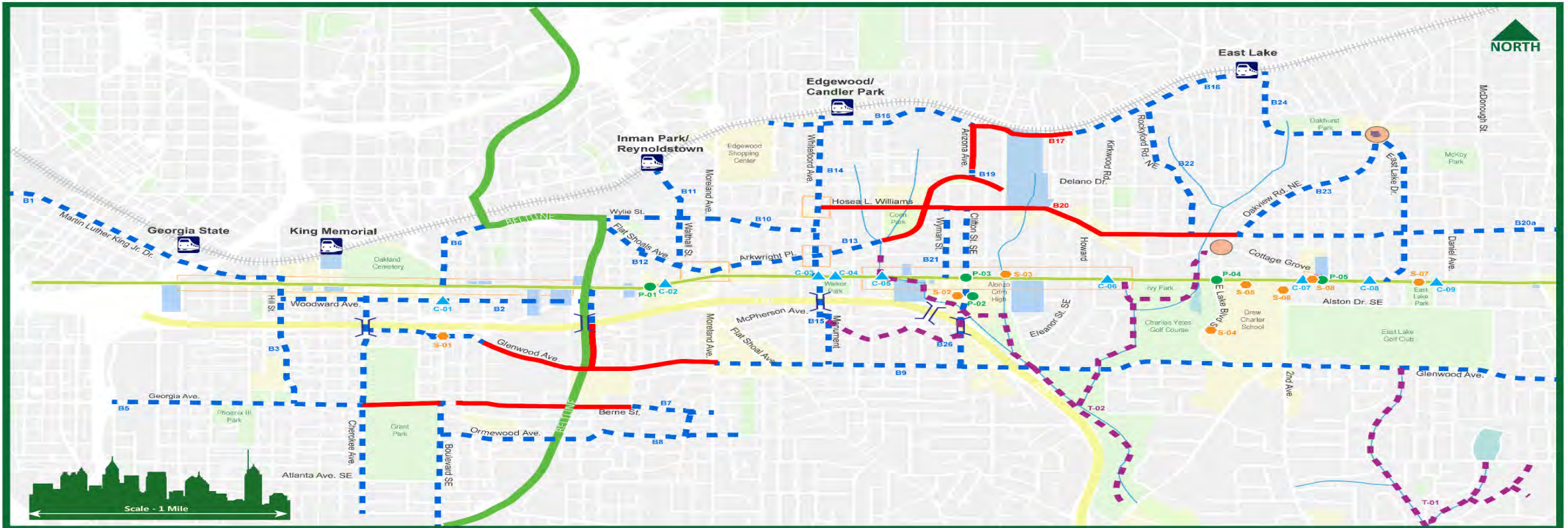
Imagine Memorial's design answers two questions of critical interest to stakeholders: how to make the corridor safer and more walkable for residents, and how to honor Memorial Drive's role as a strategic regional link. The final design balances the two by lowering design speed and creating innovative intersection designs.

Imagine Memorial's recommendations start with improving intersections. Signalizing some intersections while joining street access points at others eliminates dangerous sightline issues for motorists accessing Memorial Drive, and lowers the potential for speeding. At the same time, the recommendations preserve vehicle throughput. Changes to be made are signalization at Memorial and Howard Drive, roundabouts at Memorial's intersections with both Bill Kennedy Way and Wyman Avenue, and an oval-shaped traffic rotary consolidating Whitefoord Road and other access points to Memorial Drive.




The studio will also make changes to lane configuration. The longest stretch of lane change, between 2nd Avenue and Clifton Road, will see Memorial Drive go from four lanes to three lanes. This will make it safer to cross Memorial Drive along this stretch, especially to Drew Charter School and the East Lake YMCA. At the same time, the three lane configuration will preserve vehicle throughput.

IMAGINE MEMORIAL - CONNECTIVITY VISION

By Corentin Auguin, GA Tech MCRP 2014





PROPOSED

-  Sidewalk Project
-  Safety Project
-  Crosswalk Project




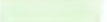

Shared Space

-  Shared Space
-  Candidate for Complete Street

-  Upcoming Activity Center
-  Improved Pedestrian Bridge

-  Proposed Bike Way or Upgrade
-  Proposed Multi-Use Trail
- S-01** Project Number

EXISTING

-  Activity Center
-  BeltLine
-  MARTA Rail station
-  Park
-  Bike Lane

SOURCES

This map represents the pedestrian and bike facilities vision for the future of Memorial Drive. The map incorporates parts of plans developed by the neighborhoods, local governments as well as Connect Atlanta, the MLK Jr. Dr. revitalization study, the Beltline subarea 4 study and the Regional Transportation Referendum along with the students' recommendations.

CONNECTIVITY

Connectivity is a primary measure of the success of a transportation network. Particularly in urban environments, multimodal connectivity can be one of, if not the most, important aspect of a proposed transportation network. As a comprehensive plan, the Imagine Memorial study focused heavily on providing alternatives for promoting and increasing future connectivity among the neighborhoods and activity centers of the Memorial Drive area. Major existing and future activity centers, current and proposed bicycle and pedestrian networks, and current and proposed transit networks were considered in order to address the consistent connectivity issues in the region.

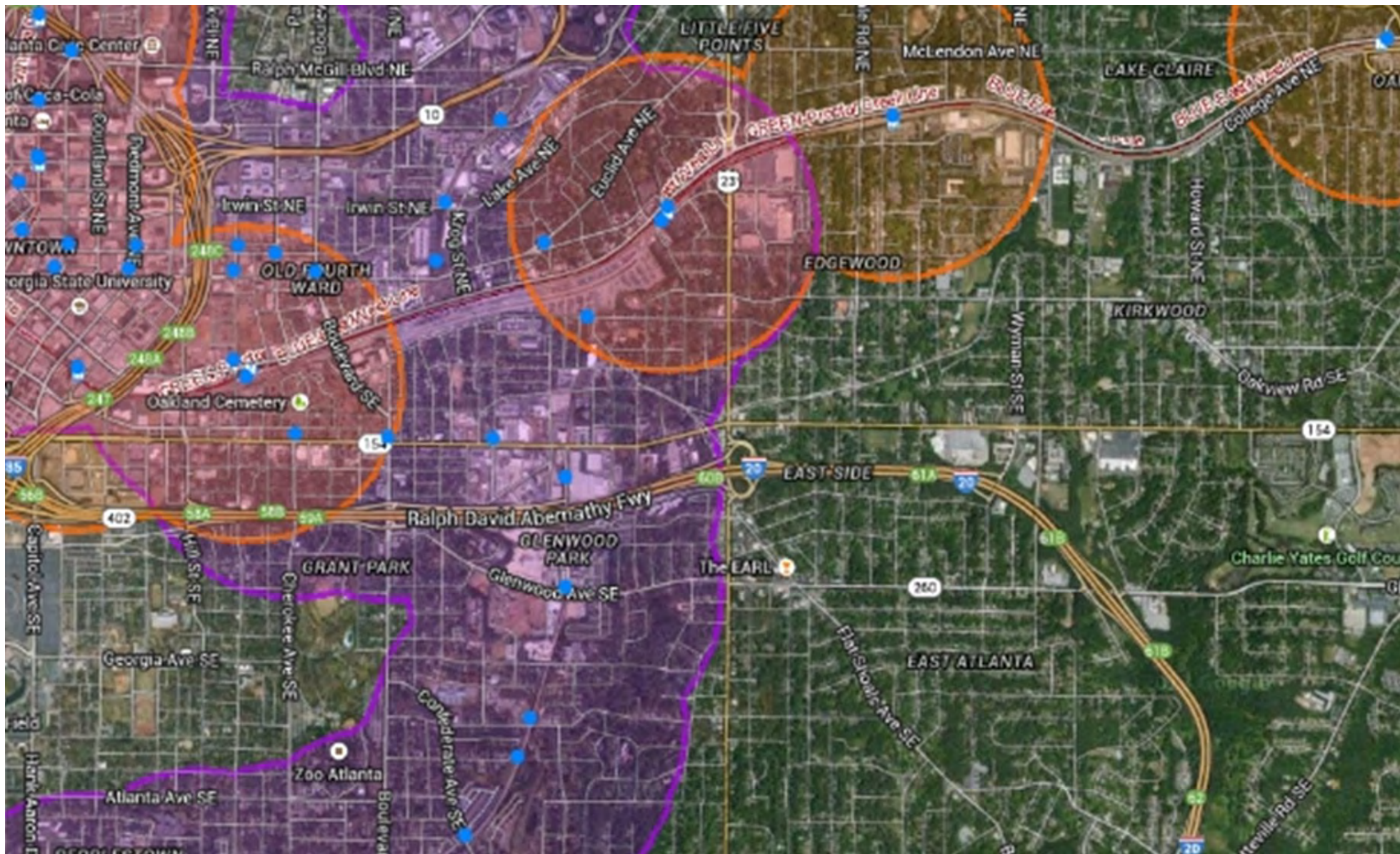
This connectivity plan was compiled through stakeholder and public input, collaboration with public and private entities, and spatial analysis and field work. Assessment began with an activity center analysis so to determine where there were a large number of trip origins and destinations. This analysis allowed for the identification of areas of major potential bicycle, pedestrian, transit and other alternative transportation mode activity. Imagine Memorial used this process to select several routes for pedestrian and bicycle paths, After this analysis was completed, potential alternative routes for non-automobile modes were devised through review of existing plans, public input, and consideration of ideal project designs from other locations in the United States and abroad.

Some of the larger highlights include:

Sidewalk near Drew Charter School, along the south side of Memorial Drive

Bike boulevard along Arkwright Dr. between Moreland Ave. and Gilliam Park

Various bike lanes and bike paths that connect to the existing bike lane on Hosea L. Williams Dr.



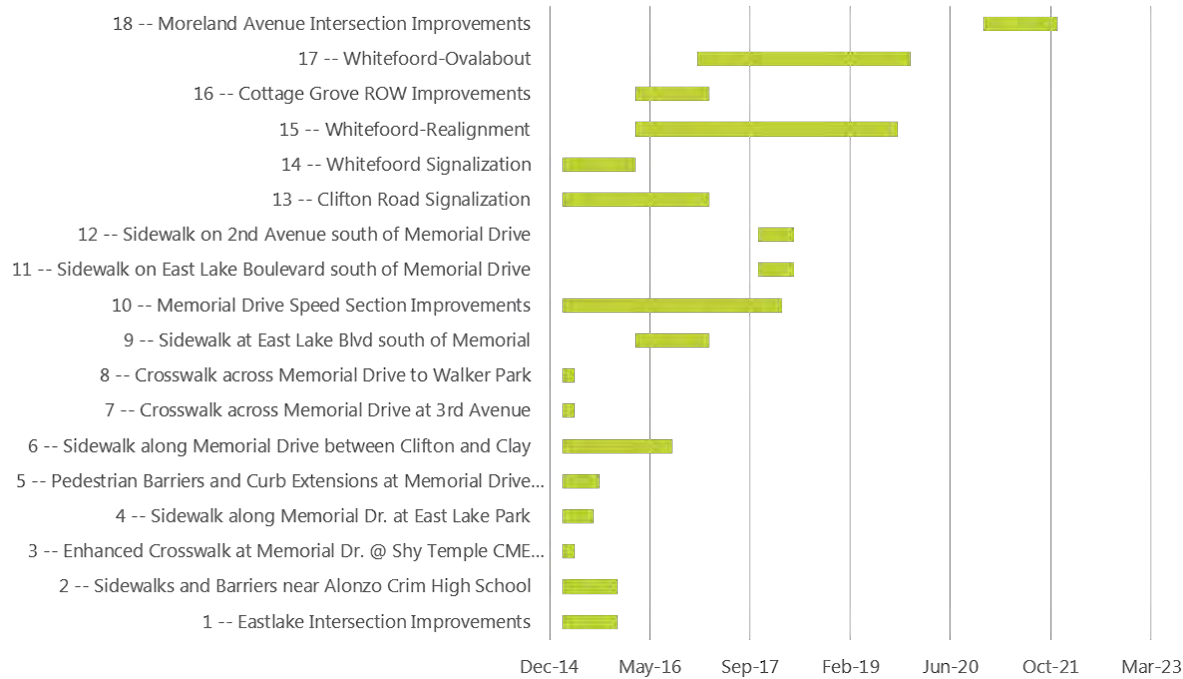
TRANSIT

One of the key goals of any LCI is to promote multimodal access by all transit modes. As such, it is important to have transit stations that have ample bicycle and pedestrian facilities within a half mile radius. This distance is the typical maximum distance one is willing to walk to a transit station.

The above map shows that classification for two types of stations. The **orange** circles are for existing transit stations. These tend to be MARTA Rail heavy rail stations. The **purple** buffer are proposed stations. These proposed stations are largely for bus rapid transit stations, a type of high frequency, high capacity bus service that makes only a few stops along the travel way.

At present, the **purple** circles do not have adequate facilities for bus rapid transit stations. Each station requires a minimum 11' travel lanes, covered shelters with real time arrival predictions, wayfinding signs, and lanes designated for buses to jump in front of cars waiting at intersections.

5 – Year Transportation Improvement Timeline



5 – Year Transportation Improvement Costs

Improvement	Investment
18 -- Moreland Avenue Intersection Improvements	\$ 148,104.00
17 -- Whitefoord-Ovalabout	\$ 1,435,732.80
16 -- Cottage Grove ROW Improvements	\$ 2,534.40
15 -- Whitefoord-Realignment	\$ 1,107,628.80
14 -- Whitefoord Signalization	\$ 315,748.80
13 -- Clifton Road Signalization	\$ 499,468.80
12 -- Sidewalk on 2nd Avenue south of Memorial Drive	\$ 21,750.00
11 -- Sidewalk on East Lake Boulevard south of Memorial Drive	\$ 32,000.00
10 -- Memorial Drive Speed Section Improvements	\$ 3,285,196.80
9 -- Sidewalk at East Lake Blvd south of Memorial	\$ 32,000.00
8 -- Crosswalk across Memorial Drive to Walker Park	\$ 3,000.00
7 -- Crosswalk across Memorial Drive at 3rd Avenue	\$ 3,000.00
6 -- Sidewalk along Memorial Drive between Clifton and Clay	\$ 11,610.00
5 -- Pedestrian Barriers and Curb Extensions at Memorial Drive and Clifton	\$ 20,910.00
4 -- Sidewalk along Memorial Dr. at East Lake Park	\$ 98,110.00
3 -- Enhanced Crosswalk at Memorial Dr. @ Shy Temple CME Church	\$ 3,000.00
2 -- Sidewalks and Barriers near Alonzo Crim High School	\$ 52,440.00
1 -- Eastlake Intersection Improvements	\$ 107,760.00

IMPLEMENTATION

How Imagine Memorial comes to life is almost as important as the findings that go into it. Taking a broad overview of the findings across teams, combined with community input, we find that the greatest need for transportation and land use synergies come from areas between Moreland Avenue and Candler Road.

Targeted transportation investments can improve corridor-wide safety, reduce needless speeding, and unlock acres of underused land for development.

The charts on the previous page show a cost estimate and timeline for transportation improvements along the corridor. These improvements, once made, will enhance quality of life along the entire corridor. While many roadway projects will be financed by GDOT, most of the bicycle and pedestrian improvements will be financed through a unique public-private partnership structure.



Project Team

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A planning partnership with Councilwoman Natalyn Archibong,
Atlanta residents, and Georgia Tech's School of City and Regional Planning

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IMAGINE MEMORIAL

A planning partnership with Councilwoman Natalyn Archibong, Atlanta residents, and Georgia Tech's School of City and Regional Planning



Georgia Tech Studio Members: Prof. Michael Dobbins (FAIA, FAICP), Marcus Ashdown, Corentin Auguin, Greg Giuffrida, Bakari Height, Wade Ingram, Charles Jiang, Jason Novsam, Ranjani Prabhakar, Elizabeth Vason, Li Yi

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I. INTRODUCTION

Memorial Drive is a key historic corridor for the City of Atlanta and the eastern half of the metropolitan area. Heading from downtown to the eastern end of city limits, a traveler will pass by Oakland Cemetery, past and current manufacturing hubs in Cabbagetown and Reynoldstown, through the center of the 1864 Battle of Atlanta, and Bobby Jones' home golf course. Along the way are historical neighborhoods that are being restored, renovated, and reinvented as more people seek to live closer to the city in places with character and history.

Despite the strong communities on either side, in recent decades the route has served as more of a dividing barrier rather than a seam of activity. High travel speeds, deteriorating infrastructure, and a lack of multimodal options have limited kept some parts of Memorial Drive from being more than a commuter route to downtown. However, the corridor is seeing an unprecedented amount of new construction and reinvestment as Atlanta's real estate market rebounds from the Great Recession and responds to the next phase of the Atlanta BeltLine's Eastside Trail.

At the request of Atlanta City Councilmember Natalyn Archibong, students in Georgia Tech's School of City and Regional Planning conducted a semester-long studio project examining the corridor from Peachtree Street to Candler Road for opportunities to improve travel efficiency, safety, development, and character. This plan is eligible to be grandfathered as a Livable Centers Initiative (LCI) report.

The plan advances three goals in common with the LCI:

- Identifying underused land for redevelopment into more desirable destinations. By focusing on clusters as far ranging as the Cottage Grove and Boulevard intersections, this plan identifies opportunities to increase the local tax base, attract trips, and reduce vehicle miles traveled (VMT).
- Enhancing multimodal connectivity. Community stakeholders demanded improvements to Memorial Drive itself, and this plan calls for improvements to reduce auto speed and increase safety along the corridor, while simultaneously maintaining efficiency. At the same time, the plan calls for bicycle and pedestrian facilities throughout the corridor.
- Proposing public-private coordination to finance some of the transportation improvements and evaluate performance. Specifically, it calls for creating a foundation that would leverage public funding with private donations. This would primarily be applied to multimodal connectivity improvements.

The intensity and diversity of uses on Memorial Drive are already changing quickly, and they will continue changing at a rapid pace in coming years. Responding to these changes with sound transportation solutions will require a robust and ongoing planning process that collects input from all stakeholders and applies their needs in a logical and transparent fashion. The authors believe this report and the LCI program offer a firm foundation for delivering it.

II. HISTORY

Memorial Drive, which up until the 1940s was called Fair Street, earned its name over time with a steady accumulation of historical assets including battlegrounds, neighborhoods, and industrial buildings. Oakland Cemetery is Memorial Drive's most well-known historic attraction, founded in 1850 as "Atlanta Graveyard." The rural garden cemetery was a departure from traditional cemeteries attached to churches. In 1858, the Atlanta Rolling Mill began operations. It was soon destroyed when the corridor became the site of the Battle of Atlanta, and General Sherman finalized the Union's siege of the city. In response, Oakland Cemetery expanded from six to 48 acres to provide much needed burial space. Old ironworks can still be found in Grant Park, a neighborhood built during Reconstruction from the holdings of Col. L. P. Grant, who donated the land for the eponymous park.

By the late 1880's, the corridor was densely populated enough to see the construction a streetcar line. The old mill was restored as the Fulton Bag and Cotton mill (now converted to loft apartments). The historic neighborhood of Cabbagetown emerged as a mill village at the turn of the century. In the 1920's, John F. Faith Elementary (currently being adapted for artist studios) was founded, as was Ed S. Cook Elementary (built on the site of Fair Street School and now home to Wesley International Charter School). The schools both have unique early 20th-Century architectural features.

Several industrial buildings from the 1950s mark Memorial Drive's history as an industrial corridor. These historic Art Moderne buildings include the Pittsburg Plate Glass Company building (adapted for the new Habitat for Humanity Headquarters) and the Atlanta Dairies building (soon to be restored and turned into a mixed-use development). Generally, active neighborhood leaders and developers should be commended for their efforts past and present to preserve and adapt historically significant buildings where possible. They contribute to a sense of place that is one of the corridor's defining characteristics. This report seeks to maintain Memorial Drive's long history as a hub of strong neighborhoods and economic activity, and as a thoroughfare connecting downtown to the suburbs.

Ecological preservation is also a consideration. Atlanta has long been known for a tree canopy that supports a diverse ecosystem and mitigates urban heat effect. These natural resources are quickly disappearing with infill developments. Memorial Drive is home to many white oak trees dating over 150 years old. White Oaks are indigenous to the Piedmont area and indicative of native ecosystems. The corridor is also part of the South River watershed, a tributary to the Ocmulgee, with both Sugar Creek and Doolittle Creek originating in the area. With the proposed trail and streetscape improvements, this study aims to incorporate the restoration and renewal of natural ecosystems along the corridor wherever possible.

III. EXISTING CONDITIONS

The first step of the analysis was a detailed report on existing conditions, which is attached as Appendix A of this report. This report was presented to community stakeholders in a public meeting and made available for input, criticism, and additions. The robust community engagement process is detailed in the next section.

IV. OUTREACH

From its inception, the Imagine Memorial project was intended to use outreach to help residents and stakeholders imagine what their corridor could be. Each finding is informed by values the studio group learned from residents by going to their communities and listening to them. Below is a description of that effort and a compilation of what they had to say.

Residents

There are nine city-designated neighborhoods that directly touch Memorial Drive, with one being in unincorporated DeKalb County. Of these nine neighborhoods, seven have active neighborhood associations that serve quasi-governmental functions, such as recommending zoning improvements to neighborhood planning units (NPIUs). These groups broadly have mandates from the residents who live there. The groups the studio

visited include:

- Atlanta Downtown Neighborhood Association (ADNA)
- Grant Park Neighborhood Association (GPNA)
- Cabbagetown Neighborhood Improvement Association (CNIA)
- Reynoldstown Civic Improvement League (RCIA)
- Organized Neighbors of Edgewood (ONE)
- Kirkwood Neighbors Organization (KNO)
- East Lake Neighbors Community Association (ELCNA)

These neighborhood groups are part of larger Neighborhood Planning Units (NPIUs). An NPIU's main function is to make final advisory or denial of zoning applications before they go to the city council. There are five NPIUs along within the study area, with one making up the entire eastern half of Memorial Drive. To ensure that every neighborhood was accounted for and every resident had the opportunity to contribute, the studio team went to each NPIU meeting between Sept. 1 and Oct. 31 of 2014. In addition, the team collected and studied each existing neighborhood plan, including master, transportation, land use, and development plans, for recommendations based on best practices and sound engineering techniques.

Initially, the studio's outreach team began attending neighborhood and NPIU meetings in September 2014. Taking what was learned from the meetings, the outreach team developed a plan to obtain community input by early October. At each October meeting the team took a large hand-drawn map of the

Memorial Drive corridor to each neighborhood. In most cases they communicated with the meeting officials beforehand to secure a spot on the meeting's agenda. They used this time before the neighborhood to formally introduce and explain the studio, answer any questions, explain that studio's goal of a near-complete LCI study, and invited all residents to write notes (Post-it notes and pens were provided) on the large map, or send comments to the studio's email and Facebook page (<https://www.facebook.com/groups/memorialdrivestudio/>). A mailing address was also listed in presentation materials to ensure that those without Internet access could contribute written input.

Institutions

Studio members consulted several public, non-profit and private entities with ownership or other interests in the area. Their presence in the study area give a backbone, public and private, for attracting funding sources for projects. The studio approached these stakeholders in the sense of collecting particular projects and initiatives that will yield a larger method of a comprehensive redevelopment plan for this burgeoning area of Atlanta. They include:

- Georgia Department of Transportation
- Georgia State Building Authority
- Atlanta Housing Authority
- City of Atlanta
- Office of Planning

- Department of Public Works
- Department of Watershed Management
- MARTA
- Atlanta BeltLine, Inc.
- Invest Atlanta
- Atlanta Public Schools
- Drew Charter School
- Historic Oakland Foundation
- Purpose-Built Communities
- Urban Realty Partners
- Integral
- Various other small developers and property owner

Samples of neighborhood feedback (verbatim):

Reynoldstown (Reynoldstown Civic Improvement League)

- "road diet: add bike lanes (if possible, protected lanes), wider sidewalks, trees/greenery, lower speed limits"
- "lite rail on BeltLine, grocery store near Parmalat"
- "pedestrian safety island crossings, actuated green-space, better N/S turning at lights to improve exits from R-Town"

Grant Park (Grant Park Neighborhood Association)

- "no left turn lane (Boulevard and Memorial)", "bookstore"
- "enforce speed to 25 mph"
- "add bike lanes to Memorial, sidewalks between Boulevard and Bill Kennedy"

- “protect and encourage the preservation of the art modern-styled Parmalot dairy buildings (yes as many that can be saved and creatively used) and use federal and state historical preservation tax incentives to make the proformas work. Also preserve the mid-20th century features of the corridor between Boulevard and Bill Kennedy”

Cabbagetown (Cabbagetown Neighborhood Improvement Association)

- “parking considerations to alleviate congestion”,
- “bike lanes, crosswalks on memorial”
- “swimming pool”
- “tennis courts”
- “Trader Joes”
- “easier access to King Memorial MARTA station”

Kirkwood (Kirkwood Neighbors Organization)

- “commercial development on land which adjacent to Memorial”
- “reduced speed limits”
- “design speed lowered to 25 mph”
- “greater access to the south side of Memorial Drive”
- “4-lane portion of Memorial stifles Kirkwood’s southern commercial potential”

Edgewood (Organized Neighbors of Edgewood)

- “duplicate our efforts of the previous LCI study attempt

East Lake (East Lake Neighbors Community Association)

- “sidewalks on both sides of street, in places where there are none currently”
- “road diet”
- “off-street bike route along creek for north-south connectivity”
- “re-stripe/add more crosswalks”
- “no more ‘suicide lanes’ as everyone perceives them as dangerous”
- “east side shuttle from Agnes Scott to Edgewood along Memorial”
- “connectivity to East Lake MARTA or East Ponce”
- “more commercial development and kid-friendly developments (e.g. skating rink)”
- “better lighting”

City Hall Atrium stakeholder public/private/non-profit/citizen meeting feedback

- “We need (rather desperately) a safe pedestrian crossing @ Daniel for East Lake Park; the bulk of our people live North of Memorial and our main/only park is South. Crossing on foot is taking your life In your hands, even as a able-bodied adult. We need a HAWK signal or something MAJOR like that!”
- “The section between Maynard Terrace and Candler Road has very high potential to remain and enhance “Green Zone” with stream corridors and greenspace. Let’s keep redevelopment of built structures WEST of the shipping center near Maynard Terrace.”

- “I think the neighborhood around Walker Park between Whitefoord and Wyman needs basic amenities for existing residents in homes and apartments, especially a grocery store that will not create a “food mirage” for residents. N/S pedestrian connectivity to East Atlanta Village over I-20 would be fantastic. Extending the Sugar Crk Trail to Walker Park would improve multi-use trail connectivity in the neighborhood. If it’s possible to make Atlanta Shopping Ctr a combo of commercial and green space, that would be ideal.”
- “It is very important to preserve existing trees rather than re-plant new trees in all places where no new buildings will stand. And in planning building locations to take into account existing trees and even small green spaces - replanting is not an equivalent, and Atlanta is so special because of its existing urban forest. Thank you so much for the opportunity to comment.”
- “We need safe pedestrian crossing and possibly a major re-design of the intersections of Memorial and East Lake Boulevard, and Memorial and 2nd, where students must cross to reach Drew Charter schools, especially the large and growing new high school.”
- Lewis informed the studio of three GDOT projects which directly affect the study area. He also recommended studying Reynoldstown’s master plan from 2000, along with Edgewood and Kirkwood’s trail map plans. He suggested the City Atlanta 1.0 Plan for a better understanding of bike routes, and suggested not putting bike lanes on Memorial, as Woodward has already been chosen as the route to connect the BeltLine and Capitol Gateway. He recommended looking into a bus rapid transit station at Maynard Terrace, which is not currently in MARTA’s plan for the I-20 BRT corridor.
- A later joint meeting between the planning department and watershed management informed the studio of the large water tank set to go on city property in Reynoldstown, two blocks north of Memorial and adjacent to the BeltLine.

Atlanta Public Schools (APS) -- Jere Smith, Director of Capital Improvement

- Smith explained that APS has no control over sidewalks or any other access decisions unless they are directly on APS property. He admitted there is a need for better coordination with the City. Also, despite the influx of people moving back to in-town apartments, the numbers of children in those developments in negligible. There are currently no plans to expand school facilities along the corridor in the foreseeable future. The main push in terms of capital improvements is to increase the numbers of sports facilities at the schools.

Public sector entities

City of Atlanta Planning Department -- Jonathan Lewis, Interim Assistant Director of Transportation Planning, and Jessica Lavandier.

Georgia Department of Transportation (GDOT) – Operations and Planning departments, various officials

- The studio met with several members of GDOT’s Planning department. We specifically asked for GDOT’s opinion on some of our transportation concepts (e.g. lowering speed limits, road diets, restriping, etc.). Overall, their reaction was summed up by saying that virtually any design changes would be permitted as long as a road’s throughput was not affected. They clarified GDOT is not responsible for any sidewalks along their routes.
- GDOT also informed us that a new crosswalk was being considered along Memorial Drive near East Lake School. For other crosswalk improvements the best way forward is to build community support in the form of a coalition, getting letters written, etc.: the louder the noise, the greater the likelihood they would see results.

Metropolitan Atlanta Rapid Transit Authority (MARTA) -- Kelly Hayden, Manager of Service Planning and Scheduling, and Jason Ward, Manager of Joint Development

- Hayden’s meeting concerned the corridor operational analysis conducted for MARTA by Parsons Brinkerhoff. She discussed idea of determining how much of our study area has new GSU students living in it, and whether they should be included in the study. If density were higher, Memorial Drive could be a candidate for a streetcar. Another way speeds can be lowered is by adjusting signal times, without changing actual speed limit. MARTA advised against bike lines along bus corridors for safety concerns. They are in favor of reversible lanes as a way to

increase a road’s volume without increasing capacity. Hayden explained that they do not manage their bus shelters, but high traffic generally encourages them to be built.

- In a separate phone call with Jason Ward, the studio asked about MARTA’s transit oriented development (TOD) along the corridor. MARTA is ground-leasing to Walton for the development of the King Memorial station TOD. There are no parking replacement requirements. MARTA has required a minimum of 20% affordable housing. They have settled on affordable senior housing so it could be done as a separate building, which worked much better for the site configuration. Walton won the selection process because they had the highest projected revenues from the ground lease since their development was the densest. King Memorial TOD will hopefully set the example for TOD in other areas of the city. They have learned a lot of lessons from Lindbergh.

Private sector entities

Carter/HGOR -- Various officials

- The studio heard much about the possible Carter-GSU development on the Turner Field site. Also, HGOR landscaped Liberty Plaza and drew up plans for a roundabout at Capitol Avenue and Memorial Drive. They confirmed that there are plans for the judicial complex to move into the Archives building and that funds have been approved for it. The roundabout has not been funded but is in the planning stages. It would save money on the signal timing maintenance. In

addition, to setting the tone for the entrance to the Memorial Corridor, and would truly cement the idea of Memorial as a distinguished street.

Integral -- Valerie Edwards, Executive Vice President, Development Division

- Integral owns a key property along what was once to be the Memorial Drive Capitol Greenway, just north of Capitol Gateway Apartments which Integral also owns. Edwards explained that Integral is definitely interested in developing the property in question, especially if the adjacent State Archives site will be taken out of play by the judicial complex. With its proximity to GSU, they would like to build housing for students, and more specifically, a "40% public housing, 20% tax credit, and 40% market rate" allotment. She explained the details of what goes in to building affordable units and the issues regarding mixed-use development and lenders. She believes this portion of Memorial is in serious need of retail, something Integral's development plans to capture. Integral plans to develop the site incrementally over the next 7-8 years.

Atlanta Gas Light (AGL) -- MarSay Simpson, Director of Regional Community Relations and Economic Development

- The studio asked about the possible plans for a new office location at the Atlantic Shopping Center. He said that AGL is evaluating sites for a new service center that would include many additional jobs and a training facility. AGL has taken a look at that property as a possible location, and they are

considering several other properties, as well. No plans have been finalized for a location, so that property is still very much in play.

Nextran -- Terry Barrows, Vice President & General Manager

- Barrows explained how Nextran's property was rezoned a few years ago, which increased the density that was possible and increased demand for another type of use. Currently their property is under contract. Nextran negotiated a 2-4 year lease back clause, so they will have a chance to find another location and will not be leaving in the immediate term. The in-town location is not ideal for their business anymore. Trucks have gotten bigger in the last few years and their customers are often outside the perimeter. They have 60 employees, and none of them live within a 10-mile radius of the location. They will likely relocate outside the perimeter.

Cabbagetown small business owner and developer -- Ron Fisher

- Ron owns a building on Carol Street and has converted it to loft offices. He is planning a coffee shop in the old Cube building. He explained several of the regulations that he has to consider as he plans his site and some of the differences between Cabbagetown's regulations as compared to the regulations across Memorial Drive.

Nonprofits

PATH Foundation -- Ed McBrayer, Executive Director

- Discussed Studio's connectivity plan with professionals to obtain their input. The PATH foundation only has two trails in that area that are already done: the trolley trail going to Gilliam Park and the ongoing Battle of Atlanta Trail along Sugar Creek north of I-20. They do not have anything else planned for the moment in this area. PATH foundation seemed happy with studio's proposed plan. Meeting ended with discussion of the PATH foundation way of getting funding and what alliances they make to get funding for their trails.

Trees Atlanta -- Jim Urban, Landscape Architect

- The studio was walked through several considerations which must be taken into account with urban tree planting and maintaining (e.g. distance from curb for visibility, distance from fire hydrants, distance from stop signs, height restrictions where there are power lines, etc.). Utilities are always a challenge, and it will be particularly difficult on Memorial because of all the curb cuts. As Trees Atlanta looks at Memorial, they may want to prioritize one side of the road for bigger trees -- whichever side has more space and is not under as many power lines. Regarding costs, without changing the soil it would be \$400-450 per tree. If the sidewalk must saw-cut, it's generally \$5/SF to remove concrete, then the well cut and soil, so that is generally about \$1,000 total per tree.

Invest Atlanta -- Chris Leutzinger, Real Estate Development Specialist, and Kent Spencer, Manager of Business Retention and Expansion

- Leutzinger discussed the status of the Eastside Tax Allocation District (TAD). Currently, the Eastside TAD has about \$50 million of increment in it, but there is an unofficial freeze on TAD spending throughout the city while the dispute between Atlanta BeltLine, Inc. and Atlanta Public Schools is worked out. There was some political discussion over the summer about shutting down the Eastside TAD, in part because it is structured differently than other Atlanta TADs. It could be cashed out completely and put toward other parts of the budget. But that effort was pushed back and it doesn't appear to be an issue now.
- Once the BeltLine/APS issue is resolved, Eastside TAD funds could be spent along the Memorial Drive corridor. There is not an official list of projects and priorities, but a broad priority remains acquiring land for the Memorial Greenway plan to create a mall stretching from Oakland Cemetery to the State Capitol. Other areas for spending could be for small businesses, streetcar, parking in the Sweet Auburn district, and historical preservation.
- Spencer said Invest Atlanta is in touch with several businesses along Memorial Corridor, most notably Leggett & Platt. They are doing their best to try to understand the needs of those businesses, but the land values are climbing too fast for IA to be able to compete with equivalent financial incentives. Spencer's contact at Leggett & Platt has said that the company

would like to keep their in-town location. They have a mix of hourly and salaried workers there, totaling 150 employees. Over 40% of the hourly employees live in the area and many walk to work. They are interested in additional transit options and pedestrian infrastructure. However, the final decision of whether to sell will come from their New York headquarters. If a sale were to happen, they would likely sell the land along with the business, which is a Leggett & Platt subsidiary called Masterrack.

V. MARKET FEASIBILITY ANALYSIS

Introduction

Memorial Drive, especially west of Moreland Avenue, has seen a boom in acquisition and construction in the last three years, with multiple multifamily and mixed-use projects planned. This growth has been catalyzed by the Atlanta BeltLine's planned Eastside Trail extension from Irwin Street to Memorial, the recent rebound of the real estate cycle, and the founding of several charter schools along the corridor. The growth is shaping the demand for LCI travelway improvements.

Making population and employment projections even out to just five years during such a boom can be problematic and prone to significant amounts of error. Looking at current real estate trends provides a better sense of the revealed preferences for the volume and demographics of people who will want to live

and work in the area. Also, it is important to note the amount of capital flowing into the corridor. The total amount of public and private investment that has been programmed or dedicated to the corridor currently totals over \$100 million.

Memorial Drive has seen a flood of new mixed-use developments, some under construction and some in planning, which will drive demand for biking and walking. Residents have echoed the need for pedestrian and biking infrastructure in every NPU and neighborhood meeting. A young girl was hit by a car crossing Memorial Drive trying to walk to school in October 2014. Currently, almost anyone who needs to traverse Memorial Drive with access to a car will choose to drive. By providing infrastructure for walking trips and transit and by decreasing traffic speed to support pedestrian environment, residents and visitors will have multiple options for travel. By giving travelers choices, the number of single-occupancy vehicle trips will go down and alleviate traffic pressure.

The rapid land use changes will continue to happen with or without the LCI transportation infrastructure intervention. However, the LCI has the potential to change the direction of future growth towards a more sustainable model.

Land Use, Zoning and Urban Design

The City's future land use plan and zoning maps generally support the LCI study's overall development and transportation

strategies. In broad terms, the length of Memorial west of Moreland Avenue is developing and redeveloping in a mixed-use, mixed-density fashion. The study anticipates and supports this incremental transformation. The study recommends caution in over-responding to the current boom in higher-end residential and retail development, out of concern that rising land costs and taxes could threaten the economic stability of the neighborhoods.

Just east of Moreland, the study notes new multifamily development activity. Farther to the east, the use, character, and zoning patterns are relatively stable, supporting single-family housing with occasional multifamily complexes and small, neighborhood-serving retail sites. In this part of the corridor, the study supports maintaining the future land use and accompanying zoning, with possible exceptions noted below.

The study's proposed transportation improvements along Memorial will support a modest and incremental increase in development activity and will do so in a manner that improves both access to destinations and the quality and character of the travel experience. Any major acceleration of new development or redevelopment, on the other hand, should not be encouraged unless and until significant new transit or other mode capacity is implemented.

A number of natural assets exist along the corridor that could contribute to a continuity of greenspace, watershed protection and recreational opportunities. Environmentally

oriented citizens and neighborhoods are already investigating ways to build on the strengths of existing green infrastructure. Future land use changes might be contemplated to support these initiatives by designating conservation easements or purchased lands as open space.

Within this general context, the study recommends the following:

- **Affordable Housing:** Noting that affordable housing is an LCI and City policy priority, the inclusion of affordable units should be considered by NPUs and city planning officials in the development of both public land and on some privately owned parcels requiring rezoning for development. MARTA has a useful precedent in requiring all future development on its properties to have 20% affordable units.
- **Job Creation:** Similarly, requirements related to hiring low-income individuals (including job training) to work on development projects should accompany disposition of land and future zoning requests.
- **Protecting Existing Jobs:** As land prices rise, employment centers are an important component of the corridor under threat of turnover. Besides existing retention incentives from Invest Atlanta, consider low-cost loans or grants for aesthetic improvements to commercial/industrial properties to make them more compatible with new residents.
- **Avoiding Premature Rezoning:** Rezoning for future development should be withheld until it's likely to happen. For example, the existing MRC 3-C zoning categories immediately west of Moreland Avenue are so permissive with respect to

density and use that the city may have already “given away the store.” The ability for the city or the community to adjust, refine, or reshape development to meet changing values has been ceded to the property owner, raising land costs and limiting inclusion of social values in future development.

- Urban Design: The proposed travel way modifications offer a grand opportunity to recast the character and quality of the Drive. That could more accessible and attractive neighborhood-serving nodes along the way. Where appropriate. change zoning classifications from the old C-1 and C-2 to the corresponding MRC and/or NC classifications to encourage more pedestrian-friendly, community-serving uses. Note that these changes should not increase developable densities but only assure better sidewalk and street frontages.

Key Segments of the Corridor:

The following section analyzes development on the corridor by dividing it into four key segments: 1) Capitol Avenue to Boulevard; 2) Boulevard to Moreland Avenue; 3) Moreland Avenue to Warren Street; and 4) Warren Street to Candler Road.

Memorial Drive Segment 1: Capitol Avenue to Boulevard

Key Issues:

- New affordable housing development is limited to the MARTA TOD site
- Lack of services, especially access to nutrition

- The Capitol Greenway project may be superseded by development opportunities

Key Opportunities:

- Underutilized and vacant commercial land near Boulevard may provide additional retail and commercial opportunities
- Activating the existing parcels of land for the Capitol Greenway would provide immediate benefits to existing and future neighbors

Key Properties in Transition:

ROUNDAABOUT

- Status: Planning
- Designer: HGOR

LIBERTY PLAZA

- Developer: Georgia Building Authority with HGOR as designer
- Status: Under construction, due 2014
- Deliverable: Greenspace for public assembly of up to 4500 people

GA SUPREME COURT

- Status: Planning underway

UNDEVELOPED AHA LAND (DORMANT GREENWAY)

- Developer: Integral Communities
- Status: Planning
- Deliverable: 600 residential units

GATEWAY PHASES III & IV

- Developer: Integral
- Status: Planning

CAPITOL AVENUE TO BOULEVARD



Figure 1: Detail map of transitional real estate from Capitol Avenue to Boulevard

New state projects offer more connectivity to Memorial Drive. The Memorial Greenway project has slowed for lack of funds to acquire parcels, but remains long-term vision. Existing and future multifamily developments could support more retail. MARTA TOD site will drive a stronger connection to King Memorial station.

- Deliverable: Residential units, number unknown

THE LEONARD

- Developer: Urban Realty Partners
- Status: Under construction, due 2014
- Deliverable: 94 residential units with 6000 sf retail

MARTA KING MEMORIAL TOD

- Developer: Walton Communities
- Status: Applied for Low Income Housing Tax Credits, due 2016
- Deliverable: 386 residential units with 13,000sf retail

FORMER HABITAT FOR HUMANITY BUILDINGS

- Developer: Paces Properties
- Status: Under Contract

Invest Atlanta has been working for over a decade to acquire the parcels just north of Memorial Drive from Capitol Avenue to Oakland Cemetery for the Capital Greenway, a linear park that includes a cap over the interstate. This project has been under-funded because of competing city priorities. Integral, a member of the development partnership that built the Capitol Gateway project under Hope VI, has an option to develop several of the parcels. Integral is moving forward with these plans. If the City wishes to maintain these parcels for the Capital Greenway, the expected zoning change request should be conditioned on provisions for Integral to provide public access and trail connectivity through their development site. Also, the existing Capital Greenway parcels should be activated with landscaping and interim trails to encourage use by current and future residents

in that area. There are also plans to tear down the State Archives building, currently sinking on a weak foundation, to build a new location for the Georgia Supreme Court. In conjunction with this big construction project and the new Liberty Plaza, the Georgia State Building Authority has commissioned plans for the creation of a pedestrian-oriented roundabout at the intersection of Capitol Avenue and Memorial Drive. These plans are years away from execution, but the roundabout would help connectivity and provide an impressive grand entrance to both Memorial Drive and the Georgia Capitol.

The MARTA TOD planned for 2016 and the Leonard which completes construction this month will deliver a total of 482 new apartments in that area with about 20,000 square feet of retail. The future residents will increase the existing demand for services like grocery stores as well as pedestrian infrastructure improvements. Even with the new residential spaces and the future sale of the old Habitat for Humanity building, this segment of Memorial Drive has many more opportunities for development and transition. The areas around the Leonard and near Boulevard are vacant and underused. Grant Park is starting a "Living Memorial!" campaign to help attract more retail and commercial tenants to the corridor. The transportation, streetscape, and walkability improvements that the LCI proposes should serve to complement the goals of that campaign.

BOULEVARD TO MORELAND

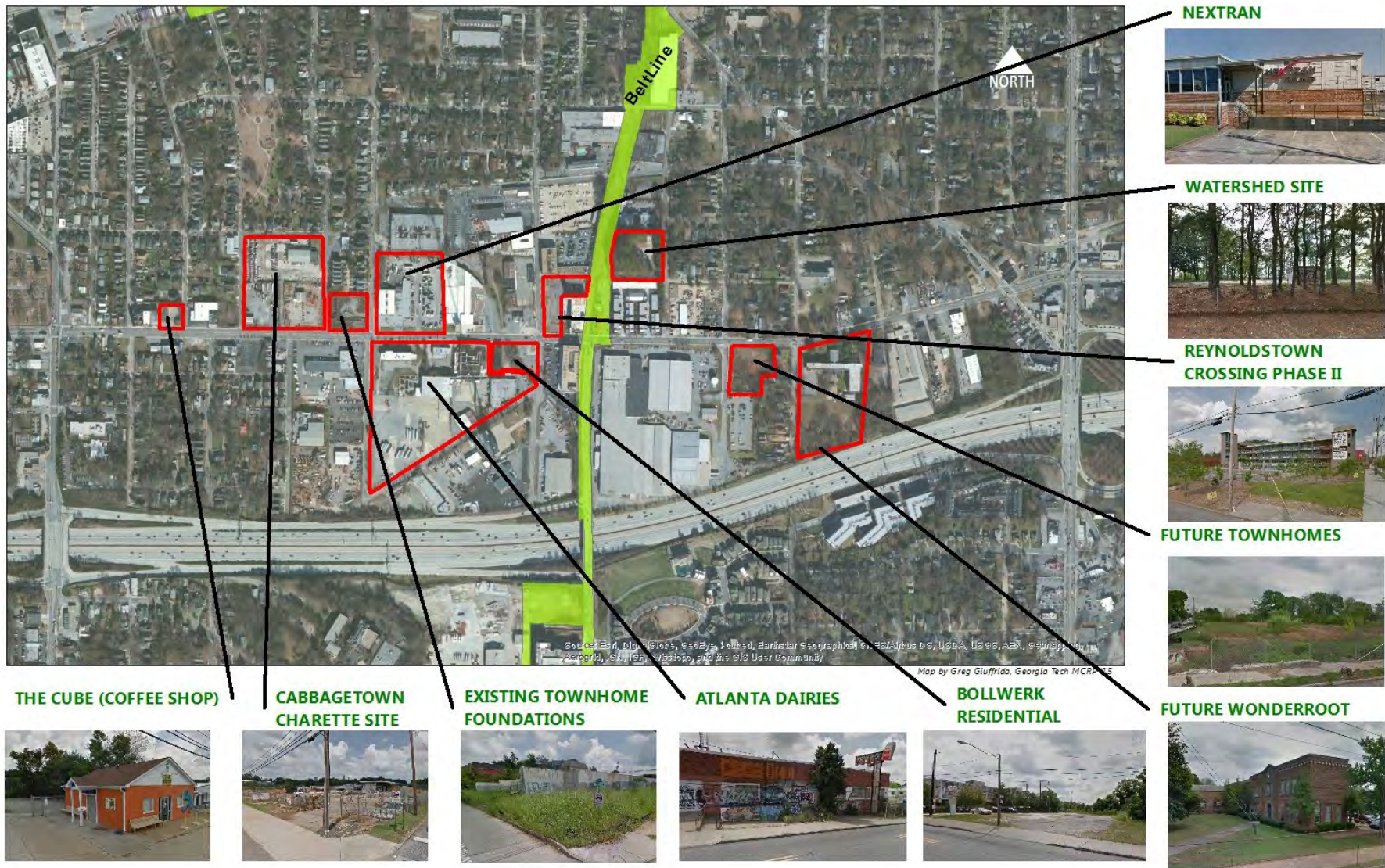


Figure 2: Detail map of transitional real estate from Boulevard to Moreland

Heavy morning congestion is an issue at Boulevard, but corner parcels are underused. The next extension of the Atlanta BeltLine Eastside Trail is driving major interest in dense development. Affordability and displacement of jobs will be lingering equity problems. A major retail center is coming to Glenwood Park, south of I-20.

Memorial Drive Segment 2: From Boulevard to Moreland Avenue

Key Issues:

- The streetscape and site design is not conducive to pedestrian traffic, e.g. large chain link and barbed wire fences line Memorial Drive
- No affordability requirements and the BeltLine does not currently have funding for planned affordable units
- Cabbagetown Historic District rules limit redevelopment opportunities, largely because of minimum parking requirements
- Mixed-use development opportunities threaten industrial employment centers

Key Opportunities:

- Adopt compatible urban design and streetscape measures to reduce conflicts between pedestrians and motorists
- Coordinate development access with travel improvement; consistent streetscape treatments deriving from street width reductions
- Maintain job centers on Memorial and fund aesthetic improvements for industrial uses
- Encourage creative design of the new City water storage tank at the Holtzclaw site (Note: A design competition is now planned).
- Consider using city-owned property west of Bill Kennedy Way for shared parking to support surrounding development

Key Properties in Transition:

CABBAGETOWN CHARRETTE SITE

- Status: Seeking Public Support

THE CUBE (COFFEE SHOP)

- Developer: Ron Fisher
- Status: Purchased

- Deliverable: 1000 sf coffee shop and rain garden

EXISTING TOWNHOME FOUNDATIONS

- Status: Under contract; new foundations likely needed.

FUTURE WONDERROOT

- Designer: Perkins + Will
- Status: Construction, due 2015
- Deliverable: 54,000 sf of artists' studio and meeting space in historic school

ATLANTA DAIRIES

- Developer: Paces Properties
- Status: Under contract; scale and number of units unknown

BOLLWERK RESIDENTIAL

- Developer: Enfold Properties
- Status: Permitting building expansion

FUTURE TOWNHOMES

- Developer: John Wieland Homes
- Status: Under contract

LOFTS AT REYNOLDSTOWN CROSSING PHASE II

- Developer: Atlanta BeltLine, Inc. will put it to bid
- Status: Planning, but unfunded

WATERSHED SITE

- Developer: Department of Watershed Management
- Status: Planning new water storage tank, hosting design competition for appearance

NEXTRAN SITE

- Status: Recently sold, dealership plans to relocate in 2-3 years.

This segment of the corridor is the most in flux, in part catalyzed by the planned extension of the Atlanta BeltLine's Eastside Trail from Irwin Street to Memorial Drive. Several adaptive-reuse projects are complete or planned: Habitat for Humanity renovated the Pittsburgh Plate Glass Building from the 1950s; WonderRoot is adapting the former Tech High charter school building from the 1920s; and Paces Properties plans to

MORELAND AVENUE TO WARREN STREET

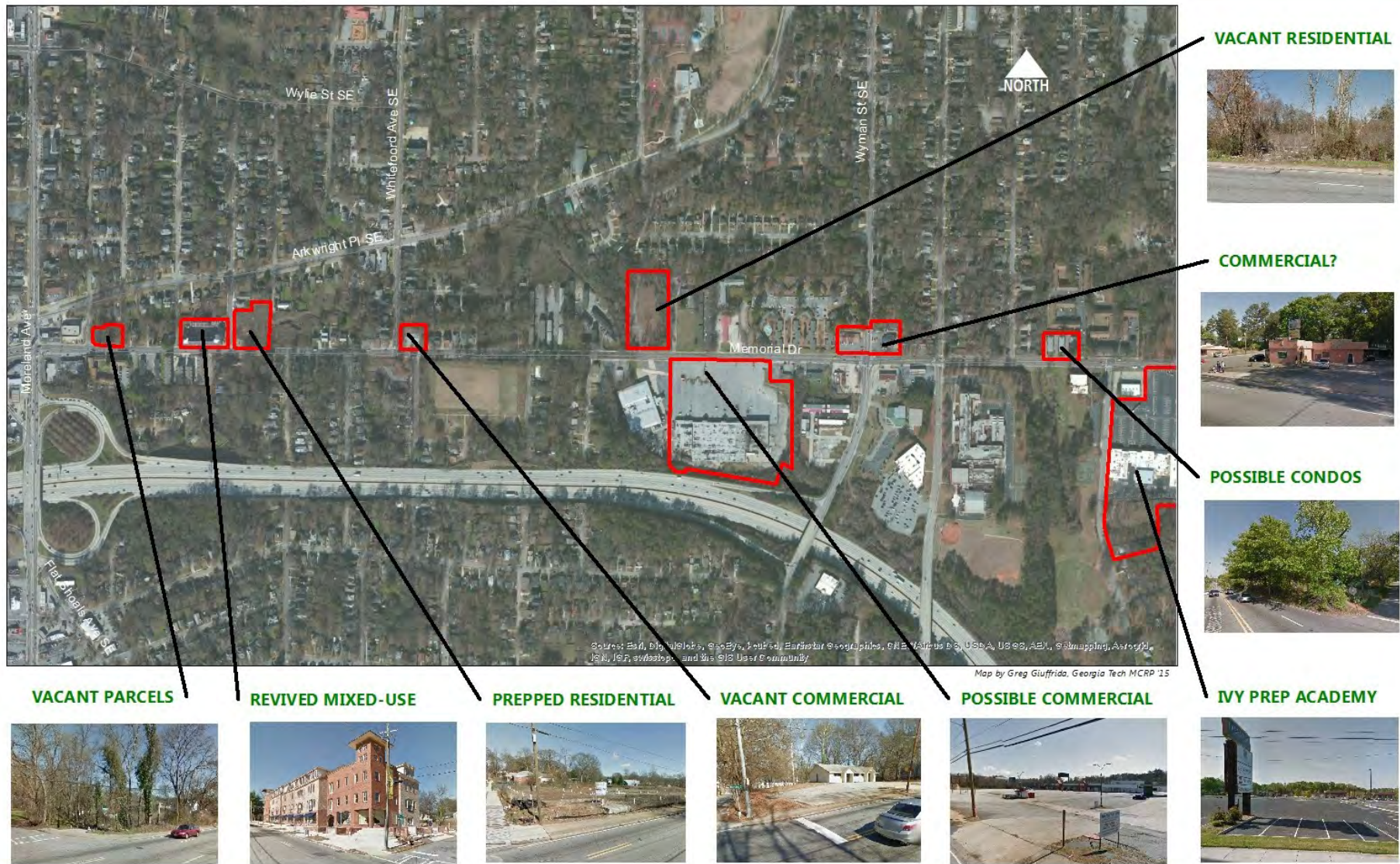


Figure 3: Detail map of transitional real estate from Moreland Avenue to Warren Street

The problematic intersection at Moreland/Arkwright will be redesigned. Stalled residential developments are being revived in southern Edgewood. The Atlantic shopping center site and Ivy Prep Charter sites offer potential for development that better engages the street. Safer pedestrian facilities for students are vital.

develop the Atlanta Dairies site while maintaining its historic 1940s character. On a smaller scale, a local Cabbagetown business owner plans to turn the Cube art gallery into a coffee shop. Several new residential developments are planned, including Lofts at Reynoldstown Crossing Phase II, a multifamily development next to the existing Lofts condos, and a new townhouse development east of the Leggett & Platt site.

Parking needs are expected to increase in coming years. One possibility for expanding parking is on city-owned land near I-20 and Old Flat Shoals for parking to serve new developments and BeltLine visitors.

Given the demand for residential mixed-use development, commercial uses in this segment of the corridor are at risk. Some Cabbagetown neighbors are frustrated by the industrial land uses. There is an effort led by some Cabbagetown residents to redevelop the block that is currently home to Cummins Landscape Supply, extra Grady ambulance space, and an underused warehouse. The neighbors involved would like to see active greenspace with mixed use development. Given the rising land prices, they may be outpaced by developers to bid on the property. However, the economic vitality of the corridor depends on a mix of jobs and residences as well as greenspace.

One of the biggest concerns from neighbors about industrial land uses is the fact that they do not relate to the pedestrian scale characteristic of residential neighborhoods. The tracts and buildings are large, with chain link fences protecting huge trucks and equipment. The aesthetic incongruity that industrial land creates in a neighborhood can be addressed with better design. For employers wishing to stay in the neighborhood, Invest Atlanta should consider engaging designers for landscaping design interventions. Hedges or wrought-iron fences instead

of chain link could enhance the pedestrian infrastructure improvements proposed for this LCI.

Another opportunity for design comes with the City Department of Watershed Management's plans for a new water storage tank on its parcel on Holtzclaw Street. The high elevation of the site above the BeltLine offers an impressive skyline view. Councilmember Archibong's office and the department have organized a design competition to solicit ideas for aesthetic appearance of the tank and the surrounding site.

Memorial Drive Segment 3: From Moreland Avenue to Warren Street

Key Issues:

- Vacant and underused land
- Limited connectivity of developments to neighborhoods and pedestrian experience
- Declining commercial uses

Key Opportunities:

- Potential for new urban design along adjacent land, especially at vacant or underused shopping centers.
- Allow incremental development along Memorial Drive to transform vacant properties while maintaining the stability of the occupied multifamily housing developments
- Encourage commercial redevelopment along the corridor to enhance job opportunities

Key Properties in Transition:

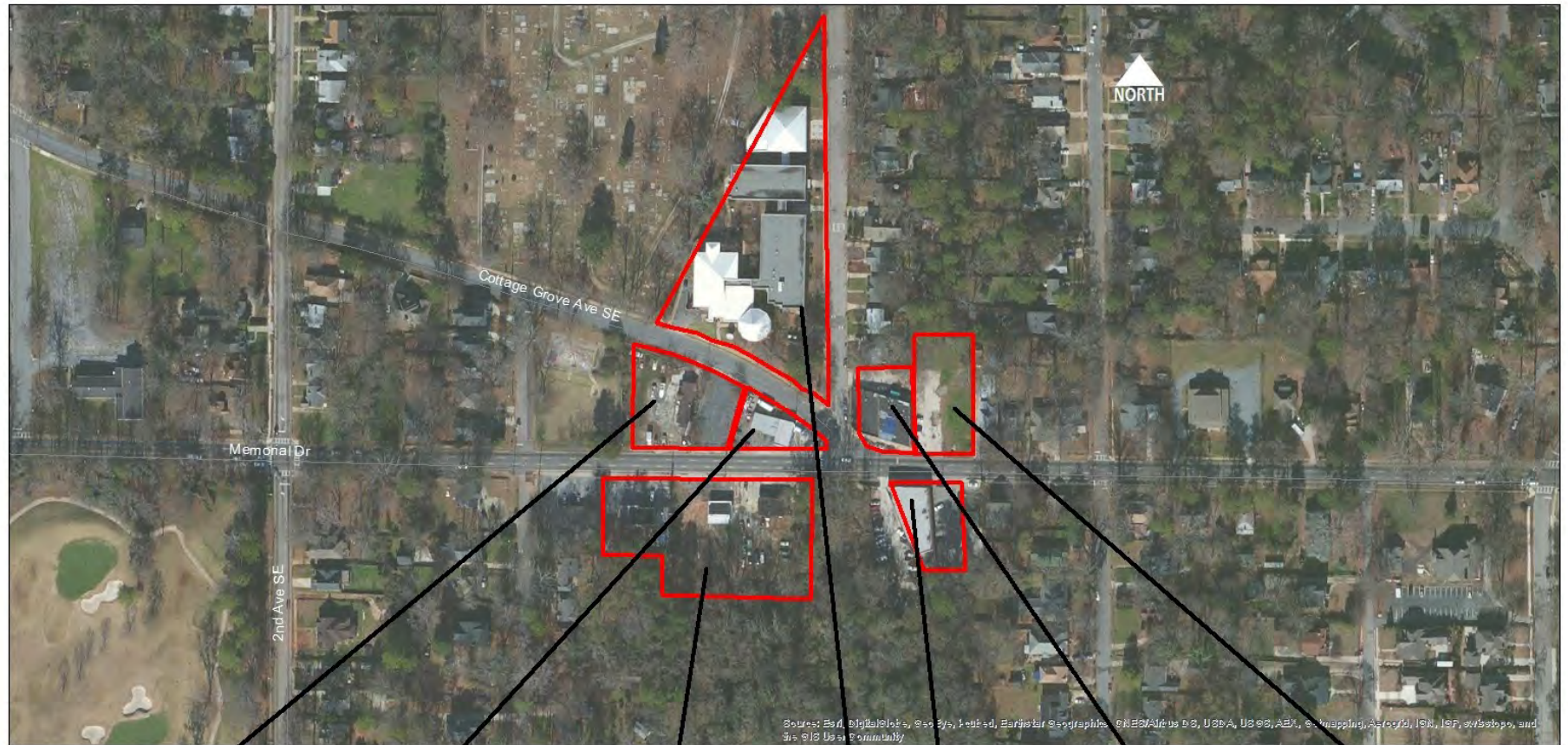
REVIVED MIXED USE

- Status: Recently opened for leasing

PREPPED SITE

- Status: Appears to be ready for redevelopment

WARREN STREET TO CANDLER ROAD - FOCUS ON COTTAGE GROVE POTENTIAL



**UNDERUSED
COMMERCIAL**



**UNDERUSED
COMMERCIAL**



**UNDERUSED
COMMERCIAL**



**VACANT
SCHOOL**



**UNDERUSED
COMMERCIAL**



**COMMERCIAL
NODE**



**VACANT
RESIDENTIAL**



Figure 4: Detail map of transitional real estate at Cottage Grove

The current intersection design is inefficient and dangerous because of limited sight lines. A new design could improve safety, throughput, and activate a new space in front of the historic commercial block (details on pp. 57-59). The vacant school could be repurposed for community activities.

POSSIBLE COMMERCIAL: ATLANTIC SHOPPING CENTER

- Status: For sale by Vision Properties

POSSIBLE CONDOS: ROSEDALE APARTMENT COMPLEX

- Developer: Aletheia Ventures
- Status: Under contract, requesting permits

IVY PREPARATORY ACADEMY

- Status: Purchased, planning expansion

This segment has seen far less redevelopment in recent years, but it's ripe for transition. One recently completed project is a mixed-use residential development with some ground-floor retail, located at Dahlgren Street. Next door is a Planned Unit Development for 18 units with utility work already completed. Several other underused and vacant properties surround those developments as well as multifamily housing that is significantly more affordable than new construction.

The two largest sites in this section of the corridor are also undergoing changes. The Atlantic Shopping Center is currently for sale. As a retail location, it has declined over the years and has very low occupancy. The location and size of the site may lend itself to other uses. For example, this site is one of the few places along the corridor that could accommodate a new corporate complex which would ideally provide more jobs and improve the economic vitality of the corridor. The large parking lot could be reconfigured to house buildings closer to the street level. The buried creek underneath could be uncovered. But there is concern about its location in a floodplain, which could limit redevelopment. Another site with a similarly large footprint and plenty of underused surface parking is the Ivy Preparatory Academy, located between Wilkinson and Warren Streets. The school was formerly a tenant in the space, but recently worked with the DeKalb County Development Authority to use bond-financing to acquire the property. Expansion plans include building out 15,000

additional square feet for the school in the existing building, and the complex includes hundreds of unused parking spaces which could provide other interesting possibilities for future use. The school's board is considering future expansion plans, but nothing is imminent. It could consider selling or ground leasing a portion of the site nearest to Memorial Drive, currently unused parking, to a developer. Coupled with the travelway and streetscape enhancements from the LCI, a development closer to the road would help to visibly define the corridor, connect the development to the neighborhood, and enhance the pedestrian experience.

Memorial Drive Segment 4: From Warren Street to Candler Avenue

Key Issues:

- Development pressures from the western part of the corridor may creep into the neighborhood and undermine its existing residential character
- Creek buffer zones limit redevelopment potential
- The commercial node at Cottage Grove Avenue is underused
- Current intersection alignment has poor visibility and functionality

Key Opportunities:

- The creek buffer zones form a natural resource of local flora and fauna--these ecologically rich areas could be potentially recaptured as greenspace for the area
- With the proposed LCI improvements to Cottage Grove Avenue intersection, the declining retail outpost has the potential to reinvent itself as a thriving commercial node

Key Parcels in Transition:

FORMER EAST LAKE SCHOOL:

- Status: Closed

COTTAGE GROVE BUSINESS SITES:

- Status: Many are underutilized

This segment of the corridor is predominantly single-family homes. The proposed travelway and streetscape improvements would promote walking trips and allow children to more easily walk to school.

The intersection of Memorial Drive and Cottage Grove Avenue has great bones as a neighborhood commercial hub; it could become as much of an attraction as Downtown Kirkwood to the northwest. The LCI plans call for a narrowing of Memorial Drive that would devote more curb space near the existing coffee shop and salon. This area could become a bus shelter or potentially outdoor seating space for the coffee shop (A concept is contained in the intersection designs later). The LCI would also improve walkability of the area by constructing functioning sidewalks and crosswalks. However, the intersection will still need more planning to address the vacant land, empty school, and the challenge of redeveloping land along the creek bed to the south of the intersection. There should be a visioning effort between the neighbors, city officials, and property owners to determine the future possibilities of Cottage Grove.

Other than the Cottage Grove Avenue intersection, commercial development should be curtailed along this part of the corridor so that residents of single family homes along the corridor will not be displaced. Higher-density zoning should be avoided.

Trees and plants have lots of room to grow in this older residential part of the corridor, and they are a key natural resource that should be preserved. Atlanta is one of the most biodiverse cities in the US, and this area of the city, with myriad creeks that are protected with buffers provides a fantastic habitat. Native

species like White Oaks, some approaching 200 years old, thrive here. Many parcels in this part of the corridor along the creeks could function as usable greenspace if it weren't for invasive species like kudzo, English ivy, and privet which kill the native plants and make the areas look like an unnavigable jungle instead of a forest.

These creek buffer areas are a prime example of the potential for new usable greenspace through ecorestoration. Ecorestoration is a process of eradicating invasive species to allow native plants a chance to revive. Ecorestoration is most successful in areas where the soil has never been graded or chemically altered and still hosts indigenous seeds, bacteria, and fungi that support of the native ecosystem. The parcels with undisturbed soil are likely too small for conservation easements, but by working with naturalists and volunteer groups, the property owners may be educated on the possibilities for ecorestoration of their land. There are also opportunities for the City to set an example on some of their properties. For example Public Works could restore the creek at East Lake Park to a natural creek bed instead of concrete, and Watershed Management could restore their site at Willow Wood Circle, currently overrun by privet, to an urban forest.

Conclusion

The transportation improvements in this LCI are designed to complement the current real estate and land use trends in each of the four segments, and together they will catalyze future possibilities for the corridor. In the high-growth areas of the corridor at risk for more congestion, the streetscape improvements will increase walkability and decrease the number of trips taken by car. Increased street life will drive demand for new retail in mixed-use developments. In the lower-density areas, the streetscape improvements will increase neighborhood connectivity and spark

neighborhood and private developers' interest in reimagining the commercial nodes and intersections. The investment in the livability and access to the Memorial Drive corridor will hopefully attract new job centers and kickstart grassroots neighborhood efforts like eco restoration, as well.

5-Year Housing Strategy

Introduction

Affordability will continue to be an issue along the length of the Memorial Drive corridor, as popularity of Eastside in-town neighborhoods grows with the Atlanta BeltLine and other amenities around it. In short, it will be a displacement and supply problem. Rising home values are already leading some long-time residents to leave the area, whether by choice or inability to keep up with property tax increases. On the supply side, much of the new residential development is not affordable, or the number of affordable units is not high enough to supply the needs of residents at all incomes. To the east, there is a large stock of existing affordable properties, mostly in the form of older single-family homes and garden apartments. But there is increasing price pressure from the Kirkwood and Oakhurst neighborhoods and around the Drew Charter School.

A sound five-year housing strategy for the study area will consider the following areas, of equal importance:

- Affordability
- Economic diversity
- Job-housing match
- Aging in place
- Efficient use of transportation facilities

Based on these priorities, this 5-year strategy contains the following tactics:

- A) Helping existing residents stay in their homes if they choose
- B) Preserving and improving the existing stock of affordable options (both subsidized and market-rate)
- C) Promoting the development of new affordable unit
- D) Promoting development that takes advantage of transit and other alternative modes, as well as jobs-housing match
- E) Promoting infrastructure and services that allow elderly residents to remain in their homes and active members of their communities

Existing Conditions

The LCI study area encompasses a diverse range of people, employment and incomes, housing types, market activity, and needs for the future. The following demographic analysis uses the same Census tracts as those in the background report. Unless otherwise specified, the housing data below come from the American Community Survey 2008-2012 Five-Year Estimates. It's important to note that some of the Census tracts stretch farther away from the corridor than others, but the overall conditions across each tract don't vary greatly.

Some key findings on the study area compared to the City of Atlanta (details in Table 1):

Housing composition and density

- More owner-occupied units (56% to 46%)
- More single-family detached units (57.7% to 40%)
- Fewer large multifamily properties (10.3% to 21.5%)
- Broadly, multifamily and denser single-family housing is located in the western half of the study area, while the eastern half is

largely single-family housing, with a few multifamily sections directly on Memorial Drive.

Affordability

- Slightly lower median value of owner-occupied homes (\$215,000 to \$223,000)
- Nearly equal gross rent and rent as percentage of income (\$940 to \$945; 32.8% to 32%)
- Slightly higher number of renters paying more than 50% of income to rent (28.8% to 27.6%)

Transportation

- Roughly equivalent commuters who drive alone (67.7% to 66.9%)
- Slightly higher numbers of commuters who carpool and bicycle (10.2% to 8%; 1.5% to 0.8%)

Aging in Place

- A slightly higher median age than the city (35.7 to 33.2), but fewer residents over the age of 55 (17.9% to 19.4%)

FIGURE 5: Comparison of key housing figures for the study area and City of Atlanta

	Total Study Area	% of Study Area	City of Atlanta
Population	40,268		425,931
Total housing units	21,196		224,615
Owner-occupied	9,983	56.0%	46%
Renter-occupied	7,836	44.0%	54%
Housing type			
Single-family, detached	12,236	57.7%	40%
2 to 9 units	3,264	15.5%	16%
10 to 49 units	2,269	10.7%	16.8%
50 or more	2,172	10.3%	21.5%
Median Value of Owner-occupied Properties	\$215,299		\$223,121
Median Gross Rent	\$940		\$945
Median Gross Rent as % of Household Income		32.8%	32%
Units paying 50%+ of income to rent	2,255	28.8%	27.6%
Monthly Owner Costs as % of Household Income			
Less than 30%	4,794	59.9%	59.3%
30% or more	3,046	38%	39.8%
50% or more	1,521	19.0%	17.9%
Means of Transportation to Work			
Drive alone	13,704	67.7%	66.9%
Carpool	2,064	10.2%	8.0%
Transit	2,058	10.2%	11.5%
Bicycle	303	1.5%	0.8%
Walk	450	2.2%	4.7%
Work at home	1,357	6.7%	6.9%
Average Commute Time to Work (min)	28		26
Median Age (female/male)	36.5/34.9		33.8/32.5
Residents over 55	7,210	17.9%	19.4%

Source: Social Explorer Tables: ACS 2008 to 2012 (5-Year Estimates) (SE), ACS 2008 -- 2012 (5-Year Estimates), Social Explorer; U.S. Census Bureau

HOUSING STRATEGY

A) HELP EXISTING RESIDENTS STAY IN THEIR HOMES IF THEY CHOOSE

The circumstances of longtime homeowners in the study area vary widely, but there are several common themes that have emerged from the Great Recession and the ongoing transformation of Atlanta’s Eastside neighborhoods. This strategy aims to isolate the most pressing problems, identify possible remedies, and offer timelines, where possible.

Problem: Rising property taxes

Remedy	“Circuit breaker” tax freezes, which freeze tax assessments at a given level whenever the property value of a home increases by too much in a given time period. Seniors already get a one-time tax freeze, but the concept could be applied to younger owners below a given income level.
Public Expense	To be determined
Difficulty	High political effort
Timeline	Likely 2-3 years for policy research, advocacy, passage by Council, County Commisison

Problem: Foreclosure

Remedy	Connect homeowners with existing programs: <ul style="list-style-type: none"> • HomeSafe Georgia, which administers \$339 million for foreclosure relief • HUD-approved housing counselors
Public Expense	Low to none
Difficulty	Low, requires outreach
Timeline	HomeSafe Georgia funds available through 2016

Problem: Major repairs, such as leaks and flooding

Remedy	Connecting homeowners with existing programs, including: <ul style="list-style-type: none"> • City of Atlanta’s Limited Repairs Program offers seniors a grant of up to \$7,500 for eligible repairs, including HVAC, roof, plumbing, code violations.
Public Expense	Current CDBG allocation
Difficulty	Low, requires outreach
Timeline	Life of CDBG funding, which is limited and must be renewed through competitive process.

Problem: Energy costs

Remedy	Connecting homeowners with existing programs, including: <ul style="list-style-type: none"> • Low-Income Home Energy Assistance Program (LIHEAP) for households below 60% of AMI • City’s Limited Repairs Program offers seniors a grant of up to \$7,500 for eligible repairs, including HVAC, roof, plumbing, code violations. • Georgia Power rebates and incentives for efficient appliances; Whole House energy improvement program
Public Expense	FY 2014 LIHEAP distribution was \$61,000; 2015 allocation pending
Difficulty	Low, requires outreach
Timeline	Life of federal LIHEAP funding, which is limited and must be renewed by Congress

HOUSING STRATEGY

B) PRESERVE AND IMPROVE EXISTING STOCK OF AFFORDABLE UNITS

Current land and development costs make it more expensive to approve and develop new affordable housing than to preserve, acquire, or renovate existing properties. An added benefit is keeping households in their communities. With this in mind, there are several promising models for protecting affordable units, both at market rates and with subsidy. Preserving some affordable market-rate units is important because of long waiting lists for rental vouchers and eligibility requirements that exclude some worthy residents.



Figure 6: Renovated market-rate garden apartments

While new affordable units should be promoted, another key part of an overall housing strategy is preserving rental housing that is affordable to working families at market rates. The apartments above are affordable to a household of three earning roughly 45% of the area median income (AMI). Source: Google Streetview; Georgia Housing Search, Feb. 2015.

Problem: Existing market-rate affordable multi-family properties at risk for redevelopment

Remedy	Zoning: Consider affordability requirements in rezoning requests and site approvals that would change the underlying use and price point.
Public Expense	No explicit funding, but requires staff time, energy, political capital; Potential legal risk
Difficulty	Medium to High
Timeline	Ongoing: Depends on specific properties and market conditions
Remedy	Acquisition/rehab of existing multifamily properties with affordability requirements (Example: Trestletree Village) <ul style="list-style-type: none"> • Low-Income Housing Tax Credit (LIHTC) • Tax-exempt bonds from Invest Atlanta
Public Expense	Statewide LIHTC allocation in 2014 was \$29.5M Tax-exempt bonds limited by IA capacity
Difficulty	High (LIHTC process is competitive with high application and compliance rules)
Timeline	Ongoing; Annual allocations of LIHTC funding set by population size
Remedy	Nonprofit investment in existing properties: <ul style="list-style-type: none"> • Mercy Housing • Enterprise Community Dev. Partners
Public Expense	Medium to Low; Various public matching funds can be applied, depending on the project
Difficulty	High (LIHTC is competitive process with high application and compliance requirements)
Timeline	Ongoing; Can be useful tool for renovation during down-cycles of real estate market

HOUSING STRATEGY

C) PROMOTE DEVELOPMENT OF NEW AFFORDABLE UNITS

The rebound of the metro Atlanta real estate market has seen dozens of large multifamily projects break ground in desirable parts of the city within walking distance of amenities and transit. Memorial Drive is no exception. Promoting the inclusion of affordable units in these new developments will ensure that the ongoing transformation of these neighborhoods is inclusive. There are several existing models.

Problem: Existing market-rate affordable multi-family properties at risk for redevelopment

Remedy	For city-owned or –controlled land, put in place affordability requirements for any residential use, on top of subsidy programs.
Public Expense	Low; Requires staff time and effort; political capital
Difficulty	High political difficulty
Timeline	Ongoing; Depends on specific properties and market conditions; Potential litigation
Remedy	Nonprofit development, aided by public subsidy (Example: Reynoldstown Senior) <ul style="list-style-type: none"> • Mercy Housing • BeltLine Affordable Housing Trust Fund (BAHTF)
Public Expense	Medium; Matching funds usually involved
Difficulty	Low politically, Medium administratively
Timeline	Ongoing; Depends on specific properties and market conditions; BATHF is currently depleted, next capitalization unknown.

Remedy	Land acquisition/sale/donation as subsidy for affordable development <ul style="list-style-type: none"> • MARTA TOD program • Atlanta-Fulton Co. Land Bank Authority • Atlanta Land Trust Collaborative
Public Expense	Medium to Low; Various public matching funds can be applied, depending on the project
Difficulty	High (LIHTC is competitive process with high application and compliance requirements)
Timeline	Ongoing; Can be useful tool for renovation during down-cycles of real estate market
Remedy	Conventional subsidy tools <ul style="list-style-type: none"> • Low-Income Housing Tax Credit • Invest Atlanta programs <ul style="list-style-type: none"> • CHDO Grants • Housing Opportunity Bonds • Urban Enterprise Zone • HOME Multifamily financing • Tax-exempt bond financing
Public Expense	High, some immediate, some deferred debt
Difficulty	High
Timeline	Ongoing; funding sources fluctuate based on political climate, bonding capacity, etc.

HOUSING STRATEGY

D) PROMOTING DEVELOPMENT NEAR TRANSIT AND OTHER MODES; SUPPORTING JOBS-HOUSING MATCH

Although the study area has some key employers that contribute to the Atlanta area's economic diversity, it is not currently a major job center. Local hiring by existing and future employers is encouraged. But a complete strategy for jobs-housing match will consider transit connections to greater Atlanta job markets. The best locations for multimodal accessibility include:

- On or near Memorial Drive, which is served by bus routes (74, 21) and crossing routes (32, 55, 186, 4, 34, 107, 15). One proposed route for BeltLine transit would use Memorial, from Grant St. to Bill Kennedy Way.
- Near the Atlanta BeltLine Eastside Trail extension, which will offer ped/bike access to Inman Park, Old 4th Ward, and Midtown. Another proposed BeltLine transit route would use this corridor.
- MARTA rail stations at Georgia State, King Memorial, and Inman Park/Reynoldstown. To the east, where MARTA rail is farther away from Memorial, focus on bus routes connecting to the rail system.

Problem: Promoting new Transit-Oriented Development (TOD)

Remedy	Zoning for higher density near key transit stops and corridors. Example: <ul style="list-style-type: none"> • MARTA TOD strategy • Atlanta BeltLine Subarea Master Plans
Public Expense	Low; Requires staff time and effort; political capital
Difficulty	Medium politically
Timeline	Ongoing; Depends on specific properties and market conditions

Remedy	Advocate for stronger priority given to TOD in existing affordable subsidy programs, such as: <ul style="list-style-type: none"> • State Qualified Allocation Plan • Invest Atlanta development programs
Public Expense	Low; Requires staff time and effort; political capital
Difficulty	High administratively
Timeline	Long; Major changes to QAP process take time



Figure 7: Rendering of proposed King Memorial TOD project
The King Memorial TOD project intends to build almost 400 apartments and retail space on an underused parking lot. Twenty percent of the units will be affordable for seniors. It's expected to reduce car trips, increase transit ridership, and contribute to jobs-housing match. Source: Atlanta Business Chronicle

HOUSING STRATEGY

E) PROMOTE HOUSING THAT ALLOWS SENIORS TO AGE IN PLACE

In many cases, the tactics outlined in the existing residents section (A) will help low-income seniors remain in their homes and communities. There are also options to keep seniors living in their communities even if their housing situation changes, such as shared housing, new senior development, and services for at-home care.

Problem: Accommodating seniors who want to stay in their communities

Remedy	Shared housing with seniors in similar situations. Local service providers, neighborhood groups, and community leaders can help connect seniors with similar needs. Examples: <ul style="list-style-type: none"> • Women for Living in Community • National Shared Housing Resource Center
Public Expense	Low; Some outreach and marketing required to connect residents to services and programs
Difficulty	Low
Timeline	Ongoing

Problem: At-home care and services

Remedy	Existing programs for nursing, cleaning, shopping, meal delivery, transportation. <ul style="list-style-type: none"> • Fulton County Office of Aging • DeKalb County Senior Services • Various non-profit and church services
Public Expense	Medium to High
Difficulty	Low, outreach required
Timeline	Ongoing. Lifetimes of programs vary.

Problem: Affordable housing for seniors

Remedy	Develop new senior housing (low- or mixed-income) using existing subsidy models. (Example: Reynoldstown Senior) <ul style="list-style-type: none"> • LIHTC • HUD 202
Public Expense	High
Difficulty	Medium; Senior housing generally sees less opposition than mixed-income family housing.
Timeline	Ongoing; subject to competitive funding process, availability of federal funds.

Problem: Home conversions for senior needs

Remedy	Existing programs for wheelchair ramps, handrails, shelving, alarms, etc. <ul style="list-style-type: none"> • Home Access Program, Georgia DCA • Credit-Able program for low-cost loans • HUD Title 1 Improvement Program
Public Expense	Low
Difficulty	Low, outreach required
Timeline	Ongoing. Lifetimes of programs vary.

VI. ROADWAY AND INTERSECTION DESIGN

Scope

The state of Memorial Drive itself is dynamic. Spanning two counties, several communities and ranging in activity from the state Capitol to hundreds of single-family house driveways a few miles down the road, there are many considerations in mobility, safety and community.

To enhance the efficiency of Memorial Drive as a public good, the diverse corridor was reimagined with observation, public comment, and best practices of alternative design methods. The corresponding study is largely organized by key intersections, representing both transitions and access points. Three topics will be considered at each: reversible lanes, the “speed section” and roundabouts.

Reversible Lanes

Users repeatedly expressed safety concerns about reversible-lane configurations where the middle lane runs west during the morning peak and east during the remainder of the day. The corridor also changes between standard lanes and reversible lanes six times. The range of viewpoints at several public meetings showed that residents wanted Memorial Drive to keep its arterial function, yet increase the safety for pedestrians, cyclist and vehicles alike. Several alternative approaches were considered in an effort to satisfy both demands.

Because of Memorial Drive’s arterial function, reversible lanes actually serve the corridor well, despite concerns about safety. In effect, they double capacity during peak hours without the need to acquire additional right-of-way (ROW). For this reason,

the reversible lane could be an advantage to the surrounding businesses and neighborhoods if safety is addressed. Currently, there are several dangerous transitions from standard lanes to reversible lanes and insufficient signage and markers for drivers. If reversible lanes are made more consistent along the length of the corridor, travel will be more predictable and safer. Advances with in-road lighting and signage are now available. With a more consistent configuration and enhanced indication, driver comprehension will be increased and the functional advantages of reversible lanes can be utilized without constant fear of safety along the route. Specifics of the proposed changes to lane configurations will be detailed later with the intersections and roadway segment proposals. The final proposed configuration along the corridor can be compared with the current configuration along the corridor in Figures 2 and 3.

One possible enhancement of directional indication are supplementary surface level indicators that work in conjunction with the in-place overhead indicators. In-ground indication has had maintenance and functionality concerns in past projects but can be currently obtained with warranties that last up to five years and provide clear communication of variable barriers.



Figure 8:
In-road lighting
More reliable hardware for in-road lighting offers improved visibility in reversible lanes and crosswalks.

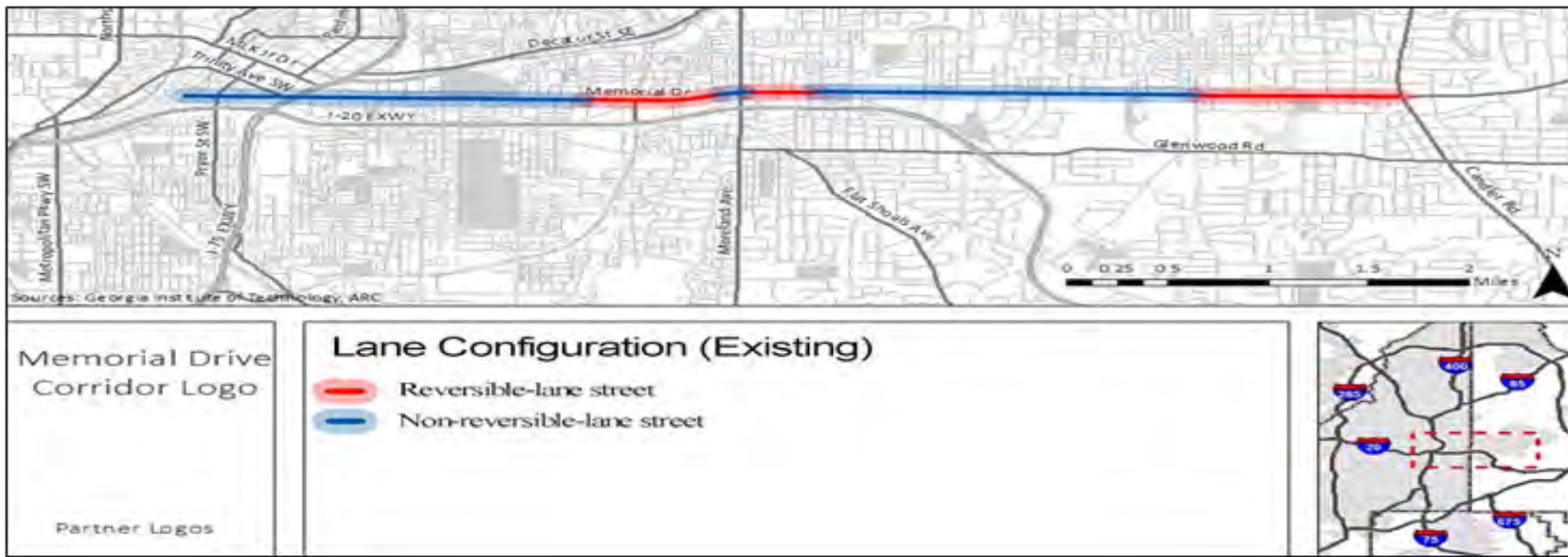


Figure 10: Color-coded map of existing lane configuration
 Some of the most dangerous portions of Memorial Drive are created by multiple, confusing transitions to and from reversible lanes. There are **five** of these transitions in the study area, each with inadequate signage and lines of sight.

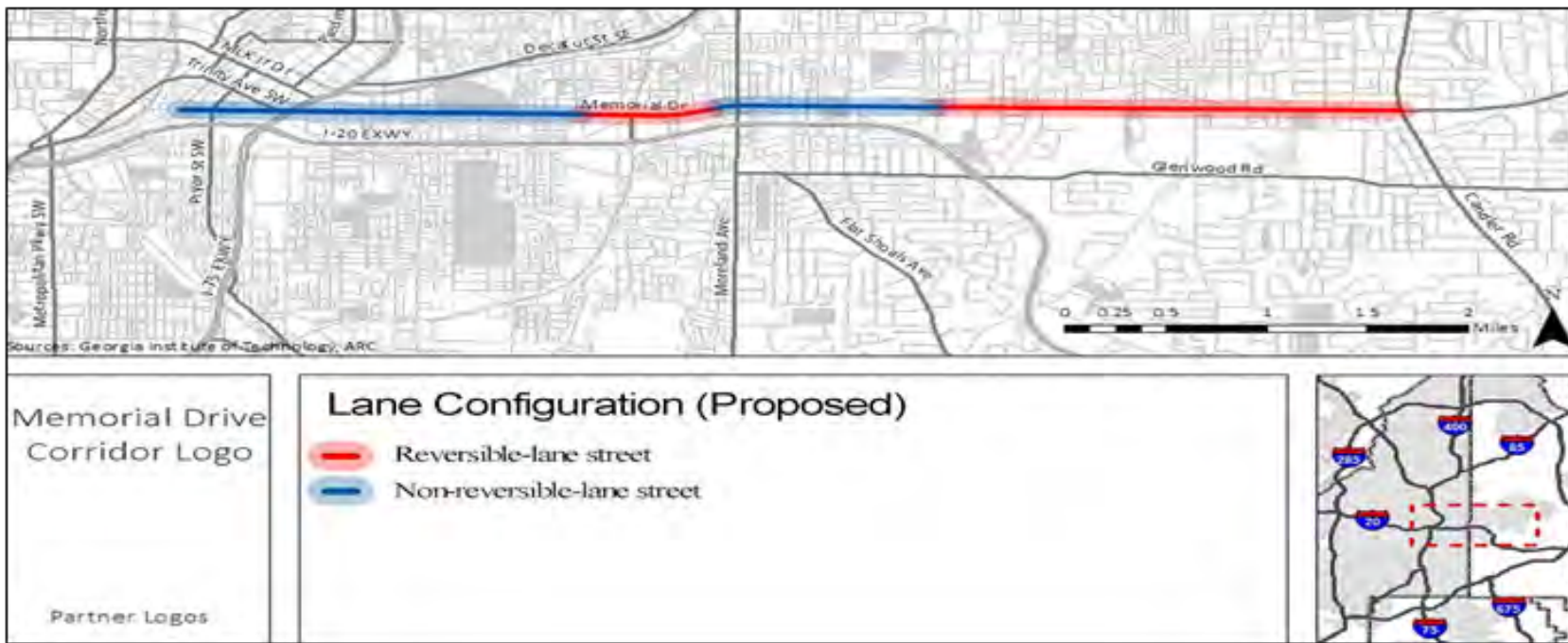


Figure 11: Color-coded map of proposed lane configuration
 There are some compelling reasons for keeping reversible lanes (see p. 37) if the transitions and signage are improved. This plan's proposed configuration would reduce these transitions to **three**.

The "Speed Section"

One area in which the advantages of the reversible lane could be best used are between the 2nd Ave and Clifton intersections. The authors' observations and surrounding residents confirm that vehicles travel through here much faster than the posted speed limit, creating pedestrian safety concerns for the local YMCA and Drew Charter School. Within a short observation period, fewer than half of the vehicles were seen traveling within the posted speed limit and one-fifth were traveling faster than 50 mph. The cause of this can be attributed to several key factors, including access management, geometric design, and topography.

There are a total of two access points (driveways and entrances) along the south side of Memorial Drive from 2nd Ave westbound to Howard St, a distance of three quarters of a mile, whereas in the same distance east from 2nd Ave there are 26 access points. Although a high number of access points is not desirable on an arterial road, the contrast between this "speed section" and the dynamic along other sections of the corridor indicate a factor of speeding behavior. When drivers reach a segment of Memorial Drive where there are very few conflict points, they can drive fast and straight with little fear of conflict. The design and topography of this section also assist the 'fast and straight' condition as the roadway is horizontally linear with several dramatic changes in topography. With the speed gained on these hills and unimpeded straight direction, vehicles "naturally" speed up past the limit.

Combating Speed with Policy

There are two proposals for combating this particularly unsafe segment of Memorial Drive. The first is to reduce the posted speed limit to 25 mph. The reduction of speed limits has been

recently enacted in several areas throughout the country, most recently New York City, as a means to improve safety for all modes. Studies surrounding such policy changes have observed a higher throughput on congested roads with a lower speed limit. This principle was also cited in the argument for implementing the variable speed limit signs along I-285, reducing the posted limit during peak times to adjust the flow of traffic to a higher-capacity setting.

Two additional benefits of a reduced speed limit are pedestrian and vehicle safety. Studies show that the death rate more than doubles for pedestrians when speed increases from 25 to 35 mph. Figure 3 shows that a pedestrian hit by a car travelling 20 mph only has a 15% death rate, whereas that same collision with a car going 30 mph raises the death rate to 45%, and the number goes up significantly when the speed reaches 40 mph.

Figure 12:
Chart of vehicle speeds and likelihood of fatal injury for pedestrians
Lower design speeds carry many benefits, but the most vital is reducing the likelihood that a pedestrian hit by a car will die.
Source: UK Dept. of Transportation; NHTSA

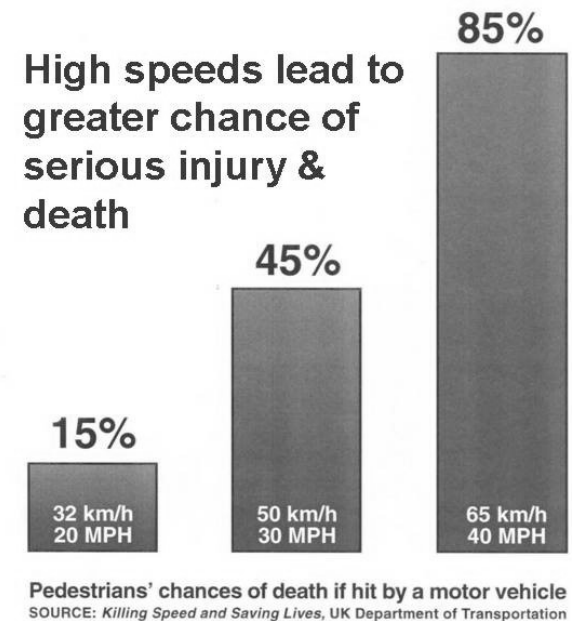


FIGURE 13: Projected changes at Memorial Drive/Boulevard intersection with speed limit change

Throughput				
Current Speed Limit (35 mph)				
	Stops (vph)	Fuel Used (gal)	Dilemma Veh.	Delay (sec/veh)
Eastbound	191	4	5	43.5
Westbound	1,142	32	16	75.3
Northbound	1,000	34	24	58.4
Southbound	161	3	9	28.5
Proposed Speed Limit (25 mph)				
	Stops (vph)	Fuel Used (gal)	Dilemma Veh.	Delay (sec/veh)
Eastbound	172	3	0	31.4
Westbound	610	28	0	75.7
Northbound	1,098	35	0	64.8
Southbound	161	3	0	28.5
Projected Change				
	Stops (vph)	Fuel Used (gal)	Dilemma Veh.	Delay (sec/veh)
Eastbound	-19	-1	-5	-12
Westbound	-532	-4	-16	0
Northbound	98	1	-24	6
Southbound	0	0	-9	0
TOTAL CHANGE	-453	-4	-54	-5

Emissions (g/hr)			
Current Speed Limit (35 mph)			
	CO	NOx	VOC
Eastbound	305	59	71
Westbound	2,231	434	517
Northbound	2,419	471	561
Southbound	253	49	58
Proposed Speed Limit (25 mph)			
	CO	NOx	VOC
Eastbound	219	43	51
Westbound	1,931	375	448
Northbound	2,445	475	567
Southbound	221	42	51
Projected Change			
	CO	NOx	VOC
Eastbound	-86	-16	-20
Westbound	-300	-59	-69
Northbound	26	4	6
Southbound	-32	-7	-7
TOTAL CHANGE	-392	-78	-90

Additionally, as a vehicle approaches an intersection that has just signaled a yellow light, the driver must make the decision to either stop or continue. At higher speeds, there is a space called the “dilemma zone,” requiring the driver to make an uncomfortable hard stop or accelerate very quickly in order to obey the traffic signal. The existence of these zones produces a safety risk. The number of vehicles projected to be within the dilemma zone of an intersection is one of the outputs of a Synchro model predicting changes that could be expected with a 25-mph speed limit. Some of the results of this model are included in Table 1. Although this represents only a snapshot, it should be noted that reducing the speed limit also results in reductions in emissions and improves throughput.

Combating Speed with Design

Another way to reduce unsafe speeds is through design measures. The primary proposal is to extend the reversible lane configuration that ends at 2nd Ave further westbound to the Clifton Street intersection. As mentioned previously, if transitions and visual elements are improved, reversible lanes hold a capacity power that is unique and beneficial. Besides reducing the needed right-of-way, the variable nature of the road encourages drivers to be more cautious. With the acquired space from subtracting a travel lane from the road, several traffic-calming measures can be implemented including those illustrated below:

- Bulb-outs at intersections to shorten crosswalk distances
- Midblock crosswalks and “neckdowns” with pedestrian signaling or signage
- Widened sidewalks
- Adding on-street parking where it can be useful
- Protective measures such as a fence line along the sidewalk for pedestrian safety

- Landscaping
- Enhanced lighting
- Adding horizontal curvature or ‘wiggling’ the roadwa

One of the design concerns with the present state of this speed section is that it is straight with few conflict points. By adding a slight horizontal curvature to the road, higher speeds become uncomfortable. Reducing the current four-lane road to a three lane reversible configuration will provide twelve feet of space to essentially ‘wobble’ the path of the road slightly, as seen in Figure 6 so that only vehicles traveling significantly above the design speed of the road will feel any significant amount of discomfort.



Figure 15:
Illustration of design elements intended to reduce vehicle speed
Introducing new design elements like trees, bulb-outs, pedestrian crossings, and even on-street parking can have the combined effect of reducing how fast drivers can comfortably operate and creating a safer and more attractive environment for other users and adjacent businesses and residents.

Figure 16:
Illustration of proposed intersection design elements

Intersection bulb-outs reduce crosswalk distances for pedestrians, while reducing turning and straight-distance speeds of drivers.

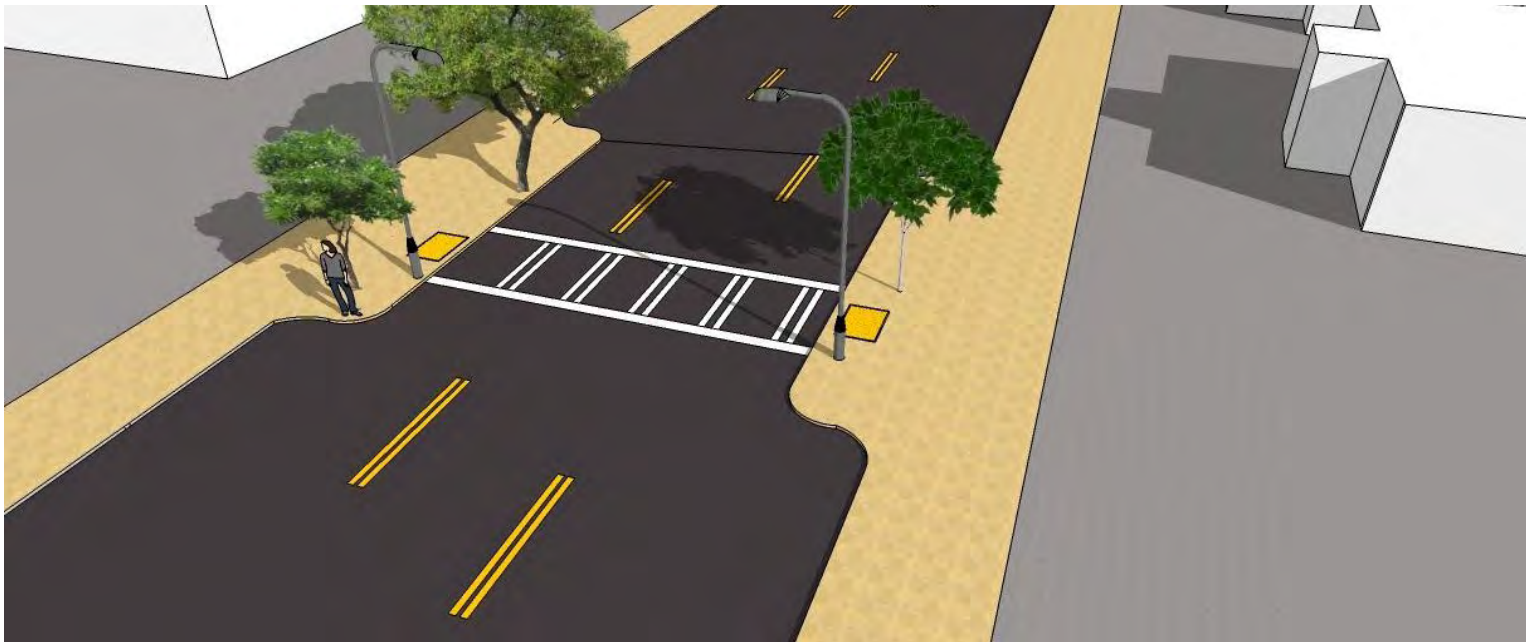


Figure 17:
Illustration of proposed pedestrian crossing between intersections

High-visibility pedestrian crosswalks with bulb-outs could be placed at key segments between intersections to enhance pedestrian connectivity.

Roundabouts

For urban arterial streets, roundabouts may be an effective alternative design, because they promote continuous flow as opposed to segmented phases and cycles. According to a National Cooperative Highway Research Program report, there was a 35% overall decrease in crashes and 81% decrease in fatal crashes at 55 intersections nationwide after roundabouts were implemented. To analyze operational efficiency of roundabout implementation at select intersections along the corridor, a Synchro model was built to simulate traffic flow at 12 signalized intersections.

Listed in Figure 18 are all the intersections on Memorial Drive with major road traffic (traffic on Memorial Drive) above 90% of the total activity at the intersection and therefore less effective for roundabouts. This ratio of major road volume to intersecting road volume is derived from studies on effective roundabouts. Typically, the ratio of traffic on the major road to the intersecting road should not be higher than 90% for an effective roundabout, however, in some cases this threshold can be slightly adjusted to a maximum of 85% of the total vehicles utilizing the intersection.

Because roundabouts have been observed to significantly reduce collision rates, consideration was given to accident-prone intersections, resourced through GDOT's accident reporting system. The GDOT database provides crash records from the past three years.

With the combined analyses of volume distribution and crash rates, the primary selection of potential roundabout locations were Capitol Avenue, Hill Street, Grant Street, Bill Kennedy Way, Maynard Terrace, 2nd Avenue, Cottage Grove and Candler Road.

The second level of screening for roundabouts was based on the comparison between roundabout and intersection performance. Reference was given to traffic modeling through Synchro to replace the eight selected intersections with roundabouts and compare measures of operational efficiency with their current signalized level of service.

The results show that some intersections operate less efficiently with roundabout implementation. For example, at Capitol Ave, the utilization of a roundabout is projected at such a congested capacity that the level of service is decreased to a G. At Hill St, the capacity remains the same while the level of service decreases from D to E, which indicates the implementation of a roundabout projects no operational advantage at this intersection. The intersections of Grant St, Bill Kennedy Way and Maynard Terrace however were projected to gain throughput efficiency with roundabout implementation.

FIGURE 18a: Volume on Memorial as Percentage of Total Intersection Volume

Intersection	Percentage
Fraser	97%
Martin	93%
Cherokee	96%
Park	99%
Chester	91%
Stovall	91%
Clifton	92%
Wilkinson	95%
Warren	91%
East Lake Blvd	92%
East Lake Dr	94%
Flat Shoals Ave	95%
Memorial Terrace	94%

FIGURE 18b: Accident Rates at Selected Intersections

Intersection	# Collissions
Capitol	11
Martin	5
Connally	6
Hill	6
Grant	5
Boulevard	6
Cameron	5
Bill Kennedy	4
Moreland	10
Maynard Terrace	10
Howard	6
2nd Ave	5
Cottage Grove	6
Candler	6

FIGURE 18c: Before/After Comparison of Roundabout Implementation

Intersection	Before		After	
	Intersection Capacity Utilization	LOS	Intersection Capacity Utilization	LOS
Capitol Ave	79.70%	C	105.5%	G
Hill St	87.70%	D	87.70%	E
Grant St	57.40%	C	60.1%	B
Bill Kennedy Way	68.00%	C	56.8%	B
Maynard Terrace	78.00%	D	83.9%	E
2nd Ave	80.70%	D	74.5%	D
Cottage Grove	70.60%	C	73.9%	D
Candler Rd	95.40%	F	92.1%	F

Maynard Terrace and Clifton

The intersections of Maynard Terrace and Clifton were observed jointly because of their interaction, proximity, and shared concerns. Clifton represents the end of the “speed section,” as well as the location of a proposed extension of the reversible-lane configuration. The transition at this location was seen as a strength because these intersections are well-used and a lower speed is desired near the adjacent Alonzo Crim High School. Maynard Terrace would be a good roundabout location both because of its size and that minimal right-of-way would need to be acquired.

Additionally, the lack of a sidewalk on the north side of Memorial Drive in between the two intersections creates a pedestrian hazard. The westbound bus stop is located on that side of the road, forcing teenage students to traverse Memorial Drive with limited or no pedestrian facilities. The access point for the gas station closest to Clifton compounds this pedestrian risk as it accommodates incoming vehicles from almost every angle. An alternative design would close eastern access to the gas station, in order for the reversible lane transition and roundabout to work at the highest efficiency. The resulting design provides space for adequate and safe pedestrian facilities. This alternative design also blends the reversible lane, roundabout and non-reversible segment westward in a fashion where there are no additional vehicle-to-vehicle conflict points.

Figure 19:
Illustration of
proposed intersection
redesign and lane
reconfiguration at
Clifton Street (looking
west)

The combination of an existing “speed section” and unsafe conditions for students at Alonzo Crim High School offer an opportunity for reducing the travel way to three lanes. The additional room could be used for sidewalks, trees, and better crosswalks.





Figure 20: Illustration of proposed intersection redesign and lane reconfiguration at Clifton Street (aerial looking northwest)

*At left: Reducing travel lanes to three would gain additional right-of-way for sidewalks on the north side of Memorial Drive. There are currently **no sidewalks** on this block, despite being across the street from the high school.*



Figure 21: Illustration of proposed intersection redesign and lane reconfiguration at Clifton Street and Maynard Terrace (wider aerial looking northwest)

At right: A wider view of the proposed redesign between Clifton Street (lower right) and the Maynard Terrace roundabout (upper left). The changes would improve the safety and appearance of the segment from its current condition. Computer traffic modeling suggests that reducing the overall design speed on Memorial could maintain or improve vehicle throughput, while reducing emissions.



Figure 22: Illustration of proposed roundabout at Maynard Terrace (aerial looking northeast)

Above: Roundabouts improve vehicle progression through a continuous flow, rather than the stop-and-start cycles of conventional intersections. Research indicates that they significantly reduce the number of total crashes and fatal crashes.

Figure 23: Illustration of proposed roundabout at BeltLine/Bill Kennedy Way (aerial looking southwest)

Left: Traffic modeling of potential roundabouts on Memorial Drive showed they were more effective at intersections with streets that carry lower volumes of cars, such as at Bill Kennedy Way and the BeltLine. The design can be easily adapted for future transit.



Bill Kennedy was another intersection that met the criteria for a roundabout and holds particular interest with a connection to the Atlanta Beltline to the north. South of this intersection is a bridge with ramps only on the west side and an existing bike path. These elements, along with a comparatively quiet intersection, make this space available for more effective pedestrian and bicycle facilities to better connect communities on both sides of I-20 with the future Beltline extension.

The right-of-way necessary to implement a roundabout would take place on land owned by the Beltline presently and is roughly calculated to be 744 sq ft. Some right-of-way is gained by merging the lanes with a median of smaller width and using the acquired space for sidewalks, bike paths and landscaping. Illustrations of possible designs are included in Figures 23 and 24.



Figure 24: Illustration of proposed lane configuration and roundabout at BeltLine/ Bill Kennedy Way (aerial looking west)

The next extension of the Eastside Trail (est. completion in 2017) will end here, bringing with it high volumes of BeltLine users from all over the city and beyond. More dense development is coming. Enhanced pedestrian and bike improvements, along with reduced driving speeds, will be key for this location.

Signalizing Howard Street

Currently the only signalized intersection in this speed section is at the East Lake YMCA facility and Drew Charter School. A young girl was struck by a turning vehicle at this intersection in recent weeks. No matter the cause of the accident, pedestrian safety concerns at such a location should be a primary focus of this segment. Slightly farther up the road at Howard Street, an additional safety concern arises with the line of sight distance for vehicles turning onto Memorial Drive from Howard. This intersection sees higher traffic because of its proximity and direct connection to Hosea Williams and its use by Kirkwood residents as the main thoroughfare to access the Memorial Drive.

Because the intersection at Howard is located just off of the crest of a hill, eastbound traffic on Memorial has a very short stopping distance. The line of sight in both directions, particularly to the west, is too short for efficient intersection flow and vehicles were observed at taking lengthy amounts of time to turn either direction onto Memorial Drive because of the safety risk. Preliminary traffic counts were observed and plotted against the MUTCD traffic signal warrant graph showed in Figure 25.

Figure 25: Chart of traffic volumes that justify signals at intersections of major and minor streets

The curves indicate the volume at which a traffic signal is warranted where a minor street intersects with a major street. The three lines show different lane configurations. Volumes above the curved lines require a light; those below don't. A preliminary traffic count conducted by studio members indicates the volume at Howard Street warrants a traffic light because of volume, low visibility, and danger to pedestrians. Source: *Manual on Uniform Traffic Control Devices, FHWA.*

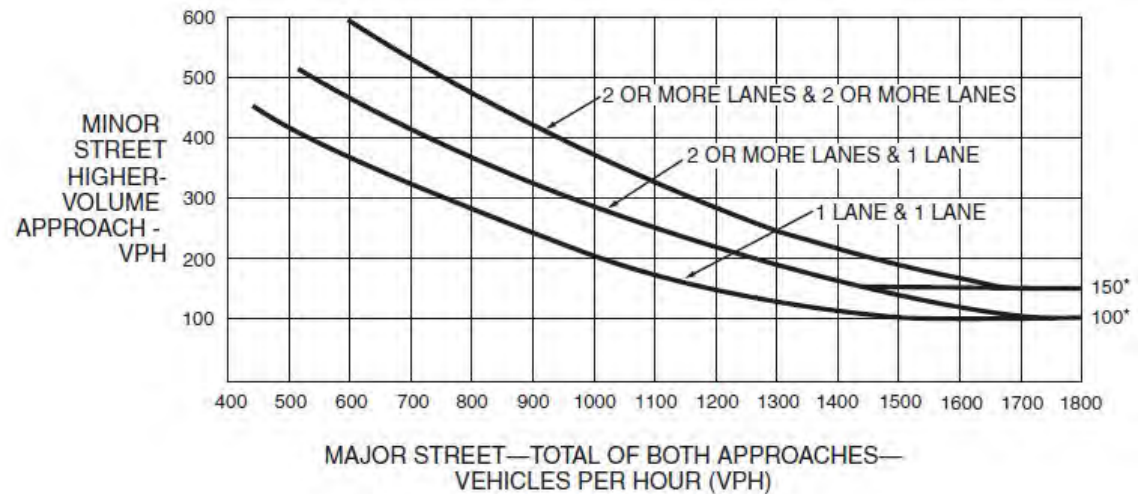




Figure 26: Driver's perspective from southbound Howard Street looking east on Memorial Drive

Above: A driver attempting to turn right (west) onto Memorial Drive has severely limited visibility because of topography and vegetation on the corner property. This is one of the "speed sections" where the combination of four lanes, hilly terrain, and multiple access points creates dangerous conditions for all modes. Photo by Marcus Ashdown.

Figure 27: Driver's perspective from southbound Howard Street looking west on Memorial Drive

Right: A driver attempting to turn left (east) on Memorial Drive also has limited visibility because of topography and landscaping on the corner property. Photo by Marcus Ashdown.



Whitefoord

Whitefoord is presently a transition point between three lanes with reversible lane and regular four lanes. Furthermore, its north leg does not align with its south leg, making it more confusing to drive through. Drivers coming southbound down Whitefoord Avenue complain that, during PM peak hours, making a left turn to Memorial Drive, merging into main traffic flow is extremely hard due to the large amount of traffic and sight distance problems. To solve this problem, strategies should be taken to coordinate the traffic from different directions and eliminate the confusion of the reversible lane.

The lane configuration of Memorial drive is proposed to change significantly at this intersection. For the west side, the three lanes are converted to two lanes with raised median. For the segment between Whitefoord Avenue and Memorial Terrace, original four lanes are transformed to two lanes. The extra ROW derived from road diet is proposed to construct sidewalks. For the east side, two lanes continue for 100 feet and change to four lanes, with two lanes merging into one for westbound traffic and one lane separates to two lanes for eastbound traffic.

Figure 28: Illustration of current intersection at Whitefoord

The corridor at Whitefoord combines an unaligned intersection, a poorly marked transition between three lanes and four lanes, and a steep grade to boot.





Figure 29: Illustration of the famous “Ovalabout” design for Whitefoord intersection

The “Ovalabout” offers a unique combination of a roundabout’s continuous traffic flow, while its shape addresses the offset intersection.

Alternatives for Whitefoord

Alternative 1 - “The Ovalabout” (ROW 4400 sf) - It builds on the continuous efficiency of the roundabout while mitigating an offset intersection. Offset intersections are common along the corridor, including Moore & Kelly streets, Grant Street, Oakland Avenue, East Side Avenue, Howard Street, East Lake Terrace, and Daniel Avenue.

Traffic flows around an ellipse-shaped median, as shown in Figure 29. There is little need for additional right of way beyond that of a standard intersection.

Strengths of the Ovalabout design:

- Continuous flow
- Zero head-to-head collision points
- Enhanced pedestrian safety
- Horizontal curvature in vehicle path calms traffic

Challenges of the Ovalabout design

- Making left turns off Memorial requires longer distance
- Difficult turning radius for large trucks

Alternative 2 - Realignment (ROW: 4400 sf)

- Realign the offset road by directly connecting Whitefoord and Memorial Terrace.
- Remove the two traffic signals and install a new one for the single intersection

Figure 30: Illustration of realignment of Whitefoord and Memorial Terrace



Alternative 3 - Roundabout + Stop Sign (ROW: 500 sf)

- Remove both traffic signals, install roundabout with indicators at Whitefoord
- Raised medians at each direction to separate traffic flows
- Ramps for crosswalks
- Road diet between Whitefoord and Memorial Terrace. Remove two lanes and use additional ROW to construct sidewalks.
- Add a stop sign at Memorial Terrace

Figure 31: Illustration of roundabout at Whitefoord with elimination of signal at Memorial Terrace



Alternative 4 - Traffic signal + Stop Sign (ROW: 0 sf)

- Keep the traffic signal at Whitefoord
- Add a stop sign at the intersection of Memorial Terrace

Figure 32: Illustration of realignment of Whitefoord and Memorial Terrace



Boulevard

Boulevard is one of the busiest intersections in the corridor. A key issue is truck traffic traveling between the Hulsey multimodal freight yard and Interstate 20. Oakland Cemetery on the northwest corner and other restaurants and businesses in the surrounding community generate pedestrians across the intersection. Also, for the west leg, the left-turn traffic signal has no corresponding left turn lane to separate the left turn vehicles, which are always blocked by through traffic. The conflict points between pedestrians and traffic of different directions have to be controlled and eliminated.

Alternative design considerations for Boulevard intersection, shown in Figure 33:

- For eastbound segment, reduce the lane width from 11' to 10'
- Take 900 sqft more ROW on the south side to add a left turn lane in the middle
- Add fences on street corners to protect pedestrians
- Repair the sidewalks on northeast and southwest corner
- Add ramps on northeast and northwest corner

East Lake

One of the most critical goals is to improve pedestrian safety at this intersection. There is heavy pedestrian demand between the Kirkwood neighborhood to the north and the YMCA and Drew Charter School to the south. Dr. Nisha Botchwey, the co-president of the Drew Charter School PTA, reported that children walk around the back of the corner church because they feel unsafe walking along Memorial Drive. Depicted in Figure 34, nothing but a dirt path exists on the north leg of East Lake Terrace. The sidewalk on Memorial is only a few inches higher than the road and is bound by a stone wall. These concerns could be mitigated with the following proposed intersection enhancements, depicted in Figures 35 and 36:

- Plant trees and set fence along the segment between East Lake Terrace and East Lake Boulevard. According to the tree planting standard, spacing between two trees would be 25 feet.
- Plant trees and set fence along the segment between East Lake Boulevard and Watson Circle, and change the fourth lane on north side to street parking and reserve space for disabled people.
- Set ramps on both ends of the crosswalk to meet with ADA requirement.
- Set new a crosswalk at East Lake Blvd to connect the sidewalks on both sides, and put warning board to remind passing cars to give way to pedestrians.



Figure 33: Illustration of Boulevard redesign

Above: A key element at Boulevard will be adding a dedicated turn lane from eastbound Memorial to northbound Boulevard. Fences would help protect pedestrians at the high-volume intersection.

Figure 34: Photo of intersection at East Lake Blvd

Right: Students walking to Drew Charter School south of Memorial have inadequate sidewalks and little protection from high-speed traffic.





Figure 35: Illustration of intersection at East Lake Boulevard (looking northwest)

Above: Reducing this "speed section" to three lanes allows room for new sidewalks and protective barriers to shield children walking to school.



Figure 36: Illustration of intersection at East Lake Boulevard (wider aerial, looking northwest)

Moreland Avenue

Currently there are three segments of reversible-lane configuration along Memorial Drive. The shortest segment, from Moreland to Whitefoord, is barely a quarter-mile long. Besides the short length, the transition just on the east side of Moreland includes both directions in one lane with a dashed diagonal marker as the only indication on how to avoid a head-on collision. This unsafe present condition can be observed in Figure 38 below. The distance between Moreland and the proposed oval—about at Whitefoord is so minimal that it's possible to keep a two-lane configuration or three lanes with two westbound lanes so as to retain queue capacity at Moreland. This proposed change is depicted in Figure 37 from the similar eastbound perspective from the Moreland intersection illustrating the lane alignment and added median.

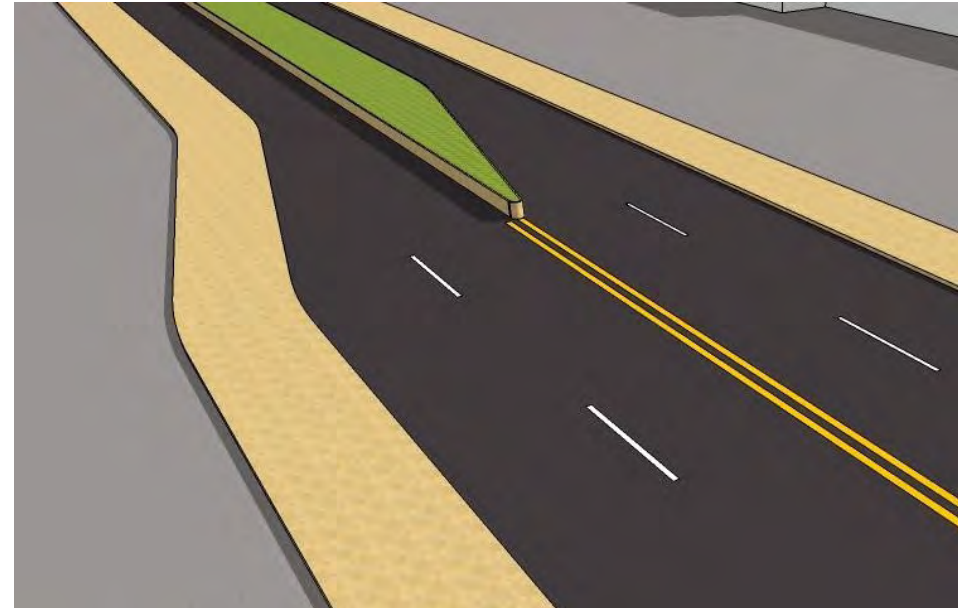


Figure 37: Illustration of proposed lane configuration east of Moreland Avenue

Above: More capacity would be kept near the Moreland intersection, but narrow down as it approaches the proposed Whitefoord "Ovalabout."



Figure 38: Photo of current lane transition east of Moreland

Left: The left eastbound lane from Moreland leads merges into the reversible lane, with only a small overhead sign to mark the direction. Photo from Google Streetview.

Cottage Grove

The fundamental concern with the intersection at Cottage Grove, 4th Street and Memorial is the unsafe geometry depicted in Figure 39. Currently Cottage Grove (the diagonal road) has fewer than 200 vehicles per hour during peak. It has no access points between this intersection and 3rd Street to the west, with the exception of a service driveway for the vacant elementary school on 4th Street. While observing this intersection, the authors witnessed a motorcycle collision at the west side of the intersection on Memorial Drive. Because the westbound stop bar is located so far back from the intersection (due again to the awkward geometry) advancing vehicles could not be seen by the motorcyclist turning onto Memorial Drive. There is also no pedestrian crossing, despite commercial buildings on either side.

To mitigate these geometric flaws, it is proposed that Cottage Grove end at 3rd Street, diverting traffic down either 3rd or 1st to gain access to Memorial Dr., and the service driveway for the school be re-routed to follow the base of the topographic change at the school and connect to 4th Street directly. The resulting effect would be the creation of a standard "T" intersection. Depending on more comprehensive traffic projections, it may or may not warrant a traffic signal.

The acquired space could be used to make the intersection more attractive for pedestrian use. Of several alternative designs, community input favored a plaza in front of existing storefronts on Memorial Drive, enhanced pedestrian facilities, and space for a bus pull-out so that the nearby Route 21 stop would not need to impede traffic. This alternative design proposal for the Cottage Grove intersection (which would not include Cottage Grove anymore) is included in Figures 40-43.



Figure 39: Illustration of current intersection at Cottage Grove

Cottage Grove curves toward Memorial Drive from the top right of the frame. Drivers turning left (east) onto Memorial can't see the indicator for the reversible lane until they are fully facing oncoming traffic.



Figure 40: Aerial photo of Cottage Grove with proposed street closure (highlighted)
The shaded green area shows the portion of Cottage Grove that could be closed to traffic with minimal loss of access for the community. Drivers would access Memorial with a signal at 3rd Avenue. Access to the school site would remain via 4th Avenue. Photo from Google Streetview.



Figure 41: Illustration of proposed redesign of Cottage Grove/4th Avenue intersection
Eliminating the Cottage Grove connection at 4th Avenue would allow a more traditional intersection design, while opening up two large wedges of right-of-way for other uses, such as greenspace, outdoor retail seating, a protected lane for MARTA buses, and shorter crosswalks.



Figure 42: Photo of existing Cottage Grove intersection viewed from westbound Memorial Drive

The current configuration allows for a high-speed merge from Memorial Drive onto Cottage Grove, directly in front of a historic block of street-oriented businesses. Photo from Google Streetview.

Figure 43: Illustration of proposed redesign of intersection at Cottage Grove/4th Avenue (closer view)

The bones of a classic neighborhood retail district are in place at Cottage Grove. Relatively minor changes to surrounding traffic patterns could spark new commercial vitality for the area.s



Access Management Plan

Extensive access to and from Memorial Drive is essential to the efficiency of the corridor and provides adequate transportation service to the surrounding communities. This considered, points of access should be selective and preferential to the corridor's nature as an arterial route. Using an existing network of collector roads can facilitate more continuous and safe traffic flow. This concern is highest where small commercial and residential lots have numerous driveways onto the arterial corridor. These create an unsafe environment for users of all transportation modes as the infrequent use of these smaller, more numerous curb cuts force vehicles to react to incoming and outgoing vehicles at significantly different speeds. The balance of too few or too many access points along Memorial Drive would be most adequately handled through existing collector roads and the further development of the hierarchal roadway network that supports the east Atlanta communities.

Implement Rapid Transit Options

The study area is bordered to the north by the Blue and Green MARTA Lines, which all local bus routes feed into. The implementation of high-capacity rapid transit around the prospective areas of development will add another level of rapid access to Downtown Atlanta and points beyond from the Memorial Drive Corridor. This will also infuse a focus on transit-oriented development along the corridor in distressed areas. The Atlanta BeltLine has proposed two alignment options for the Atlanta Streetcar extension from Downtown. One alignment option will take it through Inman Park along the currently-proposed Eastside Trail extension to Memorial Drive. It will require tunneling under CSX's Husley Intermodal Rail Yard to Wylie Street in Reynoldstown. It will follow Wylie to the Eastside Trail east

of Chester Avenue and follow south and use Bill Kennedy Way across Interstate 20 to Glenwood Park. Another alignment option will send the existing streetcar from the Edgewood Avenue and Jackson Street. There will be two tracks, one coming south on Hilliard Street and another going south on Jackson. Both will merge on Grant Street providing access to the King Memorial MARTA Station, and then proceed east on Memorial to Bill Kennedy Way.

The Metropolitan Atlanta Rapid Transit Authority (MARTA) has proposed a 12-mile bus rapid transit (BRT) line along Interstate 20. The BRT line will utilize the High Occupancy Vehicle (HOV) lane in the center of the freeway, with a small arterial run along Memorial Drive, Bill Kennedy Way, Moreland Avenue, Capitol Avenue, and Martin Luther King Jr. Drive. The BRT line will empty into a future extension of the Blue Line that will continue to the Mall at Stonecrest in Lithonia. The BRT Line will cut through the western portion of the study area starting at the Five Points MARTA Station, and following surface streets down to Interstate 20. There will be an instance where the vehicle will utilize the surface streets along Bill Kennedy Way, Memorial Drive, and Moreland Drive, where there will be two stations on Bill Kennedy Way and Moreland Avenue.

The implementation of transit in this project focuses on the connectivity of both of these new high-capacity lines with the existing high-capacity lines with our proposed bike and pedestrian improvements. Transit lines do not meet their purpose if there is no walkable environment surrounding a transit stop. With the addition of three new premium transit stops along the Memorial Drive Corridor, a new focus on transit-oriented development and a more pedestrian-friendly environment would be required.

To anticipate the feasibility of these initiatives to the proposed bike and pedestrian connections, there will need to be analyses conducted:

- A Transit Level of Service (LOS) on existing bus stops to anticipate changes in service
- Transit Demand Analyses of the proposed transit stops
- Comparison of possible stop locations

Bike Connectivity to Transit

With the addition of several additional bike lanes, sidewalks

and bikeways in the future, there lies an idea to connect all of the paths for the sake of enhancing transportation along Memorial Drive. It helps to recognize bike travel in a transit network, no matter how big or small. The bike and pedestrian paths will serve as a last-mile connectivity route to the existing and proposed stations, while forming their own network in their respective mode. The recommended maximum distance for cyclists to travel to a rapid transit station is 2.5 miles. Every proposed route as well as the existing routes fit the maximum distance given the existing MARTA heavy rail and the proposed MARTA BRT line. It is easy to bike from a rapid transit station to an activity center, school, or a park within the recommended 2.5 mile route distance.

Figure 44: Illustration of a potential BeltLine transit stop cross-section

The crossing of the BeltLine corridor at Bill Kennedy Way will offer new opportunities for last-mile connectivity and street design. The BeltLine Subarea 4 Master Plan calls for denser uses around the node and infrastructure for multimodal users.

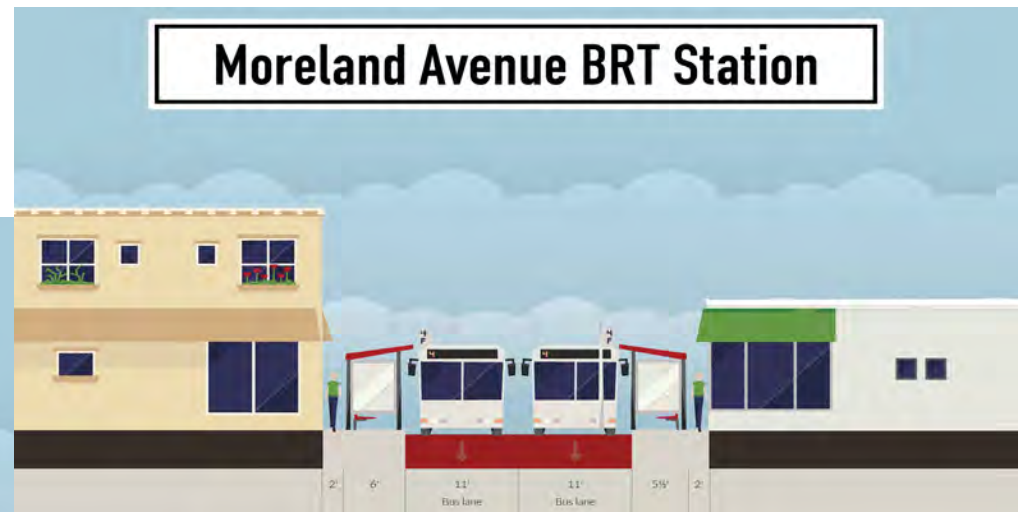
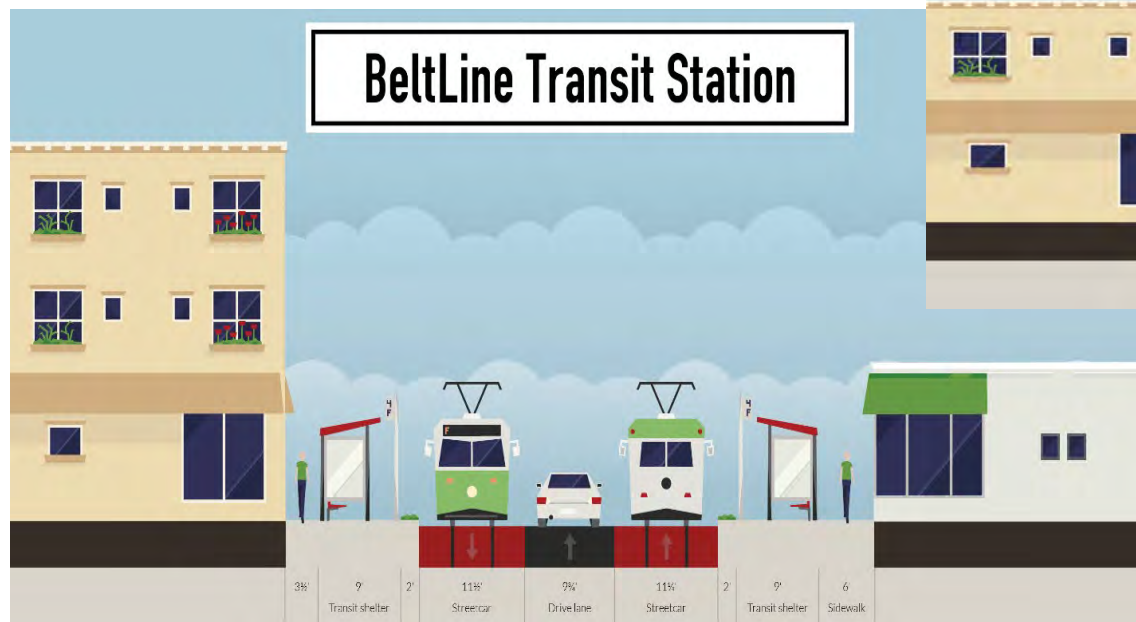
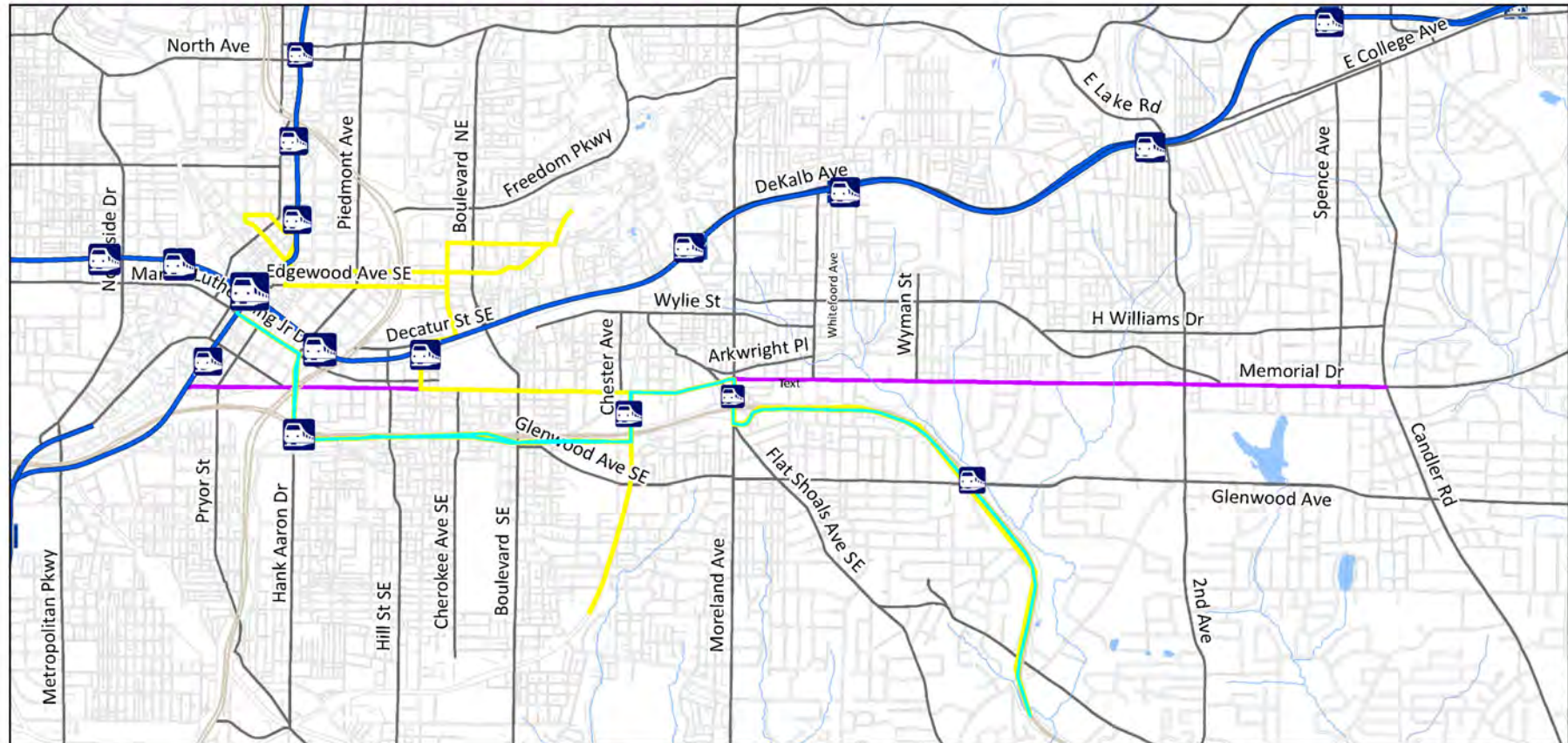


Figure 45: Illustration of a potential MARTA Bus Rapid Transit (BRT) stop at Moreland Avenue

Above: Design concept for a BRT station bordered by existing or new mixed-use buildings along the Flat Shoals Avenue spur that currently dead-ends at Moreland Avenue.

HIGH CAPACITY TRANSIT ALIGNMENTS



EXISTING INFRASTRUCTURE

- MARTA Rail
- Memorial Corridor
-  MARTA Rail Stops

PROPOSED ENHANCEMENTS

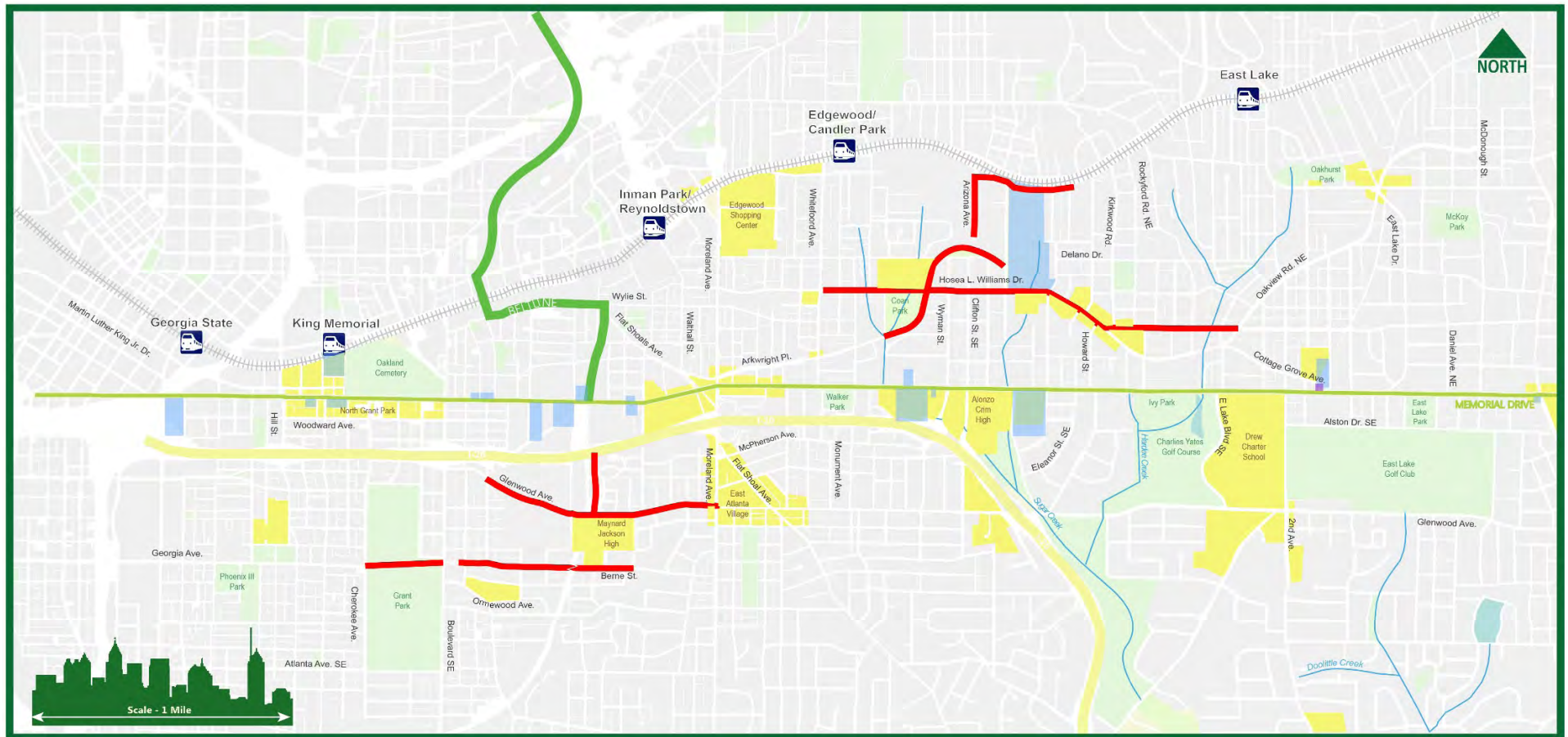
- Atlanta Streetcar Alignment
- BRT Line
-  MARTA Rail Stops

Figure 46: Map of proposed high-capacity transit alignments near Memorial Drive







Planning continues for a Bus Rapid Transit (BRT) route for the I-20 East corridor. Such a network could reduce the traffic volume on Memorial Drive and offer better connectivity to job centers downtown and elsewhere in the metro area. Proposed stops include Glenwood Avenue, Moreland Avenue, and Bill Kennedy Way/BeltLine. City of Atlanta planners also want to explore a stop at Maynard Terrace.

IMAGINE MEMORIAL - CONNECTIVITY VISION

By Corentin Auguin, GA Tech MCRP 2014



EXISTING

	Activity Center		BeltLine		MARTA Rail station
	Park		Bike Lane		Upcoming Activity Center

SOURCES

This map represents the pedestrian and bike facilities vision for the future of Memorial Drive. The map incorporates parts of plans developed by the neighborhoods, local governments as well as Connect Atlanta, the MLK Jr. Dr. revitalization study, the Beltline subarea 4 study and the Regional Transportation Referendum along with the students' recommendations.

Figure 47: Map of existing alternative mode routes in the study area

The main theory behind the Connectivity plan is to identify existing and planned routes that allow users to get between key activity centers without driving. These routes will not necessarily use Memorial Drive directly, but will offer safe alternatives along its length. There are already several elements in place, thanks to the City's Connect Atlanta plan, the PATH Foundation, the BeltLine, Atlanta Bicycle Coalition, and others.

VII. CONNECTIVITY

Connectivity is a primary measure of the success of a transportation network. As a comprehensive plan, the Imagine Memorial study focused heavily on future connectivity among the neighborhoods and activity centers. Major existing and future activity centers, current and proposed bicycle and pedestrian networks, and current and proposed transit were considered.

This connectivity plan was compiled through stakeholder and public input, collaboration with public and private entities, spatial analysis, and field work. Assessment began with an activity center analysis to determine where there were a large number of trip origins and destinations. Then potential alternative routes for non-automobile modes were devised through review of existing plans, public input, and consideration of ideal project designs from other locations in the United States and abroad.

Activity Center Analysis

Activity centers can be defined as areas which serve as local nodes for transportation, commercial, and public activities. They may be public parks, schools, local retail corridors, or large commercial developments where multi-modal transportation users are likely to gather. Spatial GIS analysis was used to map these areas, and public feedback was used to add additional areas identified by local residents. Once the final activity centers were identified, the presence of existing multimodal networks was considered in order to identify centers lacking safe or effective non-automobile access routes, as shown in Figure 46.

Bicycle and Pedestrian Connectivity Plan

Bicycle and pedestrian modes are critical transportation alternatives for individuals who wish to avoid automobile use. These individuals choose alternative transportation for both voluntary and involuntary reasons. In order to promote the economic security, health, well-being, and happiness of Memorial Drive area residents, an expanded multi-modal connectivity network is proposed. A full bicycle and pedestrian network such as the one developed in this Imagine Memorial plan offers local residents a healthy, inexpensive and safe alternative to automobile use, as well as a valuable recreational resource.

Connectivity Network

The final draft bicycle and pedestrian connectivity network for the Imagine Memorial plan is displayed in Figure 49. The full list of proposed projects needed to complete the connectivity network is available in Figure 47 with cost estimates and project details. Cost estimates were developed from the Costs for Pedestrian and Bicyclist Infrastructure Improvements from the UNC Highway Safety Research Center. Only projects for which reasonably accurate estimates could be produced, primarily point improvements such as crosswalks and barriers, were assigned costs. More complicated and lengthy projects involving varying design requirements were not estimated in order to prevent inaccurate representations. The proposed network prioritizes areas with the greatest needs. These include the East Lake and East Lake Park area, the area surrounding Alonzo Crim High School, and the East Atlanta area. Large scale future pedestrian developments such as the BeltLine trail and the Battle of Atlanta Trail are the foundation of the future network. Department of Public Works projects along Memorial, including the removal of a lane for a sidewalk expansion along the five lane portion of Memorial Drive

east of Oakland Cemetery in three phases, were also considered. High-visibility crossings are proposed to improve north-south mobility and safety across Memorial Drive. East Lake Park, currently without sidewalk access or a high-visibility crossing, is proposed to receive a sidewalk extension and a PAB signal crossing Memorial Drive at Daniel Street (project C-09). Stakeholders expressed a strong desire for this project. Curb extensions, barriers and painted school zone and crossing markings are proposed at Clifton Street alongside Crim High School to slow traffic and prevent students from cutting through the busy intersection. The crossing will also support the proposed bike lane along Clifton St (project P-03).

An additional PAB signal is proposed at the crossing of the Battle of Atlanta trail (project C-05). This signal will allow safe access to the new trail for residents on both sides of Memorial Drive. Crossings will also be integrated into the “ovalabout” roadway design proposed for the Memorial Drive, Memorial Terrace, and Whitefoord intersection (project C-03). These crossings will provide access to the proposed pedestrian bridge across I-20 at Memorial Terrace.

New Multi-Use pathways are proposed along the Sugar Creek right of way. A large portion of this pathway is designated as the Battle of Atlanta Trail and is scheduled for construction in upcoming years. The trail is designed to provide increased north-south connectivity and connect the McPherson Monument to the Walker Monument for recreational users (project T-02). An additional possible trail alternative is proposed along Doolittle Creek south of the East Lake Golf Club (project T-01).

Proposed bike lanes and bike lane upgrades were chosen to complement the existing bike infrastructure. Total mileage for the final bike network is 25.61 miles after completion, including 20 miles of newly proposed infrastructure. Only fully painted and marked bike lanes were considered as existing and meeting

desired standards for recreational and casual bicyclists. The most fully featured bicycle improvements are proposed along Arkwright Place and Flat Shoals Avenue. Existing pavement from an old trolley right-of-way is designated for use as a full two-way bicycle and pedestrian boulevard (projects B-12 and B-13). Woodward Avenue just south of Oakland Cemetery is also designated as a bike boulevard to provide access to the Grant Park area without being forced onto Memorial Drive (project B-02).

This route will also be enhanced by a large green painted bike and pedestrian crosswalk at Boulevard (project C-01). Additional painted and marked bike lanes are proposed along Clifton St, Bill Kennedy Way, Cherokee Ave, Whitefoord Ave, and East Lake Drive. The primary east-to-west bicycle routes are placed along Glenwood Ave and Hosea Williams Drive, which already feature bike lanes along part of their extents (projects B-09, B-20). These routes run parallel to Memorial Drive to both the north and south, diverting bicyclists away from the more dangerous speeds along the central corridor.

Major bicycle and pedestrian upgrades are proposed at several crossings over Interstate 20 to further enhance connectivity. These include complete sidewalks and bike lanes along Clifton Street, a new bicycle and pedestrian bridge connection between Monument Avenue and Memorial Terrace in the central study area, and bike and pedestrian improvements along Bill Kennedy Way, Cherokee Ave, and Maynard Terrace. Additional long-term improvements include the introduction of complete streets and shared space designs at major bicycle and pedestrian intersections such as the intersection of Oakview and Cottage Grove, the Oakhurst Park area, the extent of Memorial Drive along Oakland Cemetery to the BeltLine crossing, and the intersection of Hosea Williams and Whitefoord. The potential closure of the Flat Shoals stubs along Memorial Drive may also be used to create a pedestrian hub and gateway to Reynoldstown.

FIGURE 48: Bicycle and Pedestrian Alternatives

ID	LOCATION	TYPE	STATUS	ESTIMATED COST (\$)
B-01	MLK Jr. Dr.	Bike Lane	Proposed	
B-02	Woodward between Kelly and Chastain	Bike Boulevard	Proposed	
B-03	Hill St between MLK and Georgia Ave.	Bike Lane	Proposed	
B-04	Memorial Dr. between downtown and Cherokee	Bike Lane	Proposed	
B-05	Georgia Ave. between connector and Grant Park	Bike Lane	Proposed	
B-06	Boulevard between memorial and Beltline	Bike Lane	Proposed	
B-07	Berne St between Glenwood Pl. and Moreland	Bike Lane	Proposed	
B-08	Ormewood between Grant Park and Brownwood park	Bike Lane	Existing	
B-09	Glenwood a between Cherokee and Candler Rd.	Bike Lane	Incomplete	
B-10	Wylie between beltline and Whitefoord	Shared Lane	Proposed	
B-11	Walthall between Caroline and flat shoals	Shared Lane	Proposed	
B-12	Flat Shoals Ave between Wylie and Moreland	Bike Boulevard / Ped Path	Proposed	
B-13	Arkwright/Woodbine between Moreland and Gilliam park	Bike Boulevard / Ped Path	Proposed	
B-14	Whitefoord between rail and Memorial Dr.	Shared Lane	Proposed	
B-15	Monument Ave between memorial and Glenwood	Bike Lane	Proposed	
B-16	La France between Marion Pl. and Arizona	Bike Lane	Proposed	
B-17	Pullman bike path to Locust St.	Bike path	Existing	
B-18	College Ave to E. Lake Dr.	Bike Lane	Proposed	
B-19	Arizona Ave. between La France and Gilliam park	Bike Lane	Incomplete	
B-20	Hosea L. Williams Dr. to Oakview	Bike Lane	Existing	
B-20A	Hosea L. Williams Dr. from Oakview to Candler	Bike Lane / Shared Lane	Proposed	
B-21	Wyman between Hosea L. Williams dr. and memorial.	Bike Lane	Proposed	
B-22	Rockyford Rd between college Ave and Hosea L Williams Dr.	Bike Lane	Proposed	
B-23	Oakview Rd. between Hosea L. Williams Dr and E. Lake Dr.	Bike Boulevard	Proposed	
B-24	E. Lake Dr. between College Ave and Memorial Drive	Bike Lane	Proposed	
B-26	Clifton St between Hosea and Glenwood	Bike Lane	Proposed	
C-01	Woodward @ Boulevard	Crossing	Proposed	26,850

S-01	Woodward @ Glenwood	Sidewalk	Proposed	4,420
P-01	Memorial Dr. @ Stovall	Barriers	Proposed	7,100
C-02	Wilbur @ Memorial Drive	Crosswalk / Barriers	Proposed	12,000
C-03	Memorial Dr. @ Memorial Terrace	Crosswalk / Barriers	Proposed	
C-04	Memorial Drive @ walker park	Crossing	Proposed	3,000
C-05	Memorial Dr. across new creation church	Crosswalk	Proposed	26,850
S-02	Clifton St , across Alonzo Crim High	Trail Crossing and PAB	Proposed	34,000
P-02	Clifton St , across Alonzo Crim High	Sidewalk	Proposed	18,840
P-03	Memorial Dr. @ Clifton St	Barriers	Proposed	20,910
S-03	Memorial Dr. between Clifton and clay.	Barriers / Curb Extension	Proposed	11,680
C-06	Memorial Dr. @ Shy Temple CME Church	Sidewalk	Proposed	3,000
S-04	E. Lake Blvd south of Memorial	Improved Crossing	Proposed	32000
S-05	Memorial Dr. south side along Drew charter high	Sidewalk	Proposed	206,250
P-04	Memorial Drive @ E. Lake Blvd, south east corner	Sidewalk	Proposed	3,650
S-06	2nd Ave south of Memorial	Barriers	Proposed	21,750
C-07	Memorial Dr. @ 3rd Ave	Sidewalk	Proposed	3,000
P-05	Memorial Dr. @ Cottage Grove	Crosswalk	Proposed	
C-08	Memorial @ Club place	Barrier	Proposed	3,000
S-07	Memorial Dr. at East Lake Park	Crosswalk	Proposed	98,100
C-09	North east corner of East Lake Park	Sidewalk	Proposed	70,680
S-08	Memorial drive @ 3rd Ave, north east corner	Crosswalk and PAB	Proposed	21,450
T-01	Doolittle Creek Trail	Sidewalk	Proposed	
T-02	Battle of Atlanta Trail / Sugar Creek Trail	Multi-Use Path	Proposed	

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By Corentin Auguin, GA Tech MCRP 2014

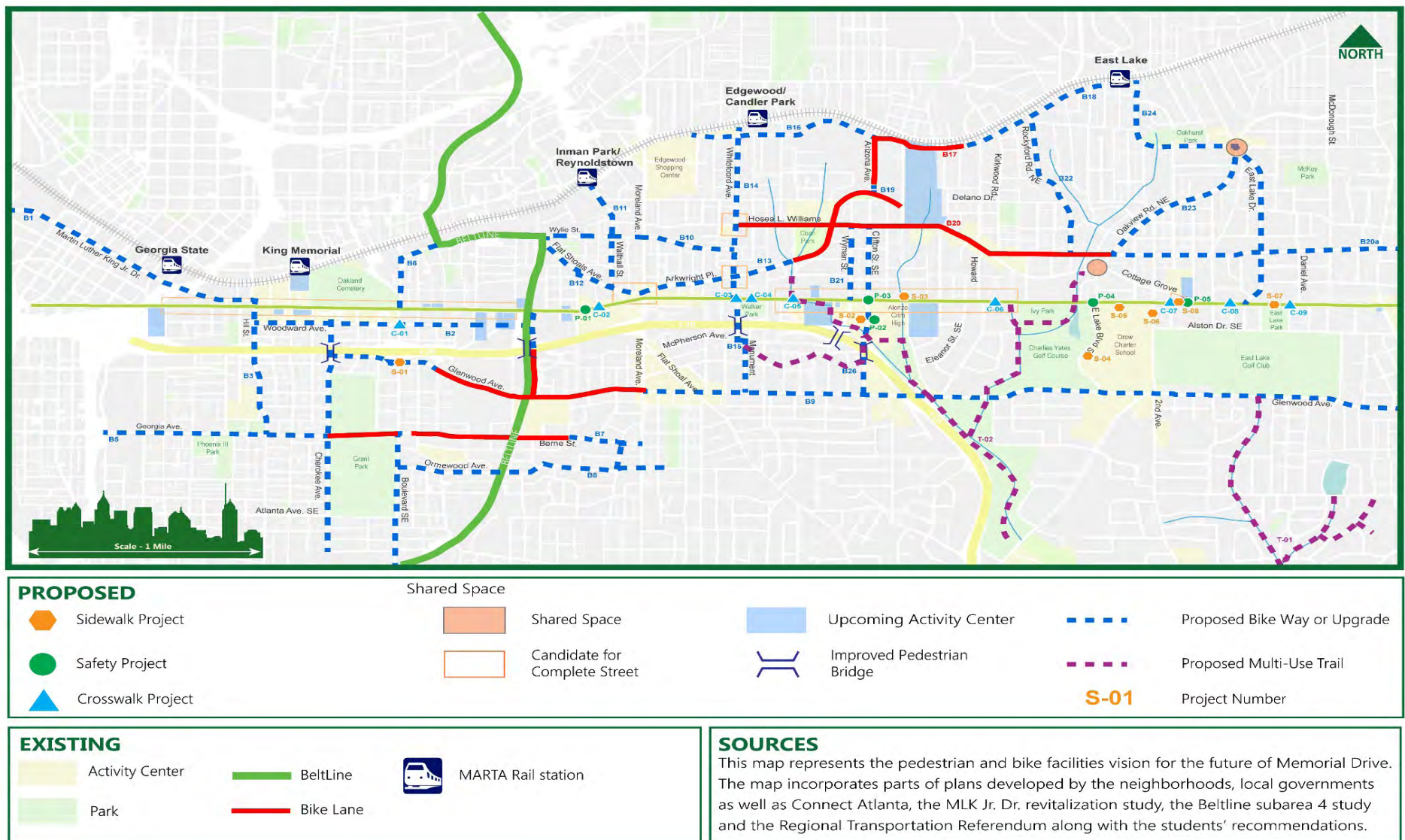


Figure 50: Map of proposed Connectivity Vision for Memorial Drive

This plan incorporates existing, proposed, and planned bikeways and multi-use trails from previous planning efforts, with some new additions based on updated analysis and development activity. It recommends pedestrian and bicycle enhancements to several bridges to link neighborhoods on either side of I-20. If fully implemented, it would offer parallel multimodal networks to the north and south of Memorial Drive and I-20.

Shared Space Intersection, Poynton, UK



SHARED SPACE

Increased pedestrian safety
Slower traffic speeds
Easy pedestrian and bike crossings
Walkable urban design



Shared Space, Savannah, GA

Multi-modal accessibility
All modes use same pavement
Shared travelways increase alertness
Autos yield to pedestrians and transit



Shared Space, Netherlands



Transit Right of Way Shared Space, Nantes, France

Cars

Trucks

Bicycles

Transit

People



COMPLETE STREETS

Increased accessibility
 Accommodates all travel modes
 Accessible for limited mobility individuals
 Transit and alternative modes improved



Increased safety
 Visible bike lanes and boxes
 Sidewalks with barriers and trees
 Slower travel speeds



Complete Streets Bike Boxes, New Haven

Neighborhood-friendly environment
 Gathering place for community
 Commercial and activity hub
 Public landmark opportunity

Cars

Trucks

Bicycles

Transit

People



PEDESTRIAN FACILITIES

Reconnect neighborhoods

Shorten travel times

Increase walkability

Promote neighborhood collaboration



Hazel St Pedestrian Bridge, Macon, GA

Increase safety

Separate peds from high speed roads

Provide safe access for children, elderly

Promote healthy activity



*Pedestrian path, creek right-of-way, Japan
See DeKalb County Shoal Creek Trail*

Low-impact designs

Affordable implementation

Maintain neighborhood character

Enhance existing travelways

Cars

Trucks

Bicycles

Transit

People

S



Hazel St Pedestrian Bridge, Macon, GA



Ideal Project Designs

The images on previous pages display a variety of projects types which fit with the Imagine Memorial plan priorities and goals. These example projects were chosen due to their commitment to bicycle and pedestrian safety and accessibility. In order to generate awareness of alternative design types, several non-traditional designs uncommon in the United States were chosen to reflect the possibilities of a commitment to a pedestrian and bicycle oriented transportation network.

Connectivity Plan Methodology

The Imagine Memorial bicycle and pedestrian connectivity plan was developed through the previously mentioned activity center analysis, stakeholder and public input, collaboration with local agencies, and review of previous plans and programmed projects. Gaps in the existing bicycle and pedestrian network were identified through these resources and alternatives were developed according to accepted bicycle and pedestrian planning priorities. These priorities include safety, accessibility, and plausibility for implementation. Stakeholder input indicated that the north to south crossing of Memorial Drive, particularly within the Dekalb County portion of the study area, was in the greatest need of increased connectivity. Full painted and marked bike lanes were prioritized over shared lanes which are much less safe and comfortable for casual bicyclists. Roadways with limited traffic and available right of way were prioritized for bicycle improvements.

Pedestrian improvements were prioritized near schools, public gathering places, parks, and areas without existing sidewalk infrastructure. High visibility crossings were prioritized near intersections with high pedestrian potential and unsafe crossing conditions due to the speed of traffic and limited visibility.

Memorial Drive was avoided when possible for new bicycle and multi-use infrastructure due to the increased safety potential of parallel routes. Designated truck routes were also avoided for bicycle improvements due to the danger of truck and bicycle interactions. Direct routes between activity centers were chosen wherever possible.

Complete Streets and Shared Space Intersections

The complete streets design mentality is steadily gaining traction throughout the United States. The “complete streets” terminology refers to streetscape design which allows for the safe and comfortable passage of all travel modes, with an emphasis on walkability, reduced traffic speeds, and access to multiple travel modes. Design features of complete streets include:

- **Bike lanes:** Full width, striped, marked, and colored bike lanes are the ideal complete streets bike facility. These highly visible facilities provide bicyclists with safe and comfortable travelways which minimize conflict with other vehicles and pedestrians.
- **Bike boxes:** Bike boxes are painted boxes at intersections which allow bicyclists to pull in front of traffic at red lights, allowing them to continue before automobiles can begin right turns and avoiding right turn conflicts between modes.
- **Curb extensions:** Curb extensions temporarily narrow roadway width and force cars to slow down at intersections and pedestrian and bicycle crossings. They work well with highly visible painted crossings to provide safe routes for pedestrians. They can also provide additional waiting space for transit users at corner bus stops.
- **Pedestrian barriers:** These barriers create a slowing effect on traffic which passes alongside them. They also prevent pedestrians from falling into the street or crossing outside of designated crosswalks.

- Pedestrian Activated Hybrid Beacons (PAB) Beacons: Commonly known as High-Intensity Activated Crosswalk Beacons (HAWK), these hand-activated beacons force traffic to stop and yield to pedestrians at major crossings, such as those found near parks or transit stops. They can also be used for bicycle crossings along multi-use trails.

Additional components of complete streets design may include limited building setbacks to promote pedestrian activity, roundabouts and other traffic slowing measures, and tree plantings to reduce speeds and promote pedestrian safety. Visual examples of the improvements mentioned above can be found in preceding pages.

Shared space intersections are an extension of the complete streets design mentality. These intersections remove all signalization and limit signage. They make use of a flat pavement, often in a roundabout configuration, which is shared by all travel modes, from pedestrians to bicycles to trucks and cars. Changes in pavement texture are used to indicate crossings, roundabout centers, and other features. The lack of signals and signage forces traffic to slow dramatically, creating a safer environment for all users. It also allows throughput of vehicles to remain constant as cars and trucks navigate at a slow but steady speed through the roundabout intersection. Heavy trucks are able to pass directly across the intersection, avoiding the narrow turn radii often imposed by more typical roundabouts.

The shared space example represents a formerly signalized intersection in the city of Poynton, United Kingdom, that handles upwards of 30,000 vehicles per day while demonstrating a reduction in safety incidents and throughput consistent with a traditional intersection. The shared space design, while uncommon in the United States, is widely used throughout Europe and proven

to force vehicles to slow and respect alternative travel modes while creating the economic potential for the growth of a popular town or neighborhood center.

Bicycle/Pedestrian Improvement Designs

A series of cross-sections of major proposed bicycle and pedestrian routes were created to display the before and after configuration of key elements of the connectivity plan. Pedestrian and bicycle enhancements at I-20 bridge crossings were designed for the Clifton St, Maynard Terrace, Bill Kennedy Way, and Cherokee St bridges. Major bicycle improvements designed to capitalize on existing unused right of way along Arkwright Place were also designed. Figures 51 through 62 display cross sections of potential improvement designs.

The Flat Shoals/Arkwright Place redesign, as seen in Figure 54, makes use of a former trolley right of way as a fully featured, bidirectional bicycle and pedestrian boulevard. Removed entirely from traffic, this design feature is highly safe and accessible for pedestrian and bicyclists. Proposed along Arkwright Place and Flat Shoals Avenue, this feature will greatly enhance connectivity in adjacent neighborhoods.

In addition to the Arkwright facilities, proposed designs are available for multiple bridges across I-20, a major dividing force in the study area. These bridge are currently only moderately accessible to bicyclists and pedestrians. Improvement of these crossing points will greatly enhance north to south connectivity in the study area. The cross sections below demonstrate the feasibility of implementing fully marked, separated, and colored bike lanes at the indicated bridge locations. These designs allow bicyclists and pedestrians to cross I-20 with the same ease as automobiles.

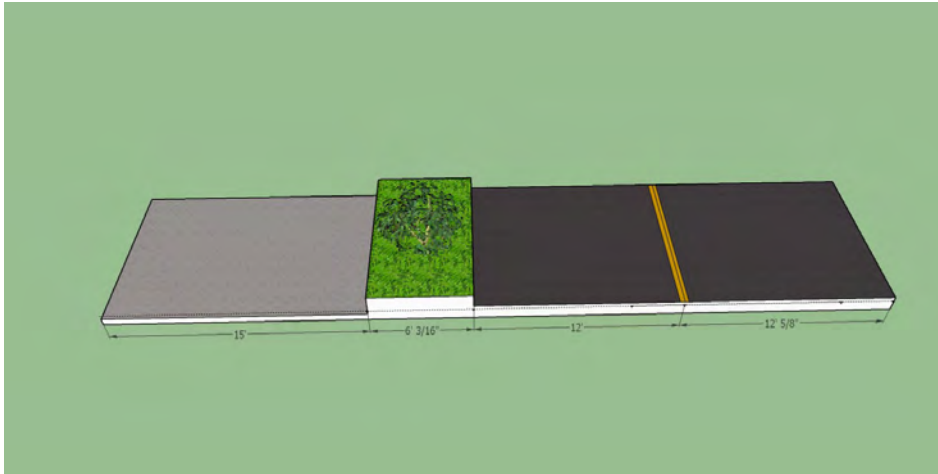


Figure 51: Current design of Flat Shoals Avenue in Reynoldstown, from Stovall Street heading east to Moreland Avenue

Broadly, Flat Shoals and Arkwright offer a safe multimodal east-west route across Moreland, largely because of an existing trolley bed that could be repurposed.



Figure 52: Current design of Arkwright Place in Edgewood, from Moreland Avenue heading toward Vannoy Street

The trolley bed is currently being used as an access road and parking for local residents and offers a wide right-of-way for alternative uses on an under-capacity street.



Figure 53: Current design of Arkwright Place in Edgewood, looking west from Vannoy Street

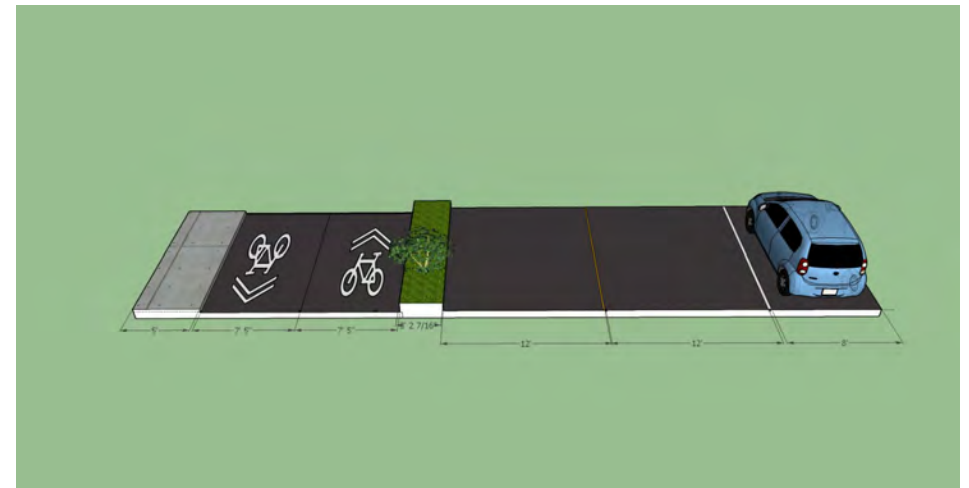


Figure 54: Proposed redesign concept for Flat Shoals and Arkwright Place, from Stovall Street in Reynoldstown to Hosea Williams in Kirkwood

A fully protected two-way bike route is possible in the trolley bed, while still allowing for two-way auto traffic and on-street parking for residents on most segments.

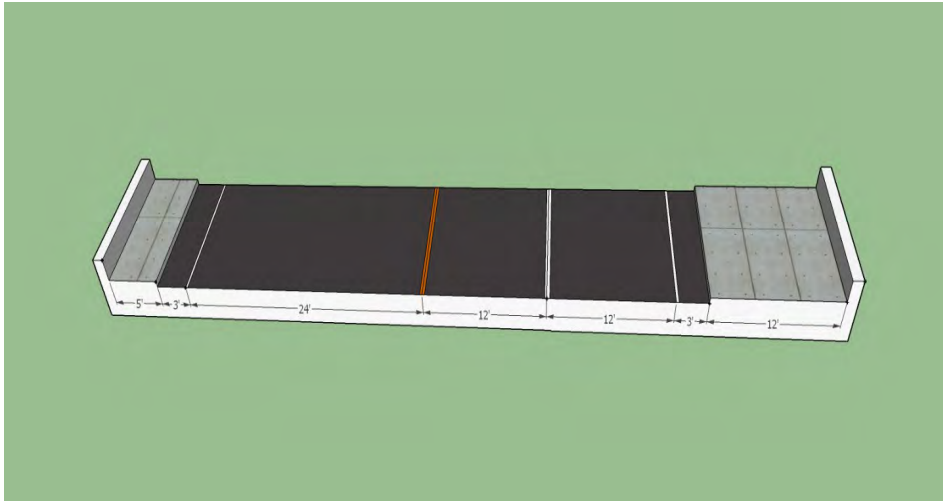


Figure 55: Current design of Cherokee Avenue bridge over I-20 in Grant Park, looking north

The bridge is wider than needed for current traffic volume. The sidewalk on the east side is adequate, but the west side is too narrow. This is a key connection between two historic neighborhood commercial centers.

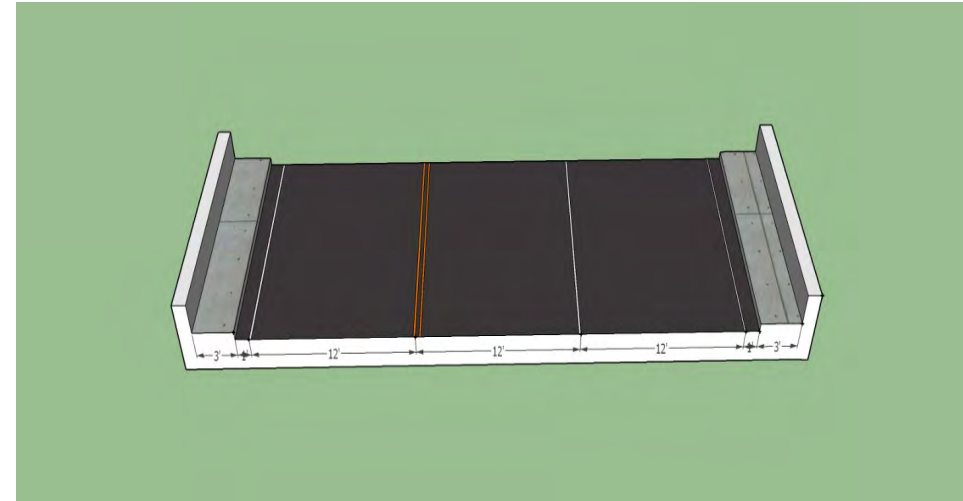


Figure 56: Current design of Bill Kennedy Way bridge over I-20 between Reynoldstown and Glenwood Park

It has a left-turn lane for the I-20 on-ramp. Bike lanes end abruptly. As part of the Atlanta BeltLine corridor, long-term design plans must consider future trail and transit capacity. But interim improvements are recommended.

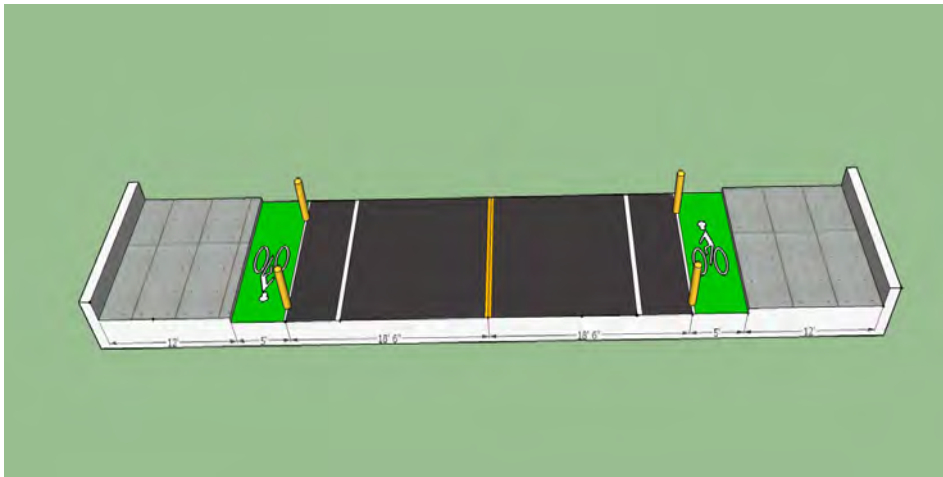


Figure 57: Proposed redesign of Cherokee Avenue bridge with painted and semi-protected bike lanes

There is room for painted and protected bike lanes in each direction, along with improved sidewalks on both sides and an additional buffer from auto traffic.

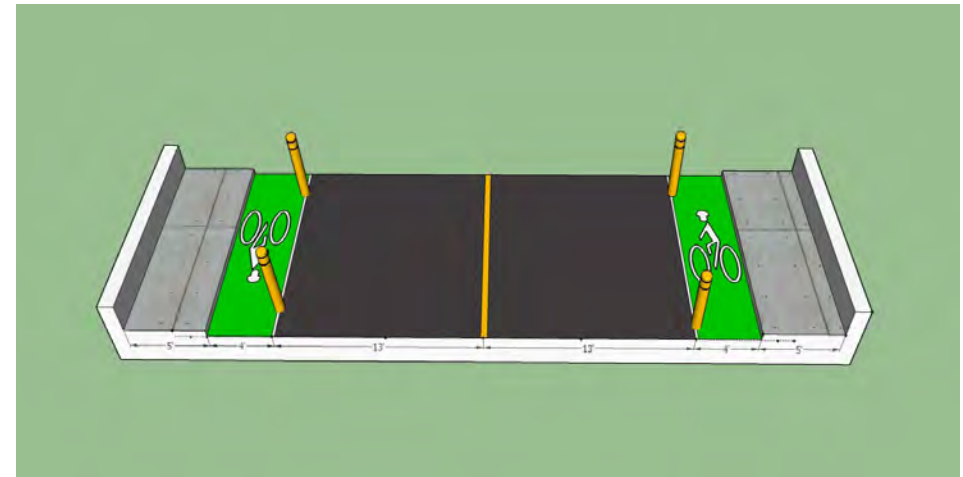


Figure 58: Proposed redesign for Bill Kennedy Way bridge over I-20

A painted and semi-protected bike lane in each direction, with improved sidewalks. This will be a key walking and biking connection for thriving communities south of I-20 to reach the new terminus of the Eastside Trail at Memorial Drive, well before the BeltLine continues southward.

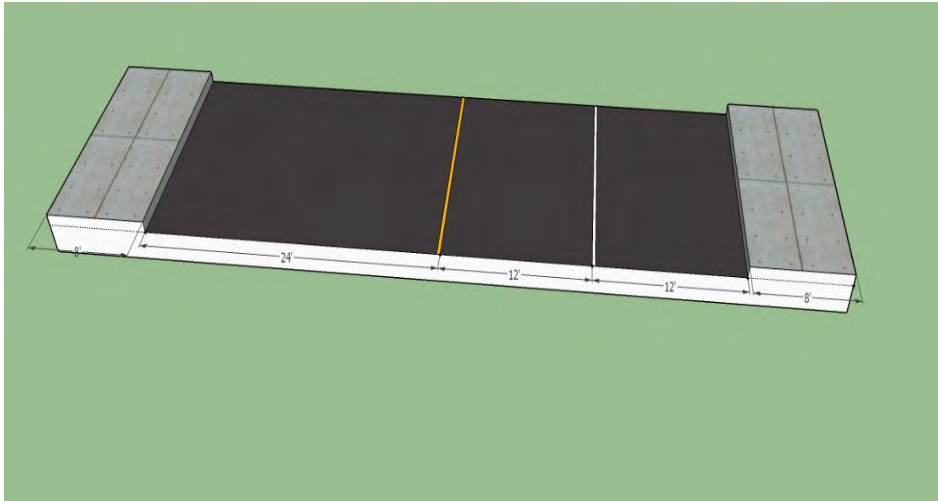


Figure 59: Current design of Maynard Terrace bridge over I-20 between East Atlanta and Kirkwood, looking northeast
The bridge is wider than needed for current traffic volume. The sidewalks on the bridge are adequate, but there is no crosswalk where it meets the off-ramp.

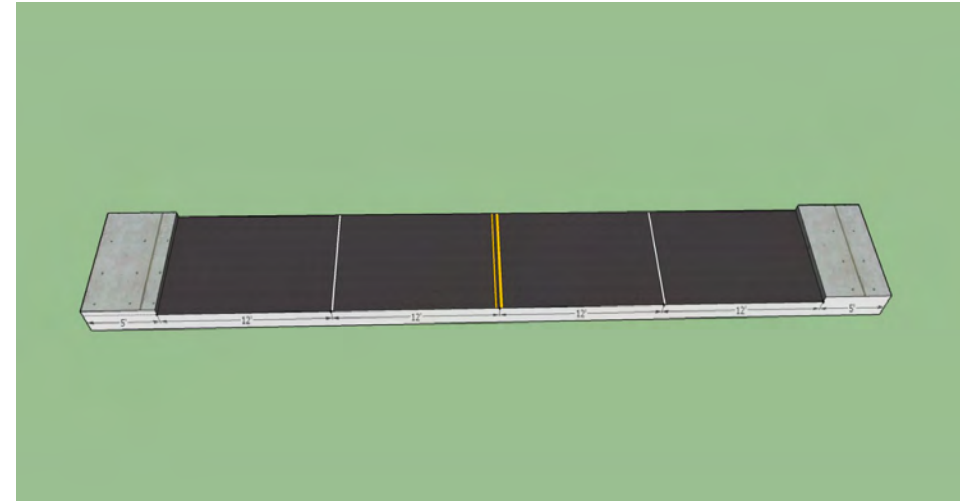


Figure 60: Current design of Clifton Street bridge over I-20 between East Atlanta and Kirkwood
The four-lane bridge is currently painted for two lanes and is under capacity. It's an important route for students at Alonzo Crim High School to the north. The eastern side has a narrow continuous sidewalk. The western side does not.

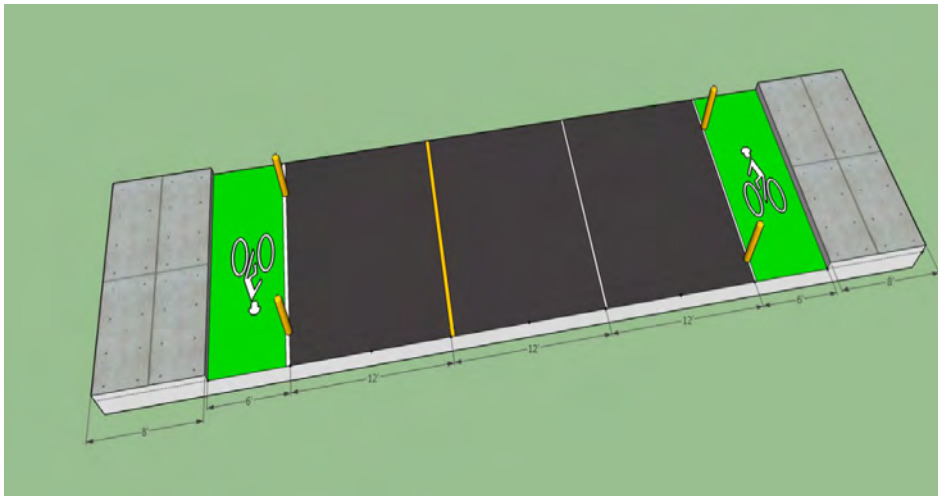


Figure 61: Proposed redesign of Maynard Terrace bridge with painted and semi-protected bike lanes
There is room for painted and protected bike lanes in each direction, while maintaining a left-turn lane for morning peak traffic using the on-ramp for westbound I-20.

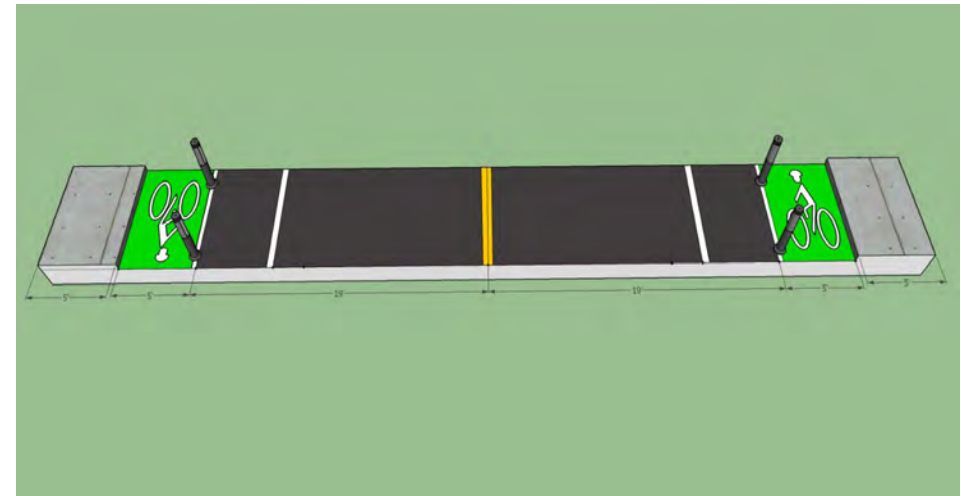


Figure 62: Proposed redesign for Clifton Street bridge over I-20
A painted and semi-protected bike lane is possible in each direction, along with improved sidewalks. There is further room for an additional buffer from car traffic.

VIII. IMPLEMENTATION

This section explores both the project and program costs of our findings, as well as potential funding mechanisms and outreach. As this seeks to be a showcase for creative financing mechanisms, public-private collaborations and partnerships are heavily emphasized for transportation, parks systems, mixed use housing, and economic development initiatives.

Investment Policy

More than just a way of funding the corridor, a wise investment policy can create stakeholders in different communities, as the basis for a broad, grass-roots coalition. While the focus is on Memorial Drive itself, the study area includes issues related to the extent that they extend to the north and south. Many LCI communities use special organizations or programs to further implement plans. The overarching goal is to form a leadership structure to manage and foster collaboration between various entities to work through the planning, financing and public-private partnership challenges that arise in serving the greater community. Most notably, the City of Atlanta, GDOT, private developers, business owners and residents will make up the group of stakeholders organized to leverage a combination of private and public funding. The mechanisms for sustained outreach will be carried out through the office of Natalyn Archibong at the City of Atlanta.

Potential mechanisms could include the following options:

1. Community Improvement District (CID)
2. Community Development Financial Institution (CDFI)
3. Community Stakeholder Coalition
4. Private Foundation

These mechanisms would convene prominent entities with interests along or near the development area, and will amass funding sources that would contribute to the goals of the LCI, predominantly in terms of connectivity and affordability. The City of Atlanta, through Invest Atlanta, the Atlanta BeltLine and various departments, would be responsible for assembling these stakeholders under these mechanisms.

Community Improvement District (CID)

A Community Improvement District, or CID, may supplement funding and managing certain governmental services including road construction and maintenance, parks and recreation, storm and sewage systems. The administrative body of the CID may levy taxes. The benefit of a CID is that the organization would have dedicated funding streams. Since commercial property owners would have a vested interest in transportation improvements and professional staff of the CID would serve as community advocates of the LCI goals, there could be widespread support from stakeholders.

Possible disadvantages of the CID structure is the formation of a CID requires city designation under state legislation and consent of 50% of property owners and 75% of the proportion in the target area, which could slow down the process. CIDs tend to be narrow in scope, and probably not applicable to the corridor as a whole.

While CIDs are a feature of established commercial neighborhoods, they have been used as a redevelopment tool. The Airport West CID is an excellent example. Formed as part of the broader LCI study that recommended an "aerotropolis," the CID takes a relatively low income area, Camp Creek Parkway, and increases its tax base.

The Memorial Drive corridor would need one or more CIDs to effectively manage its target areas. There may be the potential for one along Memorial Drive west of Boulevard, and another around Memorial and Moreland. Each of these CIDs could use the revenue they collect to go into a dedicated project list, voted by the CID's board. That said, the CID may be too small to support a full-time staff that assists the board in program selection, funding and implementation.

Community Development Financial District (CDFI)

Community Development Financial Institutions, or CDFIs, provide credit and financial services to increase economic opportunity and promote community development. The CDFI Fund provides an allocation of tax credits to community development entities, which enable them to attract investment from the private sector and reinvest these amounts in low-income communities.

The certification process to apply for the CDFI program through the U.S. Department of Treasury requires the following requirements to be met:

- Be a legal entity at the time of certification application;
- Have a primary mission of promoting community development;
- Be a financing entity;
- Primarily serve one or more target markets;
- Provide development services in conjunction with its financing activities;
- Maintain accountability to its defined target market; and
- Be a non-government entity and not be under control of any government entity

This process may involve a cumbersome timeline to be certified through the Treasury Department. Additionally, initial

investors to start the CDFI Fund may be difficult unless there is promised support from various entities, especially in private development. Since the CDFI option provides resources to mostly low-income communities, our development area along the Memorial Drive Corridor should focus on such communities. Additionally, although there are affordability and poverty issues within the study area, concentrated lower-income areas are not geographically contiguous in the target area.

Community Stakeholder Coalition

A community stakeholder coalition is one in which a broad cross section of stakeholders can evaluate projects based on corridor-wide vision. These coalitions can be composed of neighborhood interests (likely NPU's), public sector interests (City of Atlanta, GDOT, MARTA), as well as business interests in the area. Such coalitions could have great political credibility if they reach consensus.

Foundation

Foundations are attractive because they could be a source of matching funds. One of the main uses of a foundation is to have the foundation match funds that the City, GDOT or another entity is either unable or unwilling to fund in its entirety.

A foundation offers two distinct strengths. The most obvious one is that it could provide a source of matching funds, which could accelerate project creation. Perhaps more subtly, but also more important, is that a foundation can continually refine and create a business case for Memorial Drive.

While a foundation can be made up of private sector entities and advance business goals, the IRS does not consider it

a for-profit institution. Rather, a foundation is taxed as a 501(c)(6), which is the same classification as trade associations and chambers of commerce.

Outreach

Outreach is the second leg of the implementation stool. Effective and sustained outreach can build the broad base of support necessary to facilitate any improvements made within the LCI study area, as well as maintain can also lay the groundwork for any LCI of other capital funding sources.

This section cannot project how outreach should be conducted. A far better judge of that would be both the concerned institutions and the stakeholders at the time the outreach is needed. What we can determine is who will most likely need outreach, and who can conduct outreach.

Outreach Plan

The below table outlines what outreach could look like for the Livable Centers Initiative (LCI). The outreach is divided into four phases with four different purposes:

1. Create – Focused on the institution building aspects that an LCI can offer
2. Inspire – Maintain accelerated support at the grassroots level, private sector and the institutional level
3. Inform – Evaluate initial performance of LCI and other programs through both quantitative and qualitative data, and communicate this with relevant stakeholders for buy-in
4. Renew – Build strong case to renew LCI after first five years as well as maintain momentum for other programmatic support

5 Year Transportation Implementation Plan

Our five-year plan prioritizes improvements that will improve safety and operation efficiency for all modes along the Memorial Drive Corridor, while enhancing accessibility to that corridor. The plan recommends innovative improvements that serve to lower speed, and make sections of the corridor more desirable.

The plan focuses primarily on GDOT projects along the corridor, and non-GDOT projects where close cooperation with GDOT makes absolute sense. Non-GDOT projects that do not touch Memorial Drive directly are not included in this plan. The exceptions are bike facilities along Hosea L. Williams Dr. and Glenwood Avenue, which separate bike trips from the main corridor.

The below is a cost estimate of the following projects. All costs include preliminary engineering (where appropriate), right of way acquisition, and construction. Unless otherwise noted, these costs do not include labor. Most of these projects will be funded by GDOT, with private money matching city of Atlanta funds for some of the pedestrian improvements.

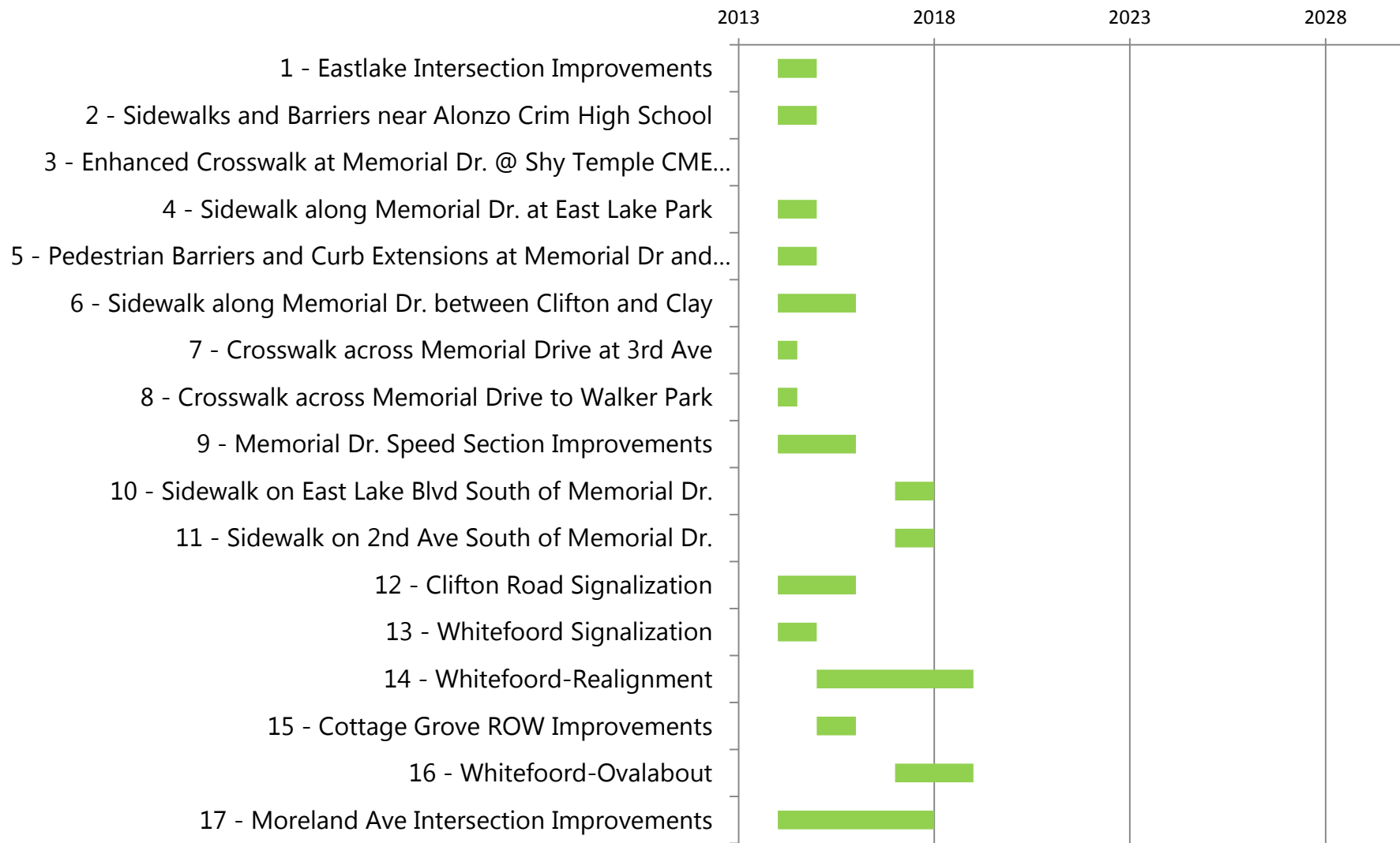
Longer Term Projects

As the LCI renews in five years, Imagine Memorial believes there will be more projects to improve other sections of the corridor. For instance, the studio recommends a roundabout at Bill Kennedy Way, intersection improvements at Boulevard, and various other projects found elsewhere in the report. The projects prioritized five years out, though, are meant to give the area the biggest gains for safety.

FIGURE 63: Cost Estimates of Various Projects Along Memorial Drive

Improvement	Investment
1 - Eastlake Intersection Improvements	\$107,760.00
2 - Sidewalks and Barriers near Alonzo Crim High School	\$52,440.00
3 - Enhanced Crosswalk at Memorial Dr. @ Shy Temple CME Church	\$3,000.00
4 - Sidewalk along Memorial Dr. at East Lake Park	\$98,110.00
5 - Pedestrian Barriers and Curb Extensions at Memorial Dr and Clifton	\$20,910.00
6 - Sidewalk along Memorial Dr. between Clifton and Clay	\$11,610.00
7 - Crosswalk across Memorial Drive at 3rd Ave	\$3,000.00
8 - Crosswalk across Memorial Drive to Walker Park	\$3,000.00
9 - Memorial Dr. Speed Section Improvements	\$3,285,196.80
10 - Sidewalk on East Lake Blvd South of Memorial Dr.	\$32,000.00
11 - Sidewalk on 2nd Ave South of Memorial Dr.	\$21,750.00
12 - Clifton Road Signalization	\$499,468.80
13 - Whitefoord Signalization	\$315,748.80
14 - Whitefoord-Realignment	\$1,107,628.80
15 - Cottage Grove ROW Improvements	\$2,534.00
16 - Whitefoord-Ovalabout	\$1,435,732.80
17 - Moreland Ave Intersection Improvements	\$148,104.00

Figure 64: Timelines for Projects along Memorial Drive Corridor



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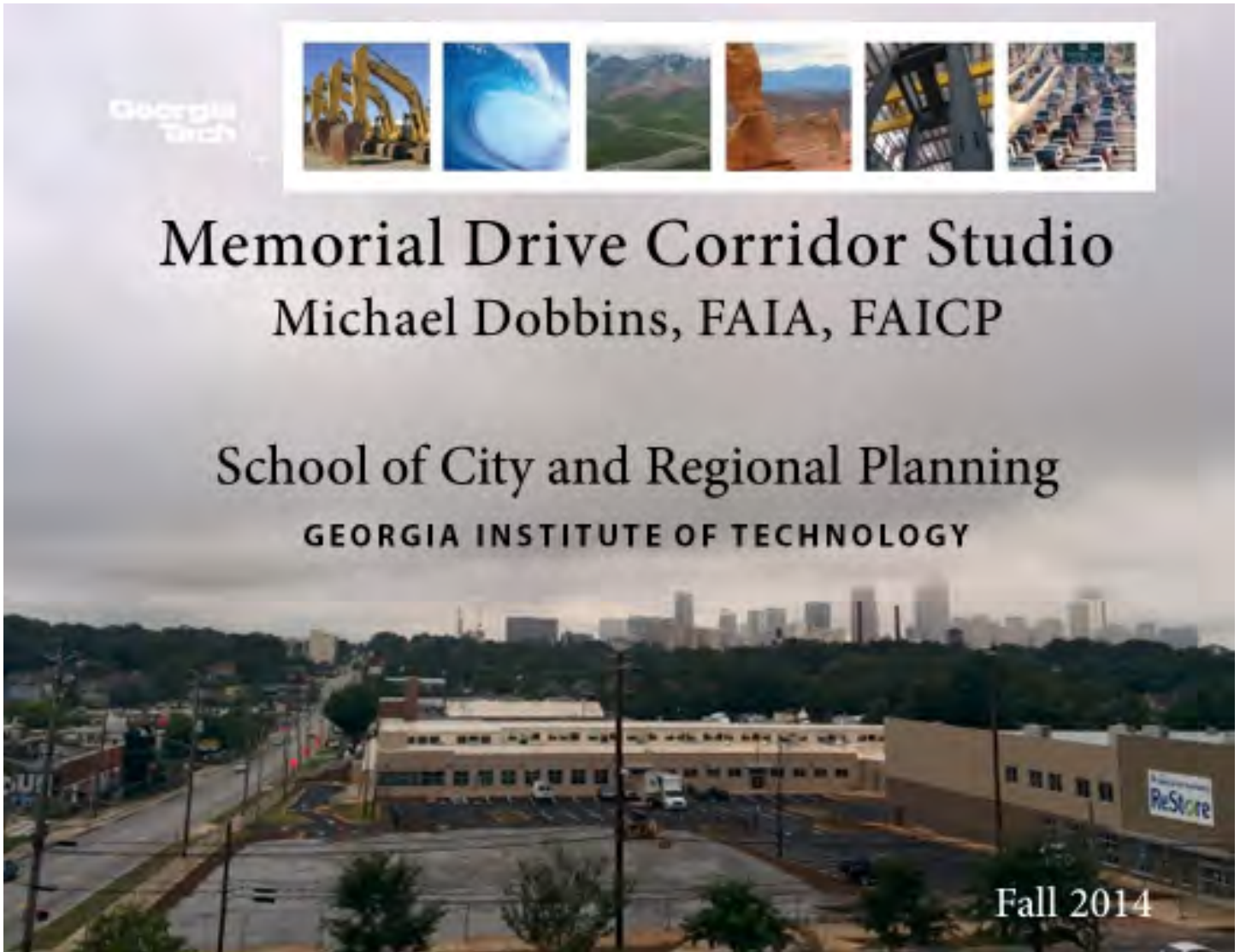
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Background Report

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DRAFT

For review, comments, errors or omissions

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INTRODUCTION

As one of the primary east-west arterials between downtown Atlanta and DeKalb County, Memorial Drive is a familiar corridor to thousands of commuters and residents, as well as dozens of area businesses and institutions. However, the existing corridor does not adequately serve the interests of these stakeholders. As a state route with a minimum speed limit of 35 mph, Memorial Drive is ill suited to carry traffic and accommodate pedestrian activity. Compounded with changing demographics and land use patterns, the corridor currently finds itself in a state of confusion, and poised for change.

This studio will develop a workable plan for all stakeholders to create a space they can work in, play in, travel in and live in. Commissioned by Atlanta City Councilmember Natalyn Archibong (Council District 5), this studio covers a large portion of her district, as well as the adjacent district of Carla Smith (Council District 1). This studio is led by Georgia Tech Professor of the Practice Michael Dobbins, FAICP, and consists of 11 students from Georgia Tech's School of City and Regional Planning.

This report shows the existing conditions along the Memorial Drive corridor. The report is broken into five thematic sections: the people, the land, the road, the ways and the plans. "The people" describes both the political and demographic organization along the corridor. "The land" describes land uses, development plans, and topography. "The road" describes the physical attributes of Memorial Drive itself, as well as traffic safety conditions. "The ways" describes travel, particularly transit usage. Finally, "the plans" describes the preexisting plans from both the city and other agencies, as they exist along the corridor.

A summary version of the below report was presented to Memorial Drive stakeholders on October 8, 2014. These stakeholders, invited by Councilmember Archibong, will provide feedback over the coming weeks. Their feedback, as well as the studio group's further analysis, will inform the final product.

THE PEOPLE

I. JURISDICTIONS

When taking into account the various jurisdictions along the Memorial Drive corridor, the studio included city council districts, neighborhood planning units, traditional neighborhood boundaries, school districts, eastside and BeltLine tax allocation districts, traffic analysis zones, and the latest zoning and land use overlays.

Figure 1 shows that the corridor crosses three city council districts (1st, 4th, and 5th), being mostly located in Natalyn Archibong's 5th district. In addition, there are 5 neighborhood planning units (M, N, O, V, W) and 9 neighborhoods (Downtown, Sweet Auburn, Capitol Gateway, Cabbagetown, Reynoldstown, Grant Park, Edgewood, Kirkwood, East Lake) which either run through and share a border with the corridor. Only two school zones fall into the corridor's path (Grady and Jackson), most of which is the Jackson Cluster zone. The tax allocation districts (TAD) along the corridor are only found on the Fulton county side, and consist of the Beltline crossing and the patches of the Eastside tax assessment district neighborhoods (Downtown, northern Grant Park, Sweet Auburn, and parts of Cabbagetown). Finding traffic analysis zones, which largely follow Census 2000 geographies, allow us to eventually interpret the corridor through the Atlanta Regional Commission's 2040 plan and their travel demand model. The city has provided us with some zoning and land use data, and the studio is collecting additional data via ARC and DeKalb County outreach.

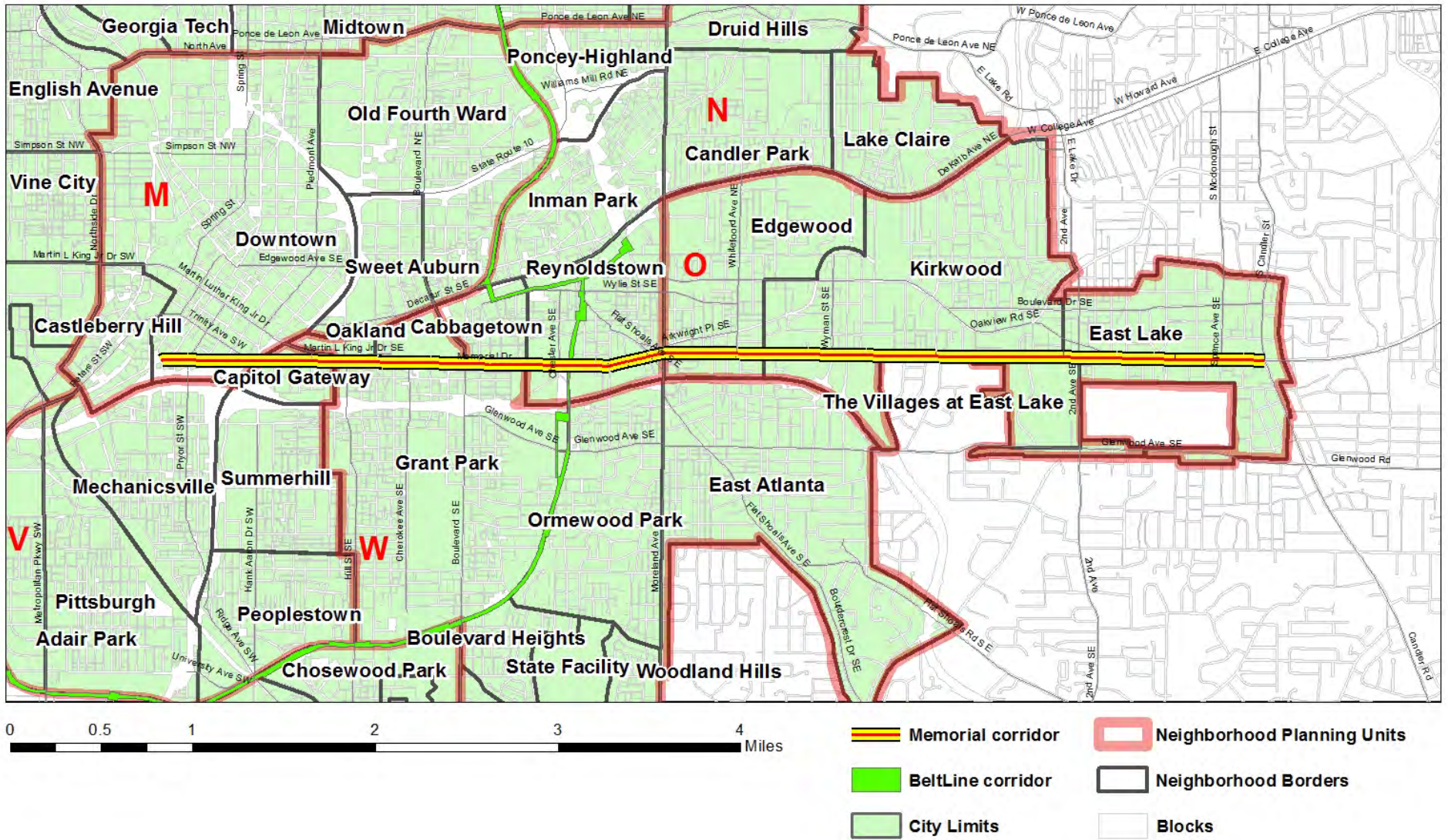


Figure 1- NPU/Neighborhood Jurisdictions

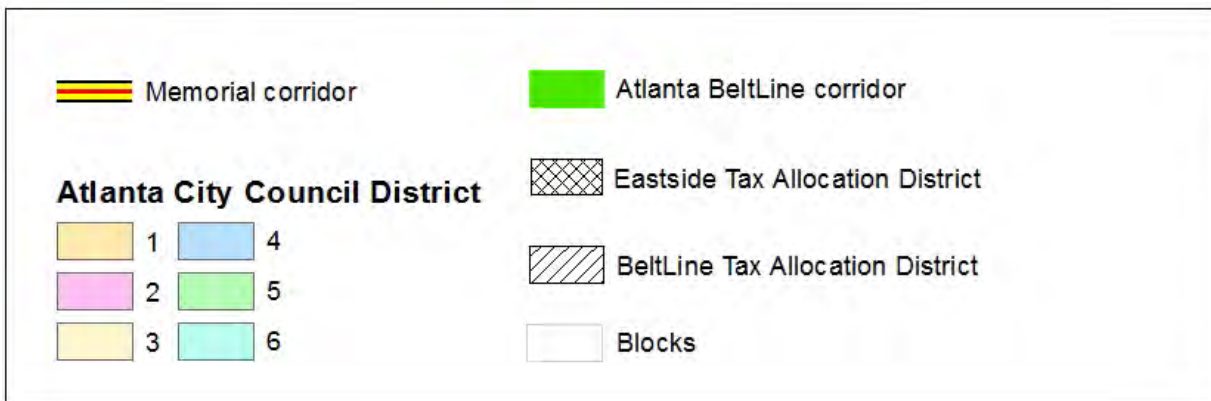
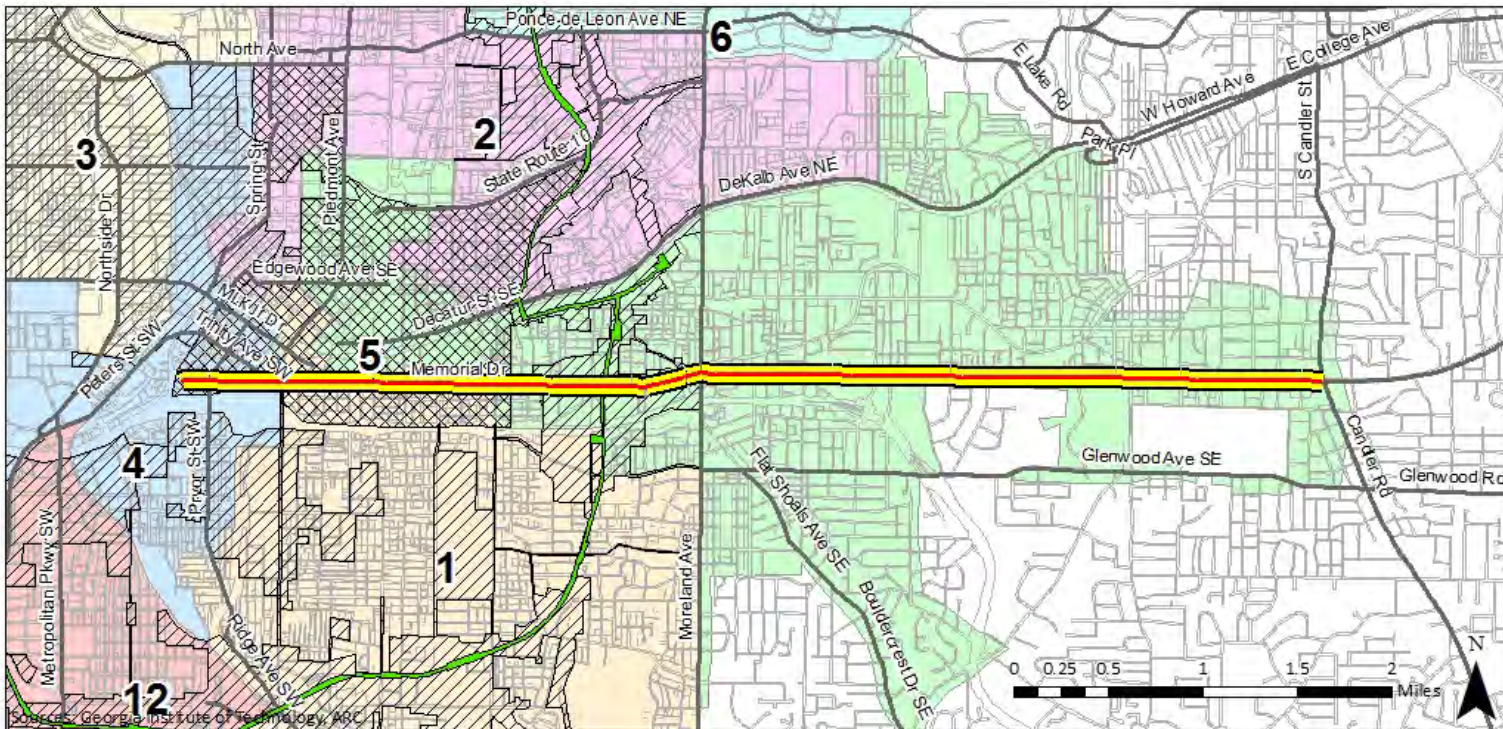


Figure 2 - District Map

II. DEMOGRAPHICS

This section explores the rich diversity of the people who live near Memorial Drive. For the purposes of this studio, data was collected only for 2000 and 2010 census tracts that bordered Memorial Drive. The exceptions were census tracts 27 and 31 in the 2000 census, and Census Tract 119. The nearest border's distance to Memorial Drive was so close that it made sense to include that in our analysis.

II.A. Population and Population Density

The below maps show population distribution along the Memorial Drive corridor. Labels are total population for the corridor, and the colors indicate density. Denser census tracts are to the north of Memorial Drive. South of Memorial Drive, the census tracts have less density. This may be because the sizes of some census tracts (such as those south of Memorial Drive and east of Moreland Avenue) have wide variation in density. This would be impossible to know without block group analysis, which has a smaller sample size and therefore less confidence.

The map in Figure 3 shows change in population density throughout the corridor. With the exception of two small census tracts throughout the corridor, most census tracts lost population density. As all tracts remained the same size, the loss in population density also implies a loss in population, as evidenced in Figure 3.

II.B. Median Household Income

Figure 4 shows median household income for 2010, broken into quartiles. Four of the eight census tracts west of Moreland Avenue are in the top two income quartiles, compared with only two of six DeKalb county census tracts.

Figure 6 shows change in median household income between 2000 and 2010. All but one of the census tracts north of Memorial Drive gained in median household income, compared with only half south of Memorial Drive.

II.C. Race

Figures 7 and 8 indicate the racial concentration along the corridor. This analysis focuses on the two predominant races: white and African American. Out of the 2010 census tracts sampled, only one census tract had a majority white population, as Figure 8 shows. This obscures that fact that many census tracts saw a surge in their white population. Figure 8 shows a strong African-American presence, while Figure 10 shows that all but two census tracts showed a decline in their African-American populations.

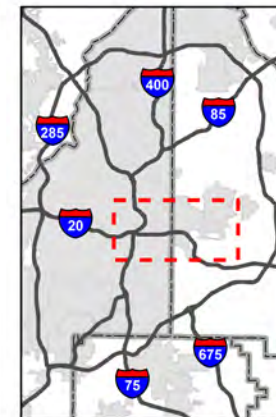
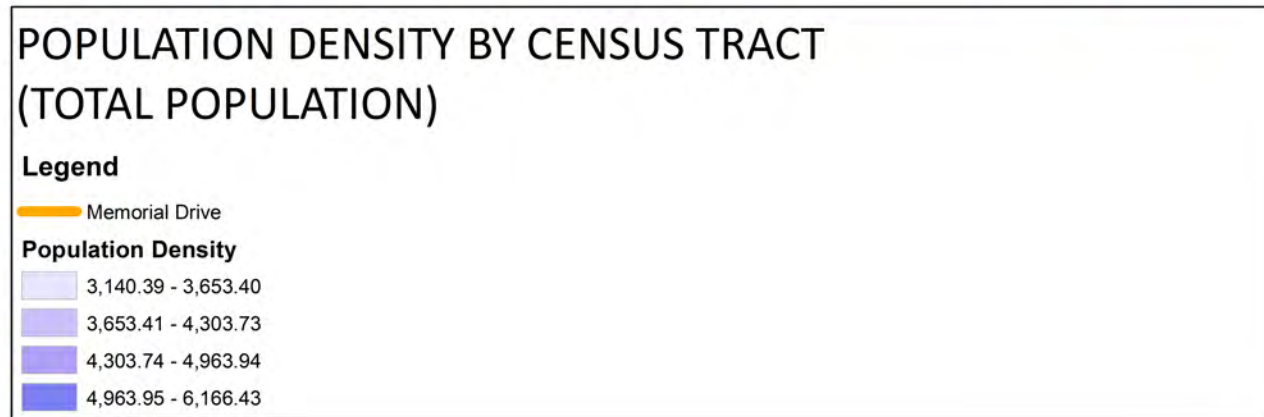
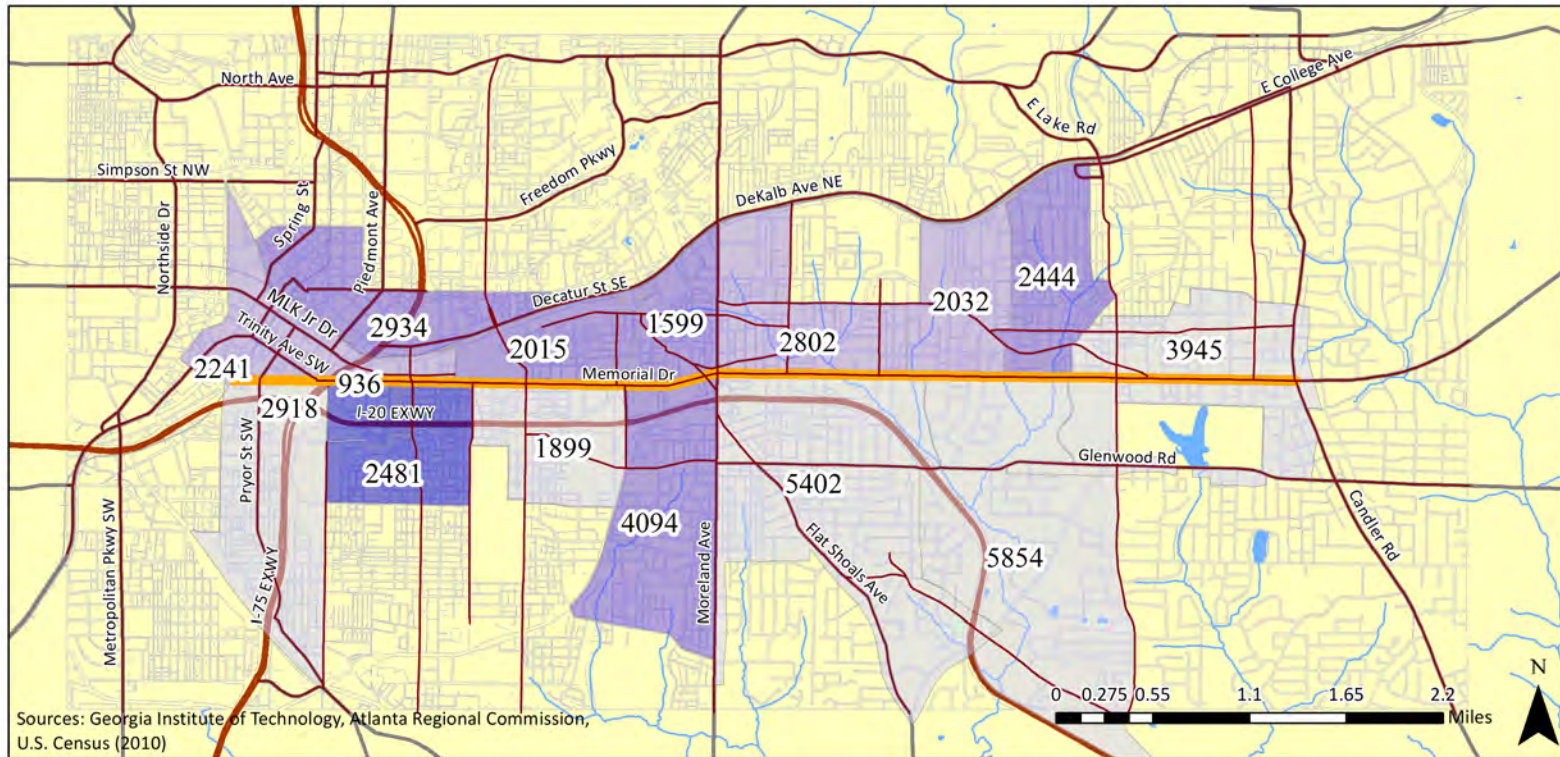
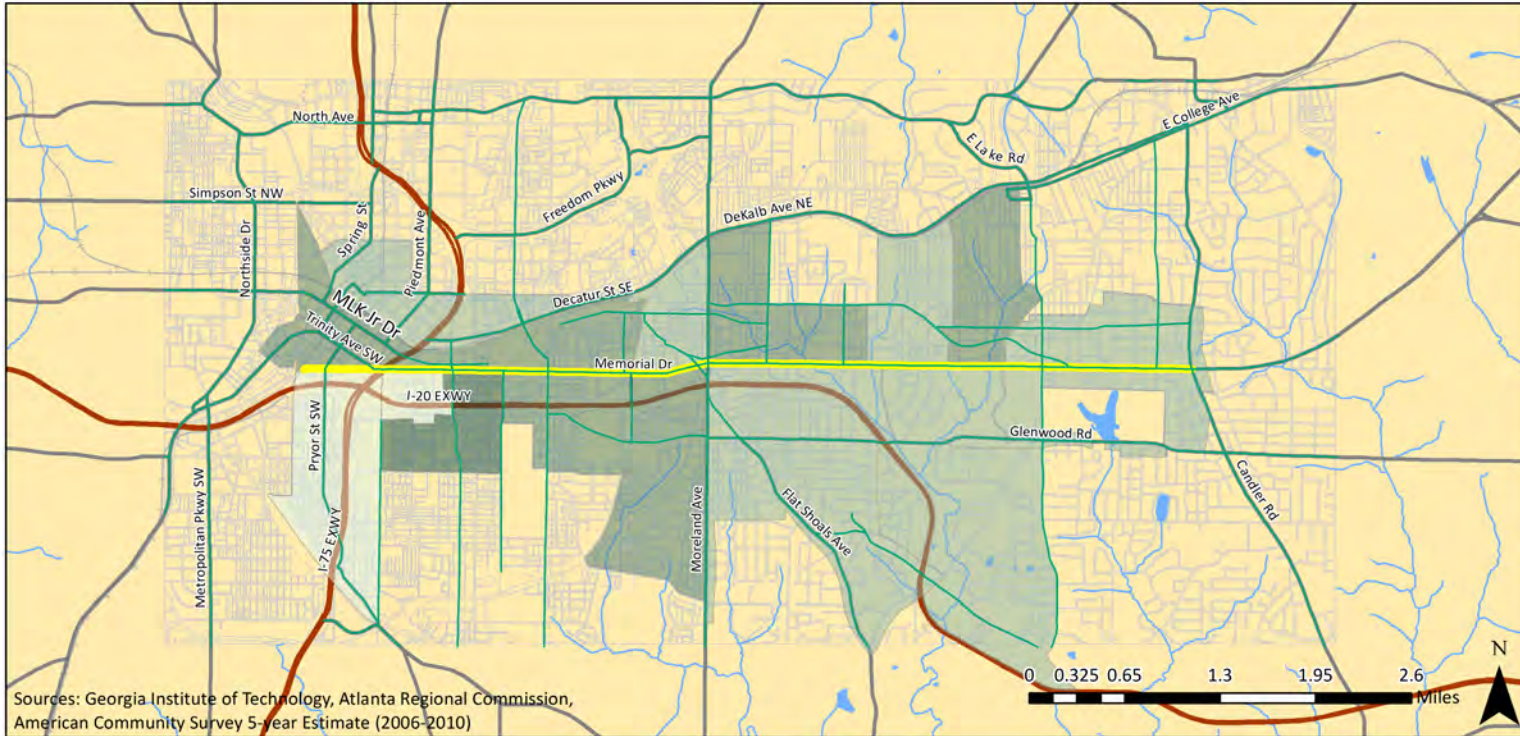


Figure 3- Population Density by Census Tract (2010) and Change in Population by Census Tract (2010)



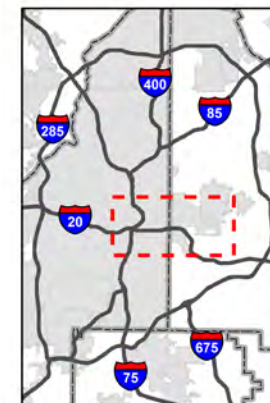
MEDIAN HOUSEHOLD INCOME BY CENSUS TRACT (IN 2010 DOLLARS)

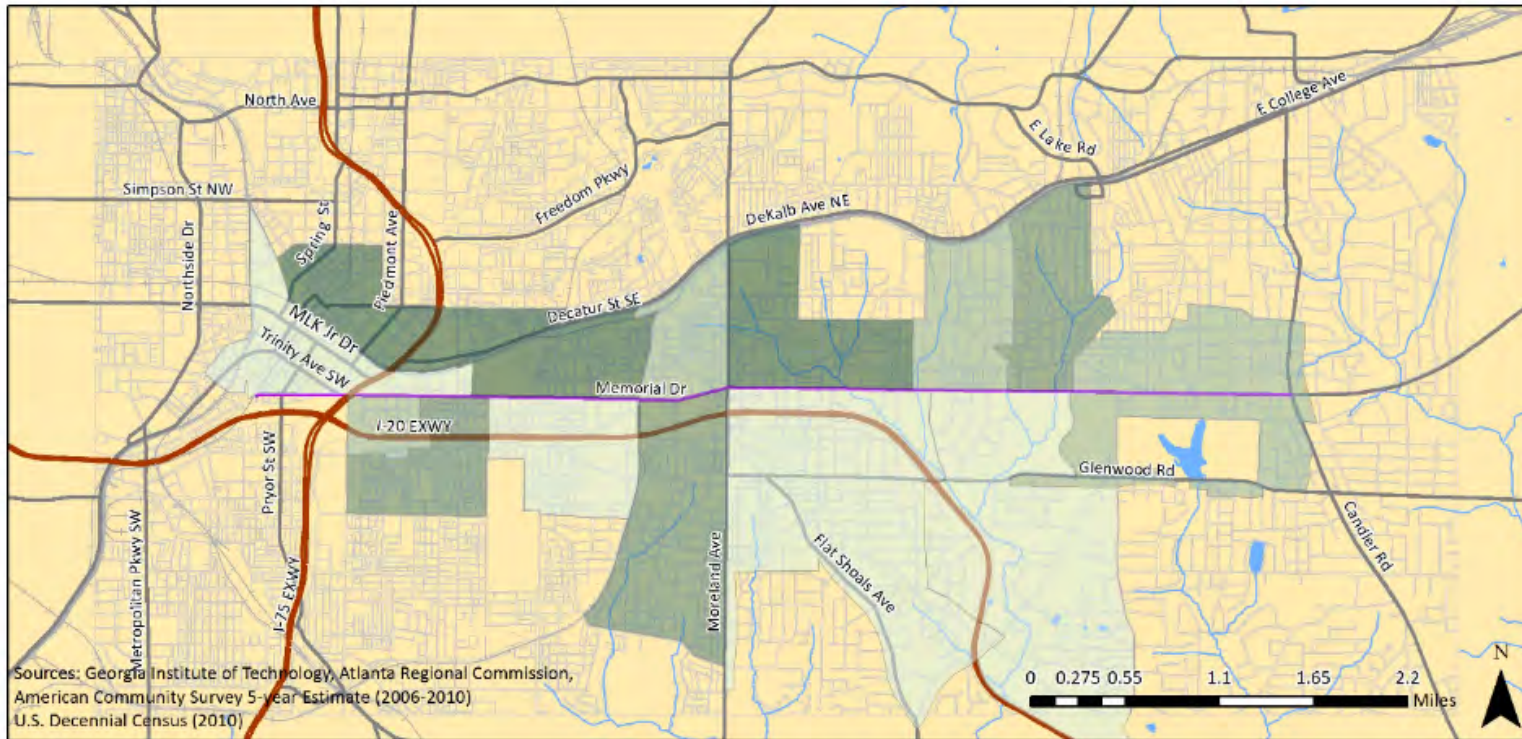
Legend

— Memorial Drive

Median Household Income (in 2010 Dollars)

- \$10,636.00 - \$21,597.00
- \$21,597.01 - \$41,607.00
- \$41,607.01 - \$67,188.00
- \$67,188.01 - \$85,789.00





PERCENT CHANGE IN MEDIAN HOUSEHOLD INCOME (2000-2010)

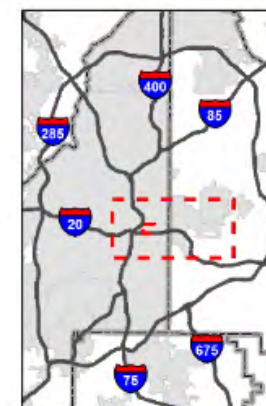
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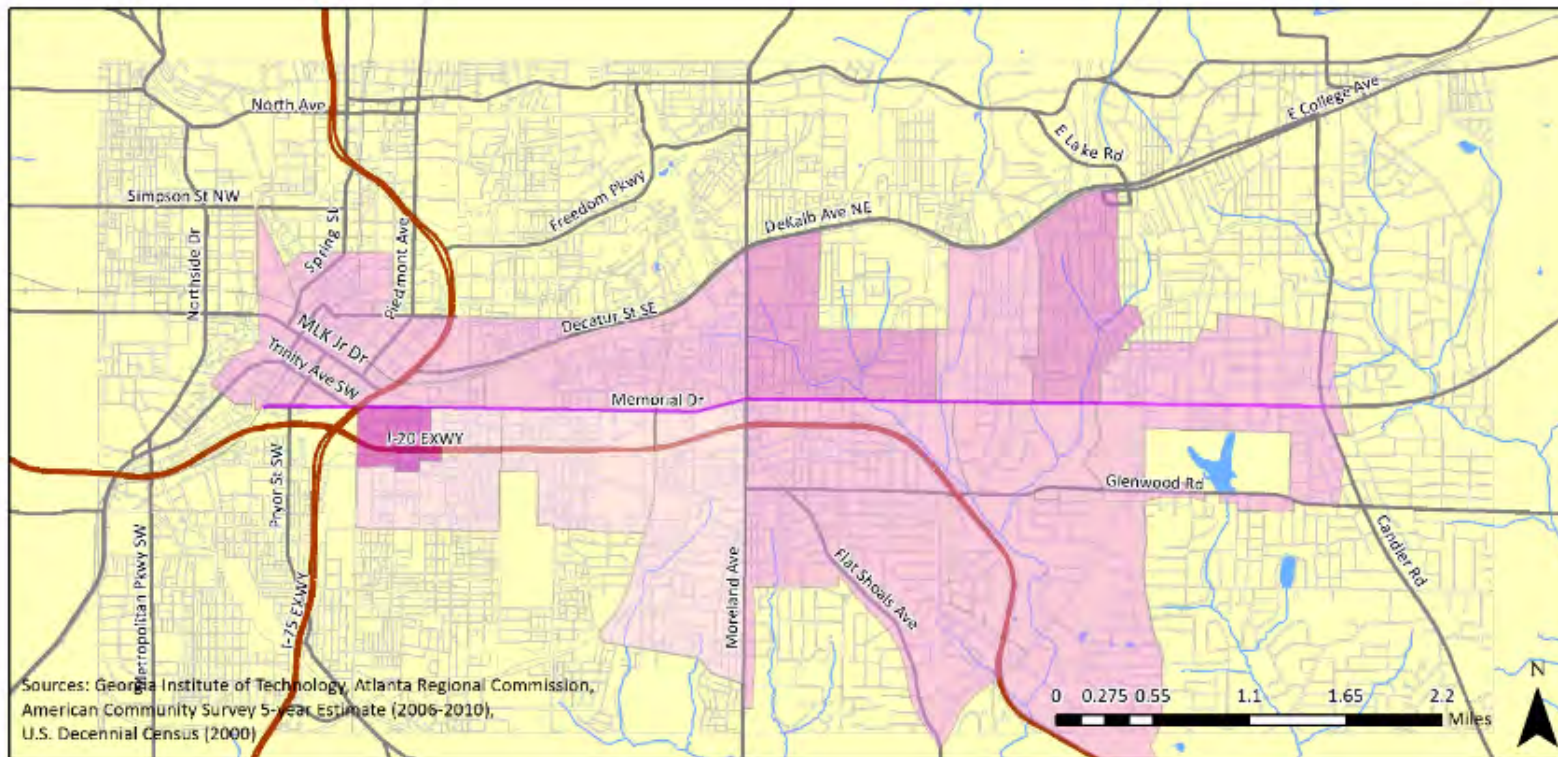
— Memorial Drive

Percent Change in Median Household Income

- 17.33% - -5.68%
- 5.67% - 7.47%
- 7.48% - 31.52%
- 31.53% - 151.59%

Note: 2000 Census Tracts 27 and 31 have been combined into 2010 census tract 119.





CHANGE IN I

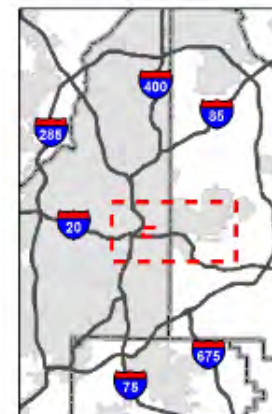
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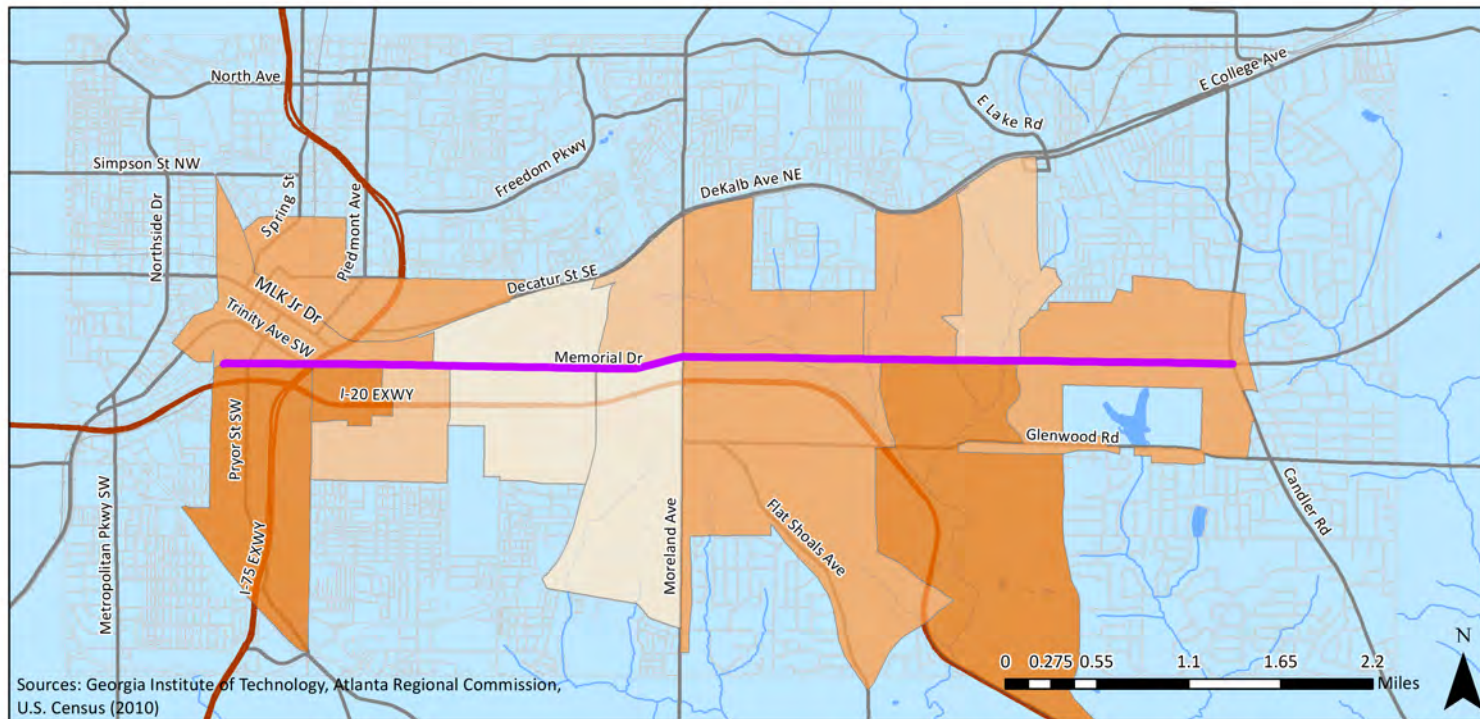
— Memorial Drive

Change in Proportion of Whites

- 8.14% - 6.56%
- 6.57% - 191.43%
- 191.44% - 383.7%
- 383.71% - 635.55%

Note: 2000 Census Tracts 27 and 31 have been combined into 2010 census tract 119.





Sources: Georgia Institute of Technology, Atlanta Regional Commission, U.S. Census (2010)

PERCENT AFRICAN AMERICAN OR BLACK BY CENSUS TRACT

Legend

- Memorial Drive
- Percent African American or Black**
- 20.65% - 28.9%
- 28.91% - 45.87%
- 45.88% - 64.49%
- 64.5% - 90.49%

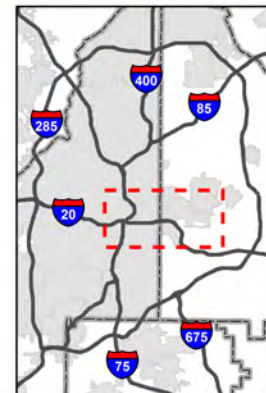
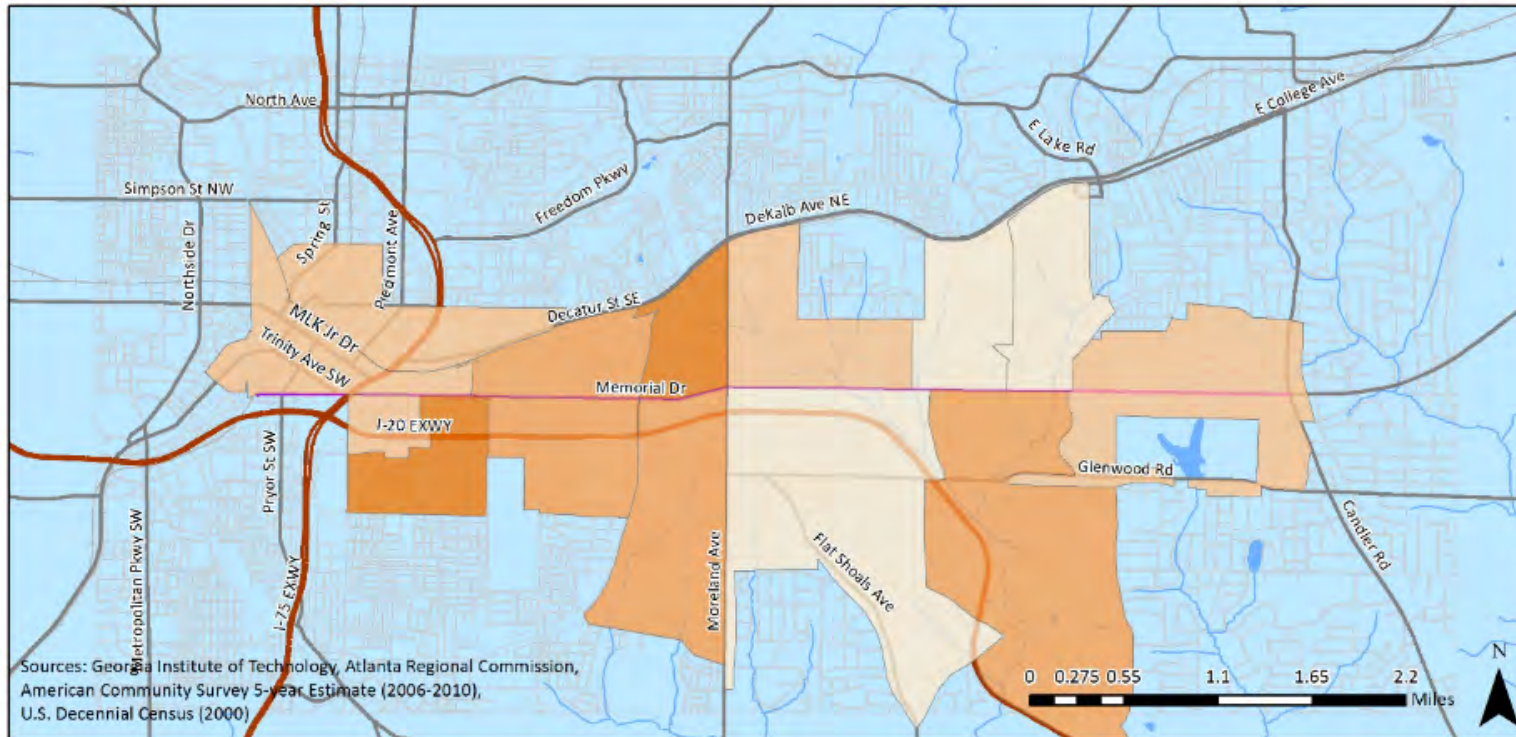


Figure 8-
African Americans or
Census Tract



Percent African
Blacks by

CHANGE IN PROPORTION OF AFRICAN AMERICANS

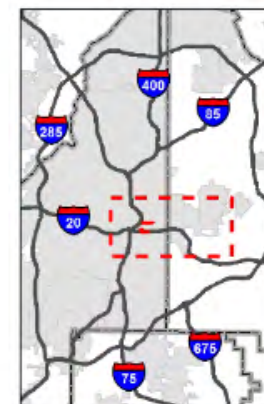
Legend

— Memorial Drive

Change in Proportion of African Americans

- 67.65% - -42.77%
- 42.76% - -21.53%
- 21.52% - 23.92%
- 23.93% - 117.76%

Note: 2000 Census Tracts 27 and 31 have been combined into 2010 census tract 119.



DRAFT

Figure 9- Change in Proportion of African Americans

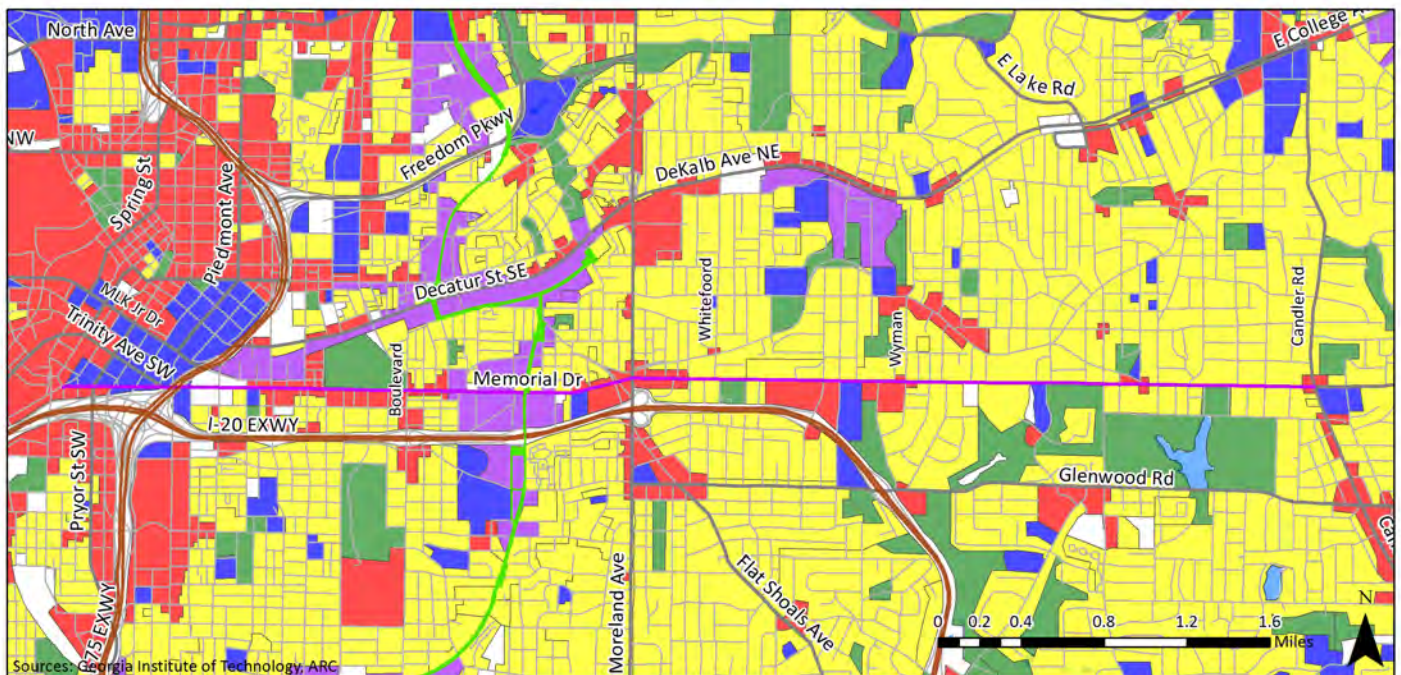
THE LAND

This section explores how the land around Memorial Drive is used, and what developments are planned along the corridor. Part III focuses on land uses and zoning, whereas Part IV focuses on developments in progress. Part V looks at environmental conditions and community resources along the corridor, while Part IV focuses on parking.

III. LAND USE

The larger map in Figure 11 shows a broad overview of land uses along the corridor, taken from LandPro 2010 data provided by the Atlanta Regional Commission. This data doesn't necessarily match the specific land use categories and zoning for the city and counties. It is meant to be a much higher-level tool for analyzing larger patterns in land use.

Generally, more intensive commercial, institutional, industrial, and denser residential uses are found to the west, toward downtown. As you travel east on the corridor, uses generally fade into lighter commercial activities and less dense single-family residential uses. This report will go into each of these broad categories for a closer look.



Land use

- Commercial
- Greenspace
- Industrial
- Institutional
- Residential

Source: 2010 ARC Landpro data

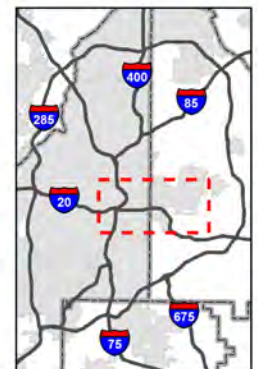
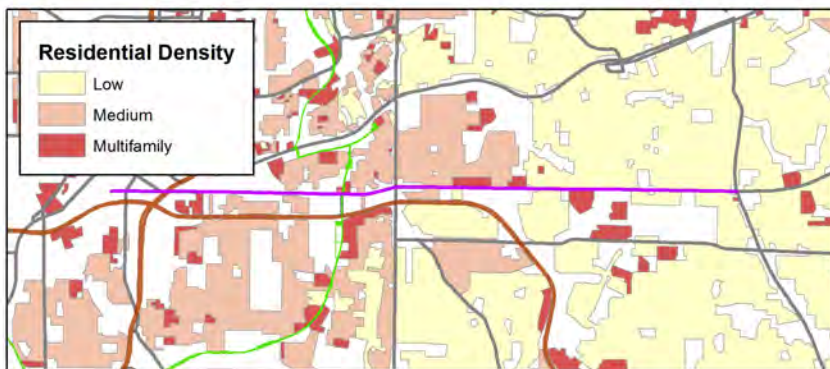
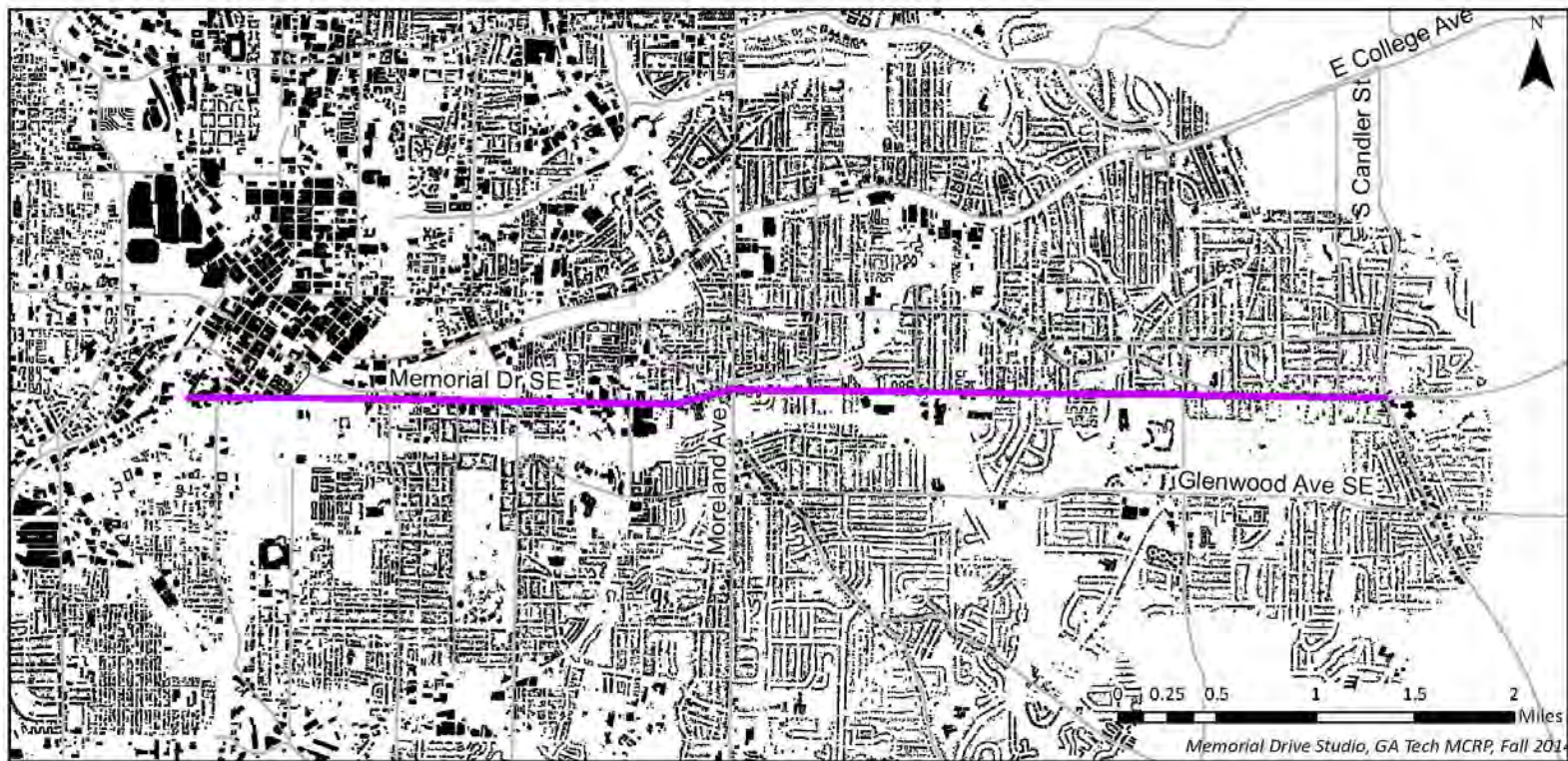
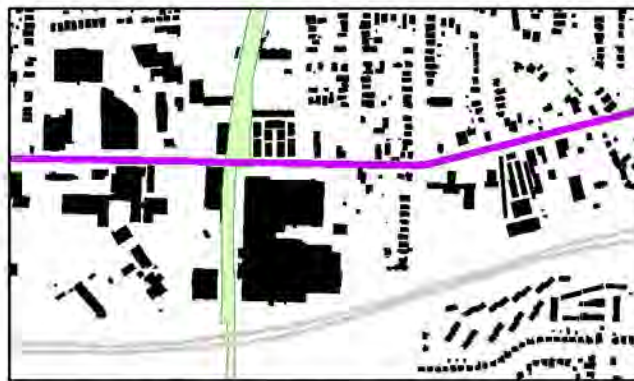


Figure 10- Land Uses and Residential Density

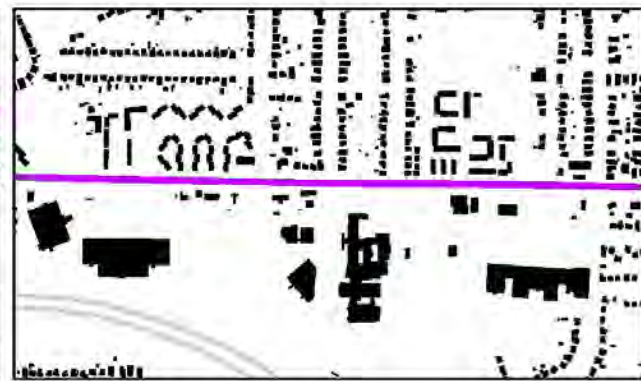


Memorial Drive
Corridor Study

Building
Footprints



Intersection of Beltline and Memorial Drive at Bill Kennedy Way



Intersection of Wyman and Memorial Drive

Figure 11 - Figure-ground map, showing the spatial character of the built environment, from a mix of intensifying mixed use development activity and industrial lands west of Moreland to a more single family strip-commercial character to the east.

III.A. –

Residential:



Source: ABI Subarea 4 Master Plan, <http://beltline.org/progress/planning/master-planning/>

The above rendering comes from the Atlanta BeltLine’s Subarea 4 Master Plan. It depicts an idea of a community’s vision for higher density along Eastside Trail. The next extension of the trail is expected to be under construction later this year and will end at Memorial Drive next to H. Harper Station. Based on that, the surrounding area is likely to have to deal with the following key residential development issues in the next two to three years beyond.

- Density
 - The BeltLine subarea master plan calls for more density, but it remains to be seen how that will be enforced, be embraced by the community, be driven by the current Atlanta real estate market, or be served by existing infrastructure.
 - What will be the mix of single-family homes versus multifamily development?
- Affordability
 - There have already been past price pressures on lower-income households in the surrounding Reynoldstown neighborhood, and it appears another one is in progress. Are households being displaced?
 - Again, what is the mix of housing types? Is the majority of the new product for ownership or rental? At what income levels?
 - Broadly, along the whole corridor, what has been the impact of the foreclosure crisis and is it still ongoing?
 - What are the policy tools and funding mechanisms in place to protect affordability?

- Pressure
 - What kinds of other land use, especially those that support jobs, could be forced out by the current and future waves of development? Atlanta in general has been losing industrial land in the last couple of decades, and the middle-income wages and mobility they provide.

In more depth, here are some of the details we found regarding poverty along the corridor:

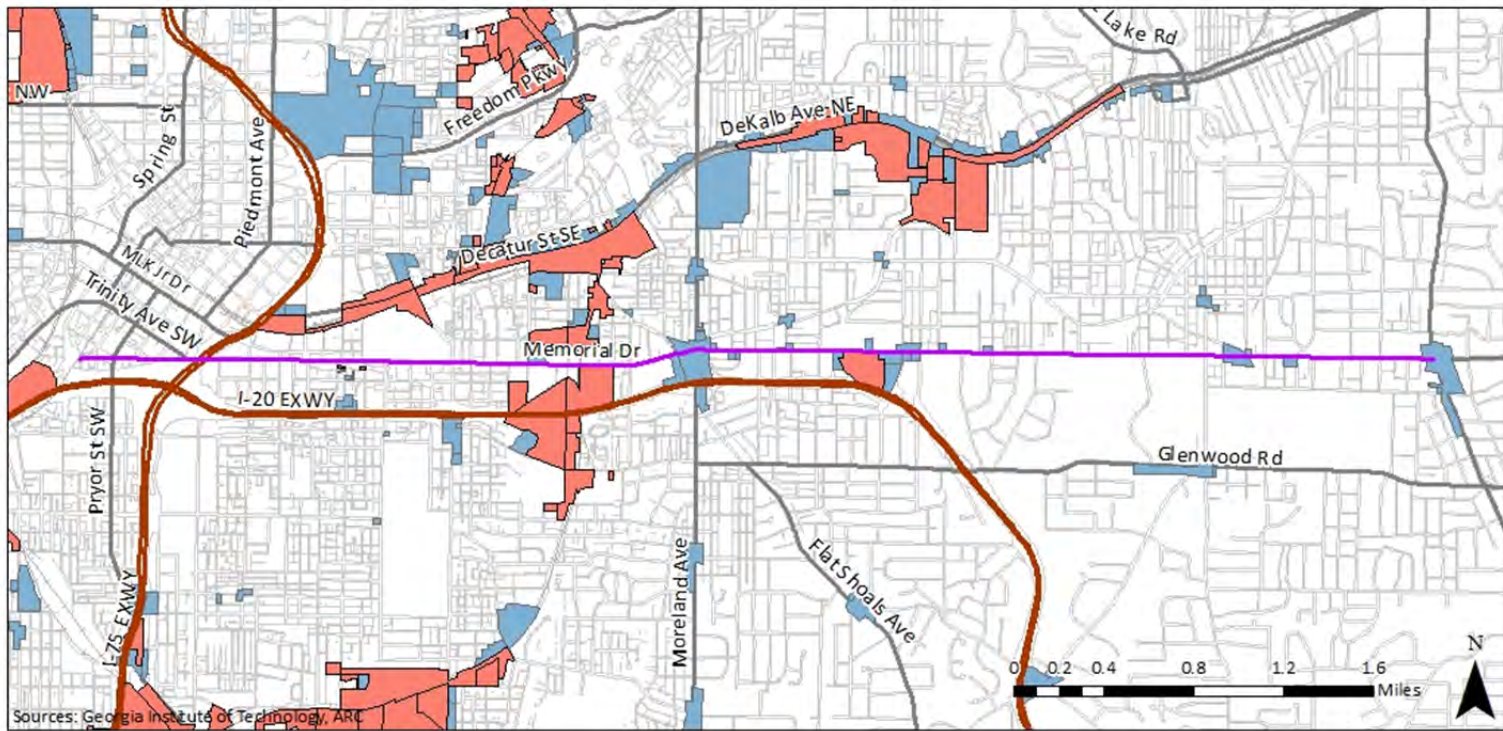
- Poverty
 - 18.3% of families in adjacent Census tracts earning below poverty level
 - 29.8% of families paying more than 50% of income in rent
- Existing Policy tools for protecting affordability:
 - Tax credits (LIHTC)
 - Invest Atlanta DPA
 - HOME and CDBG funds (From USHUD, administered by CoA)
 - BeltLine Affordable Housing Trust Fund (BAHTF)
- Future tools?
 - Inclusionary Zoning
 - Density bonuses for affordable units
 - Land trusts

As an example of the kind of analysis we hope to show on the vulnerability of housing, the map below depicts a foreclosure risk index based on a number of factors.



Source: http://www.foreclosure-response.org/maps_and_data/lisc_maps.html

III.B. -- Industrial and Commercial Uses:



Industrial and Commercial Zoning

-  Memorial_corridor
-  Expressways
-  IndustrialZoning
-  CommercialZoning
-  Major_Roads
-  Railroads



Figure 12. Industrial and Commercial Zoning

Figure 11 shows a rough idea of the past and existing industrial and commercial uses along the corridor. Again, this roughly shows more intensive uses to west toward downtown and to the north along the rail line. As one moves east, the activity tapers off to lighter commercial uses amid the largely single-family home residential use.

A couple of key locations are shown in the inset map: The more intense active industrial uses surrounding the intersection with the BeltLine, and the Atlantic shopping center, which may be considered for more intensive commercial use soon (AGL proposal).

The map below in Figure 13 shows several of the existing industrial and medium- to heavy commercial uses currently around the BeltLine. A more thorough accounting of employment levels and wage levels is planned. Some of the key industrial and heavy commercial uses include:

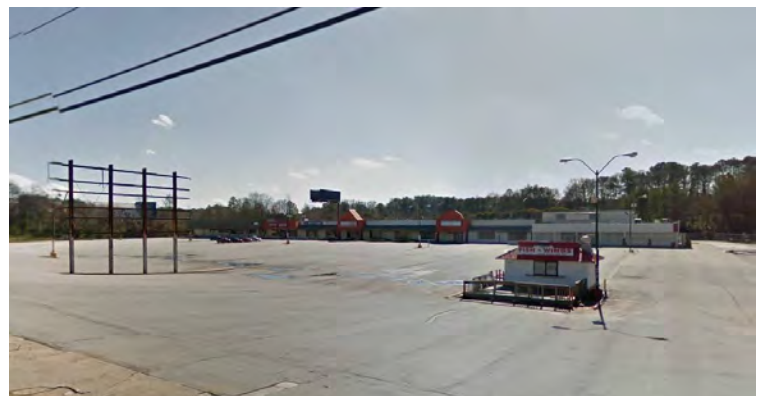
- Leggett & Platt Commercial Vehicle Group
- City of Atlanta Sanitation Department
- Reid's Body Shop
- AT&T Service dispatch
- Grady Health Systems ambulance dispatch
- Cummins Landscape Supply
- Nextran Truck Center
- Habitat for Humanity HQ and ReStore
- Former LaFarge cement plant (future Kroger Marketplace)
- Former Parmalat site (proposed adaptive-reuse project for mixed-use development)

III.C -- Commercial

When it comes to commercial development, generally the eastern portion of the corridor around northern Grant Park and Oakland Cemetery has seen several examples of thriving commercial investment and activity.

An example is The Jane complex, pictured below, which is the home of offices and three restaurants: Six Feet Under, The Republic, and Octane.

Meanwhile, the eastern half of the corridor has seen little commercial investment in decades. An example is the underused Atlanta shopping center, shown below. While it has a handful of existing businesses, the site could use new activity to revitalize the surrounding area. Atlanta Gas Light has considered using the site for a new worker training facility, which could be a positive outcome. The entire corridor is still suffering from a lack of adequate retail services, such as a grocery, a pharmacy, or other services like health care.



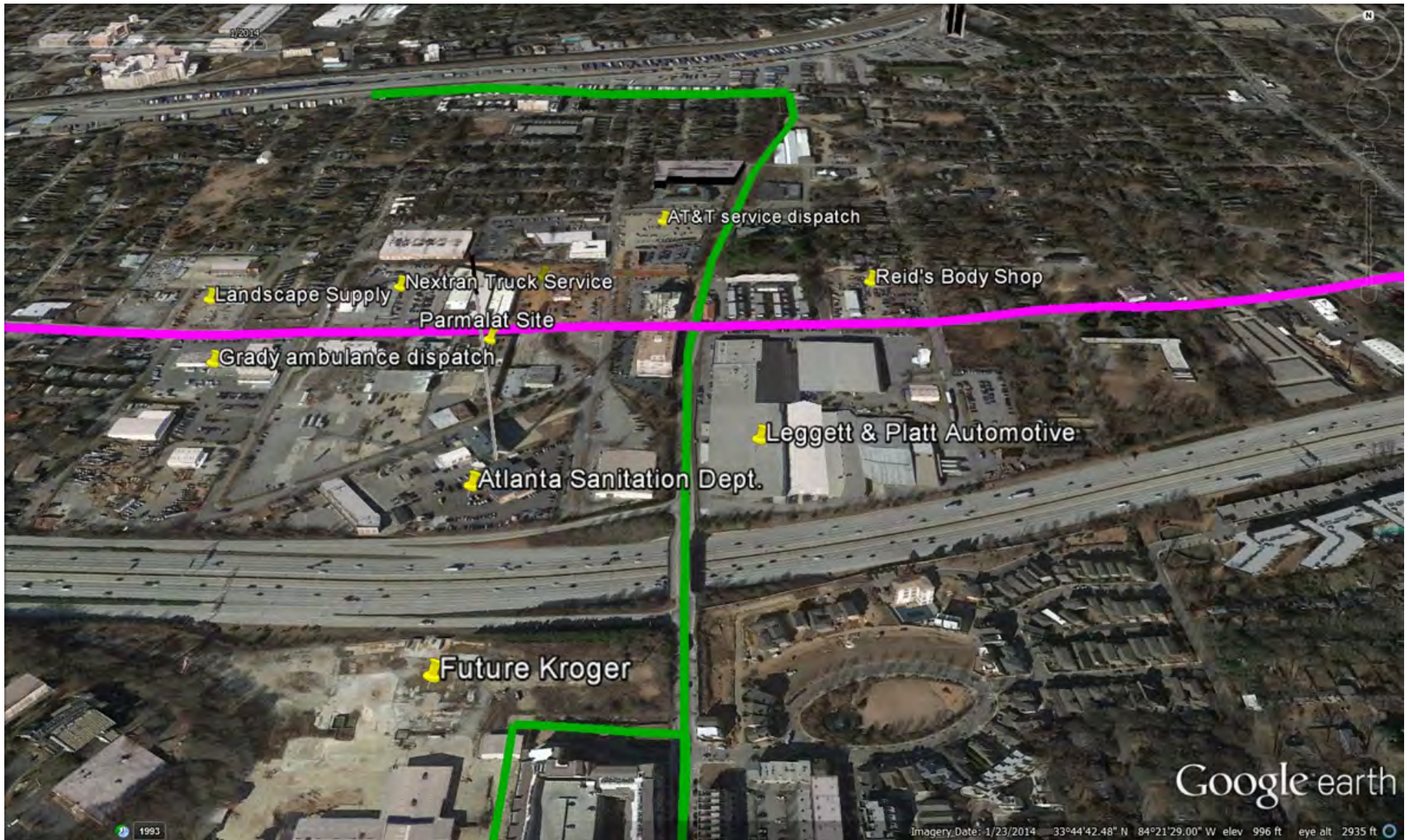


Figure 13. Industrial and Commercial Land Uses

IV. DEVELOPMENTS IN PROGRESS

Several real estate development proposals for Memorial Drive are under construction or currently in the permitting process. The developments are concentrated on the western side of the corridor, with the majority within 1/4 mile of the BeltLine corridor. Over the next 1-3 years, residential, mixed use, and corporate headquarters developments will be completed. Many of the properties were former abandoned industrial sites and indicate the transition of land uses taking place along the western half of the Memorial Drive corridor. Also, many of these developments are increasing the density along the corridor, in keeping with neighborhood plans and BeltLine Subarea plans.

IV.A -- Lofts at Reynoldstown Crossing

One of the proposed projects closest to the BeltLine corridor is being commissioned by the BeltLine itself. Lofts at Reynoldstown Crossing at 890 Memorial Drive is an existing development of affordable condos. In the attached parking lot and green space, the BeltLine plans to roll out a phase 2 of the development that will include a mix of affordable apartments, retail, and garage parking. The timeline is floating, estimated for the next 3-5 years. Both timeline and expected costs depends largely on funding, especially the BeltLine Affordable Housing TAD funding.



Figure 14. Lofts at Reynoldstown Crossing Phase 1

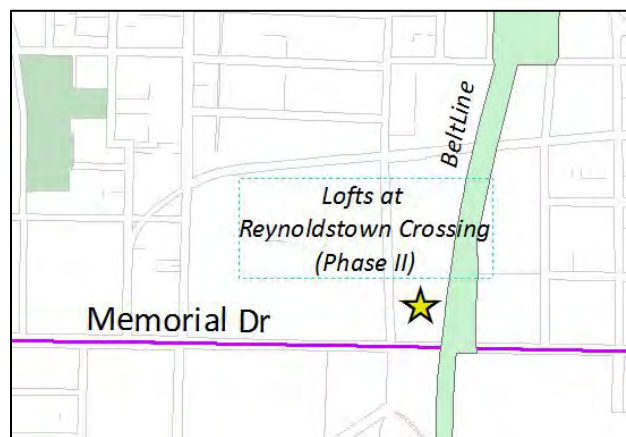


Figure 15. Location of Lofts @ Reynoldstown Crossing

IV.2 -- The Leonard

Another residential project taking place currently is The Leonard at 301 Memorial Drive. The Leonard is located on the former site of Lenny’s music club, a dive bar with dirt floors. The land around the bar was vacant parking and greenspace. The mixed use complex should be completed this fall, with 94 apartments and 6,000 square feet of retail. Apartment rents will run from \$950 for a studio to \$1450 for a two bedroom.



Figure 17. Renderings of The Leonard

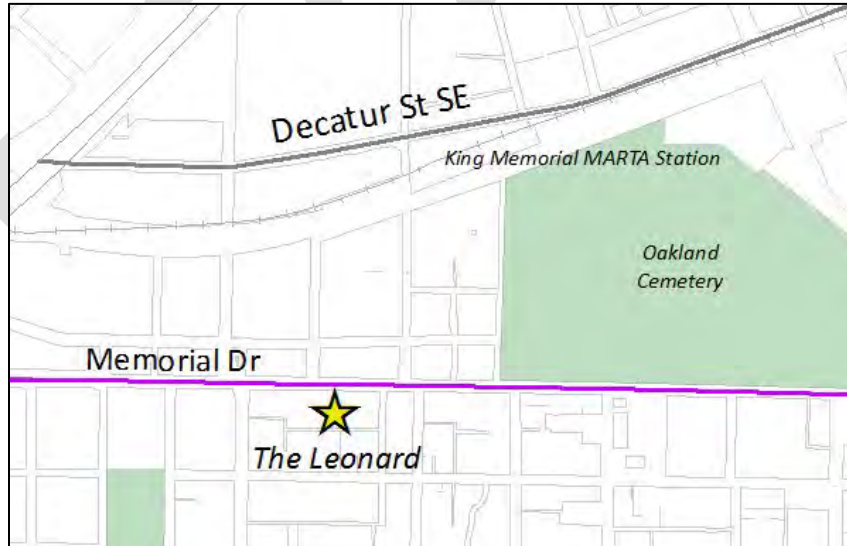


Figure 16. Location of the Leonard at 301 Memorial Drive

IV.3. -- Habitat for Humanity

The Habitat for Humanity Headquarters building is currently under construction at 824 Memorial Drive. This new environmentally sustainable complex is situated on 5 acres and received New Markets Tax Credits to help finance the \$12 million costs. Habitat for Humanity expects this to be a highly trafficked site because it includes not only the offices but a new Family Support Center. The whole project is scheduled for completion in early 2015.



Figure 18. Rendering of Habitat for Humanity Headquarters



Figure 19. Location of Habitat for Humanity Headquarters at 824 Memorial Drive

IV.4 -- Atlanta Dairies (Parmalat) Site

Whisperings of another new development near the BeltLine have been heard in community meetings around the neighborhood. Paces Properties, the developer of Krog Market just north along the BeltLine in Edgewood, has submitted a permit to build a mixed-use development on the Atlanta Dairies site. The \$20 million development would include apartments, retail, offices, and a small entertainment venue. The 10-acre site was most recently owned by Parmalat. Paces intends to renovate the historic buildings. The timeline is floating and would likely be completed sometime between 2016-2018.



Figure 20. Atlanta Dairies Property Current Conditions

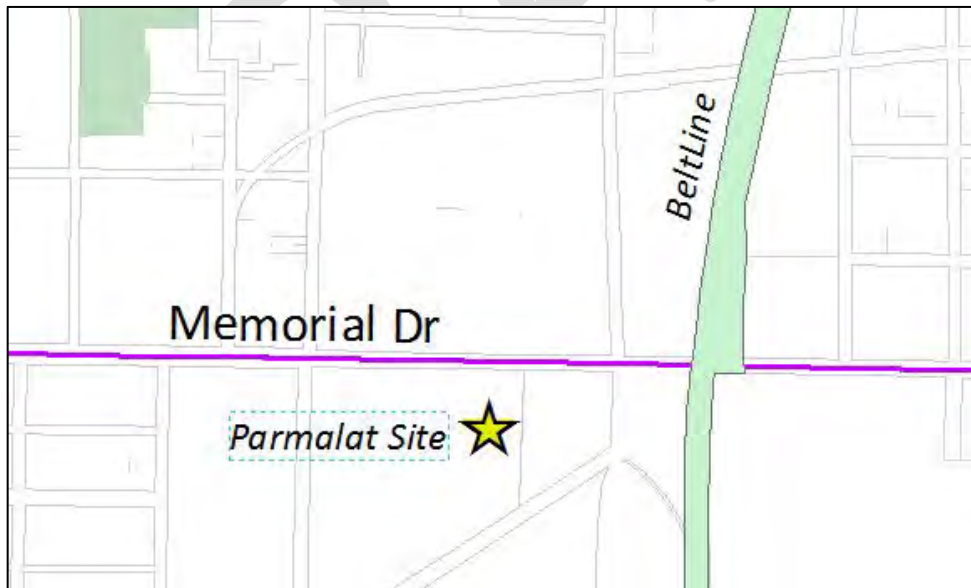


Figure 21. Location of Atlanta Dairies at 767 Memorial Drive

IV.5 -- WonderRoot

The beloved arts hub of Memorial Drive, WonderRoot, has outgrown its current space. WonderRoot has worked out a lease deal with Atlanta Public Schools to lease the former Tech High Charter School, originally a schoolhouse from 1912. WonderRoot intends that the renovated 52,000 square foot building will maintain their current uses as a meeting

place, art gallery, and event space, plus provide production and workshop space for local artists. Artists will be able to lease the space for \$350-750 per month. The renovations should be completed in late 2015 or early 2016.



Figure 22. Former Tech High School to be WonderRoot's New Space

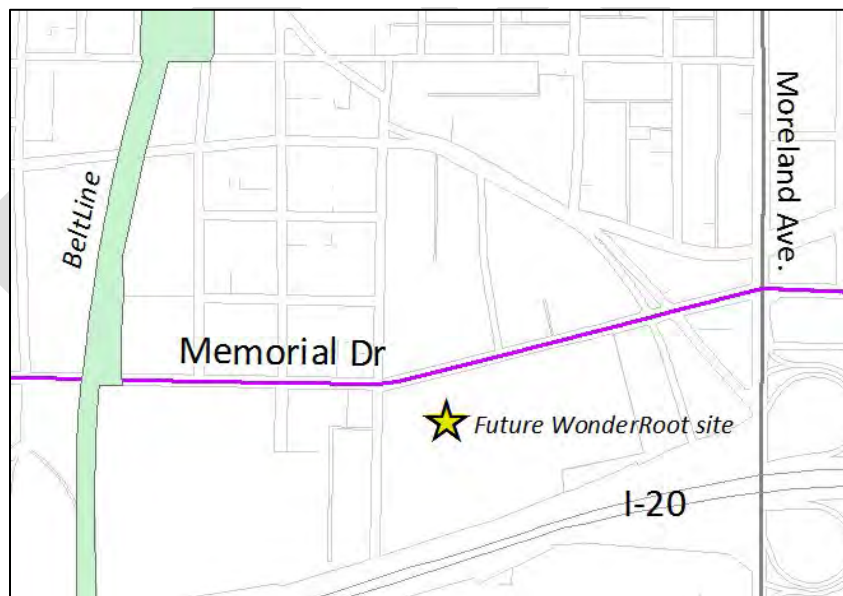


Figure 23. Location of New WonderRoot Facility at 1043 Memorial Drive

IV.6 -- King Memorial TOD

The closest MARTA station to Memorial Drive, King Memorial Station, is set to undergo a massive redevelopment. The location is the site of a 4 acre parking lot owned by MARTA and currently leased to Grady. Walton Properties will develop the Transit Oriented Development (TOD) site into a mixed-use complex with 386 apartments and 13,000 square feet of retail. MARTA aims to spur revitalization around the station and use this as an example for future TOD project. The cost has not yet been determined, and the expected timeline is floating from around 2016-2017.



Figure 24. Rendering of King Memorial Transit Oriented Development

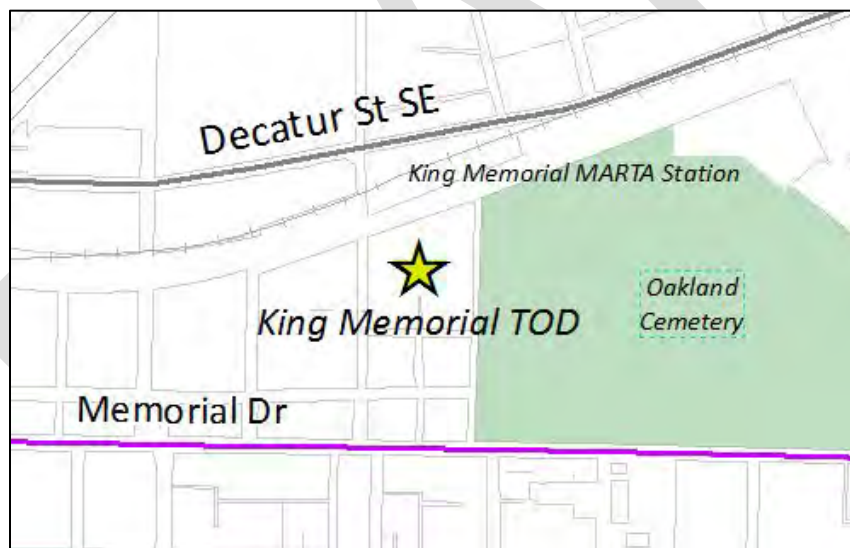


Figure 25. Location of King Memorial TOD

V. Environmental Conditions

The Memorial Drive corridor is home to a diverse array of natural and community resources. The protection, enhancement, and expansion of these valuable community facilities is a primary concern for any initiative dealing with the improvement of the Memorial Drive area. With a total of 55 schools, 10 libraries, and 98 parks and other registered greenspaces in the study area, communities in the Memorial Drive corridor are poised to take full advantage of the recreational, educational, and health benefits offered by well-designed and maintained community facilities.

V.I Parks and Greenspace

Memorial Drive is a primary artery for a diverse array of communities, each of which is embedded with valuable environmental resources. The Memorial Drive study area contains some of the most popular and attractive greenspaces in the entire Atlanta area, including historic Grant Park, Oakland Cemetery, East Lake Park, and the Charlie Yates and East Lake golf courses. Furthermore, the BeltLine trail, one of the most significant pedestrian and bicycle amenities in the region, is scheduled to cross Memorial Drive, creating an additional bicycle and pedestrian hotspot in the area and further bolstering the corridors environmental resources. In addition to these developed resources, natural green (forest) areas exist along Sugar Creek, a significant waterway for the Atlanta area. Figure 25 demonstrates the wide ranging, highly dispersed nature of the area's environmental resources, many of which, despite their role as pedestrian and bicycle hotspots, lack effective and safe connectivity. This combination of popular greenspaces and limited bicycle and pedestrian infrastructure significantly hampers accessibility for the residents of Memorial Drive's attached communities.

Primary observations for Memorial Drive in terms of greenspace include:

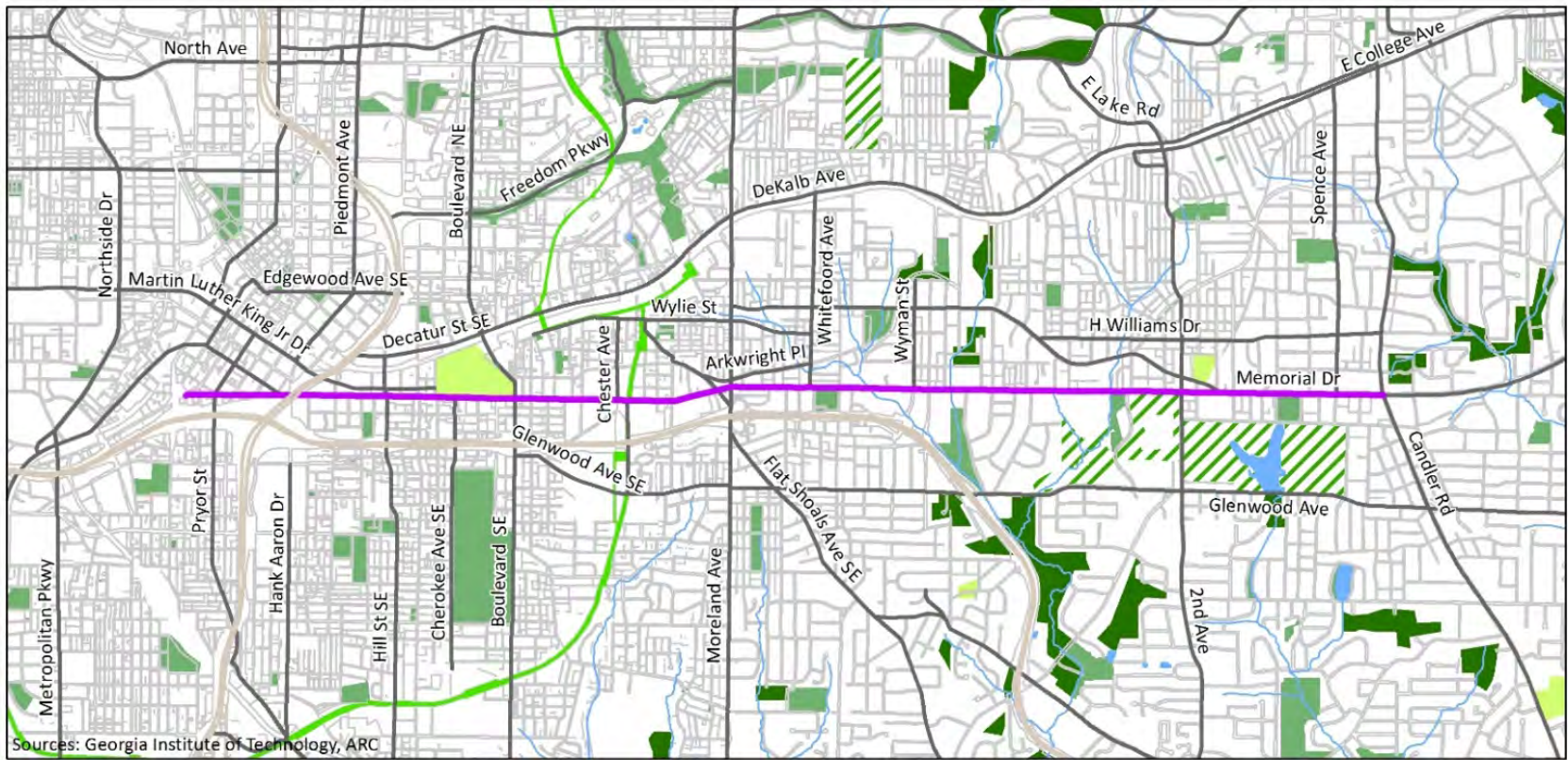
- The presence of multiple major greenspace hotspots that generate significant pedestrian and bicycle activity
- Significant historic greenspaces including Grant Park and Oakland Cemetery which draw tourists as well as local community members
- The future presence of the BeltLine trail, a major catalyst for pedestrian and bicycle traffic as well as increased density development
- A lack of safe and effective connectivity between popular greenspace hotspots and other community facilities,

V.II Floodplains

Water resources can provide both significant enhancements and obstacles in terms of the development and improvement of a region. Right of ways created by streams and rivers can be developed as community facilities for recreational use or as pathways for non-motorized traffic. Memorial Drive is home to Sugar Creek, a significant water resource. Developments along this creek must consider the floodplain it generates when considering their designs, perhaps incorporating greenways and publicly accessible facilities along the stream buffer. Furthermore, the existence of the stream right of way provides opportunities for the development of new pedestrian and bicycle trails which may help to connect the array of parks and facilities throughout the study area. Sugar Creek is displayed in Figure 26. Brownfields are also displayed for an environmental perspective. Opportunities to make positive use of this major resource may be considered as development along the Memorial Drive corridor continues.

Major observations in terms of water resources and floodplains in the study area include:

- The presence of a major stream and floodplain area in Sugar Creek.
- The need to integrate future developments along the floodplain area with natural resources, potentially including publicly accessible greenways.
- The possibility for the development of future greenways and pedestrian and bike paths along water resource right of ways that can be used to greatly enhance connectivity between major parks and facilities.



Sources: Georgia Institute of Technology, ARC

Memorial Drive Corridor Study

Land Use	Acres
Forest	591
Golf Course	429
Cemetery	95
Park	611

GREENSPACES

- Forest
- BeltLine
- Golf Course
- Cemetery
- Park
- Memorial Corridor
- Lakes & Ponds
- Expressways

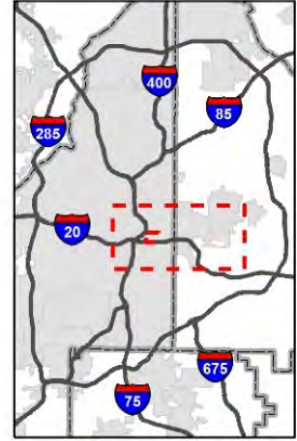
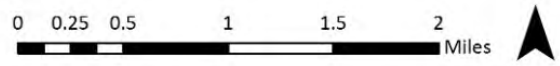
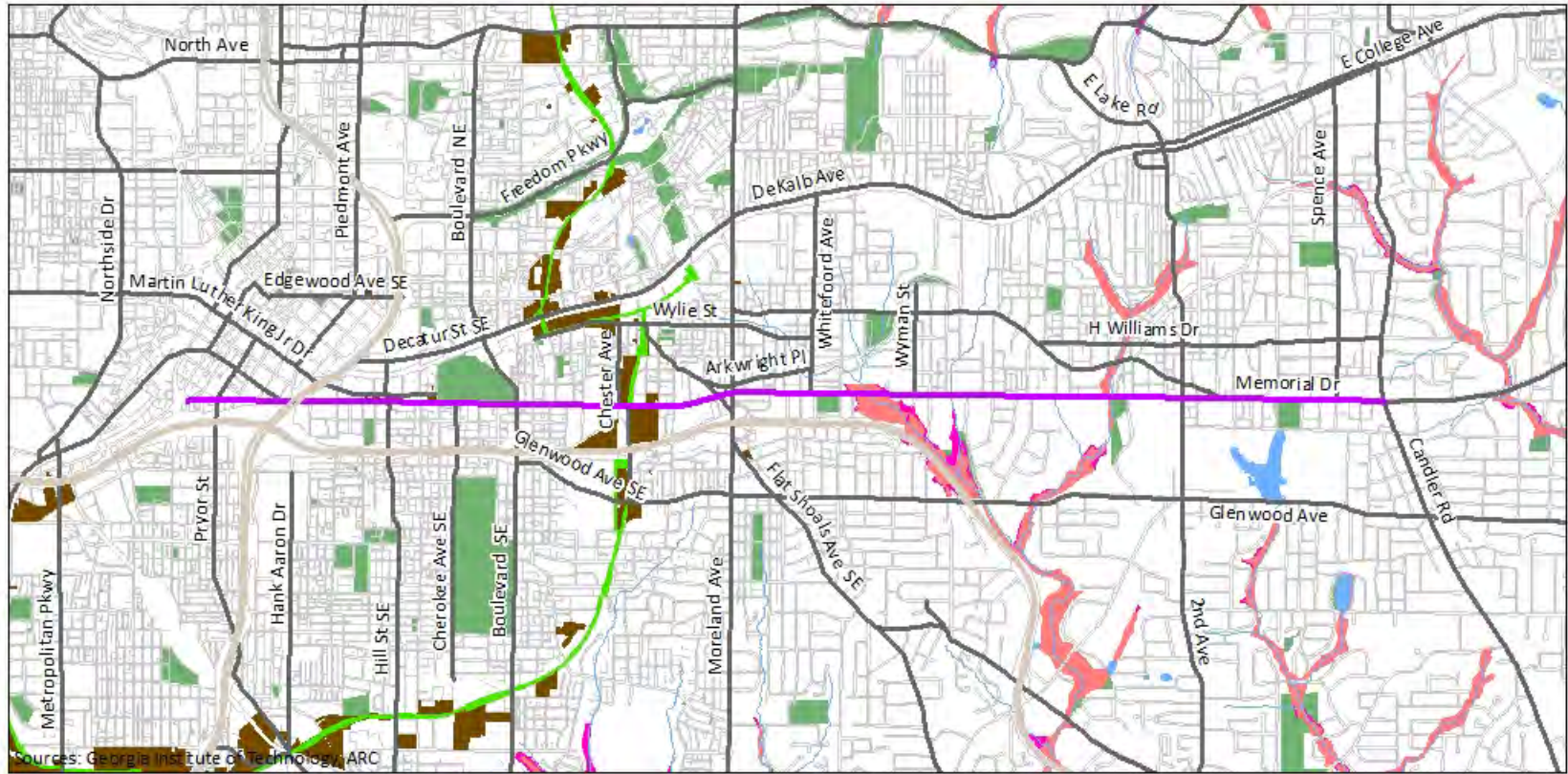


Figure 26. Greenspaces



Memorial Drive
Corridor Study

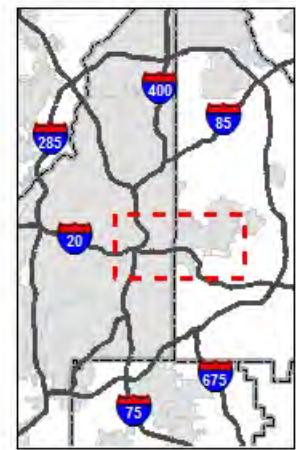
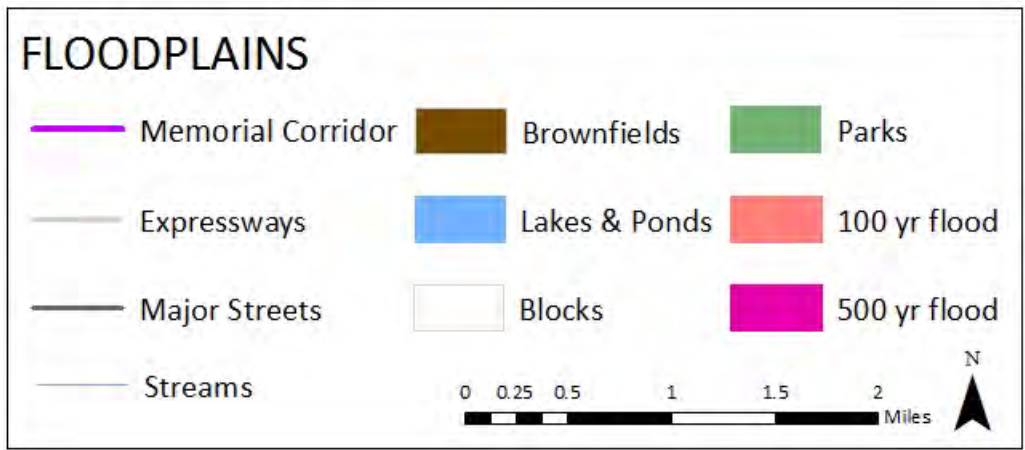
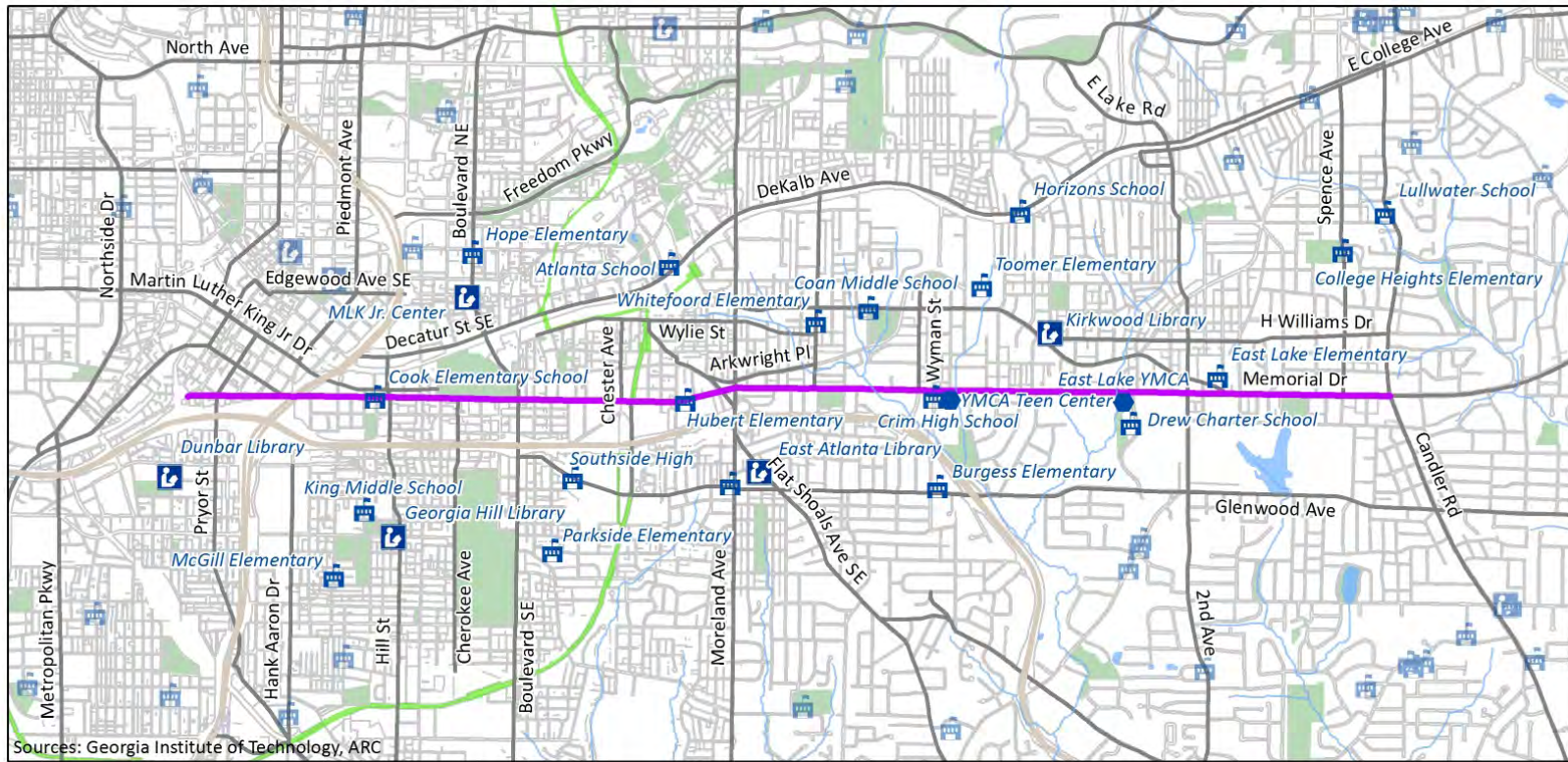


Figure 27. Floodplains



Sources: Georgia Institute of Technology, ARC

Memorial Drive
Corridor Study

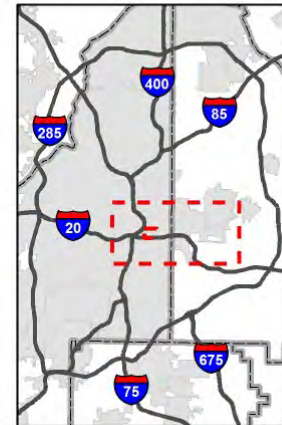
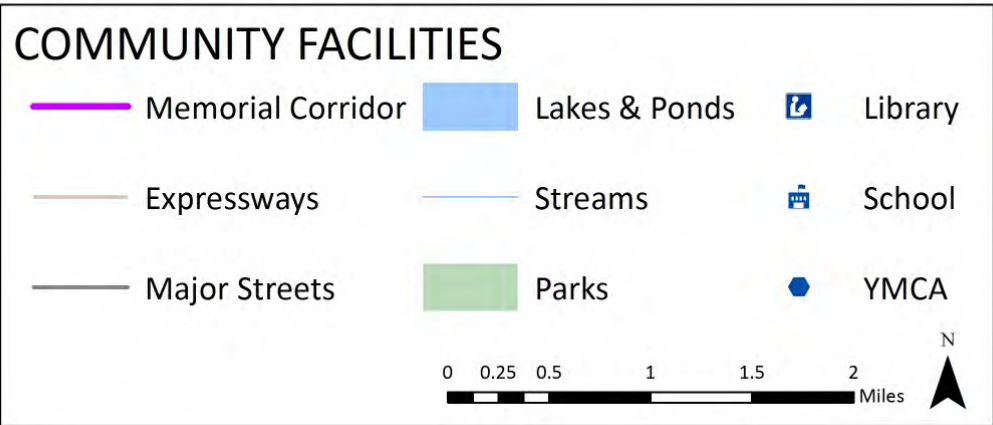


Figure 28. Community Greenspaces

VIII. Community Facilities

In addition to major greenspaces and waterways, the Memorial Drive study area is home to numerous major community facilities. These include two major high schools, many middle and elementary schools, a huge range of public parks and golf courses, several public community centers, and religious centers from a range of denominations. This results in a total of 55 schools, 10 libraries, and 98 parks within the study area, plus many more community centers and churches, as evidenced in Figure 28. Memorial Drive itself provides access to two YMCA centers, a high school, and several major parks such as Oakland Cemetery and Easy Lake Park. Despite the huge number of facilities in the region, non-automobile connectivity between these centers is extremely limited. Sidewalks along Memorial Drive and other important connectors are largely unmaintained or inadequate. Furthermore, recent changes in the Atlanta Public School system now require many students to cross Memorial Drive in order to reach their schools. This further escalates the need for improved pedestrian and bike infrastructure along the corridor in order to avoid unsafe crossings and long detours for students and parents.

Major observations for the study area in terms of community facilities include:

- The presence of a multitude of schools of all levels, parks, golf courses, community centers, and churches, all of which serve as major activity centers and sources of pedestrian and bike traffic
- A lack of effective pedestrian and bike infrastructure near major community centers such as Crim High School and the East Lake YMCA
- A lack of effective connectivity between various facilities, leading to difficulty in linking communities together
- The need for major pedestrian and bike improvements along Memorial Drive and other major connectors to provide a safe environment for students and parents who must cross arterials to reach schools

VII. PARKING

Parking availability is emerging as a pressing issue for older, denser neighborhoods along the Memorial Drive corridor. The pre-WWII neighborhoods of Grant Park, Cabbagetown, and Reynoldstown are either already facing parking concerns, or are subject to them in the near future if current development patterns continue. The northern area of Grant Park -directly opposite Oakland Cemetery on the corridor- has become a successful restaurant and bar destination over the past decade. With only an approximate 113 dedicated off-street parking places for these commercial establishments, the 6-block area with some 1,000 residents is starting to feel cramped on weekends and nights. Now consider that two new mixed-use developments are to be built within walking distance of this area (a combined 15,000 square feet of retail space, and nearly 500 new apartments). This area is due for a parking assessment soon, before it significantly effects the residents.

Cabbagetown, with its dense single family housing, lack of private driveways, and narrow one-way streets has long been concerned with its parking amenities. Reynoldstown is similarly structured, however it also has the issue of the BeltLine coming directly through its residents' back yards beginning in the next few years. The BeltLine (and especially BeltLine events) has proven to create additional parking issues for the neighborhoods it traverses, especially considering that its overlay zoning discourages additional parking construction. In addition, the Habitat for Humanity and Parmalat site redevelopments are also scheduled to bring more visitors to the area. It is important to get a solid understanding of what the individual communities want regarding parking for their neighborhood's future, while focusing on a solution that could simultaneously satisfy these three unique, adjacent neighborhoods' needs.

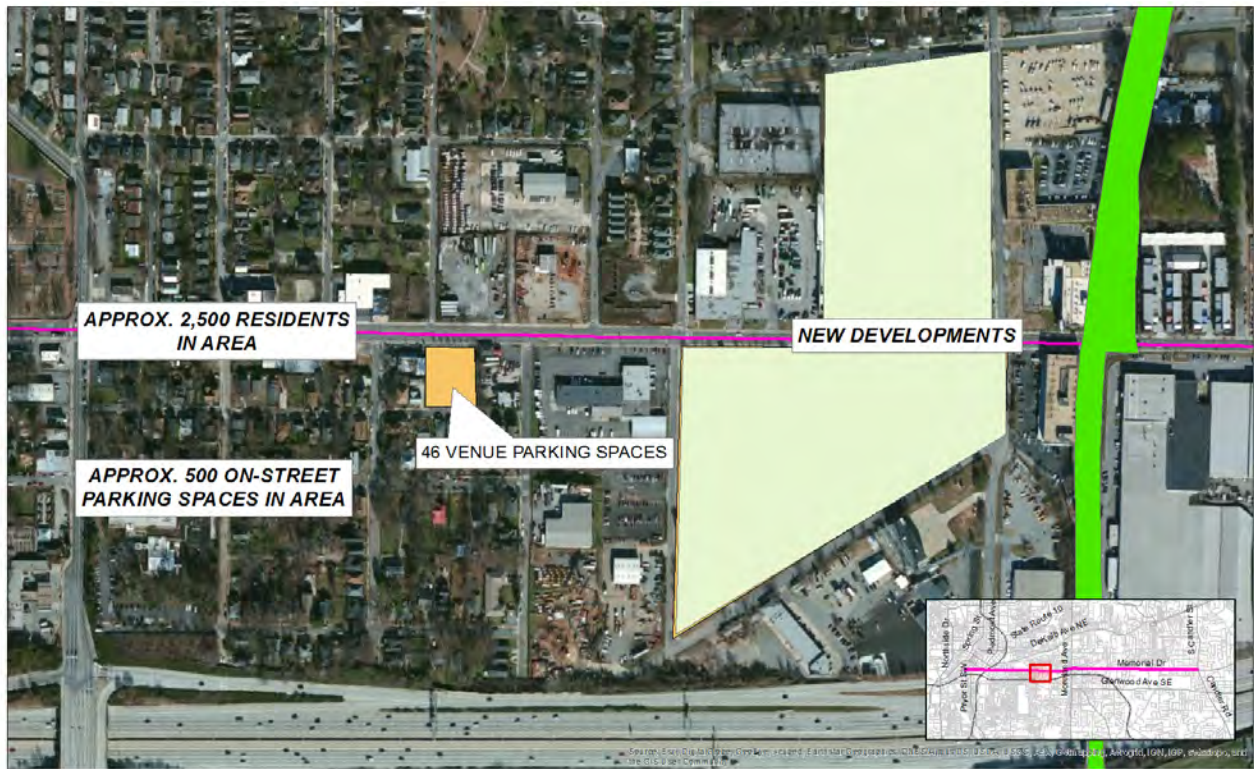


Figure 30. North Grant Parking Situation

VIII. TOPOGRAPHY

The whole corridor is 6.04 miles, elevation ranging from 885 ft to 1050 ft. The average elevation is 996ft. Maximum slope is 17.9% and minimum is -22.2%. The average slope is 3.7% and -4.3%. There are 13 segments with an absolute value of slope higher than 10%, shown in Figure 31.

THE ROADS

Memorial Drive and the surrounding streets have attributes that may affect final plans. This section focuses on Memorial Drive as a street, with particular attention paid to its physical attributes and traffic safety. Part IX talks about street geometry, including lane configuration and pedestrian safety. Part X focuses on intersections, and how the substandard intersection design adversely impacts traffic safety.

IX. STREET GEOMETRY

To make the memorial drive serve residents around or even the citizens in Atlanta better, to improve safety, service, comfort, and performance for all, and to balance access for all modes, actions should be taken to transform the corridor. Towards such objective, many problems exist about this corridor.

IX.A. Lane Configuration

In terms of lane configuration, the corridor consists of four types of lane segments, which are three-lane street, four-lane street, four-lane street with median, and five-lane street. These four types of streets change frequently so that the memorial drive lacks a sense of consistency which could be extremely confusing. The layout of such pattern is shown below.

It is noteworthy that from Pearl Street to East Side Avenue, the lane configuration changes frequently, from five-lane to three-lane to four-lane to three-lane, and to four-lane again. The three-lane street is most dangerous since the middle lane is a reversible center lane, popularly known as a suicide lane. Depending on the traffic lights, vehicles could go either direction. As a result, driving at the junctions of three-lane streets and other types of streets is extremely confusing and hazard for the reason that drivers have to spend a few seconds deciding which lane to go.

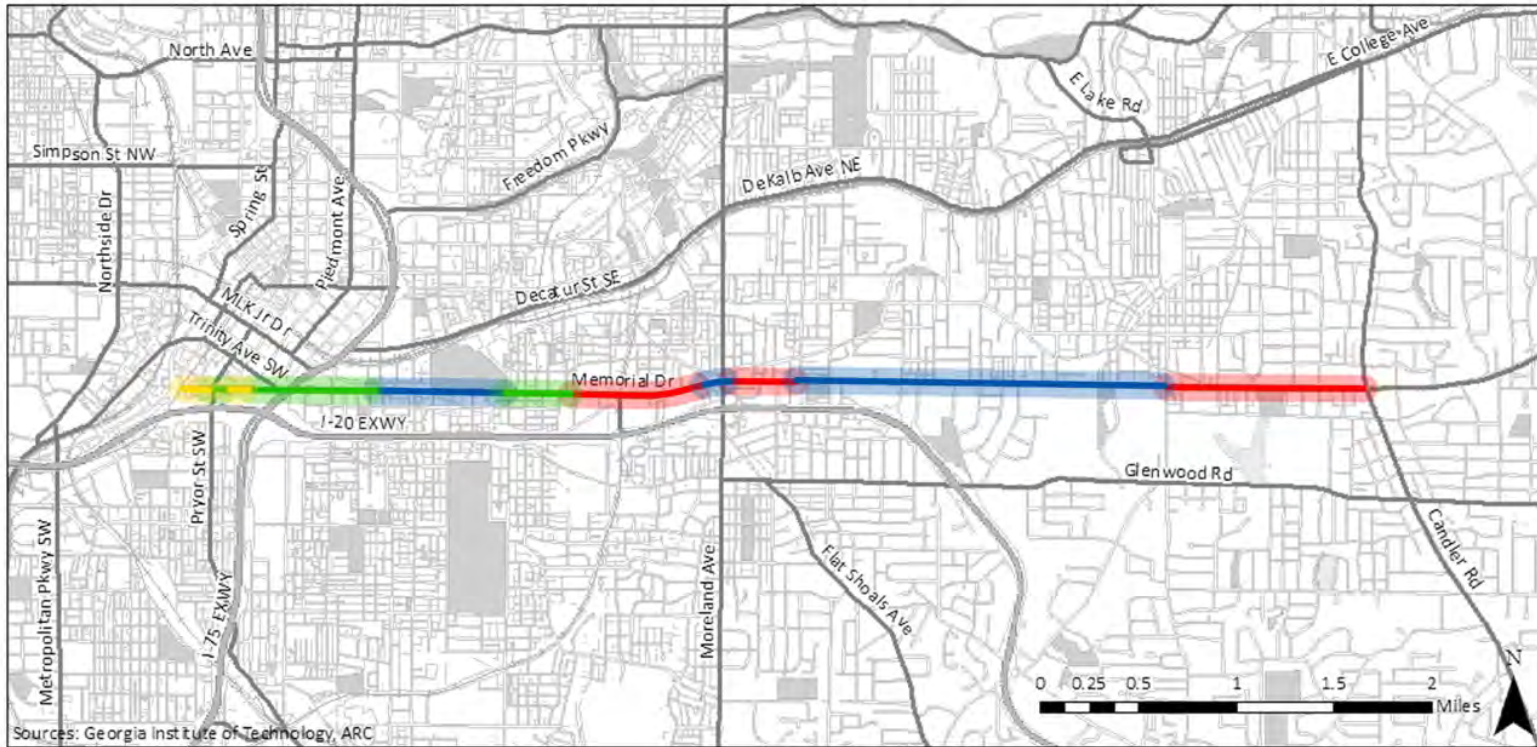
The models of those four types of travel ways are shown below (Figures 33, 34, 35 and 36). Except for the three-lane street, others are relatively new and in good conditions, and correspondingly, safer. However, the width of the

Location	Slope
----------	-------

memorial drive is too narrow, making it too difficult to *Figure 31- Segments with Absolute Value of Slope Higher Than 10%* ranging from 44 feet to 64 feet, redesign the corridor.

Memorial drive @ grant st	11.5%
Memorial drive @ powell st se	-13.4%
Memorial drive @ type st se	-15.1%
Memorial Dr SE@Memorial Ter SE	10.6%
Memorial Dr SE@Eastside Ave SE	-14.0%
Memorial Dr SE @ Clay St SE	-17.9%
Memorial Dr SE @ Wilkinson Dr SE	12.7%
Memorial Dr SE@Douglas St SE	12.1%
Lake Lakeside	-10.4%
East lake family YMCA	-11.0%
East Lake Blvd @ Memorial Dr	15.5%
Memorial Dr SE@Cottage Grove Ave SE	-10.9%
Memorial Dr SE @ Green Ave SE	-11.1%





DRAFT



Memorial Drive
Corridor Logo

Partner Logos

Lane Configuration

-  3-lane street
-  4-lane street
-  4-lane street (with median)
-  5-lane street

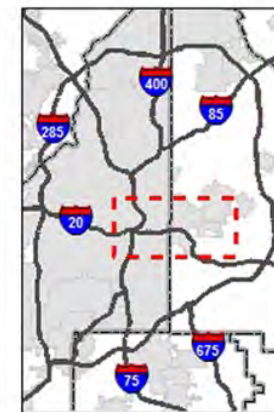


Figure 32- Lane Configuration Map

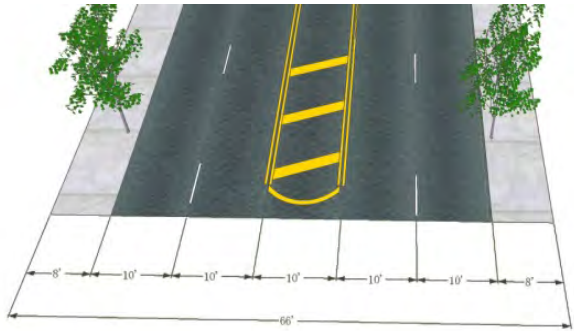
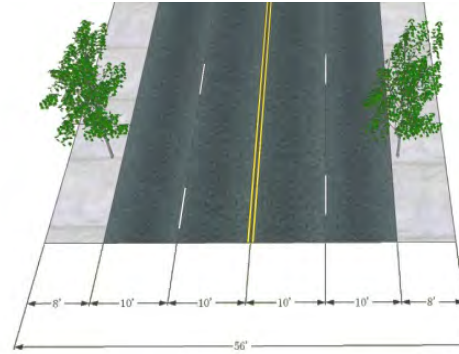
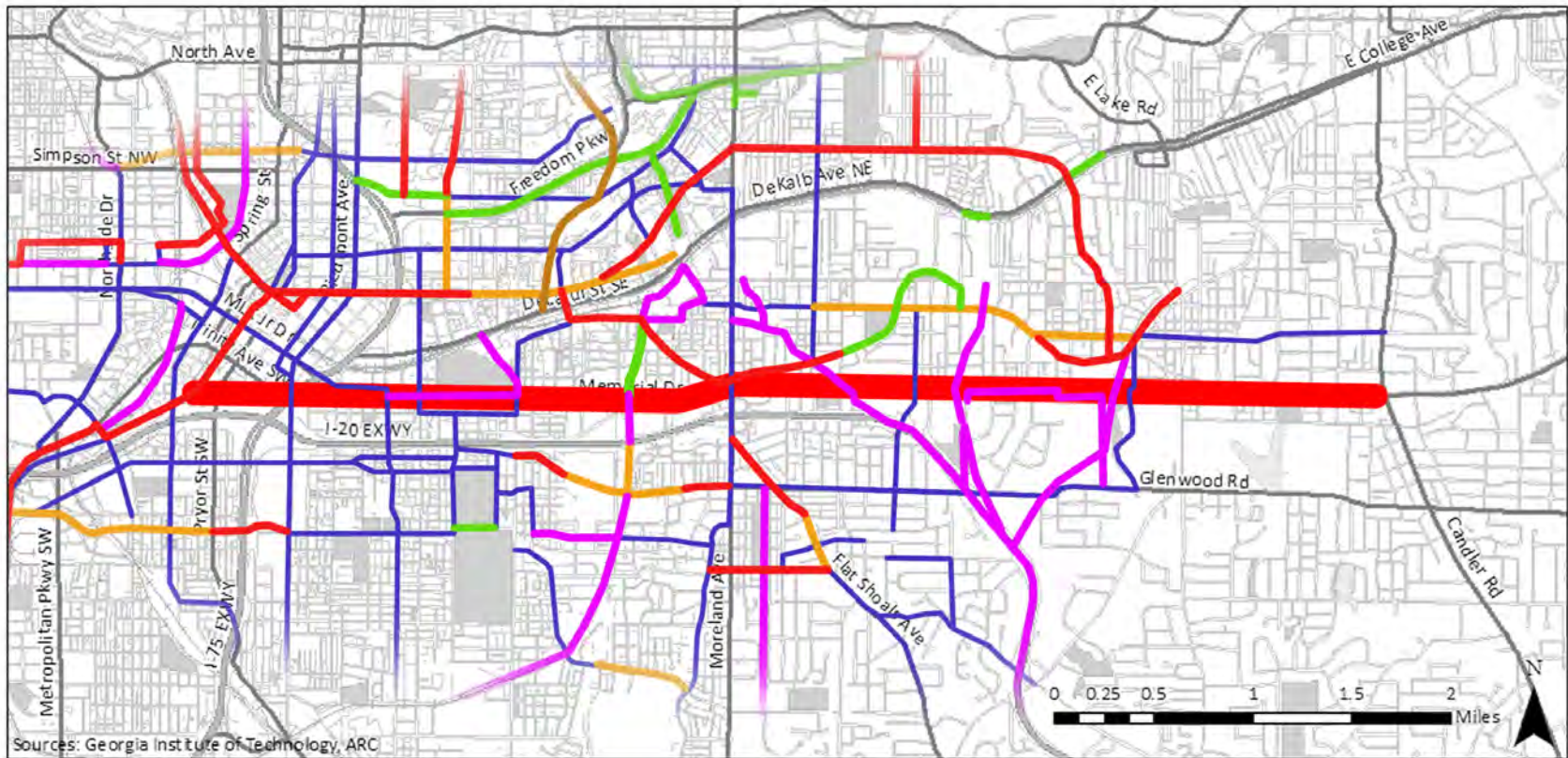


Figure 33- 3-lane street, 4-lane street, 4-lane street with median, and 5-lane street



Memorial Drive
Corridor Logo

Partner Logos

Bike Map

	Bike Lane		Proposed_multi_use
	Bike Shoulder		Proposed Bike Lanes
	Multi-use Path		Streets
	Hiking/Mountain biking trail		
	Memorial Drive		

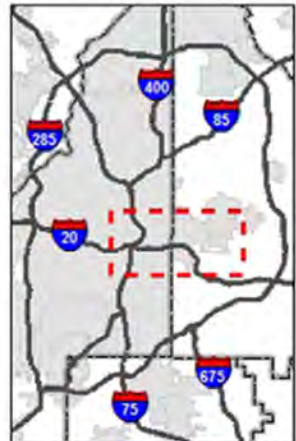
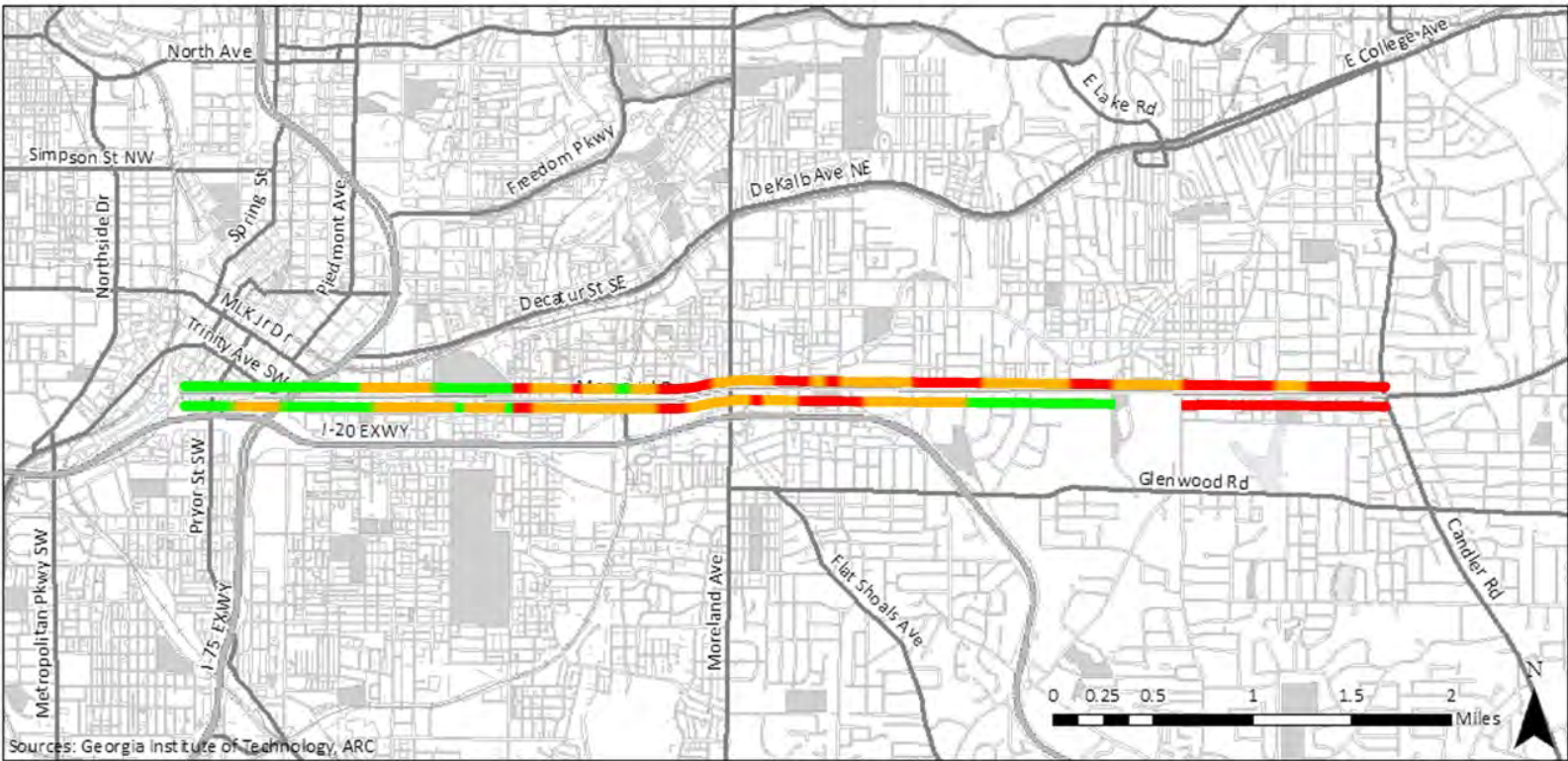


Figure 35. Bike Lane Map



Memorial Drive
Corridor Logo

Partner Logos

Sidewalk Condition

- █ Good Sidewalks
- █ Bad Sidewalks
- █ Very Bad Sidewalks

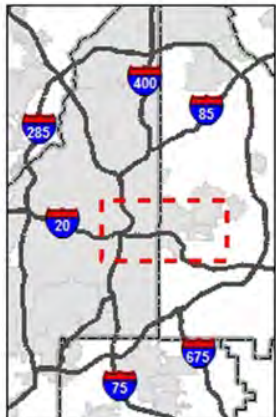


Figure 35. Sidewalk Map

IX.B. Bike Lanes

There are large numbers of communities along the corridor, which implies a great need of multimode transportation demand. Nevertheless, current corridor is designed for automobiles since there are no bike lanes having interactions with it. Based on the future plan, the corridor is designed to be more bike-friendly. Seven proposed bike lanes go across, and two multi-use lanes are within the corridor (Figure 36).

IX.C Sidewalks

The sidewalks almost exist through the whole corridor, except for the road beside the golf court between E Lane Boulevard and 2nd Avenue on the eastbound. However, the quality of sidewalks is worrying. The surface of most sidewalks is not well maintained, exerting difficulties on walking for pedestrians, especially the disabled. The figure below shows the distribution of sidewalk qualities (Figure 37).

Only a few sidewalks are in good condition, equipped with ramps and blind sidewalk, and the materials of the surface are new. Most sidewalks are broken to some extent and do not have as good equipment as the best sidewalks along the corridor. Even worse, there are some sidewalk completely broken, overgrown with grass and weeds (Figure 38).

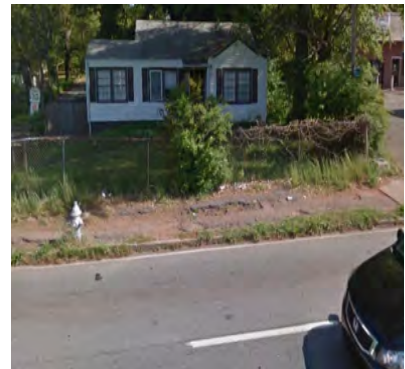


Figure 37. Good sidewalk, bad sidewalk, and very bad sidewalk

X. Intersections and Traffic Signals

As one of the most prominent east-west arterials in east Atlanta, the Memorial Drive corridor connects with virtually all north-south roads on the eastern half of the city. These thoroughfare intersections provide vitality and resources to the corridor along with an element of heightened traffic the potential for increased safety concerns. As there are well over 80 times along the length of the corridor in study that Memorial Drive is intersected by another arterial road, collector road or driveway, it was imperative to prioritize these conjunction points by weight of impact they currently and potentially have on the corridor.

X.1. Inventory

As part of the preliminary review of Memorial's intersections, the studio collected a general inventory of existing conditions. This inventory included virtual inspection via applications such as Google Maps, Google Earth, Georgia Department of Transportation (GDOT) geoCounts and GDOT GeoTRAQS online mapping programs, as well as a secondary physical inspection along the entirety of Memorial Drive in this study. The purpose of the primary virtual inspection was to use GDOT traffic and crash data, supplemented by similar data from Google Inc., to highlight the intersections along Memorial that have the most significant impact on the condition of the road in terms of function and accessibility for the surrounding communities. A potential impact consideration was included in conjunction with future developments and plans that are ongoing or expected to impact the corridor in the near future.

After virtually inspecting the corridor and drafting a preliminary list of concerns and considerations, the studio conducted a physical inspection to gather physical confirmation of previously held concerns as well as conditions that were incapable of being observed via satellite imagery and raw traffic data. In addition to a general inspection of the corridor, the physical assessment included an inventory of proper transportation utilities such as:

- Clearly visible striping of lanes, stop bars and crosswalks
- Functioning and consistent traffic signaling
- Pedestrian access and safety considerations (push buttons, functioning walk/don't walk indicators, adequate crossing time allotment, etc.)
- Conditions of pavement and sidewalk material
- Comprehensible geometry of intersection design

X.2. Intersection Prioritization

With the collected data along the corridor and the physical examination of conditions of typical weekday and weekend traffic, the studio created a shortened list of signalized intersections that hold significant impact or location along the corridor and would be appropriate for a more comprehensive review. A list of the 20 intersections were assembled in this prioritized list and classified by the road's name that crosses Memorial Drive. Although the preliminary list of 20 priority intersections was created and will be included below, the final list may be edited as information is continually gathered and analyzed throughout the course of this project.

- | | |
|----------------------|--------------------------------------|
| 1. Peachtree St. | 11. Stovall St. |
| 2. Pryor St. | 12. Moreland and Flat Shoals Ave* |
| 3. Central Ave. | 13. Whitefoord and Memorial Terrace* |
| 4. Washington St. | 14. Wyman and Maynard* |
| 5. Capitol Ave. | 15. Clifton St.* |
| 6. Hill St. | 16. East Lake Blvd |
| 7. Grant St. | 17. 2 nd Ave |
| 8. Boulevard* | 18. Cottage Grove* |
| 9. Chester Ave | 19. Green |
| 10. Bill Kennedy Way | 20. Candler Rd. |

*Indicates an intersection that will be highlighted in this preliminary findings report.

X.3. Highlighted Intersections

In order to provide an example of the type of analysis that will be conducted on the priority intersections in this study, a selection of six intersections was made to highlight in this report and are indicated by an asterisk in the full list of prioritized signals included above. Each intersection will include general observations and analysis with a brief discussion on the potential safety concerns as well as strengths these intersections bring to the corridor.

As an overview of traffic conditions at these intersections, Table XI.1 below includes the crash and volume data at these intersections. Crash information is derived from GDOT's G.E.A.R.S. data includes all crashes at the selected intersection(s) in the last three years. Traffic volumes are included in the calculated Average Annual Daily Trips (AADT) format. The average number of cars crossing the intersection on Memorial Dr is represented by the first number in the table and the average number of daily cars crossing on the corresponding cross street is the second number.

Intersection	Crashes	AADT
Moreland Ave	129	14,130/34,730
Boulevard	56	10,990/20,110
Whitefoord Ave	12	-
Clifton/ Wyman	67	-
Cottage Grove	40	15,010/ -

Source: GDOT- G.E.A.R.S. with "GeoTraqs"
AADT- Average Annual Daily Trips

Figure 37. Crashes along Memorial Drive at select intersections

X.A Moreland Ave. and Flat Shoals Road

As shown in the table above, Moreland is not only one of the corridors busiest cross roads but one of the most dangerous as well. Although it will be necessary in further analysis to determine whether the number of crashes are an effect of significantly higher volume than other intersections or if there are more injuries and fatalities in ratio compared

to other intersections, it can be concluded that Moreland has one of the more significant impact on traffic conditions of all the intersections in the project area.

The broad list of concerns with this intersection includes the topography, lane assignment changes and adjacent intersections. The topography concern was included in section VIII, whereas the sight distance for eastbound traffic traveling on Memorial Drive is insufficient to properly view the intersection from more than a few hundred feet away. This distance raises concerns of safety as it does not give drivers adequate time for preparation as they approach a very busy intersection.

The concern for approaching automobiles is compounded by the inconsistent lane assignment around the Moreland Ave intersection. Approaching Moreland from the west, Memorial Dr. is a three lane configuration with a middle reversible lane, upon crossing the Flat Shoals Ave intersection (around 300 ft.¹ before Moreland Ave) the configuration turns to four lanes, two in each direction. This abrupt add lane event is followed by a drop lane event 300 ft after crossing Moreland Ave. A driver navigating himself or herself along Memorial Dr. will experience three abrupt lane configurations in less than one tenth of a mile.

The term “abrupt” is used to describe the first configuration change (at Flat Shoals) due to the lack of a merging or diverging lane event. Instead, the roadway enters the intersection as a three-lane road, and abruptly appears as a four lane configuration on the other side. This abrupt change holds concerns primarily for drivers unfamiliar with Memorial Dr. who are forced to either merge into one lane along with another lane of traffic or choose one of two appearing lanes with little, if any, notice (would depend on the drivers awareness to roadway signage).

The third concern raised with this intersection is that of the eight other intersections within a quarter mile distance of Moreland and Memorial, two of them being access ramps to I-20, located just south of Memorial Dr. These adjacent intersections may complicate the high volume traffic using this intersection, reducing its functionality to community members that require the use of these roads on a daily basis.

GDOT currently has one project (I.D. 0012596) in the works set to be completed in 2016 where by Arkwright Place will take on a right turn in/ right turn out function with Memorial and restrict both through and left turn traffic from Arkwright onto Memorial. These changes will come along with upgraded pedestrian and transit facilities that will help to mitigate the confusion and traffic on the northern side of the very busy Memorial Dr and Moreland Ave intersection.

X.3.A Boulevard

The second intersection in this highlighted selection included in this report is that of Memorial Dr. at Boulevard. This particular intersection does not have the highest volumes along the corridor but is one of the most significant intersections on Memorial Drive by its proximity to many well-known attractors to the area. Firstly, the intersection forms the southeast corner of the historic Oakland Cemetery. Second, it is the major thoroughfare for trucks gaining

¹ Measurements taken from satellite imagery and Google Earth approximations.

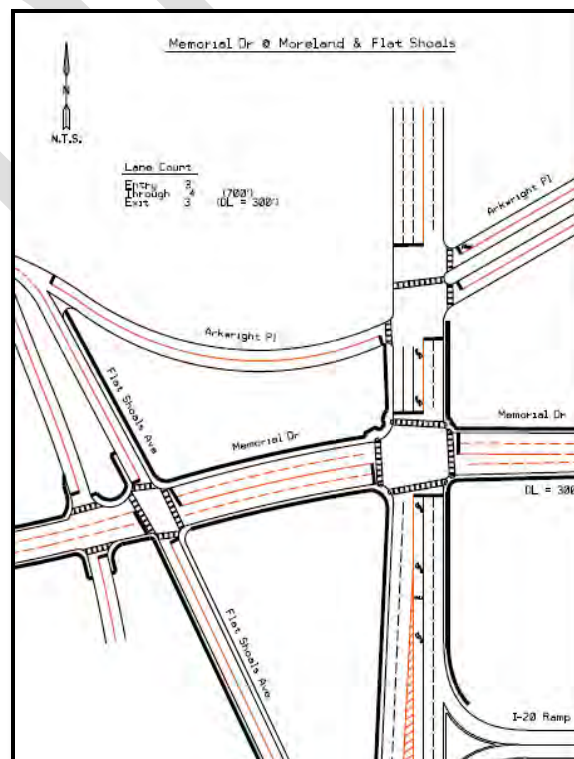
access to the Hulsey Yard located just north of the intersection and lastly, Boulevard is another of Memorial's connectors to Interstate 20.

Besides the high truck volume that is present at this intersection due to it being the access point to the Hulsey Yard, two other preliminary concerns are raised with this intersection: the sight distance and bad traffic habits of the eastbound left turn and southbound right turn, and the significant lane width drop along westbound Memorial Drive.

Depicted as a green line in Figure 42, westbound traffic loses six feet of lane width (abruptly) on the west side of the intersection. This amount of space is equal to half of the previous width of the lane on the east side of the intersection. During the physical inventory of this intersection it was observed that several unaware drivers had to make sharp adjustments when crossing the intersection at free flow speed to avoid hitting the sidewalk curb that juts into the direct line of travel.

The line of sight concern is depicted in the model above by orange dashed lines being potential line of sights going each direction and blue rectangles representing the amount of space a vehicle is taking p according to satellite imagery measurements. This line of sight issue is primarily the result of the high Oakland Cemetery wall (over 8 feet) that comes within a few feet of the road, and the presence of a protected left signal and phase for eastbound left traffic without the existence of a designated left turn bay. The existence of the signaling type at this intersection has allowed the creation of some bad local resident driver habits that raise a considerable safety concern given the almost non-existent sight distance around the northwest corner of the intersection.

It was observed multiple times during intersection inventory and confirmed by a local resident that it is not uncommon for the second vehicle in the inside eastbound lane, wanting to make a left turn onto Boulevard, to turn into the westbound lanes and make a left when there is a green left arrow but red through light and the first car in the lane is wanting to make a through movement. Although the speeds of vehicles making either this left or the right from Boulevard onto Memorial are relatively low, with no advanced sight around the corner it is feared that any time a car is making that illegal left movement at the same time a vehicle is preparing to make a right turn, the two vehicles are creating a conflict scenario for an almost unavoidable crash.



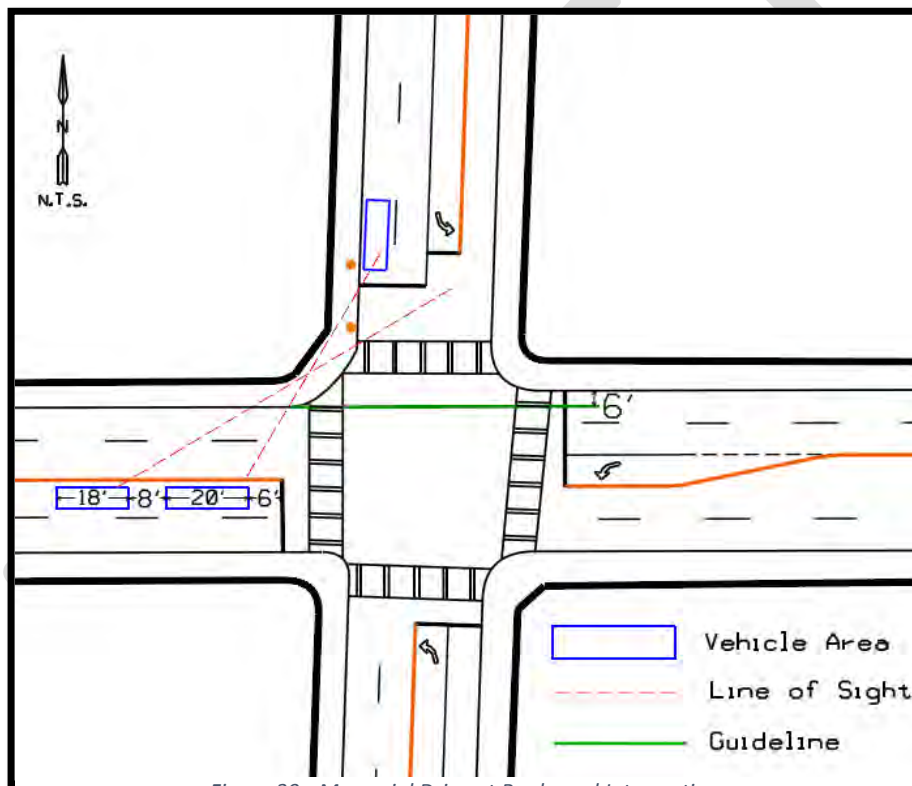


Figure 39 - Memorial Drive at Boulevard Intersection

X.3.B Wyman St. and Clifton Rd.

The Wyman St. intersection holds the second highest average daily trips as measured by GDOT of the five intersection groups highlighted in this report. Its proximity to I-20 is definitely a contributor to the traffic volumes seen using this intersection in addition to this connection being Memorial Drive's last direct, proximate link to the major interstate for eastbound traffic.

The most obvious concern with this intersection however is the adjacent intersection (300 ft.) of Memorial and Clifton Rd. to the east of the very busy Wyman St.² On the corner of Clifton and Memorial is the location of Crim High School and so for the majority of the calendar year, there is abnormally heavy pedestrian traffic along this section of Memorial as many high school students take city busses located on the opposite side of Memorial. When at location for this event, it was observed that many students would not utilize the northbound crosswalk across Memorial but would cross from the Texaco gas station driveway across open lanes of traffic to reach their designated bus stop.

Although the studio could not determine why the intersection crosswalks were not used, it was also observed that pedestrian facilities on the north side of Memorial were essentially non-existent and therefore a suspected reason for not being an optimal choice for the students. Depicted in the Figure 44, the north side (right side of figure) of Memorial looking towards Wyman St. has no distinguishable safe pedestrian facilities but is rather a choice path³ on a narrow strip of the abutting property at street level, all conditions that exacerbate the safety concerns for pedestrian traffic.



Figure 40. Viewshed of southbound vehicles toward west leg of Memorial Drive

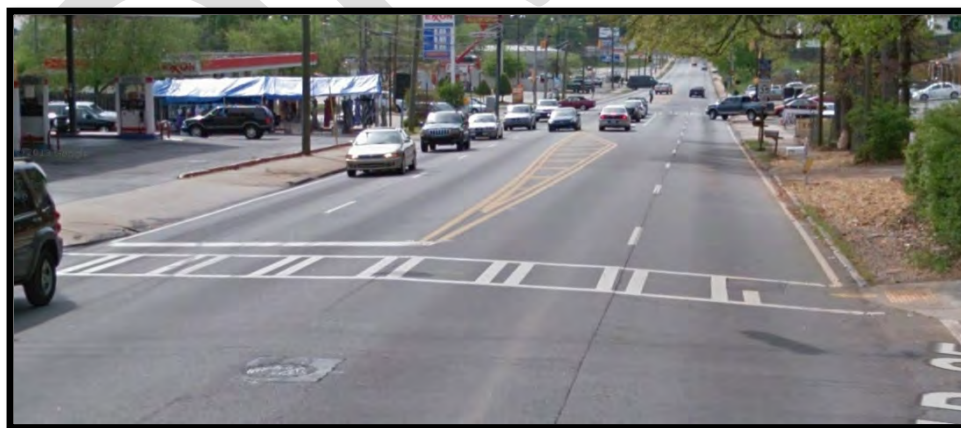


Figure 41. Westbound view of inadequate pedestrian facilities at Memorial and Clifton; Source: Google Street View

² Measurements taken from satellite imagery and Google Earth approximations

³ Choice paths are not municipally developed pedestrian ways but paths developed by common traffic on bare ground.

X.3.C Whiteford Ave / Memorial Terrace

Whiteford Ave and Memorial Terrace was chosen for this highlight review not only because it is an offset intersection and therefore a unique consideration for traffic engineers and drivers navigating the space alike, but also because it is another example of the abrupt change in lane configuration concern introduced in the Moreland Ave. section. Depicted in Figure 44 below, Memorial Dr approaches the intersection from the west as a three lane configuration with a reversible middle lane and abruptly changes in the middle section of the intersection to a four lane configuration.

Additionally, this intersection is located on the forefront of a topographical rise and therefore produces a line of sight issue for approaching vehicles from both directions on Memorial Dr. The perspective from the westbound approach is included below and emphasizes the need for special consideration on safety concerns such as the abrupt lane configuration change, pedestrian cross times, etc.

X.3.d Cottage Grove

The final intersection to be highlighted in this report gains attention with its unique geometry and the navigating challenges that are produced by its shape and current lane assignment properties.

Although all four approaches are signalized at this intersection, the northwest branch that holds the Cottage Grove street name in Figure 46 lacks a stopbar and cross walk. Because of the unusual nature of the intersection angles, it was observed that vehicles do not stop until they are just short of the point of the intersection where the car shop is located, resulting in an impeding location for southbound right turns from the elementary school.

The primary concern with this intersection however is the distance the nearest reversible lane direction indicator is located at relative to this intersection that according to GDOT traffic counts has just under 50% more volume going down Memorial Dr. than at the better known Memorial at Boulevard intersection.

The westbound approach to Memorial Dr. from Cottage Grove is depicted above and shows by the red illuminated box the next placement of reversible lane indicators along Memorial Drive. The indicators are located behind a low hanging tree branch from this perspective and forces merging drivers to guess which lanes are going which direction at the time of their travel until they have already traveled on Memorial Dr. for 136 feet. The line where a driver can first see the indicators is depicted as a solid red line in Figure 48.

Next the eastbound perspective is shown from the viewpoint of a vehicle turning right onto Memorial Dr. from Cottage Grove. Using the same symbology as the previous perspective it is seen that the next indicators are located behind the pedestrian sign and in the tree in the foreground of the picture. The first viewpoint for drivers turning onto Memorial Dr this direction is again represented by the solid red line and was measured via satellite imagery at being 365 feet past the entrance to the corridor.

The amount of time and space drivers are forced to commit to driving along this busy section of the corridor without knowing whether they are in the appropriate lane or not can be seen to present considerable driver confusion and safety concerns with vehicle travel.



Figure 42. Overview

of Memorial Drive at

Whitefoord and Memorial Terrace



Figure 43. Westbound approach on Memorial Drive at Whitefoord and Memorial Terrace

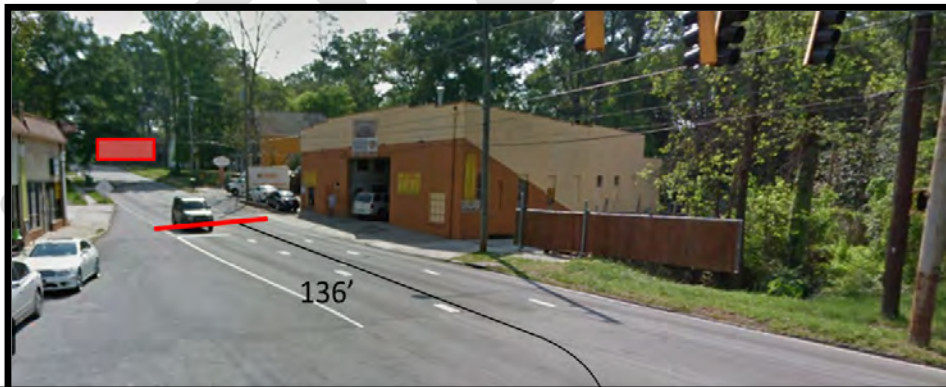


Figure 46. Westbound Perspective on Cottage Grove approach to Memorial Drive

Figure 475. Eastbound Perspective on Cottage Grove approach to Memorial Drive

THE MEANS

This section builds on the work of the previous section, and looks at mobility throughout the corridor. Part XI looks at the transit demand along the corridor.

XI. TRANSIT DEMAND

Atlanta is a good example of a city planned for the automobiles rather than for the people. Memorial drive and its immediate surroundings, as envisioned in our studio, is a place for communities and for people to navigate through and along as well as a destination by itself. One of the components of a well-functioning corridor is its accessibility by all modes. This part of the analysis looks at the current state of public transportation in the study area.

XI.1 Current Service in the study area

Route Service	Service Area	Ridership (Pax/Day)	Overall Ridership Ranking (total of 90)	Headway (weekday peak)
Bus Route 121	Stone Mountain/Memorial Drive	4461	7 th	12
Bus Route 15	South DeKalb/Candler Rd.	4313	8 th	15
Bus Route 107	Glenwood Rd.	4206	9 th	15
Bus Route 186	Rainbow Dr./South DeKalb	2984	20 th	15
Bus Route 21	Memorial Drive	2919	21 st	20

Bus Route 86	Fairington Rd./McAfee Rd.	2226	34 th	25
Bus Route 74	Flat Shoals	1834	41 st	20
Bus Route 34	Gresham Rd/Clifton Springs	1112	64 th	25

Figure 46. MARTA bus routes for all or part of Memorial Drive

Service route 21 runs along most of the corridor in the study area. The route connects to both King Memorial and Kensington MARTA stations and carries 3000 passengers per day. The high ridership in this part of the city is probably best explained by the higher concentration of low income household in the south part of DeKalb. These populations tend to have limited to no access to a personal vehicle and resort to using the bus instead. Some of the lines that were looked at serve lifeline type of activities such as Clifton Springs Health Center, the Georgia Regional Hospital, the Social Security Administration, St. Paul Golden Age Center, Georgia Department of Labor, Georgia Perimeter College, Agnes Scott College, Covington library, Walmart, Kirkwood Family Medicine, DeKalb County Career Center and South DeKalb Senior Center. As depicted in the demographic analysis, MARTA service is especially important in this part of the city where lower income populations live. MARTA provides access to essential health, educational, administrative, religious and employment services. A close look at recent boarding and alighting data helps telling the story of the corridor.

XI.2 Important nodes (including top boarding/alighting for line 21)

MARTA bus route 21 has numerous stops along the corridor but a few intersections were identified as more important than others. The busiest intersection is at Candler Rd and Memorial Drive. Two of MARTA's busiest lines connect at this intersection with approximately 400 boardings and alightings per day. The second busiest one is at Moreland and Memorial Drive. Moreland is one of the main north-south road in the city and the connection at Moreland helps people coming from the North to go East on the 21 line. The third busiest intersection is at Warren and Memorial Drive with approximately 160 boardings and alightings per day. That can be explained by the Ivy Prep Academy and retail activity nearby. Wyman and Memorial drive is the next busiest intersection with the Alonzo Crim High school, some retails and apartment buildings in proximity. The following busiest intersection is at Wilkinson Dr SE and Memorial that is conveniently located nearby the Ivy Prep Academy and some apartment buildings. Finally, Douglas St SE is also a busy intersection nearby Ivy Park apartment. The other stops along line 21 have less boardings due to lower population density and absence of retail. However, the data shows fairly high ridership for this type of housing density.

Ridership reflects part of the travel pattern but does not provide information on where people are starting and ending their trip. Data collected from MARTA clearly shows a demand for transit in the area. The following analysis to be conducted is an activity center inventory to obtain a better understanding of where people come from and go to. The goal is to identify travelling patterns between nodes that are currently poorly connected and could benefit from transportation improvements whether it happens through MARTA or not.

XI.3 The bus stops

It was established that there is a high ridership along and nearby the corridor however most transit stops are only materialized by sign posts, as seen in Figure 51. MARTA's current policy ⁴ states that any stops with 30 or more alightings and boardings qualifies for a bus shelter improvement. One of the main obstacle toward improving these stops are related to the width of right of way as well as other topographical constraints.

⁴ May be subject to change in a near future

While rerouting a bus might be complicated, bus stop placement and improvement could be easier fixes. A lot of MARTA's network is legacy, and reviewing the 9000 stops of the system is a long arduous tasks that is currently undertaken by the agency. With reasonable data and with potentially redesigning the corridor, rethinking the stop placement is somewhat conceivable. The list of stop in Figure 51 contains all of the stops along route 21 that currently qualify for an improvement due to their boarding and alighting data.



Figure 48- MARTA stop constrained by topography and MARTA sign post

MEMORIAL DR/COLUMBIA DR	MEMORIAL DR/3850
MEMORIAL DR/3454	MEMORIAL DR SE/E LAKE BLVD SE
MEMORIAL DR/COLUMBIA DR	MEMORIAL DR SE/WILKINSON DR SE
MEMORIAL DR SE/CLIFTON ST SE	MEMORIAL DR SE/DOUGLAS ST SE
MEMORIAL DR SE/WYMAN ST SE	MEMORIAL DR/E LAKE TER
MEMORIAL DR SE/WARREN ST SE	MEMORIAL DR SE/DIXIE ST SE (only one side has a shelter)
MEMORIAL DR/MIDWAY RD	MEMORIAL DR SE/WOODFERN DR
MEMORIAL DR/NOTTINGHAM DR	MEMORIAL DR/RUPERT RD
MEMORIAL DR/COVINGTON DR	MEMORIAL DR/LINE ST
MEMORIAL DR SE/MORELAND AVE SE	MEMORIAL DR/BEECH DR (east bound does not have one)

Figure 49. Stops currently qualifying for an upgrade

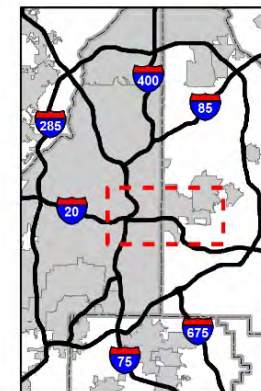
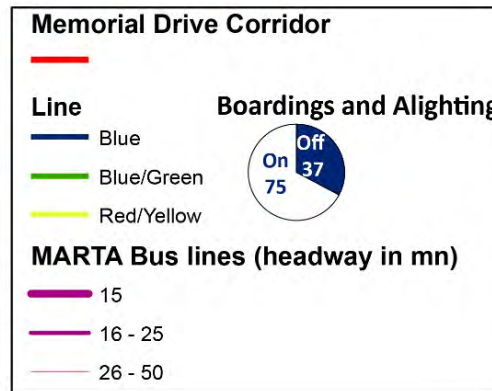
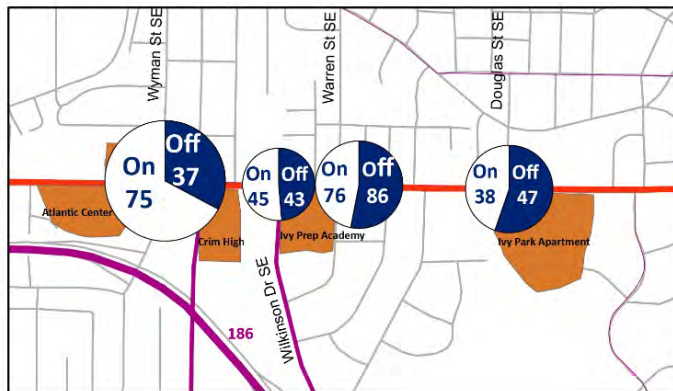
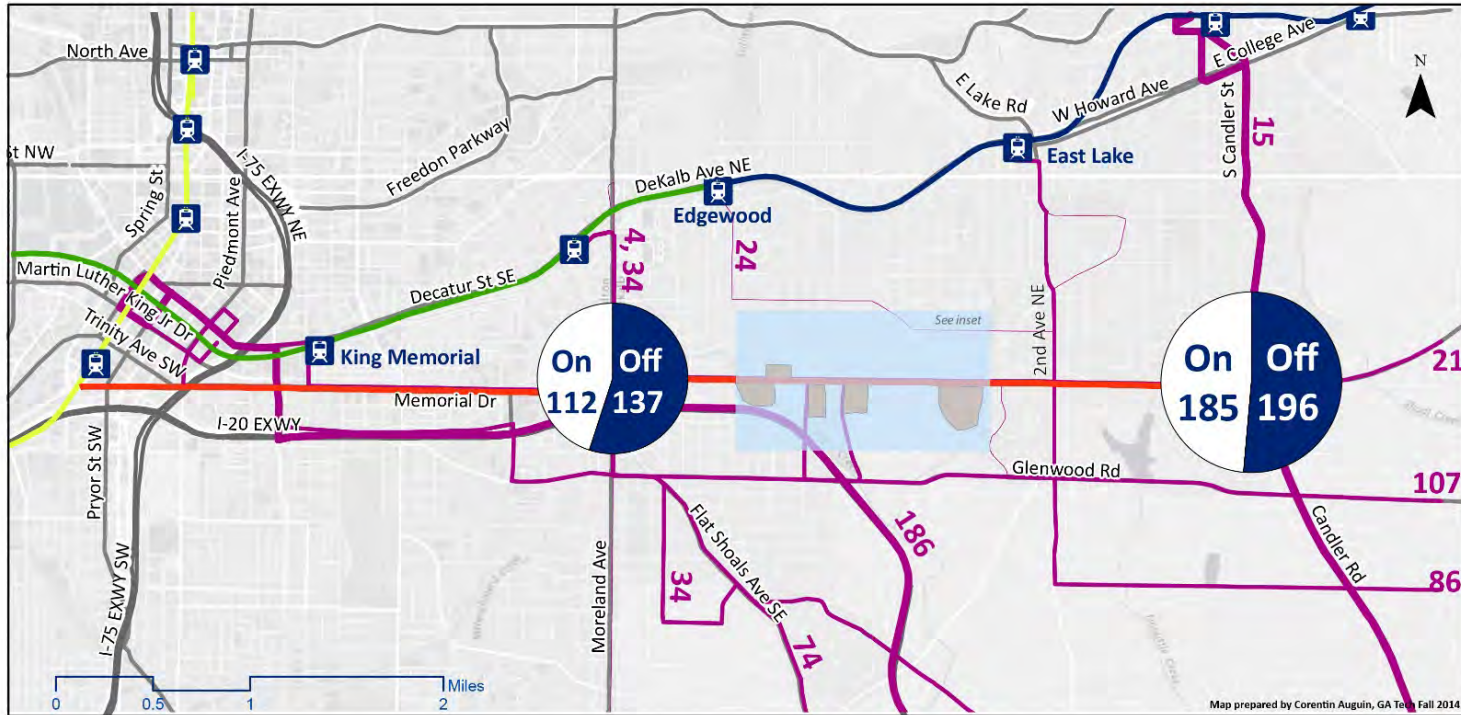


Figure 50. Transit characteristics in the study area

THE PLANS

This section looks at plans that have been proposed or are being developed along the Memorial Drive corridor. Part XII focuses on the prior studies, with particular attention focused on the Atlanta BeltLine. Part XIII focuses on transportation initiatives currently in flight.

XII. Prior Studies: The Atlanta Beltline Inc. (ABI) Plans and Visions

Crucial to the corridor's analysis of existing conditions include the Atlanta Beltline, Inc.'s (ABI) vision through their Strategic Implementation Plan (SIP), a plan depicting how ABI will complete all remaining Atlanta BeltLine projects before the end of the Tax Allocation District's life in 2030, and Subarea 4 Master Plan, which reveals long-range strategies and recommendations from a community standpoint for the subarea directly related to the Memorial Drive corridor, bounded by DeKalb Avenue to the north, Moreland Avenue to the east, and Berne Street to the south. The adoption of the Subarea 4 Master Plan is a goal embedded within the SIP documentation.

Both the SIP and the Subarea #4 Master Plan include sections on land use, mobility, design, and the short and long term elements of completing the ABI program. Pertaining to the Memorial Drive study area, the plans outline the following projects of the Beltline:

- 1) Construction and open of the Beltline trail Eastside south extension
- 2) Construction of transit and connections to the Atlanta Streetcar line
- 3) Modification of land use blocks and streetscapes
- 4) Advancement of parks and recreational facilities

XII.A. Construction and open of the Beltline trail Eastside south extension

According to the SIP, projects have been divided into the following three Implementation Periods: Period 1 (FY14-FY18), Period 2 (FY19-FY23) and Period 3 (FY24-FY30). The section of the trail passing through the corridor is the south section of the Eastside trail, which will be designed, constructed and opened by Period 1. Trails will be largely reliant on federal funding, mainly the FHWA Transportation Alternatives Program, local funds, including ARC TAP funds, private funds and TAD revenue.

The proposed trail alignment enters Subarea 4 from the north via the existing tunnel at Krog Street, and running along Wylie Street along the railroad right-of-way south to Memorial Drive. This section of the BeltLine trail will be in a greenway condition. At the intersection of Memorial Drive and Bill Kennedy Way is the proposed BeltLine transit stop at the historic train depot. The trail will continue alongside Bill Kennedy Way on the west side of the road, alongside A&P Lofts, cross over I-20 before terminating at Glenwood Avenue.

XII.B. Construction of transit and connections to the Atlanta Streetcar line

The completion of the Atlanta BeltLine Corridor Tier 1 Environmental Impact Statement and the draft Atlanta Streetcar Expansion Strategy marks the groundwork for streetcar/light rail transit on the Atlanta BeltLine, being integrated with the City of Atlanta's developing modern streetcar network. Subsequently, the City of Atlanta integrated the 22-mile Atlanta BeltLine transit corridor into its citywide streetcar program through the development of the Atlanta Streetcar Expansion Strategy (ASES).

Construction of transit on the BeltLine trail and connections to the Atlanta Streetcar line occupies Period 1. Based on funding availability, it is anticipated that construction of the initial East and West segments will begin but will not be fully completed within Period 1. By Period 2, construction of transit projects on the Atlanta BeltLine will accelerate, and will account for the majority of capital costs from this period until the end of the TAD. The East and West sections will be completely and fully opened, bringing the operating length of the BeltLine to approximately 9.8 miles. These sections will connect with downtown and midtown via the crosstown Atlanta Streetcar, once completed.

According to recommendations from the Subarea 4 Master Plan, other transit improvements along the corridor include improving traffic flow along major thoroughfares and utilizing safety measures and achieving a greater level of mobility for all users. The recommendation to repurpose Memorial Drive via a road diet allows for a wider balance of travel modes and street functions, especially expansion of sidewalk and streetscape envelope and reduction of traffic speeds to create an enhanced pedestrian environment. Additionally, recommendations exist to improve access to existing MARTA transit. The BeltLine transit and trail will greatly increase access to the MARTA rail system. The plan recommends reconnecting Walthall Street to Seaboard Avenue south of the Inman Park/Reynoldstown MARTA Station and creating a new pedestrian exit from the MARTA skywalk to Seaboard Avenue to condense the walking distance to the Edgewood Retail District shopping center.

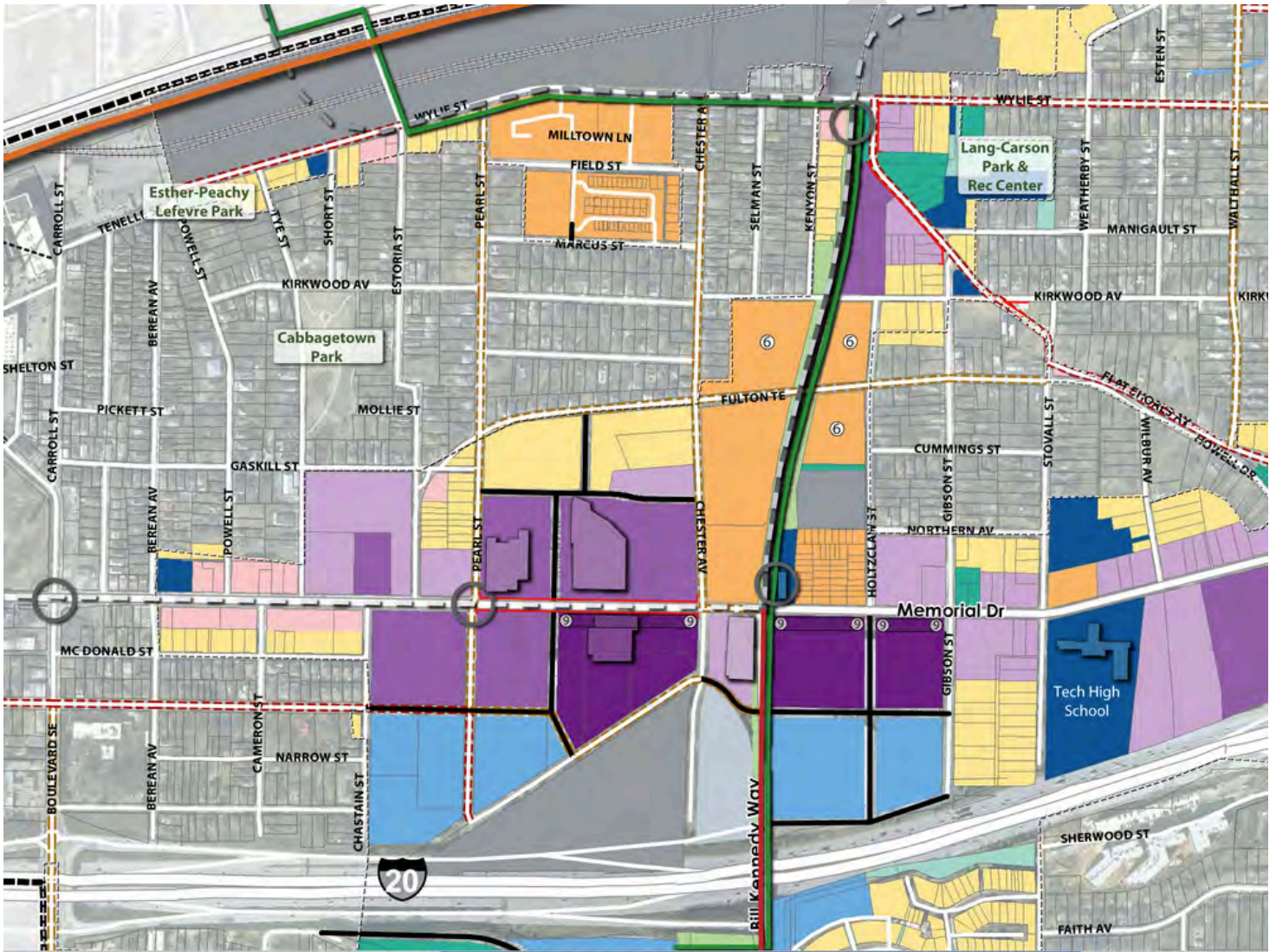


Figure 51. BeltLine Subarea 4 Map

XII.D Advancement of parks and recreational facilities

A primary improvement in the parks and recreation facilities along the corridor is the expansion of Lang-Carson Park to the west and north, increasing the street frontage along Flat Shoals and Wylie, creating a green connection to the Atlanta BeltLine corridor, and improving safety and accessibility. ABI will advance the design of the park starting in Period 2.

Lang-Carson Park, a former school building and schoolyard turned community center and neighborhood park, is one of two city parks in Reynoldstown. Presently, Lang-Carson Park has nominal street frontage, with equally poor visibility and sight lines. The master plan recommends the expansion of Lang-Carson Park through the attainment of key parcels along its northern and western borders. The proposed acquisitions will increase visibility, safety and recreation opportunities, and will create a continuous connection between the BeltLine corridor and the park.

Additional bicycle and pedestrian improvements along the corridor will enhance public recreational and mobility facilities. Throughout the Subarea 4 planning process, community members expressed an interest in east-west bicycle facilities, but emphasized their concerns and discomfort with use of Memorial as a primary bicycle corridor. Thus, the recommendation is to use Woodward Avenue as a bicycle route, configured as a bicycle boulevard emphasizing free movement of bicycles and calmed vehicle traffic. Additional opportunities were explored and advanced in the Subarea 4 Master Plan to support and enhance the core and secondary network established in the Connect Atlanta bicycle master plan.

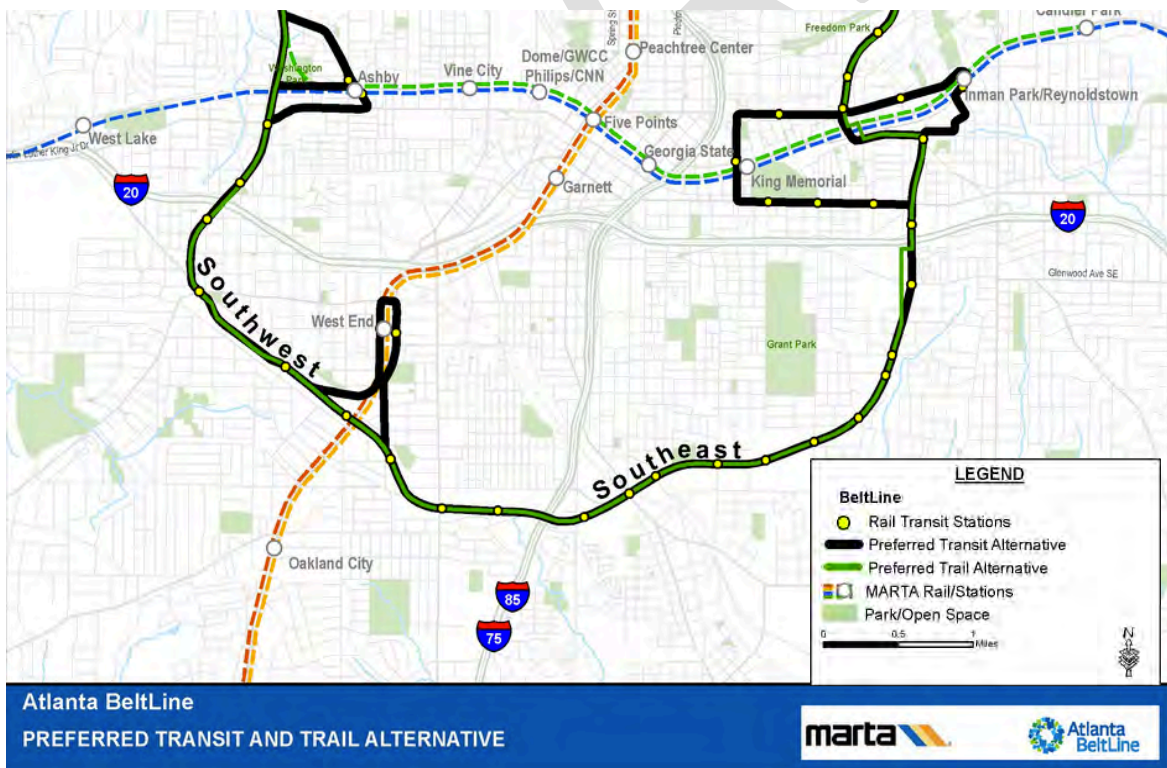


Figure 52. Atlanta BeltLine Inc. Preferred Transit and Trail Alternative

XII.E Potential Funding Opportunities

As of July 2013, ABI received over \$24 million in federal funds through ARC and GDOT. Additional funds from FTA and FHWA will be crucial in funding transit and remaining trails. The SIP anticipates FTA funds will account for 50% of transit capital costs, and FHWA funds will cover up to 80% of trail capital costs. Private funding includes philanthropic donations, direct private investment and potential public-private partnerships.

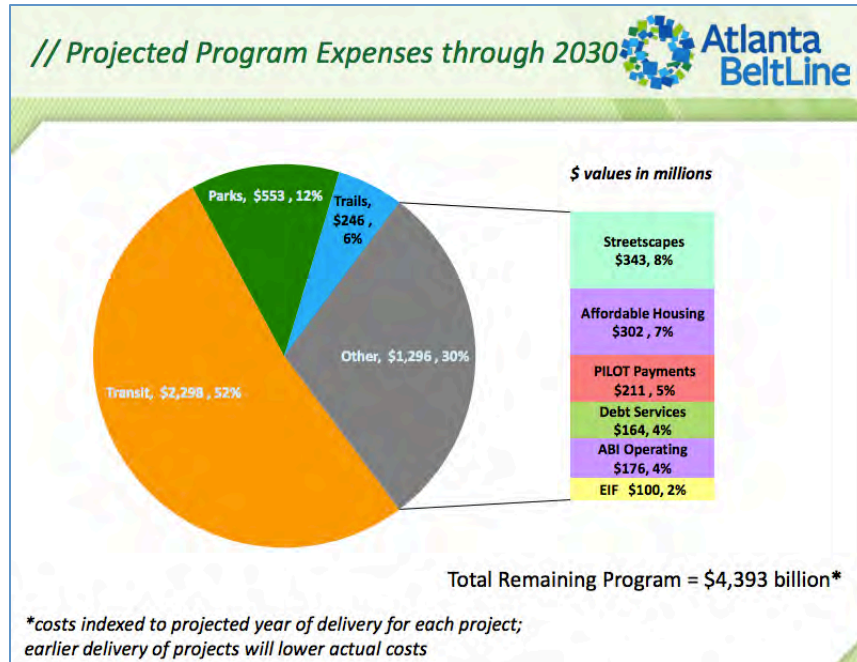


Figure 53. Projected Program Expenses through 2030

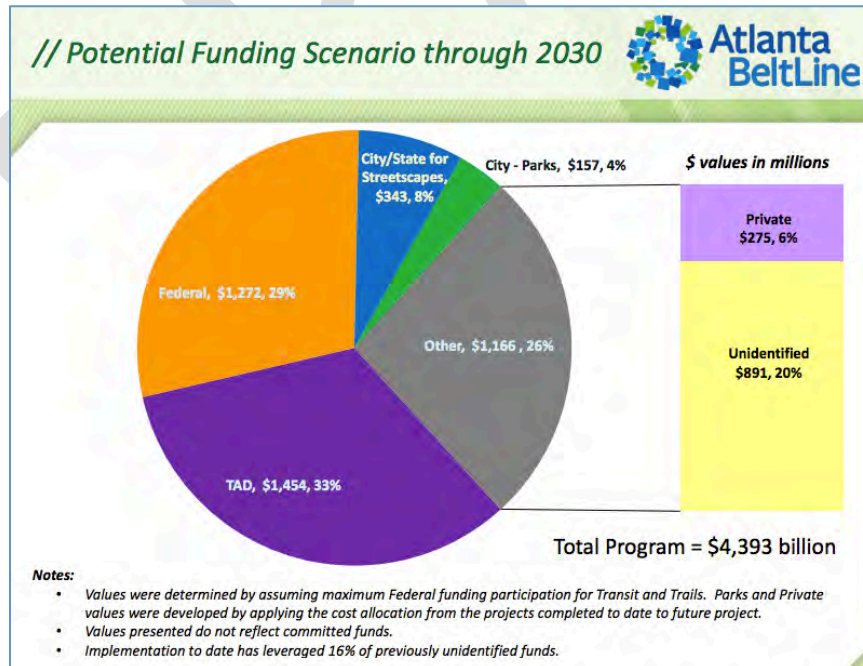


Figure 54. Potential Funding Scenario through 2030

XIII. TRANSPORTATION INITIATIVES

Memorial Drive serves as a major east-west connection to downtown Atlanta from DeKalb County and the eastside Atlanta neighborhoods. It is well-served by local MARTA bus routes, as well as at least one direct MARTA train station within less than a half mile of the corridor. With the growing change in demographics and the planned developments happening in this corridor, there is the ripe possibility of the addition of premium transit. There are two major transit enhancements being planned for this corridor, including the extension of the Atlanta Streetcar and the MARTA I-20 East Initiative.

XIII.A. Atlanta Streetcar Extension

With the anticipation of the Atlanta Streetcar opening set for November, the Atlanta BeltLine has already gathered with the Atlanta Streetcar, as well as stakeholders in various communities to plan the next alignments for the second phase of the streetcar's extension. One alignment idea would take the southern portion of it south from its eastern terminus at Edgewood Avenue and Jackson Street. It would follow Hilliard south to Decatur Street via Tanner Street, north of Selena Butler Park, with a northbound track going down Jackson Street. It would connect with the King Memorial MARTA Station at Grant and Decatur Streets, and then following Grant down to Memorial Drive, passing Oakland Cemetery on the left. It will then follow Memorial Drive until it reaches the proposed BeltLine Trail at Bill Kennedy Way and continue south to Glenwood Park across Interstate 20.

XIII.2 MARTA I-20 East Initiative

One of three MARTA transit enhancement initiatives, this includes a heavy rail extension from the Indian Creek MARTA Station in east DeKalb County along I-285 South to I-20 eastward to its proposed terminus at the Mall at Stonecrest in Lithonia. It will also feature Metro Atlanta's first Bus Rapid Transit (BRT) line starting from the Five Points MARTA Station Downtown to a proposed heavy rail station at I-20 and Wesley Chapel Road. It will ultimately run down the median of I-20 with a portion lining Memorial Drive between the BeltLine and Moreland Avenue. Three stations are proposed in the Memorial Drive Corridor at I-20 and Capitol Avenue near Turner Field, at I-20 and the BeltLine on Bill Kennedy Way, and on Moreland Avenue between Memorial Drive and I-20.

XIII.3 Corridor Significance

These plans for transit enhancement in the neighborhood bring up many important points for the corridor. First off, the added premium transit elements will spur massive economic development that would not have already been added by the many local bus routes that traverse this corridor. The Georgia Department of Transportation has many intersections and corridor improvements that will overlap on these transit initiatives, and with the Moreland/Memorial/Arkwright intersection being a problematic intersection with many bus routes passing through with boarding and alightings, this intersection would be a great BRT hub for Southeast Atlanta. There are already mixed-use developments going up around this area, and with the plans for transit, the density will increase, making transit a more sought-after amenity for the neighborhood given its traffic congestion.

Second, the added premium transit to a part of town that only is accessible by bus will now be attractive to the activity centers nearby. The corridor is bounded by two bar and restaurant districts both north and south of the corridor. East Atlanta Village is south of the corridor and is accessible by buses only, many of which pass through the Moreland and Memorial intersection. Little Five Points is north of the corridor, and is also accessible by only bus. Opposite of Little Five Points is the Edgewood Retail District, a major shopping destination for the area. The addition of this stop along Moreland for a

BRT route will now increase ridership by choice riders and possible new residents of the area now that there is official transit stops nearby.

CONCLUSION AND NEXT STEPS

This report outlined many basic facts of the corridor, as well as several future plans as they existed during the time of the writing. These facts have been used to help both the studio and stakeholders contextualize the problem. Based on the feedback and further analysis the studio does based on feedback, the studio should generate a final report in December 2014.

ⁱ Atlanta BeltLine, Inc. (2012). *Atlanta BeltLine Master Plan Subarea 4*. Retrieved from Atlanta BeltLine, Inc.: http://beltline.org/wp-content/uploads/2012/01/Atlanta-BeltLine_Subarea-4_Master-Plan.pdf

ⁱⁱ Atlanta Beltline, Inc. (2013). *Atlanta BeltLine Strategic Implementation Plan*. Retrieved from Atlanta Beltline: http://beltlineorg.wpengine.netdna-cdn.com/wp-content/uploads/2013/03/Beltline_Implementation-Plan_web.pdf