

Atlanta BeltLine Master Plan

SUBAREA 3 BOULEVARD CROSSING

Appendix

Prepared for
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BeltLine
Atlanta Connected



VI. Appendix

ASAP Amendments & Zoning Recommendations

Sustainable Action Strategies

The following matrices outline Sustainable Action Strategies for plan implementation and show how these strategies meet the community goals for each element of the Subarea Plan. The strategies include recommended policy amendments and zoning modifications as well as typical obstacles to overcome involving conventional thoughts and practices. Highlights of the strategies for each element of the Subarea Plan include:

Land Use and Urban Design Sustainable Action Strategy Highlights:

- Promote low impact development sites and other green development principles
- Provide provisions for design, installation, and maintenance of water efficient landscapes
- Implement design standards to address architectural step back at the street
- Require minimum densities, mixture of housing types, minimum affordable housing component, and mixed use
- Provide density and parking incentives for open spaces, civic spaces, and recycling facilities

Public and Cultural Arts Sustainable Action Strategy Highlights:

- Identify and promote gateways into the community
- Enhance artistic character through functional art installations in greenspaces and streetscapes
- Encourage design competition for tunnels and bridges
- Incorporate artists in design development and construction of public greenspaces and transportation solutions
- Establish community events and programs

Circulation Sustainable Action Strategy Highlights:

- Utilize complete streets principles to ensure network for all users of all ages and abilities
- Promote use of green street facilities to manage stormwater and enhance watershed health
- Initiate “Safe Routes to Schools Program”
- Incorporate stormwater function into both on and off street parking areas
- Promote shared parking, reduced street widths, and maximized sidewalks
- Incorporate recommended Streetscape Standards

Greenspace Sustainable Action Strategy Highlights:

- Orient greenways for water quality and stormwater management & encourage structural stormwater solutions to be multi-purpose
- Incorporate diverse greenspaces located as community focal points
- Enhance the urban forest and promote the BeltLine Arboretum
- Develop community farming/ gardening initiative, including markets
- Establish dark sky compliant lighting standards

Sustainable Action Strategies for Land Use and Urban Design		Boulevard Crossing Land Use and Urban Design Goals			
		Encourage development that is compatible with community values and future needs.	Facilitate mixed use "centers" (living, working and shopping) to promote economic development, serve the community neighborhoods and support alternative transportation modes.	Maintain a variety of residential opportunities, including mixed-income and workforce housing to strengthen the diverse community.	Expand civic facilities to support community growth.
Seek Boulevard Crossing Subarea Plan approval by Atlanta City Council and incorporate into the Atlanta Strategic Action Plan and BeltLine Overlay, including plan recommendations and policies.					
Overcome the following OBSTACLES to conventional zoning and land development regulations and public works practices.					
	Conventional approaches to zoning focused on single uses and maximum densities, verses allowing or requiring mixed use in particular zones and specifying minimum densities.	√	√	√	√
	Addressing the need to provide land uses and zoning codes that allow for better gradation of different heights and densities, as well as, clearly distinguishing/ defining horizontal verses vertical mixed use including appropriate requirements for residential component.	√	√	√	√
	Barriers to water resource protection including the following: elevated landscape islands, elevated curbs that prevent water flowing into landscape areas, roof drains directly connected to under drain storm sewer system, minimum parking requirements.	√			√
	Detailed drainage regulations and drainage sizing criteria that lack guidance on low impact development techniques.	√			
	Concerns for decentralized maintenance when utilizing low impact development techniques, which can be addressed with same observation and inspection of current stormwater facilities and with operations and maintenance manual.	√			

Recommend the following POLICY AMENDMENTS for consideration by the City of Atlanta Bureau of Planning and incorporation into the Atlanta Strategic Action Plan.

Propose a variety of residential and mixed use opportunities at varying densities to allow for housing and employment options by creation of walkable centers and districts per the Boulevard Crossing Subarea Plan.		√	√	
Ensure appropriate scale along streets and adjacent to neighborhoods by reducing the building heights at the street to be complimentary to existing development.	√			
Promote building placement to facilitate pedestrian access, hide parking in the rear, and allow more of the property for community greenspaces per the Boulevard Crossing Subarea Plan.	√			√
Establish partnerships with the residents, developers, the City, and others to provide a variety of housing types throughout the community.			√	
Promote low impact development sites by integrating site planning, architecture, engineering and construction; minimizing directly connected impervious area; daylighting stormwater; utilizing split flow method to separate storm events; and recycling materials during redevelopment.	√			
Promote the importance of the community's environmental resources through interpretation / education, incorporation of LEED / Earthcraft or other green development principles, and prioritize energy / water management practices within developments.	√			
Establish private-public partnerships to expand funding and implementation mechanisms for recreation and open space.				√

Recommend the following ZONING MODIFICATIONS to implement the values, goals, and objectives reflected in the Boulevard Crossing Subarea Plan.

Incorporate green building and site standards into developments to minimize negative environmental impacts, improve the quality and value, and emphasize the importance of stewardship.	√			
Promote flexibility in zoning regulations and design guidelines for innovative solutions supported by the community.			√	
Implement design standards that address architectural step back (height) at street to ensure appropriate relationships and transitions to existing neighborhoods.	√		√	
Provide density and parking incentives for developments per the Boulevard Crossing Subarea Plan, such as public open spaces, civic spaces, multi-use trails, recycling facilities, and low impact and green development standards.	√	√		√
Require minimum densities, mixture of housing types, minimum affordable housing component, and mixed use per the Boulevard Crossing Subarea Plan.		√	√	
Establish provisions for the design, installation and maintenance of water efficient landscapes in new projects as well as for management practices in established landscapes, including the following: eliminate use of potable water and utilize rain water harvesting for irrigation; group plants by water usage into hydrozones; utilize native plant material; reduce heat island effect.	√			
Establish guidelines for low impact development techniques (as supplement to Georgia Stormwater Management Manual) to mimic predevelopment hydrology by including runoff reduction practices, minimizing directly connected impervious areas, and incorporating stormwater function into landscape and parking areas.	√			
Include low impact development engineering details in the land development and/or drainage regulations, including calculations for multiple structure sizing for runoff reduction and detention capacity.	√			
Promote the use of stormwater utility fee as development incentive.	√	√		√

Prohibit gated residential developments.	√	√	√	√
Structural stormwater controls should be implemented only after all site design and nonstructural options have been exhausted. Encourage structural stormwater solutions to be multi-purpose and be aesthetically integrated into a site's design- i.e. multi-purpose detention areas.	√			√
Ensure integrated and interconnected community facilities and services within developments through incentives/ zoning regulations, public engagement, and provisions for an easily accessible transportation network.		√		√

Table 1 - Sustainable Action Strategies for Land Use and Urban Design



Figure 1 - Example of channeling water runoff into bioretention or rain gardens for water quality and infiltration
Courtesy of: Ecos



Figure 2 - Example of distributing roof runoff into bioretention areas or rain gardens
Courtesy of: Ecos



Figure 3- Example of architectural step back at street
Courtesy of: Others

Sustainable Action Strategies for Public and Cultural Arts		Boulevard Crossing Public and Cultural Arts Goals	
		Provide open, cultural, and civic spaces to promote social interaction and a thriving community.	Identify, interpret and protect community historic and cultural resources.
Seek Boulevard Crossing Subarea Plan approval by Atlanta City Council and incorporate into the Atlanta Strategic Action Plan and BeltLine Overlay, including plan recommendations and policies.			
Incorporate Boulevard Crossing Public and Cultural Arts Plan components and recommendations into the Atlanta Public Arts Master Plan.			
Overcome the following OBSTACLES to conventional zoning and land development regulations and public works practices.			
	Art incorporated as separate element at end of design development and construction phases, instead of being incorporated into the functional and aesthetic fabric of elements/ spaces early in the concept development process.	√	√
Recommend the following POLICY AMENDMENTS for consideration by the City of Atlanta Bureau of Planning and incorporation into the Atlanta Strategic Action Plan.			
	Promote neighborhood identity by utilizing circulation elements as gateways and incorporating public art into transportation projects, including design of round-a-bouts, transit shelters, street signage, sidewalks, etc...	√	√
	Encourage international design competitions for tunnels to promote creative, artistic design solutions that enhance safety by providing visibility throughout.		√
	Identify and promote gateways (at three levels or scales) into the community in the centers, at the BeltLine transit stops and along community streets and greenways per the Plan.	√	√
	Promote and integrate the proposed Natural Neighborhood Gateways and themes illustrated in the <i>Atlanta BeltLine Arboretum Concept Plan</i> into future gateways, landscape features, public art, and interpretive elements.	√	√
	Encourage adaptive reuse of historic/ community significant structures with cultural programming, such as markets, museums and galleries.		√
	Enhance artistic character of the community through functional art installations in public greenspaces and streetscapes, as well as, incorporating artists in design development and construction of public spaces/ transportation solutions.	√	√
	Encourage the use of environmental art and water works in future water quality/ stormwater features and drainage ways.	√	√
	Provide interpretive opportunities in collaboration with multi-use trail to showcase the community's significant assets, such as Fort Walker and Intrenchment Creek.		√
	Revitalize current art that promotes community identity.		√
	Promote preservation of historically significant railroad components, such as switchgears and relay boxes.		√
	Establish an art consortium, uniting the Metropolitan Public Art Coalition, City of Atlanta Office of Cultural Affairs, and the BeltLine Public Art Strategy Team in a joint effort to oversee and ensure the appropriate incorporation and implementation of public art per the Subarea Plan.	√	√

Recommend the following ZONING MODIFICATIONS to implement the values, goals, and objectives reflected in the Boulevard Crossing Subarea Plan.			
	Require artists to be involved in design development and construction of major public works, such as greenspaces, tunnels/ bridges, and transit facilities.	√	√
	Work with community groups and artists to establish standards for gateway features illustrated in the Boulevard Crossing Subarea Plan.	√	√
	Provide incentives for new developments and redevelopments to incorporate public and cultural art components of the Boulevard Crossing Subarea Plan, including interpretive elements and gateways.	√	√

Table2 - Sustainable Action Strategies for Public and Cultural Arts



Figure4 - Example of artistic cistern within pedestrian plaza
Courtesy of: Seattle DOT



Figure 5 - Example of incorporating art into sidewalk paving
Courtesy of: Seattle DOT



Figure 6 - Example of community event within park space

Sustainable Action Strategies for Circulation		Boulevard Crossing Circulation Goals			
		Explore opportunities to incorporate innovative strategies into community-wide transportation solutions commensurate with future needs.	Provide connectivity, continuity and redundancy among various modes of transportation.	Allow transportation facilities to promote seamless neighborhood boundaries, while preserving and or enhancing community distinctions and character.	Ensure future usage by developing a sustainable financial structure for maintenance.
Seek Boulevard Crossing Subarea Plan approval by Atlanta City Council and incorporate into the Atlanta Strategic Action Plan and BeltLine Overlay, including plan recommendations and policies.					
Incorporate Boulevard Crossing Circulation Plan components and recommendations into the Atlanta Comprehensive Transportation Plan including the following: <ul style="list-style-type: none"> • Policy and zoning recommendations. • Street classifications and reclassifications. • Proposed streets, bike routes and trail connectivity. • Prioritized 5-year list of mobility projects and programs, as well as, refined 25-year list of mobility projects. 					
Overcome the following OBSTACLES to conventional zoning and land development regulations and public works practices.					
	Allowing only drainage and conveyance structures such as ditches, inlets and storm sewer in the right-of-way and not low impact development techniques that reduce runoff volume.	√		√	
	Minimum parking requirements that create large expanses of impervious surface.	√			
	Detailed drainage regulations and drainage sizing criteria that lack guidance on low impact development techniques.	√			
	Concerns for decentralized maintenance when utilizing low impact development techniques, which can be addressed with same observation and inspection of current stormwater facilities and with operations and maintenance manual.	√			√
Recommend the following POLICY AMENDMENTS for consideration by the City of Atlanta Bureau of Planning and incorporation into the Atlanta Strategic Action Plan.					
	Enhance neighborhood interconnectivity and promote east-west and north-south vehicular circulation by extending key community thoroughfares and reclassifying key community streets per the Plan.		√	√	
	Provide pedestrian connectivity via trail network through and to greenspaces, neighborhood centers and transit facilities per the Plan.	√	√	√	
	Enhance neighborhood and pedestrian environment through streetscape improvements, including traffic calming measures as illustrated in the Boulevard Crossing Subarea Plan Streetscape Sections.	√	√	√	

	Improve current and future parking conditions by locating public parking structures adjacent to the BeltLine per the Plan, promoting shared parking facilities, and ensuring interparcel connectivity.	√	√		
	Give high priority to pedestrian and bicycle safety improvements near schools, while helping local schools initiate “Safe Routes to Schools” Programs.			√	
	Establish policies that promote improved street maintenance and provide communities a convenient method for reporting maintenance issues and learning the status of maintenance requests.				√
	Enhance way-finding by consistently incorporating lit signs for overhead road names and directional signage along multi-use trail networks.	√		√	
	Promote and incorporate the use of green street facilities in public and private development to manage stormwater, reduce flows, improve water quality and enhance watershed health.	√	√		
	Utilize complete street principles to ensure that the entire public right of way is routinely designed and operated to create a comprehensive and connected network for all users including pedestrians, bicyclists, transit users, and motorists, of all ages and abilities, yet complimentary to historic neighborhood framework/ aesthetic.	√	√	√	
	Encourage converting one way streets to two way streets to enhance vital neighborhood connections, especially Atlanta Avenue, Ormond Street, and Hill Street to join the Grant Park Neighborhood with Peoplestown and Chosewood.		√	√	
	Protect water quality by orienting greenways for conservation of natural resources and to enhance the use of natural features for stormwater management and trails.	√	√	√	
	Promote community initiated transportation alternatives for additional circulation throughout the subarea, such as trolleys or shuttles.	√	√	√	
Recommend the following ZONING MODIFICATIONS to implement the values, goals, and objectives reflected in the Boulevard Crossing Subarea Plan.					
	Improve drainage systems and provide methods for monitoring water levels for preemptive notification.		√		√
	Require private developers to provide public pedestrian access to the BeltLine, especially when illustrated on the Boulevard Crossing Subarea Plan.		√	√	
	Allow reduced parking to limit impervious cover and water runoff for all the properties within the subarea.	√			
	Reduce street width requirements, maximize sidewalks and promote alleyways and pedestrian ways to shorten neighborhood blocks and create a more walkable pedestrian friendly environment for all new development.	√	√	√	
	Revise sidewalk and supplemental zone requirements to incorporate Boulevard Crossing Streetscape Standards for each street classification, including provisions to eliminate or make variations to planting and parking zones due to existing right-of-way width and character. Encourage front yard tree plantings when tree planting zone is less than four feet.	√	√	√	
	Provide requirements to incorporate stormwater functions into both on and off street parking areas via porous paving, sumped landscape islands, and curb cuts to reduce landscape watering needs and enhance water quality.	√	√		
	Establish street tree standards and details to ensure healthy flourishing trees by optimizing soil volume, preventing compaction and requiring hardscape within the Tree Planting Zone be constructed to permit infiltration of air and water.	√			

Incorporate design guidelines and standards for Green Street Program (swales, planters, curb extensions, alternative pavements) with accompanying incentives to: manage stormwater runoff both at the source and the surface; use plants and soil to slow, filter, cleanse, and infiltrate runoff; and design facilities that aesthetically enhance and compliment the historic integrity of the community.	√	√	√	
Require all new developments to provide for alternative transportation features and facilities (bikeways, trails, bike parking/storage), wherever appropriate, as a supplement to, or (in certain instances) replacements for automobile facilities (roads, parking areas).	√	√	√	
Adopt low impact development (planning and design approach to reduce runoff and mimic predevelopment hydrology) standards for right-of-ways, public road and parks projects.	√	√		

Table 3 - Sustainable Action Strategies for Circulation



Figure 8 - Example of planting zone and curb extensions utilized for stormwater infiltration and storage
Courtesy of: Greenworks, Portland Green Street Program



Figure 7 - Example of multi-use trail, safe routes to schools, and stormwater infiltration/ storage within curb extensions
Courtesy of: PATH Foundation, Portland Green Street Program



Figure 9 - Example of incorporating stormwater function into on-street parking with porous paving
Courtesy of: Portland Green Street Program

Sustainable Action Strategies for Greenspaces		Boulevard Crossing Greenspace Goals	
		Reclaim/restore/create & expand community environmental resources.	Ensure the recreational needs of the City of Atlanta are compatible with Boulevard Crossing community needs.
Seek Boulevard Crossing Subarea Plan approval by Atlanta City Council and incorporate into the Atlanta Strategic Action Plan and BeltLine Overlay, including plan recommendations and policies.			
Incorporate Boulevard Crossing Greenspace Plan components and recommendations into the Atlanta Greenspace Plan.			
Overcome the following OBSTACLES to conventional zoning and land development regulations and public works practices.			
	Excessively restrictive regulations for farmers' markets and urban gardens.	√	
	The notion of urban areas for food consumption and rural areas for food production.	√	
	Density restrictions that fragment the landscape over large areas.	√	√
Recommend the following POLICY AMENDMENTS for consideration by the City of Atlanta Bureau of Planning and incorporation into the Atlanta Strategic Action Plan.			
	Protect water quality by orienting greenways for conservation of natural resources and to enhance the use of natural features for stormwater management.	√	√
	Promote an enhanced urban forest by preserving existing trees and forests, protecting undeveloped forested land as community greenspace, improving the quality of the tree-growing environment, selecting trees for diversity and suitability, and managing the urban forest as a continuous resource.	√	
	Promote variety of users, opportunities for social interaction, and neighborhood identity by locating greenspaces as focal points in the community per the Plan.	√	√
	Promote outdoor flexible spaces to facilitate community gatherings and special events.	√	√
	Expand recreational opportunities by enhancing existing and proposed greenspaces to ensure every resident is within walking distance- 1/4 mile per the Plan.	√	√
	Promote the importance of the community's environmental resources through interpretation/ education, incorporation of LEED- green development principles, and habitat restoration.	√	
	Promote innovative programming within the community open space network, such as wireless technology.		√
	Ensure diverse greenspace types, as illustrated in the Boulevard Crossing Subarea Plan, to serve the varying needs of the community, to protect wildlife and natural resources, and to enhance water quality.	√	√
	Promote economically sustainable open air markets as tool to build economy of the community, attract a broad diversity of people, and support locally grown products.	√	√
	Incorporate the recommendations of the <i>Atlanta BeltLine Arboretum Concept Plan</i> into public greenspaces, streetscapes, and community amenities (including Natural Neighborhood tree collections and species).	√	√

Manage utility corridors (including public utilities) to enhance their value as greenspace and to capture their potential, wherever possible, for linear recreational opportunities (i.e. multi-use trails).	✓	✓
Encourage a Community-based Farming/Gardening initiative to provide technical assistance (via Atlanta Local Food Initiative, Georgia Cooperative Extension, or similar program) and small seed grants to community action programs, neighborhood groups, land trusts, food banks, and similar non-profit organizations for establishment of community gardening programs. Launch similar farms-to-school programs (gardens, cafeteria food, and curriculum).	✓	
Assess unused public land (excess highway right-of-way, under-used portions of parks, etc.) for potentially suitable garden plots (e.g. Boulevard Crossing Park).	✓	✓
Encourage backyard gardens, edible landscaping, and urban orchards in new developments.	✓	
Develop a Greenspace Stewardship program giving recognition and incentives to cooperating private owners of undeveloped land with Greenspace value.	✓	✓
Encourage the use of Crime Prevention Through Environmental Design or CPTED principles (natural surveillance, natural access control, territorial reinforcement, maintenance) in park design to ensure safe environments.	✓	✓
Recommend the following ZONING MODIFICATIONS to implement the values, goals, and objectives reflected in the Boulevard Crossing Subarea Plan.		
Expand community sustainable opportunities, such as recycling, composting, and gardening and recommend/ provide incentives for these activities/ amenities be included in future development.	✓	
Establish dark sky compliant practices and standards that permit nighttime lighting for safety, minimize glare and obtrusive light, conserve energy (promote solar lighting), and incorporate lighting curfews.	✓	✓
Structural stormwater controls should be implemented only after all site design and nonstructural options have been exhausted. Encourage structural stormwater solutions to be multi-purpose and be aesthetically integrated into a site's design- e.g. multi-purpose detention areas.	✓	✓
Permit multi-use trails in greenspaces as illustrated on the Plan.		✓
Encourage new developments and redevelopments along the BeltLine corridor to incorporate within their tree preservation/ replacement plans and proposed landscape plans where possible the tree species and specimen tree species identified in the <i>Atlanta BeltLine Arboretum Concept Plan</i> . These landscape plans should reflect the 'Natural Neighborhood' tree collections identified in the Arboretum Concept Plan and strive to demonstrate the positive impacts of trees in the urban landscape through bioremediation, invasive species removal, water storage, and other eco-friendly methods.	✓	
Incorporate definitions and standards for the hierarchy of greenspace types recommended in the Boulevard Crossing Subarea Plan and provide incentives for developers to implement.	✓	✓
Require/ provide incentives for new developments and redevelopments to incorporate public greenspaces illustrated in the Boulevard Crossing Subarea Plan.	✓	✓

Table 4 - Sustainable Action Strategies for Greenspaces



Figure 10 - Example of community farming/gardening initiative

Courtesy of: Others



Figure 11 - Example of markets/ festivals and dark sky lighting within greenspaces

Courtesy of: Others

ASAP Amendments- Project List

The following recommended future land use changes for the Atlanta Strategic Action Plan describe changes that should be made from future land uses within the Comprehensive Development Plan to the BeltLine Land Uses. BeltLine Land Uses will need to be interpreted into the ASAP future land use categories.

Existing and Proposed Park Space

- LU-1a: Future land use change from Single Family Residential and Low Density Residential to Proposed Park Space.
- LU-1b: Future land use change from Office/ Institutional to Proposed Park Space.
- LU-1c: Future land use change from Industrial/ TCU to Proposed Park Space.
- LU-1d: Future land use change from High Density Residential to Existing Park Space.
- LU-1e: Future land use change from Single Family Residential to Existing Park Space.

Community Facilities

- LU-2a: Future land use change from High Density Residential to Community Facilities.
- LU-2b: Future land use change from Industrial/ TCU to Community Facilities.

Residential 1-4 stories

- LU-3a: Future land use change from Single Family Residential to Residential 1-4 stories.
- LU-3b: Future land use change from Low Density Residential to Residential 1-4 stories.
- LU-3c: Future land use change from High Density Residential to Residential 1-4 stories.
- LU-3d: Future land use change from Low Density Commercial to Residential 1-4 stories.
- LU-3e: Future land use change from High Density Commercial to Residential 1-4 stories.
- LU-3f: Future land use change from Industrial/ TCU to Residential 1-4 stories.
- LU-3g: Future land use change from Office/ Institutional to Residential 1-4 stories.
- LU-3h: Future land use change from Mixed Use to Residential 1-4 stories.
- LU-3i: Future land use change from Medium Density Residential to Residential 1-4 stories

Residential 5-9 stories

- LU-4a: Future land use change from Low Density Residential to Residential 5-9 stories.
- LU-4b: Future land use change from High Density Residential to Residential 5-9 stories.
- LU-4c: Future land use change from Low Density Commercial to Residential 5-9 stories.
- LU-4d: Future land use change from Industrial/ TCU to Residential 5-9 stories.

Residential 10+ stories

- LU-5a: Future land use change from Industrial/ TCU to Residential 10+ stories.

Mixed Use 1-4 stories

- LU-6a: Future land use change from Low Density Residential to Mixed Use 1-4 stories.
- LU-6b: Future land use change from High Density Residential to Mixed Use 1-4 stories.
- LU-6c: Future land use change from Low Density Commercial to Mixed Use 1-4 stories.
- LU-6d: Future land use change from High Density Commercial to Mixed Use 1-4 stories.
- LU-6e: Future land use change from Industrial/ TCU to Mixed Use 1-4 stories.

Mixed Use 5-9 stories

- LU-7a: Future land use change from Low Density Residential to Mixed Use 5-9 stories.
- LU-7b: Future land use change from High Density Residential to Mixed Use 5-9 stories.
- LU-7c: Future land use change from Industrial/ TCU to Mixed Use 5-9 stories.

Mixed Use 10+ stories

- LU-8a: Future land use change from High Density Residential to Mixed Use 10+ stories.

Office/ Institutional

- LU-9a: Future land use change from High Density Residential to Office/ Institutional.

Transportation, Communication, and Utilities (TCU)

- LU-10a: Future land use change from Single Family Residential and Office/ Institutional to TCU.

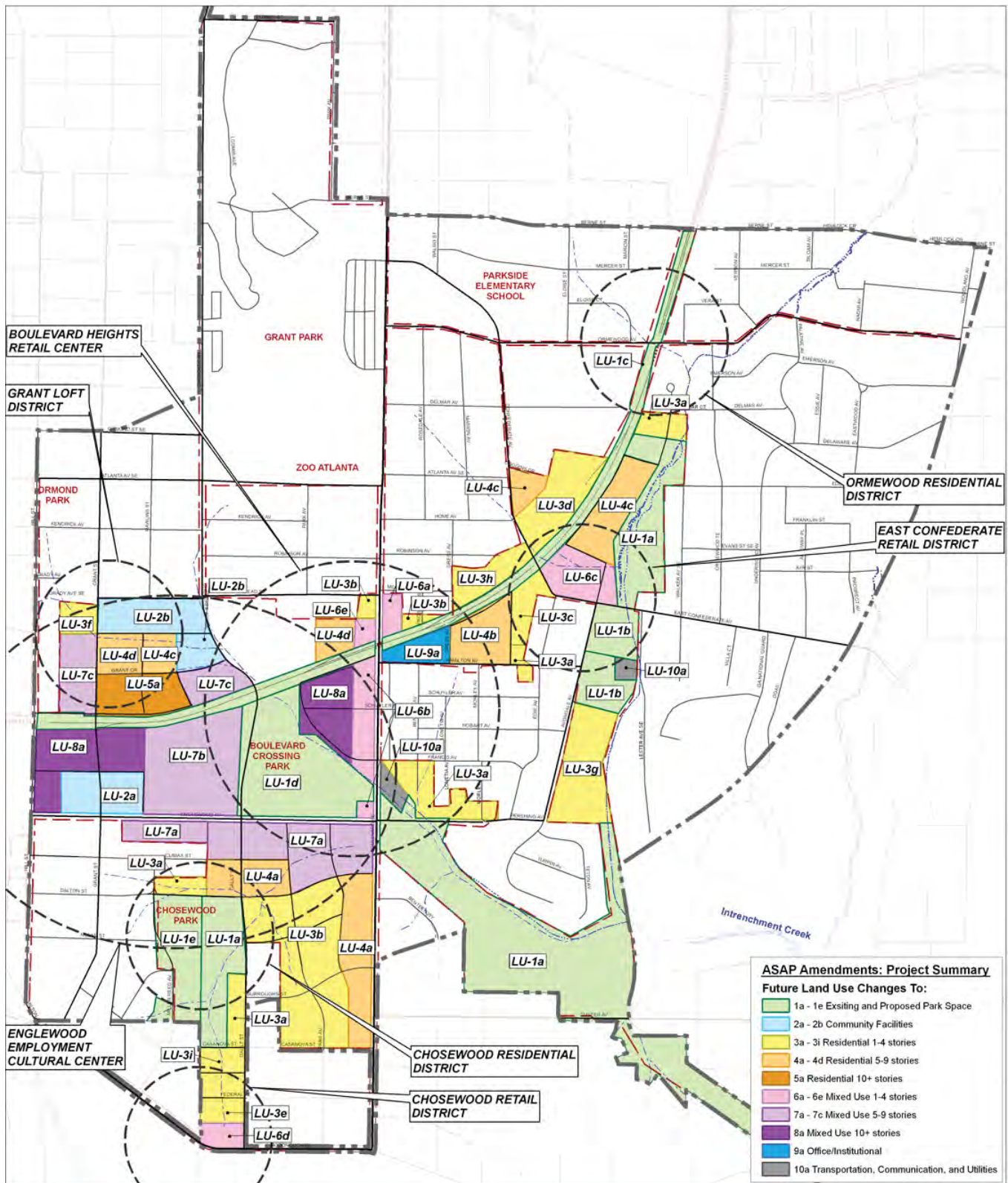


Figure 11 - ASAP Amendments - Land Use Recommendations

Zoning Recommendations- Project List

The following recommended zoning changes are to assist the City of Atlanta; however, final determination of appropriate zoning change is to be made by City of Atlanta to meet the intent of the BeltLine Land Uses recommended in this Subarea Plan.

Quality of Life Multi-Family

- Z-1a: Zoning change from Single Family or Duplex Residential to Quality of Life Multi-Family.
- Z- 1b: Zoning change from Multi-Family Residential to Quality of Life Multi-Family.
- Z- 1c: Zoning change from Commercial to Quality of Life Multi-Family.
- Z- 1d: Zoning change from Office Institutional to Quality of Life Multi-Family.
- Z- 1e: Zoning change from Industrial to Quality of Life Multi-Family.

Quality of Life Multi-Family, Quality of Life Mixed Use, or Live Work

- Z-2a: Zoning change from Duplex Residential to Quality of Life Multi-Family, Quality of Life Mixed Use, or Live Work
- Z-2b: Zoning change from Multi-Family Residential to Quality of Life Multi-Family, Quality of Life Mixed Use, or Live Work
- Z-2c: Zoning change from Industrial to Quality of Life Multi-Family, Quality of Life Mixed Use, or Live Work

Quality of Life Multi-Family or Quality of Life Mixed Use

- Z-3a: Zoning change from Multi-Family Residential to Quality of Life Multi-Family or Quality of Life Mixed Use
- Z-3b: Zoning change from Industrial to Quality of Life Multi-Family or Quality of Life Mixed Use

Office Institutional

- Z-4a: Zoning change from Industrial to Office Institutional

BeltLine Overlay District

The following are recommended changes to the BeltLine Overlay District organized by sections.

Sec. 16-36.001. Scope of regulations.

- NA

Sec. 16-36.002. Findings, purpose and intent.

- Add reference to BeltLine Subarea Plans as adopted by the City of Atlanta.

Sec. 16-36.003. Boundaries.

- NA

Sec. 16-36.004. Procedures.

- NA

Sec. 16-36.005. Provisions for administrative variations from regulations.

- NA

Sec. 16-36.006. Demolition of existing structures and redevelopment requirements.

- NA

Sec. 16-36.007. Definitions.

- Add provisions for the placement of low impact development techniques that reduce runoff volume and manage stormwater runoff both at the source and the surface within the street furniture and tree planting zone.
- Add provisions to ensure healthy flourishing street trees by optimizing soil volume, preventing compaction, and requiring hardscape within the Street Tree planting zone be constructed to permit infiltration of air and water.

Sec. 16-36.008. Permitted and prohibited uses and structures.

- NA

Sec. 16-36.009. Transitional uses and yards.

- Add provisions for transitional height planes to apply if less stringent than underlying zoning requirements to address architectural step back (height) at street and to ensure appropriate relationships and transitions to existing neighborhoods.

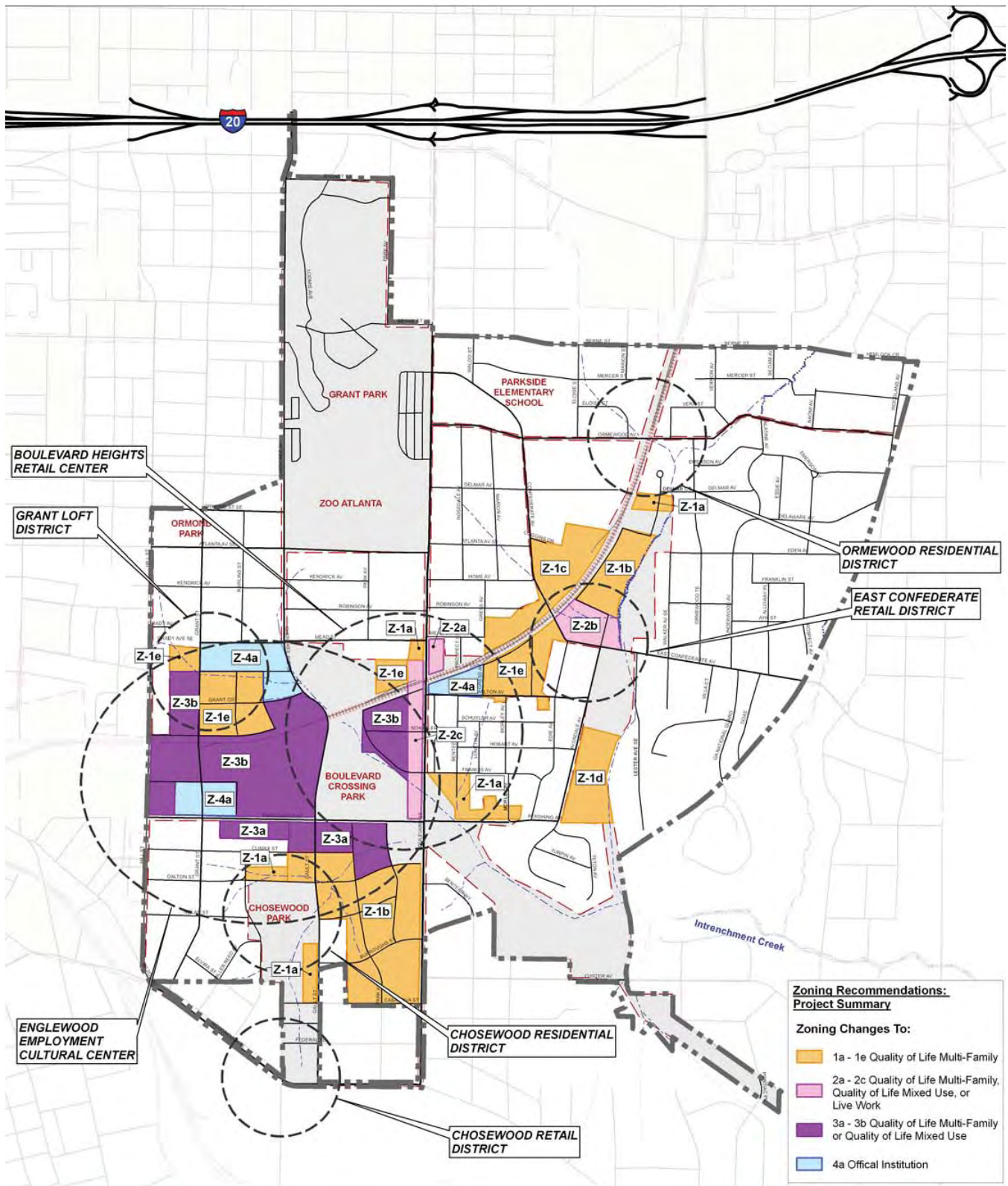


Figure 12 - ASAP Amendments - Zoning Recommendations

- Add provisions for density incentives for developments per the BeltLine Subarea Plans, such as public open spaces, civic spaces, multi-use trails, recycling facilities, affordable housing, and low impact and green development standards.

Sec. 16-36.010. Open space requirements and incentives.

- Add provisions for new developments and redevelopments to incorporate the following:
 - Public greenspaces and trails illustrated and defined in the BeltLine Subarea Plans.
 - Public and cultural art components of the BeltLine Subarea Plans, including interpretive elements and gateways.
 - Community sustainable opportunities, activities/ amenities, or initiatives, including recycling, composting, gardening, low impact development techniques within landscape and parking areas, and multi-purpose structural stormwater facilities providing recreational opportunities.
- Add provisions for publicly accessible rooftop plazas and green roofs may be counted toward UOSR.
- Add provisions for planted curb extensions or bulb outs to be provided at intersection and mid-block locations to criteria for on-street parking incentives. Where appropriate, curb extensions should allow infiltration and storage of stormwater runoff.
- Add provisions to require artists to be involved in design development and construction of major public works, such as greenspaces, tunnels/ bridges, and transit facilities.

Sec. 16-36.011. Site limitations.

- Add provisions to require developers to provide public pedestrian access for greenspaces, and greenway trails illustrated in BeltLine Subarea Plans.
- Add provisions to require developers to provide new public access street (or streets) in accordance with BeltLine Subarea Plans.

- Add provisions to encourage new developments and redevelopments along the BeltLine corridor to incorporate within their tree preservation/ replacement plans and proposed landscape plans where possible the tree species and specimen tree species identified in the Atlanta BeltLine Arboretum Concept Plan. These landscape plans should reflect the 'Natural Neighborhood' tree collections identified in the Arboretum Concept Plan and strive to demonstrate the positive impacts of trees in the urban landscape through bioremediation, invasive species removal, water storage, and other eco-friendly methods.
- Add provisions for the design, installation and maintenance of water efficient landscapes in new projects as well as for management practices in established landscapes, including the following: eliminate use of potable water and utilize rain water harvesting for irrigation; group plants by water usage into hydrazones; utilize native plant material; reduce heat island effect.
- Add provisions for low impact development techniques (as supplement to Georgia Stormwater Management Manual) to mimic predevelopment hydrology by including runoff reduction practices, minimizing directly connected impervious areas, and incorporating stormwater function into landscape and parking areas.

Sec. 16-36.012. Sidewalks.

- Add provisions for street typologies, both new and retrofit, and connect to on-street parking requirements, bike lane requirements, and sidewalk and supplemental zone requirements per the BeltLine Subarea Plans. (including table for new and retrofit street typologies)
- Add provisions to eliminate or make variations to street furniture and tree planting zone and parking zones due to existing right-of-way constraints, including width and character. If street furniture and tree planting zone is less than four feet, then require street tree plantings in supplemental zone or front yard.

- Add provisions to incorporate stormwater functions into both on and off street parking areas via porous paving, sumped landscape islands, and curb cuts to reduce landscape watering needs and enhance water quality.
- Add provisions for paved areas between required street planting to be hardscape material constructed to permit infiltration of air and water.
- Add provisions for standards, requirements, and incentives for low impact or green street program (swales, planters, curb extensions, alternative pavements) to: manage stormwater runoff both at the source and the surface; use plants and soil to slow, filter, cleanse, and infiltrate runoff; and design facilities that aesthetically enhance and compliment the historic integrity of the community.

Sec. 16-36.013. Supplemental zone.

- Add provisions for incorporating street tree plantings within supplemental zone, when adjacent street furniture and tree planting zone is less than four feet.

Sec. 16-36.014. Relationship of building to street.

- NA

Sec. 16-36.016. Loading areas, loading dock entrances and building mechanical and accessory features.

- NA

Sec. 16-36.017. Driveway curb cuts, driveways, parking structures.

- NA

Sec. 16-36.018. Lighting, security, and maintenance requirements.

- Add provisions for dark sky compliant practices and standards that permit nighttime lighting for safety, minimize glare and obtrusive light, conserve energy (promote solar lighting), and incorporate lighting curfews.

Sec. 16-36.019. Minimum landscaping requirements for surface parking lots.

- Add provisions to encourage new developments and redevelopments along the BeltLine corridor to incorporate within their tree preservation/ replacement plans and proposed landscape plans where possible the tree species and specimen tree species identified in the Atlanta BeltLine Arboretum Concept Plan. These landscape plans should reflect the 'Natural Neighborhood' tree collections identified in the Arboretum Concept Plan and strive to demonstrate the positive impacts of trees in the urban landscape through bioremediation, invasive species removal, water storage, and other eco-friendly methods.
- Add provisions for the design, installation and maintenance of water efficient landscapes in new projects as well as for management practices in established landscapes, including the following: eliminate use of potable water and utilize rain water harvesting for irrigation; group plants by water usage into hydrazones; utilize native plant material; reduce heat island effect.
- Add provisions for low impact development techniques (as supplement to Georgia Stormwater Management Manual) to mimic predevelopment hydrology by including runoff reduction practices, minimizing directly connected impervious areas, and incorporating stormwater function into landscape and parking areas.

Sec. 16-36.020. Off street parking and loading requirements.

- Add provisions for parking incentives for developments per the BeltLine Subarea Plans, such as public open spaces, civic spaces, multi-use trails, recycling facilities, and low impact and green development standards.
- Add provisions to incorporate stormwater functions into both on and off street parking areas via porous paving, sumped landscape islands, and curb cuts to reduce landscape watering needs and enhance water quality.

- Add provisions for reduced parking to limit impervious cover and water runoff for all the properties within the BeltLine subareas.
- Add provisions to require all new developments to provide for alternative transportation features and facilities (bikeways, trails, bike parking/storage), wherever appropriate, as a supplement to, or (in certain instances) replacements for automobile facilities (roads, parking areas).

Sec. 16-36.021. Off-street bicycle parking.

- NA

Sec. 16-36.022. Pedestrian bridges and tunnels.

- Add provisions to require artists to be involved in design development and construction of major public works, such as greenspaces, tunnels/ bridges, and transit facilities.

Project Summary Matrix

The following are summary projects for Land Use Recommendations, Zoning Recommendations, Mobility, Greenspace and Greenway Trails. The cost estimates provided in the Project Summary Matrix are macro-level planning estimates and will need to be revised and updated over time.

Project Matrix Abbreviations

COA: City of Atlanta

CIP: Capital Improvement Projects

QOL: Quality of Life Bonds

LCI: Livable Centers Initiative

GDOT: Georgia Department of Transportation

TPL: Trust for Public Lands

CMAQ: Congestion Management and Air Quality Funds

TE: Transportation Enhancement Funds

TIF: Transportation Impact Fees

GO: General Obligation Bonds

GaDNR: Recreation Trails Program

Private Developers

Priority 1: 0-5 years

Priority 2: 5-10 years

Priority 3: 10+ years

Land Use Recommendations			
ID	Description	Locations	Type of Improvement
LU-1a	Future land use change from Single Family Residential and Low Density Residential to Proposed Park Space.	Three locations, one located within the East Confederate Retail District another in the Chosewood Park District and the last in the Boulevard Crossing Retail Center	ASAP Amendments
LU-1b	Future land use change from Office/ Institutional to Proposed Park Space.	South of the Beltline, within the East Confederate Retail District, bordering Avondale Avenue	ASAP Amendments
LU-1c	Future land use change from Industrial/TCU to Proposed Park Space.	The proposed Beltline	ASAP Amendments
LU-1d	Future land use change from High Density Residential to Existing Park Space.	Boulevard Crossing Park	ASAP Amendments
LU-1e	Future land use change from Single Family Residential to Existing Park Space.	Chosewood Park	ASAP Amendments
LU-2a	Future land use change from High Density Residential to Community Facilities.	South of the Beltline, on Englewood Avenue within the Englewood Employment Cultural Center	ASAP Amendments
LU-2b	Future land use change from Industrial/TCU to Community Facilities.	Two locations located north of the Beltline within the Grant Loft District. Includes existing Mounted Police Patrol	ASAP Amendments

ID	Description	locations	Type of Improvement
LU-3b	Future land use change from Low Density Residential to Residential 1-4 stories.	Three locations. Two located north of the Beltline in the Boulevard Crossing Retail District, and the other south of the Beltline in the Chosewood Residential District	ASAP Amendments
LU-3c	Future land use change from High Density Residential to Residential 1-4 stories.	Bordering the south side of the Beltline within the East Confederate Retail District	ASAP Amendments
LU-3d	Future land use change from Low Density Commercial to Residential 1-4 stories.	Bordering the north side of the Beltline within the East Confederate Retail District. Recently redeveloped.	ASAP Amendments
LU-3e	Future land use change from High Density Commercial to Residential 1-4 stories.	South of the Beltline in the Chosewood Retail District on Gault Street. In permitting/rezoning process.	ASAP Amendments
LU-3f	Future land use change from Industrial/TCU to Residential 1-4 stories.	North of the Beltline on Grant Street	ASAP Amendments
LU-3g	Future land use change from Office/Institutional to Residential 1-4 stories.	South of the Beltline within the East Confederate Retail District on Avondale Avenue. In permitting/rezoning process	ASAP Amendments
LU-3h	Future land use change from Mixed Use to Residential 1-4 stories.	Bordering the north of the Beltline on Gress Avenue. Recently redeveloped.	ASAP Amendments
LU-3i	Future land use change from Medium Density Residential to Residential 1-4 stories.	South of the Beltline in the Chosewood Retail District on Gault Street. In permitting/rezoning process.	ASAP Amendments

ID	Description	locations	Type of Improvement
LU-4a	Future land use change from Low Density Residential to Residential 5-9 stories.	Three locations, two within the Chosewood Residential District and the other just above in the Englewood Employment Cultural Center	ASAP Amendments
LU-4b	Future land use change from High Density Residential to Residential 5-9 stories.	Bordering the south side of the Beltline within the East Confederate Retail District	ASAP Amendments
LU-4c	Future land use change from Low Density Commercial to Residential 5-9 stories.	Two locations located north of the Beltline within Grant Loft District and East Confederate Retail District and the other borders the south side of the Beltline in the East Confederate Retail District	ASAP Amendments
LU-4d	Future land use change from Industrial/TCU to Residential 5-9 stories.	Two locations located north of the Beltline, one in the Grant Loft District and the other in the Boulevard Crossing Retail Center	ASAP Amendments
LU-5a	Future land use change from Industrial/TCU to Residential 10+ stories.	Bordering the north side of the Beltline within the Grant Loft District	ASAP Amendments
LU-6a	Future land use change from Low Density Residential to Mixed Use 1-4 stories.	Bordering the north side of the Beltline on the east side of Boulevard	ASAP Amendments
LU-6b	Future land use change from High Density Residential to Mixed Use 1-4 stories.	Two locations located south of the beltline on the west side of Boulevard	ASAP Amendments
LU-6c	Future land use change from Low Density Commercial to Mixed Use 1-4 stories.	Bordering the south side of the Beltline within the East Confederate Retail District on East Confederate Avenue	ASAP Amendments

ID	Description	locations	Type of Improvement
LU-6d	Future land use change from High Density Commercial to Mixed Use 1-4 stories.	South of the Beltline in the Chosewood Retail District on McDonough Boulevard	ASAP Amendments
LU-6e	Future land use change from Industrial/TCU to Mixed Use 1-4 stories.	Bordering the north side of the Beltline on the west side of Boulevard	ASAP Amendments
LU-7a	Future land use change from Low Density Residential to Mixed Use 5-9 stories.	On the southwest corner of Boulevard and Englewood Avenue	ASAP Amendments
LU-7b	Future land use change from High Density Residential to Mixed Use 5-9 stories.	Bordering the southside of the beltline and north side of Englewood Avenue	ASAP Amendments
LU-7c	Future land use change from Industrial/TCU to Mixed Use 5-9 stories.	Two locations, both bordering the north of the Beltline within the Grant Loft District	ASAP Amendments
LU-8a	Future land use change from High Density Residential to Mixed Use 10+ stories.	Bordering the south of the Beltline the and northeast corner of Hill Street and Englewood Avenue	ASAP Amendments
LU-9a	Future land use change from High Density Residential to Office/ Institutional.	Bordering the south of the Beltline the and east side of Boulevard. Recently retrofitted/renovated	ASAP Amendments
LU-10a	Future land use change from Single Family Residential and Office/ Institutional to TCU.	Two locations south of the beltline, and in the Boulevard Crossing Retail Center and the other in the East Confederate Retail District. Existing City of Atlanta CSO facility.	ASAP Amendments

Zoning Recommendations			
ID	Description	Location	Type of Improvement
Z-1a	Zoning change from Single Family or Duplex Residential to Quality of Life Multi-Family.	Five locations, two border Chosewood Park, two boarder Boulevard , and the fifth is at the northeast section bordering the south side of the beltline	Zoning Recommendations
Z-1b	Zoning change from Multi-Family Residential to Quality of Life Multi-Family.	Two locations, one borders Chosewood Park and the other is at the northeast section bordering the south side of the BeltLine	Zoning Recommendations
Z-1c	Zoning change from Commercial to Quality of Life Multi-Family.	At the northeast section bordering the north side of the BeltLine	Zoning Recommendations
Z-1d	Zoning change from Office Institutional to Quality of Life Multi-Family.	Located along Avondale Avenue	Zoning Recommendations
Z-1e	Zoning change from Industrial to Quality of Life Multi-Family.	Four locations, three bordering the BeltLine, one on Grant Street	Zoning Recommendations
Z-2a	Zoning change from Duplex Residential to Quality of Life Multi-Family, Quality of Life Mixed Use, or Live Work	Bordering the north side of the BeltLine and the east side of Boulevard	Zoning Recommendations

ID	Description	Location	Type of Improvement
Z-2C	Zoning change from Industrial to Quality of Life Multi-Family, Quality of Life Mixed Use, or Live Work	Along the west side of Boulevard	Zoning Recommendations
Z-3a	Zoning change from Multi-Family Residential to Quality of Life Multi-Family or Quality of Life Mixed Use	Along the south side of Englewood	Zoning Recommendations
Z-3b	Zoning change from Industrial to Quality of Life Multi-Family or Quality of Life Mixed Use	Two locations bordering both sides of Boulevard Crossing Park	Zoning Recommendations
Z-4a	Zoning change from Industrial to Office Institutional	Three locations, two at the far west and another bordering the east side of Boulevard and the south side of the BeltLine	Zoning Recommendations

Project ID	Project Name	Project Type	Project Length	Project Description
I-1	Intersection Modification: Boulevard at I-20 Eastbound Ramps	Intersection Improvement	N/A	To include the addition of turn lanes.
I-2	Intersection Modification: Boulevard at Confederate Avenue	Intersection Improvement	N/A	Modify intersection to accommodate "Road Diet" plan along Boulevard to include one travel lane in each direction. Westbound lanes configuration change. Install bulbouts along the east side of Boulevard at the intersection.
I-3	Intersection Modification: Boulevard at Ormewood Avenue	Intersection Improvement	N/A	Modify intersection to accommodate "Road Diet" plan along Boulevard to include one travel lane in each direction. Install bulbouts along the east side of Boulevard at the intersection. Install new traffic signal if and when warranted based on a traffic study.
I-4	Intersection Modification: Boulevard at Atlanta Avenue	Intersection Improvement	N/A	Modify intersection to accommodate "Road Diet" plan along Boulevard to include one travel lane in each direction. Realign intersection to eliminate offset. To include addition of turn lanes. Install Bulbouts along the east side of Boulevard at the intersection.
I-5	Intersection Modification: Boulevard at Englewood	Intersection Improvement	N/A	Modify intersection to accommodate "Road Diet" plan along Boulevard to include one travel lane in each direction. Install a Roundabout.
I-6	Intersection Modification: Boulevard at McDonough Boulevard	Intersection Improvement	N/A	To include the addition of turn lanes.
I-7	Intersection Modification: McDonough Boulevard at Gault Street	Intersection Improvement	N/A	To include the addition of turn lanes. Install new traffic signal if and when warranted based on a traffic study.
I-8	Intersection Modification: McDonough Boulevard at Hill Street / Milton Avenue	Intersection Improvement	N/A	To include the addition of turn lanes. Realign/reconfigure Hill Street to intersect with McDonough Boulevard.
I-9	Intersection Modification: Hill Street at Milton Avenue	Intersection Improvement	N/A	Realign/reconfigure Milton Avenue to intersect with Hill Street at the existing intersection of Nolan to form a four way approach intersection.

Project ID	Project Name	Project Type	Project Length	Project Description
NR-1	Street Framework Plan	Street Network, Capacity	N/A	New roadways and extension of existing roadways based on the Street Framework Plan as shown on the Subarea 3 Master Plan map. These roadways will be implemented as redevelopment takes place, primarily using private funding.
NR-2	Retrofit Avenue: Cherokee Avenue Extension	Street Network, Capacity	2,000	Extend Cherokee Avenue to connect to Englewood Avenue to provide continuous north-south connection.
NR-3	Retrofit Avenue: Mead Street Extension	Street Network, Capacity	950	Extend Mead Street to provide east-west connection between Cherokee Avenue and Grant Street.
NR-4	Retrofit Avenue: Grant Street Extension	Street Network, Capacity	550	Extend Grant Street to provide north-south connection between the Belt Line and Englewood Avenue.
NR-5	Retrofit Avenue: Englewood / Pershing Extension	Street Network, Capacity	1,300	Extend Englewood Avenue / Pershing Avenue to provide east-west connection between Boulevard and Avondale.
NR-6	Retrofit Avenue: Gault Street Extension	Street Network, Capacity	1,100	Extend Gault Street to connect to Englewood Avenue.

Project ID	Project Name	Project Type	Project Length	Project Description
SW-1	Convert one-way streets to two-way streets	Capacity	N/A	One-way to two-way conversions: Hill Street, Ormond Street, Atlanta Avenue
SW-2	Traffic Calming Measures	Safety	N/A	Traffic Calming Measure Program
SW-3	Traffic/Pedestrian Signal Upgrade and Timing	Operations	N/A	Traffic Signal Upgrade / Timing

Project ID	Project Name	Project Type	Project Length	Project Description
R-1	New Sidewalk: Berne Street	New Sidewalk	5,800	Install sidewalk on Berne Street from Park Avenue to Woodland Avenue
R-2	New Sidewalk: Ormewood Avenue	New Sidewalk	5,350	Install sidewalk on Ormewood Avenue from Boulevard to Woodland Avenue
R-3	New Sidewalk: East Confederate	New Sidewalk	2,700	Install sidewalk on East Confederate Avenue from Edie Avenue to past Alloway Place
R-4	New Sidewalk: Atlanta Avenue	New Sidewalk	4,250	Install sidewalk on Atlanta Avenue from Hill Street to Confederate Avenue
R-5	New Sidewalk: Boulevard	New Sidewalk	8,500	Install sidewalk on Boulevard from Berne Street to McDonough Boulevard
R-6	New Sidewalk: Englewood	New Sidewalk	3,100	Install sidewalk on Englewood Avenue from Hill Street to Boulevard
R-7	New Sidewalk: Hill Street	New Sidewalk	5,200	Install sidewalk on Hill Street from Ormond Street to Milton Avenue
R-8	New Sidewalk: Cherokee Avenue	New Sidewalk	6,100	Install sidewalk on Cherokee Avenue from Interstate 20 to Mead Street
R-9	New Sidewalk: Edie Avenue	New Sidewalk	2,100	Install sidewalk on Edie Avenue from Pershing Avenue to East Confederate Avenue
R-10	Streetscape: Boulevard	Streetscape	10,850	Install street trees, transit amenities, pedestrian lighting and lighted streetname signs
R-11	Streetscape: McDonough Boulevard	Streetscape	3,400	Install street trees, transit amenities, pedestrian lighting and lighted streetname signs
R-12	Streetscape: Hill Street	Streetscape	5,200	Install street trees, transit amenities, pedestrian lighting and lighted streetname signs
R-13	Bicycle Lanes: Hill Street	Bicycle Lanes	5,200	Restripe Hill Street to provide bike lanes from Ormond Street to Milton Avenue
R-14	Bicycle Lanes: Confederate Avenue	Bicycle Lanes	3,750	Improve/Restripe Confederate Avenue to provide bike lanes from Boulevard to Edie Avenue
R-15	Bicycle Lanes: Atlanta Avenue	Bicycle Lanes	4,250	Restripe Atlanta Avenue to provide bike lanes from Hill Street to Confederate Avenue

Project ID	Project Name	Project Type	Project Length	Project Description
R-16	Bicycle Lanes: Englewood Avenue	Bicycle Lanes	3,100	Restripe Englewood Avenue to provide bike lanes from Hill Street to Boulevard
R-17	Bicycle Lanes: Cherokee Avenue	Bicycle Lanes	4,900	Restripe Cherokee Avenue to provide bike lanes from I-20 to Atlanta Avenue
R-18	Bicycle Lanes: Boulevard	Bicycle Lanes	4,500	Restripe Boulevard to provide bike lanes from BeltLine (Near Hamilton Avenue) to McDonough Boulevard
R-19	Bicycle Lanes: McDonough Boulevard	Bicycle Lanes	3,400	Improve/Restripe McDonough Boulevard to provide bike lanes from Hill Street to Boulevard

Greenway Trail Recommendations			
ID	Description	Location	Type of Improvement
G-1	Existing Grant Park (130.58 acres) (updated Master Plan)	Surrounding streets include: Boulevard, Atlanta Avenue SE, Cherokee Avenue, and Sydney Street	Greenspace
G-2	Proposed BeltLine (21.23 acres)	From Berne Street to Hill Street	Greenspace
G-3	Existing Boulevard Crossing Park (21.50 acres) (Community Park Development \$190,000 to \$350,000 per acre)	Bordering the south of the Beltline on the Northwest corner of Boulevard and Englewood	Greenspace
G-4 - G-6, G-20 - G-22	Proposed Commons	Commons are often the central location for their specified districts or centers	Greenspace
G-7 - G-11, G-13	Proposed Greenways	Connections to and from each park and commons, and BeltLine	Greenspace
G-12	Proposed Boulevard Heights Greenway (54.50 acres) (Acquisition Cost: \$75,000 per acre)	Linking Boulevard Crossing Park along utility right of way toward Intrenchment Creek as well as up Boulevard Height Park	Greenspace
G-14	Proposed Ormeewood Greenway (12.93 acres) (Acquisition Cost: \$75,000 per acre)	Linking Boulevard Height Park to Ormeewood Park and neighborhood	Greenspace

	Description	Location	Type of Improvement
G-17	Proposed Chosewood Park Expansion (9.15 acres) (Acquisition Cost: \$700,000 per acre; Neighborhood Park Development: \$90,000 - \$200,000 per acre)	Expands existing park east to Gault Street	Greenspace
G-18	Proposed Boulevard Heights Park (8.51 acres) (Acquisition Cost: \$700,000 per acre; Neighborhood Park Development: \$90,000 - \$200,000 per acre)	On the east side of Avondale Avenue, connects to Boulevard Heights Greenways and Ormewood Greenway	Greenspace
G-19	Proposed Ormewood Park (1.60 acres) (Acquisition Cost: \$700,000 per acre; Neighborhood Park Development: \$90,000 - \$200,000 per acre)	Bordering Beltline, located between Delmar Court and Walker Avenue	Greenspace

Greenway Trail Recommendations			
	Description	Location	Type of Improvement
GT-1	Proposed BeltLine Trail (2.24 miles) (Trail Development: 17,725 linear feet @ \$100 per linear foot not including acquisition)	Extends east to west from Burn Street to Hill Street	Greenspace
GT-2	Chosewood / Grant Park Connector (3.36 miles) (Trail Development: 11,826 linear feet @ \$100 per linear foot not including acquisition)	Extends north to south from Grant Park/ Zoo Atlanta to Chosewood Park	Greenspace
GT-3	Boulevard Crossing Connector (1.88 miles) (Trail Development: 9,920 linear feet @ \$100 per linear foot not including acquisition)	Extends northwest to southeast from Boulevard Crossing Park to Intrinchment Creek	Greenspace
GT-4	Intrinchment Creek Connector (2.27 miles) (Trail Development: 11,981 linear feet @ \$100 per linear foot not including acquisition)	Extends north to south from Parkside Elementary School to Intrinchment Creek	Greenspace

Table 5 - Project Summary Matrix

Meeting Summaries & Support Documents

Southeast Study Group Meeting - March 2007

Community Issues and Concerns:

Preservation of history of the BeltLine and communities
Protection of longtime residents
Revitalization of Central Business District: City of Atlanta
Affordability of housing
Balanced gentrification
Family friendly development
Maximization of greenspace opportunities
Improvement of the usability of public transit/transportation
Environmental justice policies and law enforcement
Quality of life improvements: public safety and law enforcement, park rangers, noise abatements
Enhancement of trails and paths: both to and on the BeltLine
New and renovated facilities for the homeless
Quality of life: well designed, public space, public art
Well defined access roads to the neighborhoods to the trails
Good signage
Responsible eminent domain usage
Promote mass transit connectivity inside and outside the BeltLine
Youth input
Healthy grocery stores
Guarantee of living wages for contractor and workers with the BeltLine
Sanitary facilities and restrooms
Green building principles
First source hiring
Promote destination development
Buried utilities and stormwater retention
Wifi
Highest density close to stops and compatibility with existing homes and consistent in Character
Engage children as to work and job opportunities for BeltLine
Funding stream for maintenance and water features in design
Disabled and senior accessibility and housing
Art schools for children
Rail completed in ten years or less
More sporting facilities
Improve roads and connectivity
Adequate screening of maintenance facilities
Short blocks to promote pedestrianism
Kids ride free under 16
Revitalization of Brownfield's
Park and ride lots
Continuous and connected multi-use trails: well lit and safe
Neighborhood identity through signage and themes for stops
Revitalization
Community centers
Revitalize senior housing

Agenda
BeltLine Master Plan
Boulevard Crossing Subarea Steering Committee
July 26, 2007; 6:00 – 7:30 pm
Zoo Atlanta - ARC

1. Welcome – Jonathan Lewis
2. Master Planning Process –Jonathan Lewis
3. BeltLine Redevelopment Plan Review – Nate Conable
4. Steering Committee Issues Discussion/Identification – Shannon Kettering

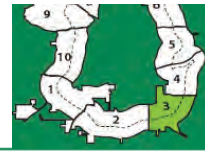
Agenda
BeltLine Master Plan
Boulevard Crossing Subarea Steering Committee
August 16, 2007; 6:00 – 7:30 pm
Zoo Atlanta - ARC

1. Welcome – Jonathan Lewis
2. Parks Department Overview and the Forthcoming Greenspace Plan –Paul Taylor
<http://atlantagreenspace.com/>
3. Existing Conditions at the Boulevard Crossing Park Site – Shannon Kettering

Boulevard Crossing Study Area

SOUTHEAST STUDY GROUP MEETING

Zoo Atlanta ~ September 6, 2007



1. Welcome
2. Confirmation of Study Group Coordinators
3. Master Planning Overview and Schedule
4. Existing Conditions Presentation:
 - Landuse Conditions
 - Transportation Conditions
 - Questions and Answers
 - Existing Conditions Map Review
5. Group Exercise
6. Next Steps:
 - September 20, 2007 (6:30 PM to 8:30 PM): Study Group Meeting to develop goals and objectives.
 - January 10, 2007 (6:30 PM to 8:30 PM): Review draft study area Master Plan.

Note: All meetings are located in the Action Resource Center at Zoo Atlanta

Questions?

Please direct all questions and/or comments to:

Matthew Dickison

Project Manager

502-865-8591

mdickison@atlantaga.gov



**Boulevard Crossing Sub-Area Master Plan
Study Group Meeting
September 6, 2007
Zoo Atlanta**

The meeting commenced at approximately 6:30 pm with opening remarks given by Matthew Dickison, Project Manager.

Roland Young, Atlanta BeltLine Inc., discussed the confirmation of Study Group Coordinators. The group confirmed the appointment of Rick Hudson as Study Group Coordinator and Simon Reynolds as Co-coordinator.

Jonathon Lewis, Senior Project Manager, discussed the Master Planning process (see attached presentation):

Questions from the public:

- How does the plan affect adjacent property?

Response from staff: The plan will consider property adjacent to the BeltLine.

Shannon Kettering, Consultant Project Manager, ECOS, presented and discussed Existing Conditions (see attached presentation):

- Explanation of Consultant Team
- Brief summary of process
- Use of Redevelopment Plan
- 2006 Aerial
- Explanation of TAD: School Board, City of Atlanta, Fulton County, Increment Tax Financing with a 25 year sunset
- Approximately 530 acres of TAD property in the study area
- Natural Features: elevation (highs and lows), low point is Entrenchment Creek
- Development patterns: 1911, 1940: Fill-in around Grant park, 1972: more development, Today: characteristics of the seven neighborhoods, industrial area character
- Zoning: 2 overlay districts: Grant Park and BeltLine
- Landuse: 20% is industrial, greater than 13% is vacant
- Historic and Cultural Resources will be available at the next meeting
- Previous Studies: Inconsistencies with BeltLine Redevelopment Plan, Will move through the visioning process, Need to have a unified plan, What has been proposed and where do we go from there?

John Funny, Grice and Associates, presented and discussed Existing Conditions related to mobility (see attached presentation):

- Taking a smart growth approach
- Very unique area with good opportunities
- Must include truck traffic service
- Bridge Crossings: provide safety for crossing of transit types

- Character of bridges
- One at-grade crossing: Boulevard and the BeltLine
- Bus routes: Several opportunities exist
- Crash Data: safety concerns, rank of dangerous intersections: Blvd and Confederate, Blvd and McDonough
- Rail Crossings: 4 Bridge crossings, 1 at-grade: requires additional features for safety
- Previous studies: Ask where past plans conflict with new ideas

The formal presentation and question and answer period was followed by an opportunity for the public to view printed versions of all existing conditions maps. Post-it notes were made available to place comments on the maps. These comments were incorporated into the final version of all documents. The comments included:

- **Natural Features Map**
 - Dabney Hill with Fort Walker site located on top
 - Are you also taking gentrification into account and looking for ways to make sure hard working families can afford to continue living here? Example – Dekalb’s Homeownership Property Freeze
- **Development Patterns Map**
 - Professor Richard Laub’s Graduate GSU preservation class already did a very comprehensive historic sites survey with UDC – Contact Doug Young or Prof. Laub
 - Boulevard Heights is actually more transitional than Ormewood Park. Most of Ormewood in this area is well established with infill single family.
 - See the Beltline Historic Resources Survey, conducted through the AUDC and GSU. They have your resources study. – Brandy
- **Zoning Map**
 - Grant Park currently has a sub committee of preservation professionals and developers reviewing and rewriting historic Preservation Ordinance and design guidelines in UDC’s books. Check with Phil Cuthbertson – GPNA president
- **Environmental Conditions Map**
 - What is the regulated substance?
 - What is the phase II grid layout?
- **Existing Land Use Map**
 - Intersection of Berne St and BeltLine: Pink should be gray, gray should be yellow.
 - Office? At north end of Chosewood Park?
 - (Chosewood Park Area) Open space east of residential strip zoned Single Family?
- **Previous Studies – Land Use, Parks, Urban Design Map**
 - Change “Grant Park Comprehensive Transportation Plan” to “Proposed Grant Park Comprehensive Transportation Plan”
 - Show previous study boundaries where they go outside the BeltLine study group on this one (i.e. – The DCA Quality Growth Study took in all of Grant Park – Here it looks as if it matched the study group border) Can mislead public viewing map
 - Change “Grant Park Master Plan” to “Proposed Trolley / Beltline Maintenance facility and streetcar tourist loop”

- East Atlanta Village Study – Connection to Glenwood Ave. across Moreland
- Intersection of Gress Ave and Milton Ave: turn orange to gray
- Planned Development Housing (PDH) in green area SE of Benteen Way.
- Validate Park boundaries for Chosewood Park
- **Previous Studies – Transportation and Infrastructure Map**
 - Change “Grant Park Comprehensive Transportation Plan” to “Proposed Grant Park Comprehensive Transportation Plan”
 - Change “Grant Park Master Plan” to “Proposed Trolley / Beltline Maintenance facility and streetcar tourist loop”
 - No bulb-outs! They are the worst! Think of some thing better!
 - Grave concern decreasing lanes of traffic on Boulevard from 4 lanes to 3 lanes. Traffic is horrific now
 - Boulevard 3 or 4 lanes?
 - Hill St. 3 lanes?
 - Modify Chosewood Park street grid for landscape
 - Make grid work!
 - Look at publication: “Creative Transportation Design” artists involved in designing bridges, pedestrian and streetscape.
- **MARTA Bus Routes Map**
 - Please list bus routes immediately outside map
 - Show where the bus route goes once it leaves this subarea. What is it connecting to? Show linkage bus routes streets (arterials) Moreland Ave.
- **Crash Data Map**
 - What is the distinction between the orange and green blocks? Note: Most crashes occur on McDonough (Chosewood) and Boulevard near rail crossing yet they were not identified as “notable intersections” or otherwise
- **Roadway Classification**
 - Please highlight Moreland Ave.

Following the map review session, break-out groups were formed to discuss the following:

Question 1: What Should Be Preserved?

Response from breakout groups:

Trees

Old neighborhood character

Architectural details

Bridge design features

Artistic inv.

Diversity

Historic resources (Brandy’s List)

Architectural integrity: through UDC and good neighborhood review process

Historic railroad bridges

Tree canopy

On-street parking

Industrial

Question 2: What are the biggest issues?Response from breakout groups:

Affordable housing
Access to social services
Bike/ped accessibility
Economic development
Density
Smart growth/best practices
Alternative transportation/mode
Environment
Mixed-income/mixed-use
Ensuring density and connectivity
Sustainable development
Displacement of residents (adjacent to TAD)
Elderly/disabled residents
Local business support
Safety/code enforcement
Support connections thru social interaction
Pedestrian oriented public spaces
Accessibility to BeltLine
Jobs
Unemployment
Clean up industrial blight
Edges of study area: impacts of redevelopment, connectivity
Traffic
Healthy mix of housing
Coordinating with MARTA
Crime: especially safety in parks

Questions 3: What are the transportation safety and operational concerns?Response from breakout groups:

Boulevard @ I-20
Bulb-outs are concern for through traffic
Connectivity across I-20
Moreland Avenue and Boulevard: Need more N-S access
Pedestrian access throughout: especially Parkside Elementary
Bike lanes
On-street parking
Using bike lanes as turn lanes
Nighttime access to parks
Lighting
Landscaping
Milton Avenue and Lakewood: odd geometry
Hill and Milton: odd geometry
Boulevard SB approaching Boulevard Crossing

Boulevard NB approaching Memorial Drive
Boulevard South of BeltLine: Construct a Roundabout?
Local preservation of Police within study area
Safe routes to school

Question 4: What would benefit the entire study area?

Response from breakout groups:

City services: Police, etc.

S/W

Relo. Zone 3/6 to study area

Improve street surface: maintenance

Commercial development in neighborhood: small/local scale

Connecting places that are of interest to youth

Cultural facilities

Better resources for existing parks

Targeted density with consideration of transition to adjacent areas

Improve pedestrian access to the BeltLine

Street signage/consistency of naming

Safe parking: balance with development

Address marker: 6" numbers

Landscaping

A/E: High quality design for transit

Transit stops to reflect neighborhood character

Jobs

Access to better transit

Network of neighborhood commercial nodes

Proximity of parking

Walkability

Not overcrowded, not regional bar-hopping scene

Neighborhood retail

Bicycle parking

Retain population diversity

Affordable housing: livable

Ability to take amenities on transit: coolers, strollers, bikes, etc.

BeltLine used for Intown trips

Future connectivity

Affordable transit

Focus on freight movement

Access for first responders

Look at the whole area/city

Architectural integrity: design over size, city needs to strengthen position, work with community, clear developer expectations

Get information to everyone

The next Study Group meeting will be held on September 20, 2007.

Boulevard Crossing Study Area

SOUTHEAST STUDY GROUP MEETING

Zoo Atlanta ~ September 20, 2007



1. Welcome
2. BeltLine Update
3. Master Planning Review
 - Master Planning Process
 - Existing Conditions Map Review
 - Opportunities and Challenges Review
4. Vision, Values, Goals and Objectives
 - Presentation
 - Group Discussion
5. Small Group Goals and Objectives Exercise
6. Map Review and Comment
7. Next Steps:
 - January 10, 2008 (6:30 PM to 8:30 PM): Review draft study area Master Plan.
 - January 17, 2008 (6:30 PM to 8:30 PM): Review draft Park Master Plan

Note: All meetings are located in the Action Resource Center at Zoo Atlanta

Questions?

Please direct all questions and/or comments to:

Matthew Dickison
Project Manager
502-865-8591
mdickison@atlantaga.gov



Boulevard Crossing Sub-Area Master Plan
Study Group Meeting
September 20, 2007
Zoo Atlanta

The meeting commenced at approximately 6:30 pm with opening remarks given by Matthew Dickison, Project Manager.

Nate Conable, Atlanta BeltLine Inc., presented a brief update regarding major developments/issues impacting the entire BeltLine project.

- ABI is committed to restoring ARC funding for the Westside
- Discussions with the Georgia Department of Transportation (GDOT) about southwest portions of the rail right-of-way (ROW)
- According to CSX there are approximately 35 customers using the active freight lines in the southwest/southeast
- The Georgia Supreme Court will hear oral arguments regarding Tax Allocation District (TAD) funding on Tuesday, September 25th at 10:00 AM.
- ABI has entered into a public-private partnership to secure the northeast BeltLine ROW
- City Council has approved nearly \$30 million in funding for the construction of a stormwater facility and park at the proposed North Avenue park site

Questions from the public:

- Are you currently in negotiations for ROW regarding the southwest corridor?

Response from staff: Yes, negotiations with GDOT have begun.

- Will the stormwater facility at North Avenue Park serve the entire area?

Response from staff: The facility will be sized for a 100 year flood event and will have overflow capacity.

Shannon Kettering, Consultant Project Manager, ECOS, presented and discussed Finalized Existing Conditions (see attached presentation):

- Landuse
- Nine major studies exist in the area
 - Will build upon, validate and refine the Redevelopment Plan
 - Consensus and Inconsistencies exist
- Cultural Resources: The Urban Design Commission conducted a windshield survey of potential historic sites
- Boulevard Crossing Park
 - Steep Slopes
 - Park Site Considerations
 - Existing: two major terraces, utility lines, etc.
- Transportation
 - Previous studies

- Safety considerations
- Circulation patterns

Questions from the public:

- Is the BeltLine Overlay Zoning District in place?

Response from staff: Yes

John Funny, Grice and Associates, presented and discussed Finalized Existing Conditions related to mobility (see attached presentation):

- Transportation
 - Previous studies
 - Safety considerations
 - Circulation patterns

Shannon Kettering, Consultant Project Manager, ECOS, presented and discussed Opportunities and Challenges (see attached presentation):

- Landuse challenges
- Open and Civic Spaces: new park, Grant Park, Greenway connections
- Limited green space on east side of study area
- 1-20 connections
- Streets for biking, walking

Shannon Kettering, Consultant Project Manager, ECOS, presented and discussed Vision, Values, Goals and Objectives (see attached presentation)

During a short break, Post-it notes were made available to place comments on existing conditions maps. These comments were incorporated into the final version of all documents.

The break was followed by break out groups to develop specific objectives to implement goals for Landuse, Open and Civic Spaces, and Mobility. The following goals and objectives were developed during this session:

Boulevard Crossing VALUES

- Preservation and celebration of historic neighborhood character
- Incorporation of smart growth principles in all redevelopment
- Maintenance and restoration of urban tree canopy, namely hardwoods, old growth, open space
- Provisions for affordable living options for singles, couples, families, seniors
- Facilitation of a diverse demographic that is unique, has personality, and contains artistic flare
- Maintenance and enhancement of architectural integrity
- Expansion of the heritage and history of the local neighborhoods
- Encouragement of community equity/ ownership

- Promotion of a safe and secure community for all ages
- Incorporation of quality of life elements: trails, parks, community amenities, multi-modal transit solutions, walkability, art

GOALS with corresponding OBJECTIVES

Land Use

- Encourage development that is compatible with community values and future needs.
 - Plan for infrastructure improvements so that growth does not overwhelm existing facilities.
 - Develop design guidelines and standards that provide quality architecture, pedestrian scale, and well-balanced uses.
 - Incorporate green building and site standards into developments to minimize environmental impacts, improve the quality and value, and emphasize the importance of stewardship.
- Facilitate mixed use “centers” (living, working and shopping) to promote economic development, serve the community neighborhoods and support alternative transportation modes.
 - Establish appropriate locations for density, ensuring uses are sited appropriately, services are compatible, and the development is pedestrian oriented.
 - Incorporate standards that facilitate a balance and relationship of uses to create a vibrant and viable center with employment and housing opportunities.
 - Promote uses that support and serve the needs of the neighborhood, such as day to day services, community facilities (post office, library, community centers), and institutions (schools, employment training facilities).
 - Locate gathering places/ community spaces for the encouragement of social interaction.
- Maintain a variety of residential opportunities, including mixed-income and workforce housing to strengthen the diverse community.
 - Establish partnerships with the residents, developers, the City, and others to provide a variety of housing types throughout the community.
 - Ensure appropriate transitions between residential intensities by promoting buffers and step downs in stories and intensity.
 - Promote flexibility in zoning regulations and design guidelines for innovative solutions supported by the community.
- Expand civic facilities to support community growth
 - Enhance existing and provide for future civic, educational, and medical institutions to adequately serve all ages.
 - Ensure integrated and interconnected community facilities and services within developments through incentives/ zoning regulations, public

engagement, and provisions for an easily accessible transportation network.

- Establish private-public partnerships to expand funding and implementation mechanisms for recreation and open space.

Circulation

- Explore opportunities to incorporate innovative strategies into community-wide transportation solutions commensurate with future needs.
 - Provide transportation demand strategies based on existing density and the scale of planned developments that minimize single-occupancy trips, limit contribution to peak-hour congestion, and encourage the use of alternative modes.
 - Implement state-of-the-practice traffic control strategies that are more responsive to fluctuating demand, serve multiple modes, and convey key traffic information to travelers in a dynamic framework.
 - Employ the City’s existing traffic calming program’s established criteria, street prioritization, public involvement, and a “suite” of traffic calming measures including bulb-outs, traffic circles, pedestrian refuges, chicanes, etc.
- Provide connectivity, continuity and redundancy among various modes of transportation
 - Incorporate strategies for a continuous network of pedestrian and bicycle facilities as part of planned streetscape and roadway improvements.
 - Improve drainage systems and provide methods for monitoring water levels for preemptive notification.
 - Ensure the community-wide accessibility to local activity centers through improving multi-modal connectivity (filling the gaps), including transit, bicycles, and pedestrians.
- Allow transportation facilities to promote seamless neighborhood boundaries, while preserving and or enhancing community distinctions and character.
 - Provide safe and efficient pedestrian and bicycle accessibility across major roadways.
 - Give high priority to pedestrian and bicycle safety improvements near schools, while helping local schools initiate “Safe Routes to Schools” Programs.
 - Work with community groups and public safety officials to promote “safe driver” educational programs, implement appropriate traffic control strategies, and conduct routine traffic enforcement.
- Ensure future usage by developing a sustainable financial structure for maintenance.
 - Establish policies that promote improved street maintenance and provide communities a convenient method for reporting maintenance issues and learning the status of maintenance requests.

Open & Civic Spaces

- Reclaim/restore/create & expand community environmental resources.
 - Restore existing streams and incorporate new water features for recreational opportunities, stormwater management, and wildlife habitat.
 - Expand community sustainable opportunities, such as recycling, composting, and gardening and recommend these activities/ amenities be included in future development.
 - Enhance the urban forest by preserving and appropriately planting new trees via an expanded open space network, enhanced streetscapes, and neighborhood arboretum programs.
 - Promote the importance of the community's environmental resources through interpretation/ education, incorporation of LEED- green development principles, and habitat restoration.
- Provide open, cultural, and civic spaces to promote social interaction and a thriving community.
 - Provide indoor and outdoor programming/ spaces for family and community gatherings for all development.
 - Establish community specific events and programs, such as “Celebrate Diversity” to unite the community and showcase its cultural significance and unique history.
 - Provide multi-purpose civic and recreational facilities at various scales to serve the community, including plazas, markets, squares, amphitheater, library, rink.
- Ensure the recreational needs of the City of Atlanta are compatible with Boulevard Crossing community needs.
 - Provide multi-use accessibility and connectivity to and through the community's significant parks- Grant, Boulevard Crossing, and Chosewood.
 - Ensure passive spaces for mediation and reflection, such as habitat preservation areas, trails, and picnic facilities.
 - Promote innovative programming within the community open space network, such as wireless technology.
 - Provide active adventure activities, such as climbing wall, play fields/facilities, and water play areas.
 - Encourage and maintain safe and secure environment in park design and utilization through lighting and visibility.
- Identify, interpret and protect community historic and cultural resources.
 - Provide interpretive opportunities to showcase the community's significant assets, such as Fort Walker and Intrenchment Creek.
 - Establish a seamless connection between the BeltLine and community features, such as Zoo Atlanta and Chosewood Park.
 - Promote recognition of the community's diverse, historically intact neighborhoods.

Boulevard Crossing Study Area

Steering Committee Meeting

Zoo Atlanta ~ October 18, 2007



1. **Consensus on Study Area Values**
2. **Presentation on Placemaking**
3. **Presentation of Two Concept Plan Options** *based upon prevalent characteristics in the BeltLine Redevelopment Plan and Street framework Plan*
4. **Steering Committee Charrette**
5. **Next Steps:**
 - October 23, 2007 (6:00 PM to 7:30 PM): Steering Committee Meeting to Review Park Concept Plan
 - November 15, 2007 (6:00 PM to 7:30 PM): Steering Committee Meeting to Review Draft Study Area Master Plan

Note: All meetings are located in the Action Resource Center at Zoo Atlanta

*Please visit the new BeltLine website at:
www.beltline.org*

Questions?

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Matthew Dickison
Project Manager
404-865-8591
mdickison@atlantaga.gov



Boulevard Crossing Steering Committee Meeting
Oct. 18, 2007

Master Planning Focus

1. Greenspace
2. Circulation
3. Land Use

Matthew Dickison/Shannon Kettering – Opening Statements

- I. Matthew Dickison greeted all of the members of the steering committee and due to the presence of a few new individuals the group went around and introduced themselves and their roles in the project.
- II. Shannon followed up the brief opening by introducing the three main priorities of the current land use planning focus.
 1. Greenspace – Which would be developed by using a hierarchy of central gathering spaces (Plazas, Civic Squares)
 2. Circulation – Which uses a hierarchy of mobility aids (New Streets, Streetscapes, Transit Options)
 3. Land Use – This would employ urban design to build identity and character unique to the subarea.
- III. Shannon then introduced the practice of place making that is used by ECOS, which consisted of proper scale (City, Center, and Neighborhood Scale Development).
- IV. ECOS area plans were developed based on the requirements that transit presents to the area, which includes critical mass, and transit supported uses.
- V. After Shannon went through her brief introduction she presented the group with two plans (Option A and Option B). Option A had noticeably fewer development nodes that were of higher intensity, while option B delivered lower scale development with a higher total number of nodes.

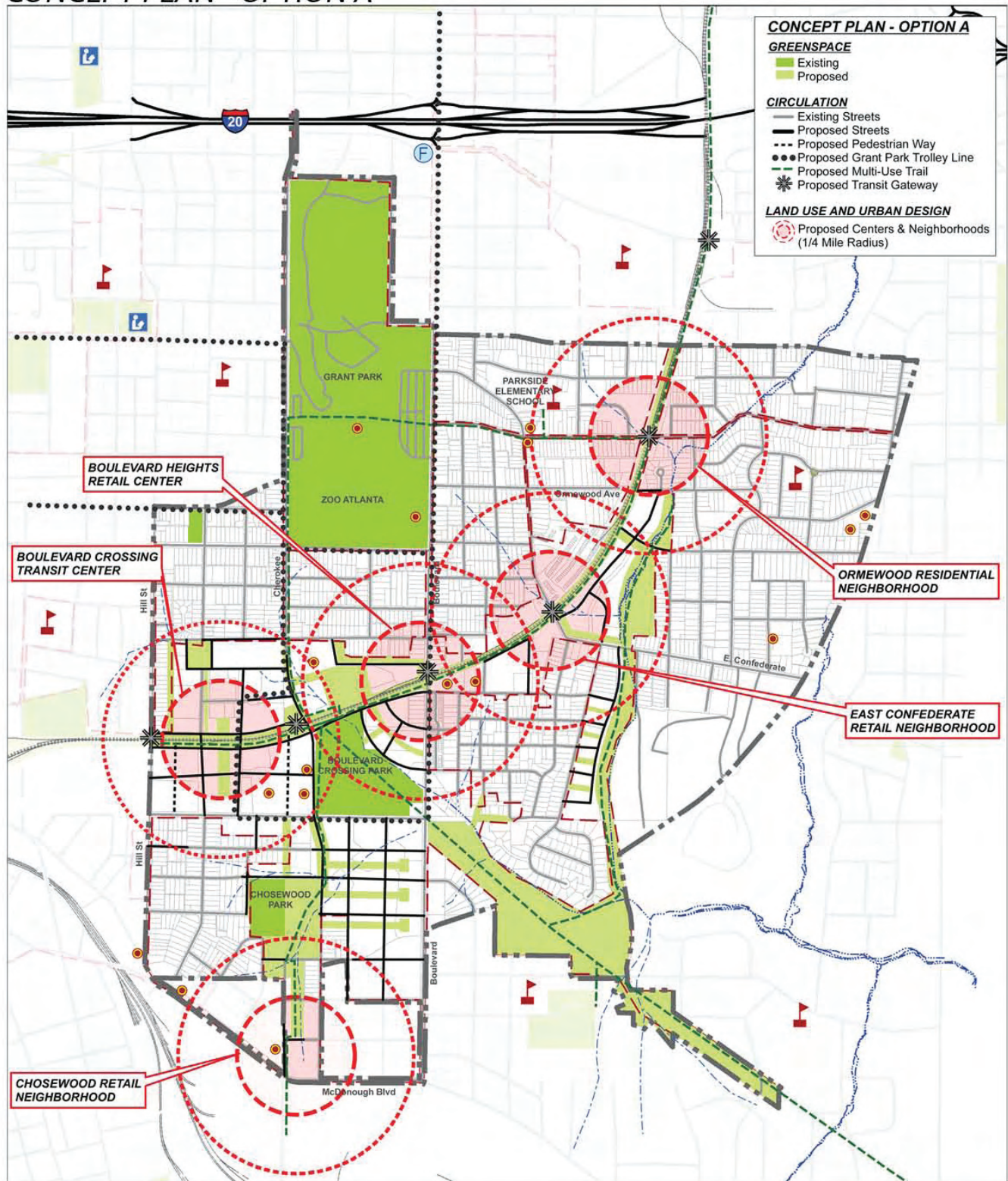
Responses by the Steering Committee to the plans presented by ECOS


- I. Many of the committee members thought the scale was too intense for the area, particularly Option A. They liked the transitioning scale involved in Option B specifically the Loft District and the Neighborhood Employment Center.

Steering Committee Recommended Areas for Higher Density Development:

- 1.) Trestletree
 - 2.) N. of Boulevard Crossing Park
 - 3.) E. Confederate at BeltLine
 - 4.) Boulevard Heights Retail Center
- II. The group was also concerned about the street level pedestrian experience throughout the higher density area. The steering committee vocally called for some terracing of the buildings, with the lowest level focused on the street edge.
- III. The Englewood development node was of concern as redevelopment is currently taking place. The steering committee members were concerned about the area not being able to be permeated during redevelopment and wanted to gain some assurance that with the development of the park that the area adjacent to it would not be fenced off precluding neighborhood residents from jogging or walking their dog safely through the area.
- IV. Many of the groups concerns started with topography as they repeatedly discussed the topographical issues of many of the key development nodes throughout the ECOS plan options. Many were adamant about the need for vistas of the city that would be gained using development driven by the already existing topography of the area.
- V. Parking was also an issue as the citizens adamantly stated that it should be something that we all take into consideration as we look at development that will take place before transit begins. One of the popular ideas from the group was the use of shared parking near the park, in an effort to mitigate the problem that could arise if park patrons start parking on residential streets. Jonathan Lewis stated to the group that the Atlanta BeltLine Inc. will conduct a parking study in the near future to deal with these exact concerns throughout the BeltLine.
- VI. Traffic Calming was a key concern for many of the members as they addressed the mobility aspects of the plans. Areas such as Boulevard experience motorist traveling at high speeds near pedestrian focused uses such as Grant Park and the commercial node along Cherokee Avenue. The committee was enamored with the idea of pedestrian only streets through the western edge of the study area. There were some concerns over safety however as the consultants presented plans that called for tunnels that would cross beneath the BeltLine with the improved street framework.

CONCEPT PLAN - OPTION A





BeltLine
Atlanta Connected

**BeltLine Subarea 3:
BOULEVARD CROSSING**

**Concept Review I:
Concept Plan - Option A**

October 18, 2007

LEGEND

BeltLine SubArea 3 - Boulevard Crossing

Tax Allocation District Boundary

Parcels

Buildings

BeltLine Centerline

Interstate

Roads

Railroads

Waterways


Drainageways

Fire Station

Library

Schools

Historically or Community Significant Structures

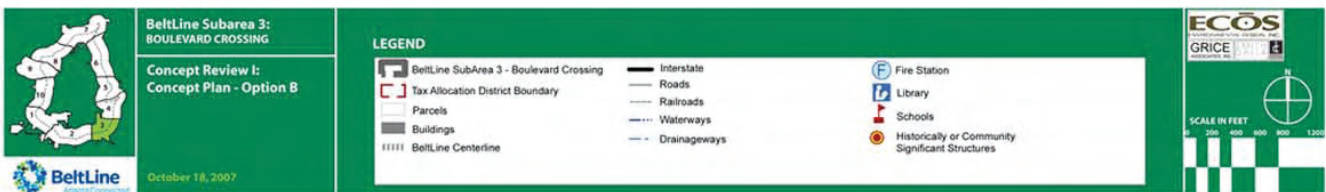
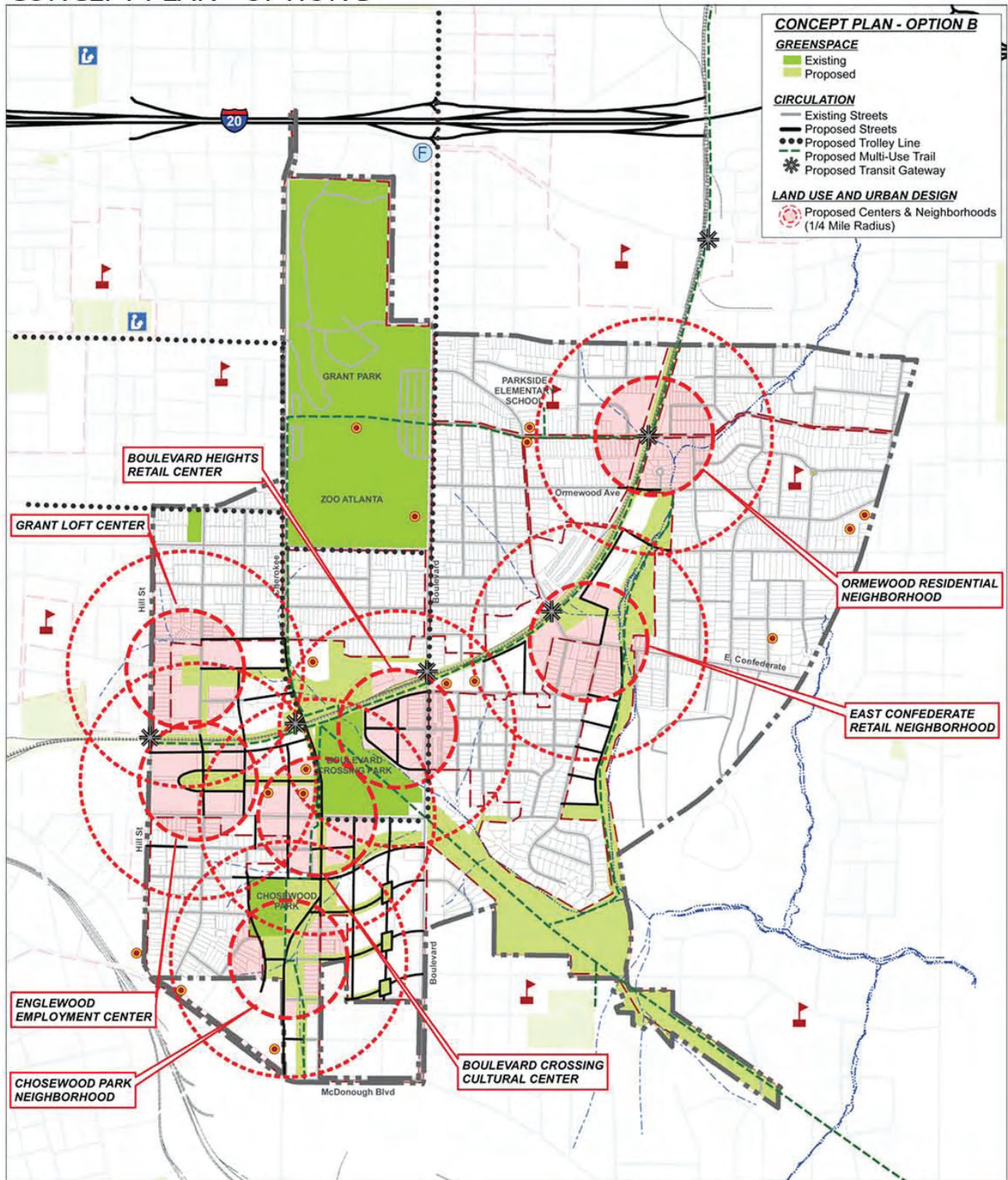


ECOS
Environmental & Community
Systems

SCALE IN FEET

0 200 400 600 800 1000 1200

CONCEPT PLAN - OPTION B



Boulevard Crossing Study Area

Steering Committee Meeting

Zoo Atlanta ~ November 15, 2007



1. Review of Previous Steering Committee Meeting
2. Key Influences from Existing Conditions/Resources
3. Presentation of Draft Plan
 - Circulation
 - Greenspace
 - Land Use and Urban Design
 - Public and Cultural Arts
4. Comments and Feedback
5. Next Steps:
 - January 10, 2008 (6:30 PM to 8:30 PM): Study Group Meeting to present the Draft Study Area Master Plan
 - January 17, 2008 (6:00 PM to 7:30 PM): Steering Committee Meeting to present and discuss the Draft Park Master Plan

Note: All meetings are located in the Action Resource Center at Zoo Atlanta

*Please visit the new BeltLine website at:
www.beltline.org*

Questions?

*Please direct all questions and/or comments to:
Matthew Dickison
Project Manager
502-865-8591
mdickison@atlantaga.gov*



Boulevard Crossing Steering Committee Meeting Nov. 15, 2007

Meeting Agenda

1. Ed McBrayer's Discussion of the Prospective PATH Connections
2. Review of Previous Steering Committee Meeting
3. Key Influences from existing Conditions
4. Presentation of Draft Plan
5. Comments and Feedback

Ed McBrayer

1. Ed McBrayer was in attendance for an optional meeting prior to the steering committee meeting, to discuss the trail options for subarea 3.
2. The hot issue of the area was the inclusion of a tunnel trail under the BeltLine along Cherokee Ave.
3. The neighbors adamantly opposed this connection specifically due to the possible exacerbation of the current criminal issues in the area. The residents clearly preferred an at grade crossing. Committee members also invited McBrayer to a community meeting on Dec. 6th to discuss the issue further with more members of the community.
4. McBrayer explained that the funding for this trail connection is coming from Park Opportunity Bonds that must be spent before they expire in the coming year. He also explained that CSX is not open to an at grade crossing on the rail track. McBrayer also explained that the tunnel would be about fifty yards long, and the tunnel will be a circular shape with eight foot width at grade and twelve foot with at your elbows.
5. With the statement of the opportunity bonds issue, many of the residents voiced their concern about the development of a trail when currently there is no active park, as well as the fact that the zoo is developing a new master plan which could alter the egress and ingress points of the zoo before the completion of the park.
6. Paul Taylor told the citizens that there would be no promise that the funds would be able to be returned to the area if they did not take advantage of the opportunity bonds that are focused on in this proposal.
7. Many of those in attendance agreed that funding should not be the driving force on whether something gets built or not, it should be based on a greater vision.

Matthew Dickison - Introduction

1. The next meeting is January 22nd, 2008
2. Reviewed the Northeast Corridor Acquisition

1. Draft Material Introduction:

- I. Circulation
- II. Greenspace
- III. Land Use
- IV. Public Art

2. Establish Placemaking

Placemaking consist of establishing the four elements above while using:

- I. Appropriate Scale
- II. Design Quality
- III. Transit Friendly Elements

3. Character Desired by the Boulevard Crossing Steering Committee

- I. Green
- II. Diverse (Economically, Racially, Ethnically, Housing Types, etc)
- III. Historic

4. What influenced ECOS' Decision Making?

- I. **Elevation and Drainage** – Wanted to make an effort to preserve the existing drainage ways
- II. **Historic and Cultural Features** – Maximize the emphasis on these features throughout the subarea
- III. **Current Projects in the permitting stages** – There were a total of about five projects
- IV. **Street Classification** – Arterial, Collector and Local streets all serve different purposes

5. John Funny – Grice and Associates

- I. **Not Just a Volume Study** – Grice and Associates also looked at the pedestrian realm, specifically sidewalk conditions (Did landscaping overwhelm the sidewalk? Where are there gaps in terms of usable sidewalks?)
- II. **Intersection Traffic Modeling** – Using the SYNCHRO format, which focuses on the short term projections
- III. **Draft Transportation Key Features** – Round about at Boulevard and Englewood, Storm water Management Median, Tunnels from Grant, Cherokee, and Mead (Mead provides great E-W connectivity that only exists currently with McDonough)

6. Types of Greenspaces throughout the Subarea

- I. Parks (Has all three different levels of parks between Grant, Boulevard Crossing and Choosewood)
- II. Commons
- III. Greenways
- IV. Pedestrian Plazas

7. Land Use throughout the Subarea

- I. Centers – Englewood Employment center sort of combines with the Boulevard Heights Center
- II. Other secondary centers include East Confederate, Choosewood Residential and Retail Center, Ormewood Center and Grant Loft Neighborhood
- III. Main Center – Englewood Employment Center – 10+ Stories
 - a.) Extends greenspace from park
 - b.) Parking is below grade
 - c.) Cultural Focus (School or Community Center)
- Boulevard Heights Retail Center
 - a.) Community-oriented Retail/Services and Multi- Family Living centered around the BeltLine, Community Park, and Boulevard
 - b.) 1/4 mile core area centered at Schuyler Avenue extension and linear Community Greenway
 - c.) Building Heights up to 10+

8. Community Concerns over Draft Materials

Arts

- I. Can we work to Revitalize the current art in the area?
- II. A key corner for public art could be the Zone 3 precinct; it could provide a grand entrance into the park and also serve as a gateway into the Grant Park neighborhood.
- III. We would really like public art that is functional.

Greenspace

- I. Leave parking/maintenance facility east of woods near Boulevard
- II. Greenway connection from Choosewood Park to McDonough

Land Use

- I. The committee members would like to see more dense population along the Westside of the new park

- II. The committee felt that medium density residential development near SE of Choosewood needs to focus on drainage issues.
- III. Change low density residential in Grant Park to medium mixed use
- IV. The committee loved all of the greenspace connections
- V. The committee also advised that 10+ stories will make the neighborhood nervous and to split the area north of the BeltLine to transition

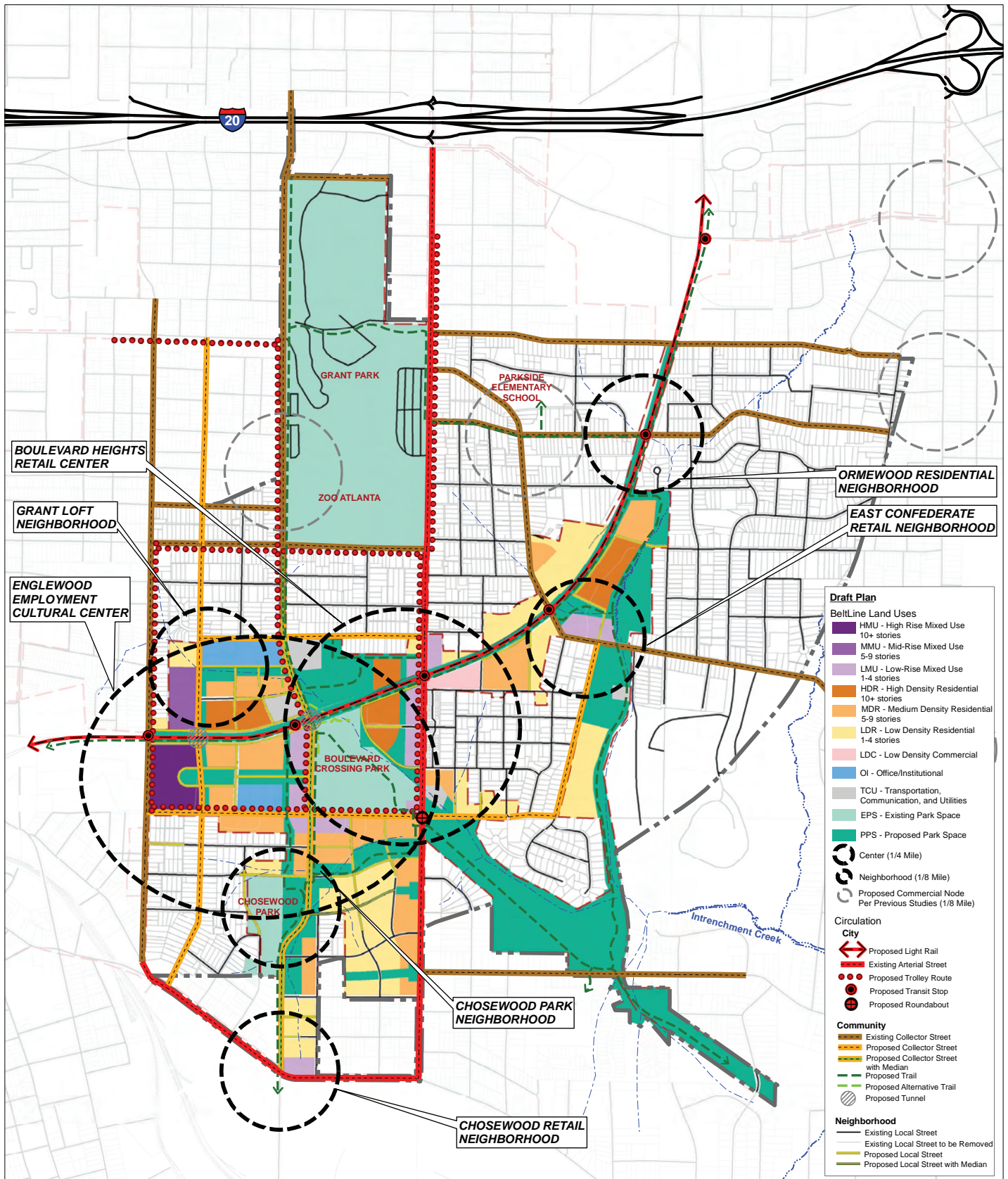
Circulation

- I. Mead, Cherokee, & Grant Tunnels – They would be great, but logistically there was some concern on behalf of the committee members
- II. It would be great to make Atlanta Ave. a two way street all the way to Hank Aaron
- III. Traffic Calming along Hill and Boulevard and Avondale @ East Confederate – The committee thought this problem could be solved with the use of more roundabouts to slow traffic down, also could these roundabouts be pedestrian friendly?
- IV. Could the pedestrian connections pay closer attention to schools and parks? Also there should be more buffering of pedestrians along Boulevard due to the high rate of speed the cars travel at.

Next Meetings:

Next Study Group Meeting for Subarea 3 Master Plan: January 10th, 6:30pm, ARC at Zoo Atlanta

Next Committee Meeting for Park Master Plan: January 17th, 6:00pm, ARC at Zoo Atlanta



PLACEMAKING AT BOULEVARD CROSSING : HOW WILL IT BE ACHIEVED?

WHAT IS PLACEMAKING?



BeltLine Subarea 3:
BOULEVARD CROSSING

January 10, 2008

ECOS ENVIRONMENTAL DESIGN, INC. | GRICE & ASSOCIATES | SMITH-DALIA ARCHITECTS | DOVETAIL CONSULTING



Boulevard Crossing Sub-Area

PLANNING MEETING

Zoo Atlanta ~ March 25, 2008



1. Welcome
2. Review Placemaking and Previous Draft Concept Plans
3. Review Draft Plan Elements (Public and Cultural Arts, Greenspaces, Land Use and Urban Design & Circulation)
 - Concept Analysis
 - Concept Solutions
 - Sustainable Action Strategies
4. Questions and Comments

Questions?

Please direct all Master Planning questions and/or comments to:

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Senior Urban Planner

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mdickison@atlantaga.gov

For general questions, contact:

Rukiya Eaddy

Citizen Participation Advocate Associate

404-588-8285

readdy@atlbeltline.org



PUBLIC ART –

- 1) Does it make sense to use an existing organization such as MPAC for implementation of BeltLine related Public Art?
 - Another member of the committee recommended that Atlanta BeltLine Inc. should look to form a consortium of artist to focus on the implementation of the art projects.
 - M. Dickson and Jonathan Lewis both responded that Atlanta BeltLine Inc. is in the midst of forming a Public Art strategy team to aid in dealing with this topic. Lewis also acknowledged the City's Bureau of Cultural Affairs will play a large role in the implementation of the public art projects

GREENSPACE

- 2) If you take Entrenchment Creek out of the equation, are the numbers for Subarea 3 still exceeding the national standard of greenspace?
 - Yes, the national goal for 2030 is eight per 1000 residents. The goal will still be surpassed if the greenway was no longer part of this calculation.

LAND USE/CIRCULATION

- 3) Does the level of the MR zoning category change the allowance of commercial space?
 - Yes, municode should be consulted for the exact densities allowable by each zoning code.
 - <http://www.municode.com/Resources/gateway.asp?pid=10376&sid=10>
- 4) Several committee members had concerns about some of the land use and circulations ideas, they were as follows:
 - The plan shows Boulevard changing to a two-lane road with a turning lane. One of the community members voiced his concern

over this idea. However, after Mr. John Funny of Grice and Associates, who developed the circulation portion of the plan responded by illustrating the model to the community.

- Another idea that was floated was the extension of the parallel parking spaces another 2 ft or so in width so not to affect cyclist passing by when the doors of the cars are opened.
- There were also some ROW width concerns raised about the proposed parallel parking on Confederate Ave.
- A couple of community members questioned the change of Hill St. from a one way to a two-way road.



BeltLine

**Agenda
BeltLine Master Plan
Southeast Study Group Meeting
April 14, 2008
Zoo Atlanta ARC Meeting**

1. Opening Remarks
2. Introductions
3. Final Draft Plan Review
4. Questions and Discussion
5. Prioritization Exercise

For questions or additional information, please contact:

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Rukiya Eaddy
Citizen Participation Advocate
readdy@atlbeltline.org
404.614.8285

Resources

- Atlanta Regional Commission, *Transit Oriented Development Implementation* (2003)
- City of Atlanta and Atlanta Beltline Inc. GIS Base Data Received July 24th, 2007
- City of Atlanta and ABI Previous and On-going Studies
 - An Analysis of the Fiscal Impacts of the Atlanta Beltline Tax Allocation District (2005)
 - Atlanta BeltLine Cultural Planning Vision (2006)
 - Atlanta BeltLine Five Year Work Plan (2005)
 - Atlanta BeltLine Health Impact Assessment (2007)
 - Atlanta BeltLine Redevelopment Plan- Future Circulation Plan- Traffic Impacts and Roadway Improvements (2005)
 - Atlanta BeltLine Redevelopment Plan (2005)
 - Atlanta BeltLine Street Framework Plan (2006)
 - Atlanta BeltLine TAD Feasibility Study (2005)
 - Atlanta Project Greenspace (on-going)
 - Atlanta Regional Commission Envision 6 Regional Transportation Plan (on-going)
 - Atlanta Strategic Action Plan (on-going)
 - Atlanta Quality Growth Task Force Recommendations (2004)
 - Chosewood Park Land Use Concept (2007)
 - Chosewood Park Neighborhood: Proposed Land Use Plan (2006)
 - City of Atlanta BeltLine Brownfield Survey
 - City of Atlanta BeltLine Overlay Zoning District (2007)
 - City of Atlanta Comprehensive Transportation Plan (on-going)
 - City of Atlanta Cultural Master Planning Activities (2004)
 - City of Atlanta Department of Parks, Recreation and Cultural Affairs Strategic Plan (2005)
 - City of Atlanta Department of Parks, Recreation and Cultural Affairs 2006 Annual Report (2006)
 - City of Atlanta Department of Public Works Programmed Projects (on-going)
 - City of Atlanta Public Art Master Plan (2003)
 - DCA Quality Growth Resource Team Study for Grant Park Neighborhood (2003)
 - Jonesboro Road Corridor Redevelopment Plan Update (2006)
 - Memorial Drive LCI Study (2001)
 - Memorial Drive- Martin Luther King, Jr. Drive Area Revitalization Study (2001)
 - Moreland Avenue Corridor Master Plan (2005)
 - PATH Foundation: Chosewood/ Grant Park Connector Plan (2007)
 - Ponce De Leon/ Moreland Avenue Corridor LCI Study (2005)
 - Programmed Projects by the Department of Public Works (on-going)
 - Project Greenspace (on-going)
 - Proposed Comprehensive Transportation Plan for Grant Park & affected Adjacent Neighborhoods (2007)
 - Proposed Trolley / BeltLine Maintenance Facility & Street Car Tourist Loop (2006)
 - Reconnecting Communities: Atlanta Rail Corridor Assessment (2004)
 - Southside Atlanta Redevelopment Plan (2000)
 - The Beltline Emerald Necklace: Atlanta's new Public Realm (2004)
 - 2007 – 2012 Capital Improvement Program (2007)

- Congress for New Urbanism— Image Bank: <http://www.cnu.org/search/imagebank>
- Duany Plater-Zyberk & Company— Research: <http://www.dpz.com/research.aspx>
- Federal Transit Administration, *Transit-Oriented Development and Joint Development in the United States: A Literature Review* (2002)
- Pedestrian and Bicycle Information Center— Image Library: <http://www.pedbikeimages.org>
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Atlanta BeltLine Master Plan

SUBAREA 3 BOULEVARD CROSSING

Existing Conditions Report

Prepared for
Atlanta BeltLine, Inc.
By Ecos Environmental Design
Grice & Associates
Smith Dalia Architects
Dovetail Consulting

Adopted by the Atlanta City Council on March 16, 2009



BeltLine
Atlanta Connected



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Context

The Boulevard Crossing subarea is located in the southeast portion of Atlanta, south of I-20 and east of I-75/I-85. It is bounded by Berne Street to the north, Hill Street to the west, and McDonough Boulevard to the south. The subarea is within the Southeast Study Group for the BeltLine and encompasses 1167 acres of land and 1.3 miles of the BeltLine Corridor. The Tax Allocation District within the subarea includes 529 acres of land proposed for redevelopment and rehabilitation.

There are seven neighborhoods and two Neighborhood Planning Units within the Boulevard Crossing Subarea. All seven neighborhoods are within Council District 1. The Neighborhood Planning Units within the subarea include NPU-W and NPU-Y. The majority of the neighborhoods are within NPU-W, including: Benteen, Boulevard Heights, Custer/McDonough/Guice, Grant Park and Ormewood Park. The neighborhoods of Chosewood Park and Englewood Manor are within NPU-Y. The Boulevard Crossing subarea has the largest amount of potential greenspace in the southeast study area and contains city assets like Zoo Atlanta and Grant Park.

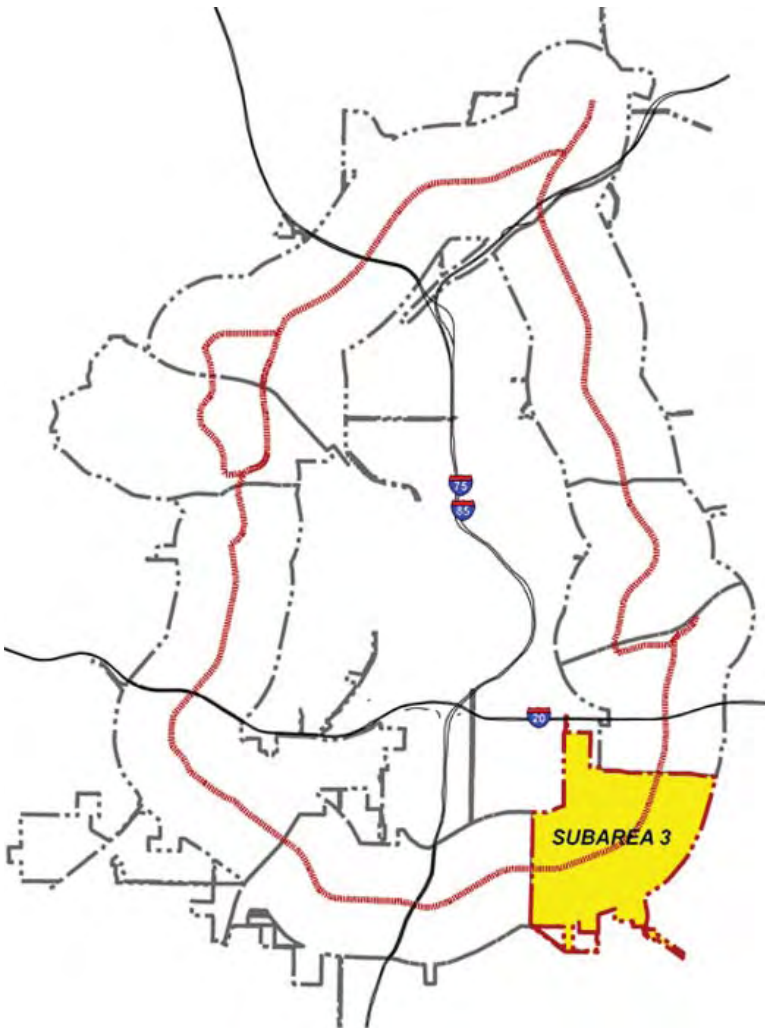


Figure A.1 - BeltLine Context

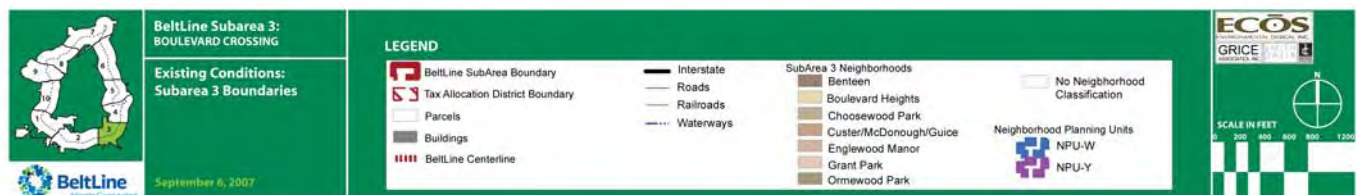
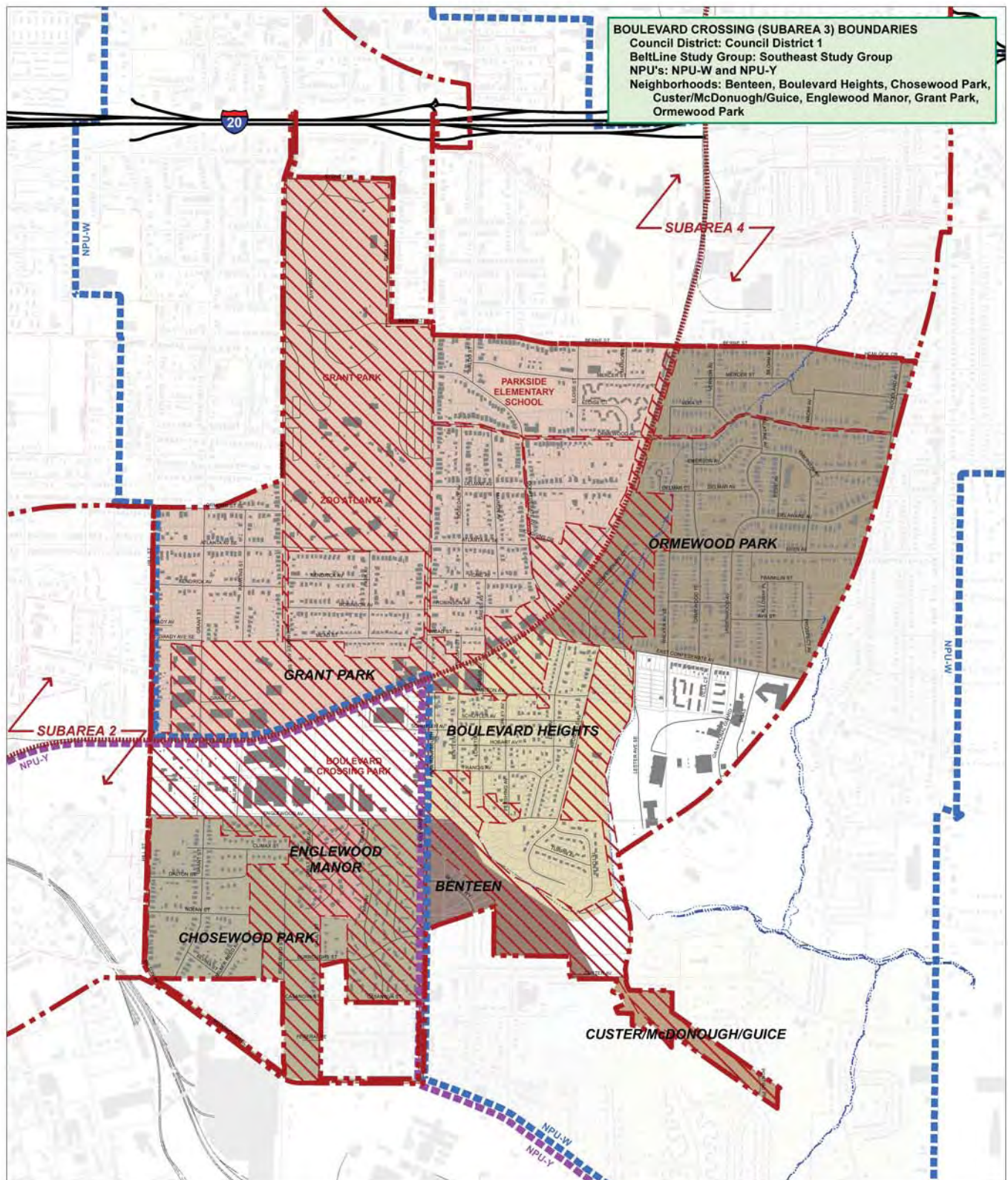


Figure A.2 - Subarea Context

History

The history of the Boulevard Crossing subarea speaks through the architecture, railroad corridor and street networks. The timeline below was based on information presented in *A History of the Atlanta BeltLine and its Associated Historic Resources* -Prepared By Georgia State University - Heritage Preservation - History 8700 - Spring 2006, This timeline summarizes the development within the Boulevard Crossing Subarea from the 1800's to present day.

Historic Timeline of Boulevard Crossing Subarea

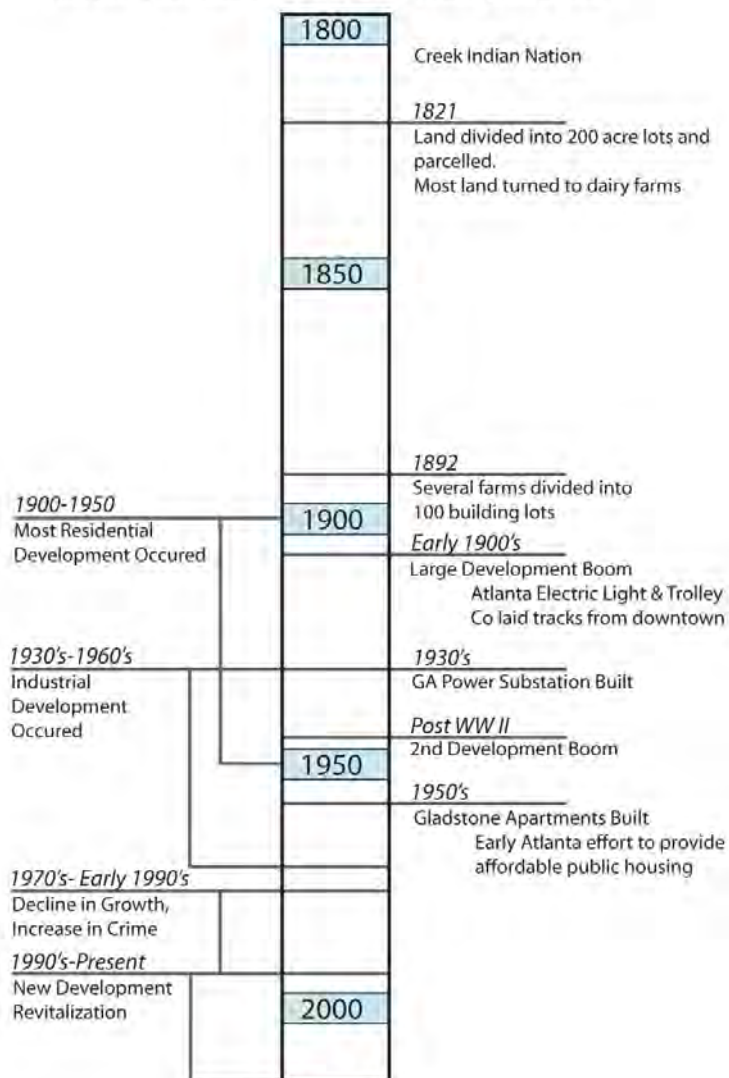


Figure B.1 - Subarea Timeline

The historic communities of this subarea have a well established neighborhood character and have a unique opportunity for continued revitalization. As stated in *A History of the Atlanta BeltLine and its Associated Historic Resources* "Together the green spaces, industrial structures, and residential neighborhoods provide a window into Atlanta's development patterns especially in the southeastern quadrant. The construction of the beltline aided in the development of industry, residential neighborhoods, and public amenities in the Boulevard Crossing area. The preservation and creation of green spaces and the preservation and rehabilitation of extant structures could create a wave of revitalization for the surrounding node areas that is much needed."



Figure B.2 - Intersection of Georgia Ave. & Hill St. - 1952
Courtesy of: www.atlantatimemachine.com



Figure B.3 - Intersection of Georgia Ave. & Hill St. - 2005
Courtesy of: www.atlantatimemachine.com

Historic & Cultural Resources

Historic and cultural resources are a key component to connectivity and preservation along the BeltLine. They also provide educational opportunities on the history of Atlanta and more specifically, the Boulevard Crossing subarea. Boulevard Crossing has an exceptional amount of cultural resources, such as, historic neighborhoods, the proposed Boulevard Crossing Park, the mounted police station, schools, churches and historical structures such as the Burns Cottage and the Cyclorama. The lists below show the nationally and locally designated historic features within Boulevard Crossing.

National Register of Historic Places:

Buildings:

- Burns Cottage
 - A replica of poet Robert Burns' birthplace in Alloway, Scotland that was constructed by the Burns Club of Atlanta in 1911.
- Cyclorama of the Battle of Atlanta
 - World's largest painting

Districts:

- Grant Park Historic District

Districts Currently Registered by City of Atlanta

Grant Park Historic District

The Atlanta Urban Design Commission(AUDC) in conjunction with the City of Atlanta Department of Planning & Community Development



Figure C.1 - Cyclorama - 1953 -
Courtesy of: www.atlantatimemachine.com

conducted a survey of the entire BeltLine Corridor titled *Historic Preservation & the BeltLine*. The mission of the AUDC survey is "to integrate historic preservation into the (BeltLine) planning process" and to identify "historic resources (as) a key component of the BeltLine's future."

Preliminary Findings by AUDC Staff of Significant Historic Resources Along / Near the BeltLine TAD

Buildings:

- Cyclorama of the Battle of Atlanta
- Fort Walker
- Georgia Power Substation
 - Noted for Architectural, Community Planning & Development significance

Sites:

- Ormewood Underpass
 - Noted for Transportation and Engineering significance

Districts:

- Grant Park
 - Listed to include areas of the neighborhood that are not currently designated under the National Historic District or Local Historic District that should still be taken into consideration for their contributing historical significance
- Ormewood Park
 - Noted for Architectural, Community Planning & Development significance

The Cultural Resources Map (see fig C.2) displays the survey information by the AUDC (listed above) as well as the nationally and locally listed features. Other significant structures noted on the map were found during a windshield survey conducted by the consultant team during the course of the project to validate additional findings by AUDC staff. These structures include noted buildings of historic significance as well as community facilities such as churches within the area, the National Dust Control Service brick industrial warehouse next to Boulevard Crossing Park, and the Evander Holyfield Boxing Facility located north of Berne Street.

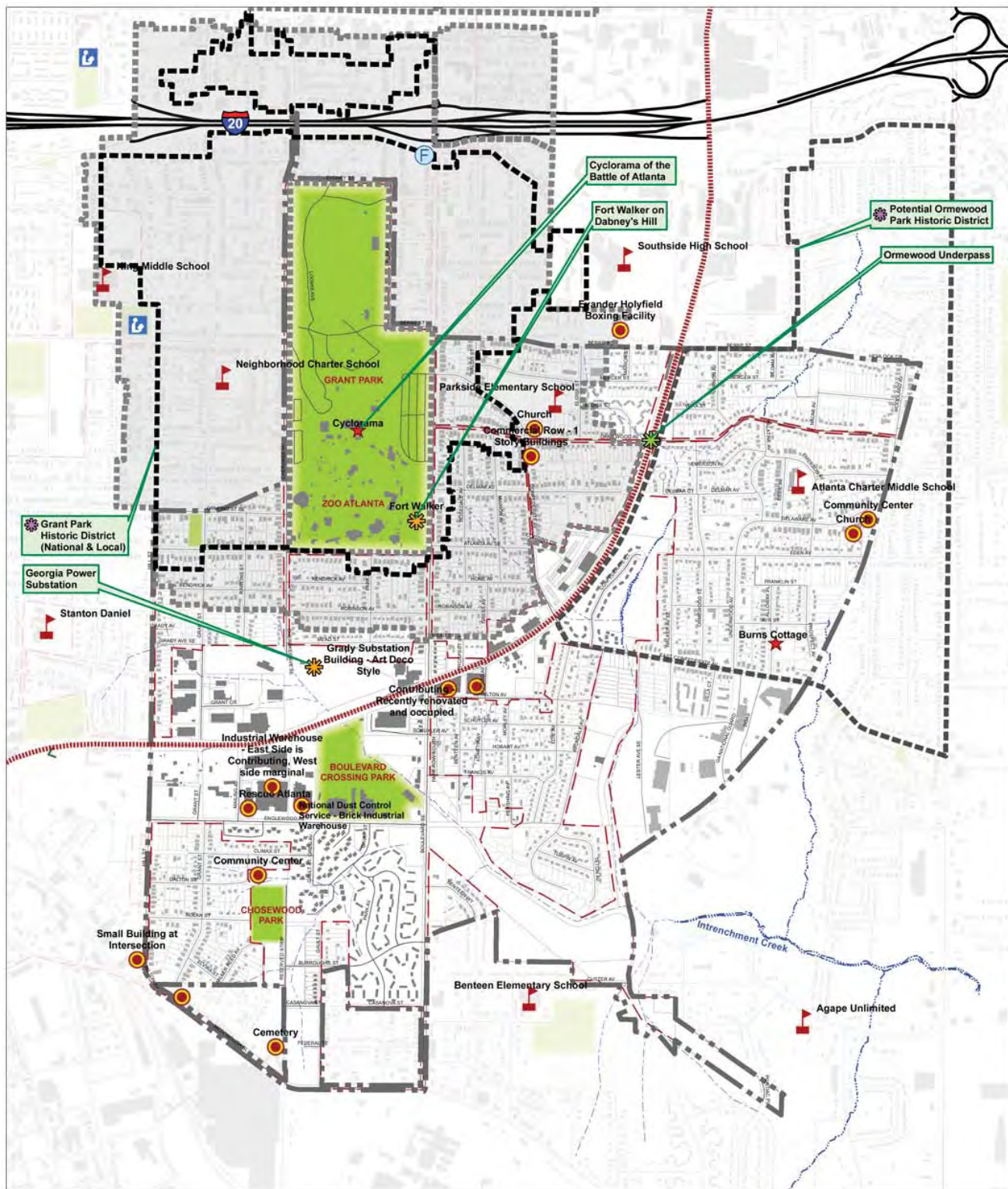


Figure C.2 - Historic & Cultural Resources Map

Natural Features

Existing natural features are an important component in understanding the land and its potential for development. The findings from mapping the natural features which includes waterways, drainage ways, floodplain, and topography of the subarea, are listed below. (see fig D.3).

Topography / Elevation

- The most severe elevation changes are predominately focused around the BeltLine creating a ridge in most locations causing challenges with street network connections. There is only one at grade crossing with the existing road network. There are additional challenges with street network connections in Chosewood Park along Boulevard.
- Elevation change is 175 feet within the subarea with the highest point at Fort Walker on Dabney's Hill in Grant Park and the lowest point at Intrenchment Creek.
- High points within the subarea present great views towards the city skyline.



Figure D.1 - Displays elevation change of the BeltLine Corridor near Boulevard Crossing Park

Hydrology / Drainage ways

- Intrenchment Creek is located in the southeast portion of the subarea with drainageways and tributaries extending from the Ormewood Park neighborhood, Boulevard Crossing Park and Chosewood Park.
- Some portions of Intrenchment Creek are piped or within a concrete channel and may provide an opportunity to daylight, where conditions permit, and restore the natural environment and flow of water.

Tree Canopy

- As indicated from the 2006 aerial imagery of the subarea, there are many locations with an extensive tree canopy in the subarea
- Most residential neighborhoods have moderate to mature tree canopy
- Many undeveloped parcels, such as the parcel to the east of the GA Power substation and the parcel next to Chosewood Park, are heavily forested.
- Heavily treed areas should be preserved to maintain the benefits of the urban canopy. Benefits include reduced air and surface temperatures, improved air and water quality and promotion of smart growth practices.



Figure D.2 - Concrete Channel - Boulevard Heights Neighborhood
Courtesy of www.hsrb-ssw.org

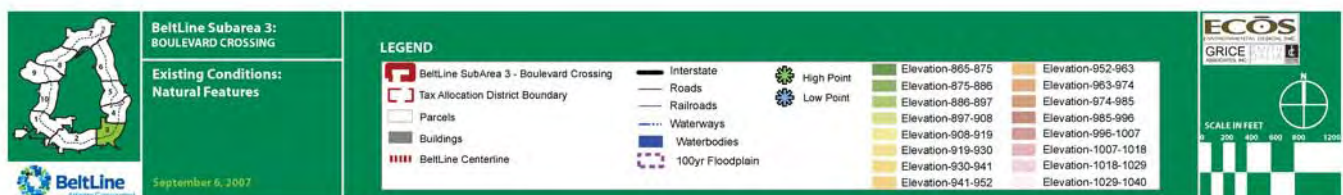
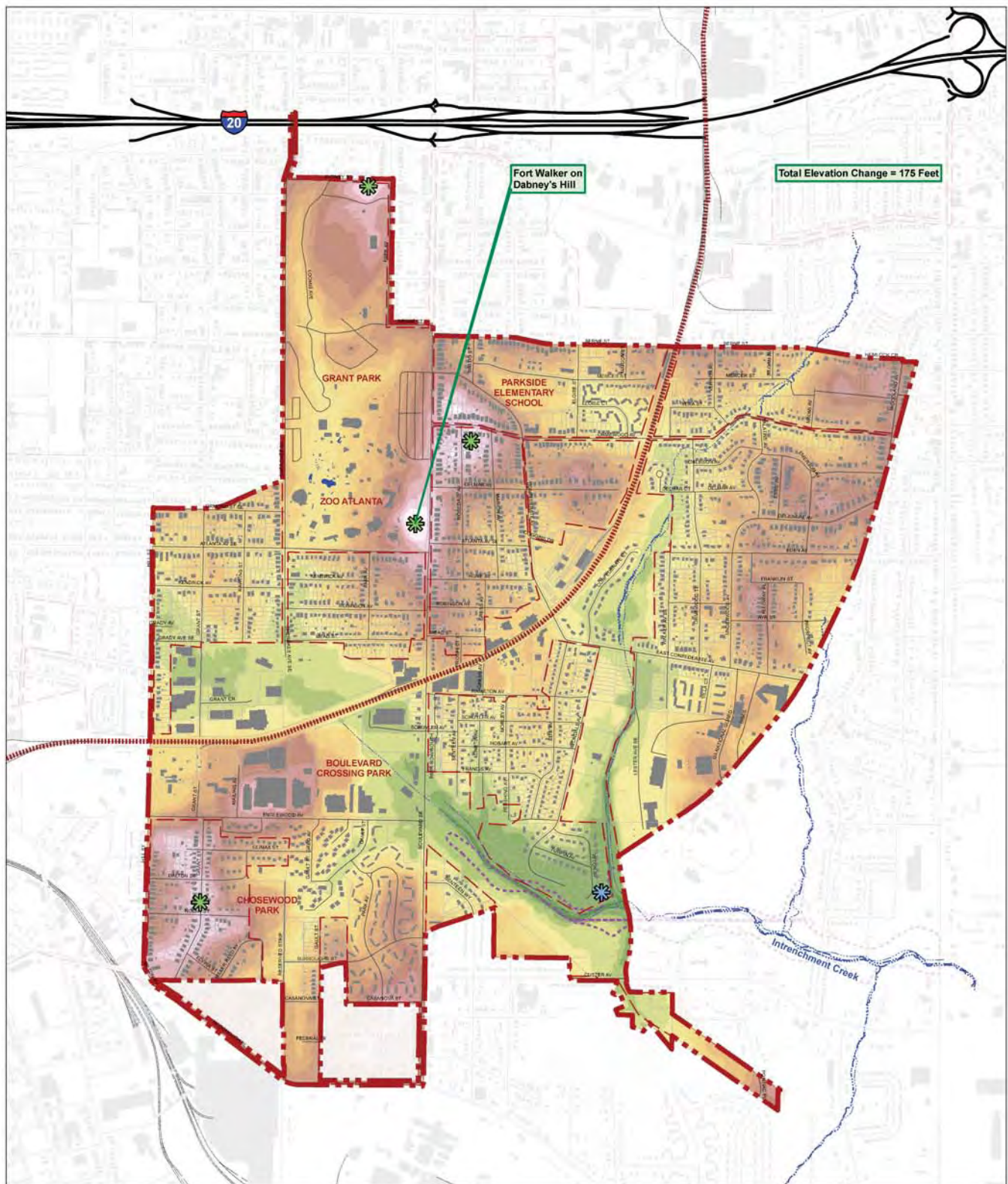


Figure D.3 - Natural Features Map

Environmental Conditions

When examining the environmental condition of an urban area, brownfield sites have to be addressed. According to the EPA, the term 'brownfield site' is a property on which expansion, redevelopment, or reuse may be complicated by the presence, or perceived presence, of contamination. As stated in the EPA's *Anatomy of a Brownfields Redevelopment*, as part of the Brownfields Solution Series, cleaning up a brownfield requires:

- Conducting property and environmental assessments
- A Phase I environmental assessment should be performed to identify the presence, type, and extent of contamination that may exist onsite. If required, a Phase II assessment may be conducted to sample or test for specific hazards that may have been identified in Phase I and to help develop a remedial action plan.
- A cleanup may be considered complete when local, state, or federal regulatory closure (e.g., a No Further Action Letter) is issued.

Current and past uses of a site provide clues to the environmental conditions. Due to the historically industrial oriented uses of the BeltLine TAD, several parcels are suspect to be brownfields. The January 2005 study by MACTEC classifies seven sites within the Boulevard Crossing subarea as potential brownfields (see fig E.2).

Out of the seven sites identified in the subarea, two of these sites have already been remediated and redeveloped as medium and high density residential. Boulevard Crossing Park is shown on the map and a Phase I & Phase II Environmental Assessment has already been conducted. There was shown to be no contamination. The four remaining brownfield sites leave Subarea 3 with remediation and development opportunities in close proximity to the BeltLine. Remediation of brownfields within the TAD property would enhance protection of human health and the environment, revitalize neighborhoods, and improve quality of life.



Figure E.1 - Existing Tree Canopy

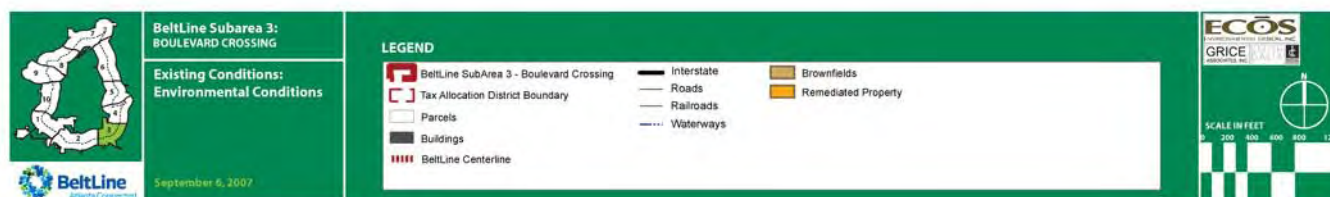
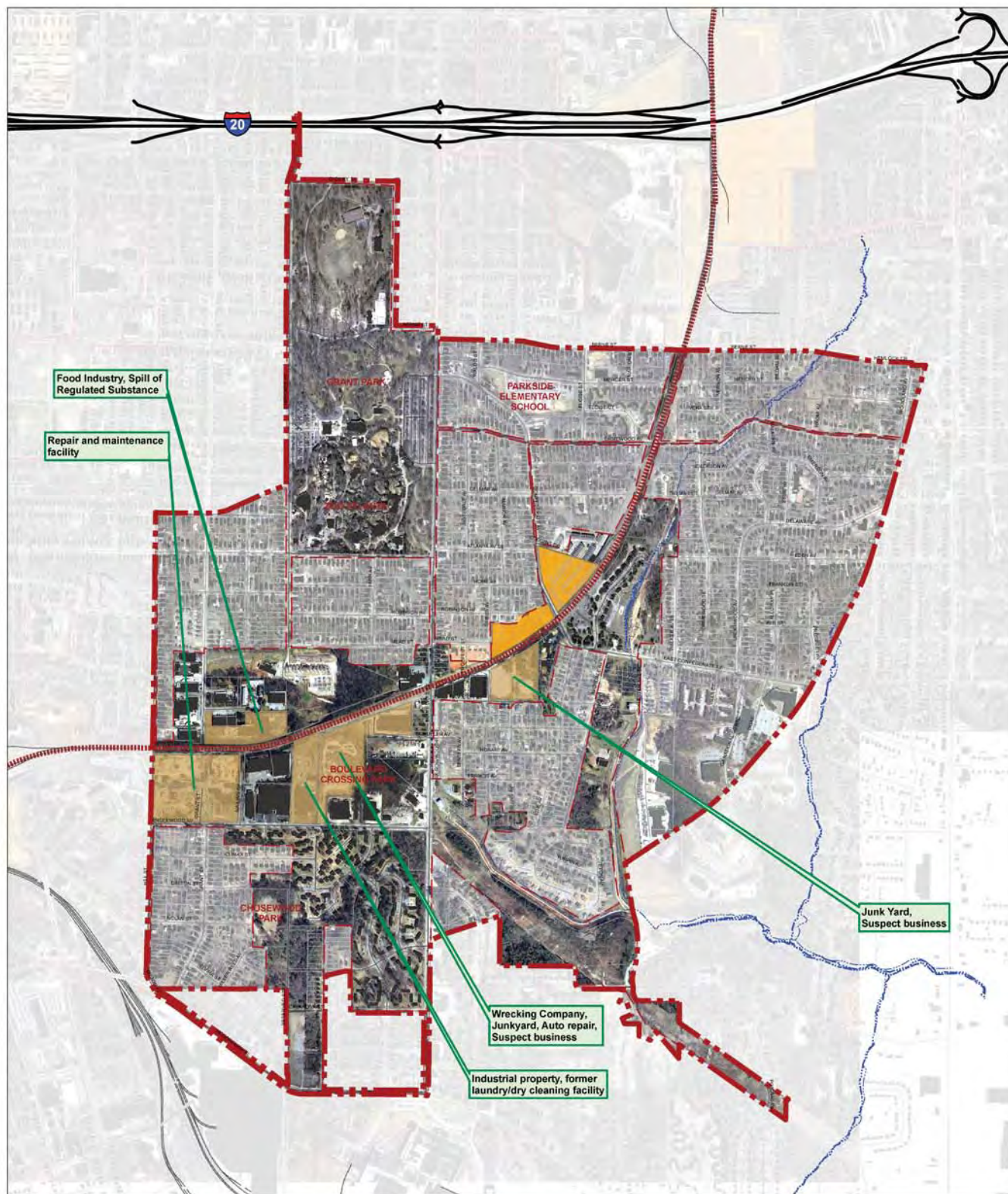


Figure E.2 - Environmental Conditions Map

Development Patterns

The Boulevard Crossing subarea has seen an enormous amount of development in the past 100 years. The Development Patterns Map captures these patterns that have occurred over time from 1911-2006 in and around the subarea (see fig F.1). The 1911 Sanborne map displays the railroad corridor and the beginnings of a street network and small patches of development within the Grant Park and Ormewood Park areas. Grant Park is currently on the National Register of Historic Districts and Ormewood Park has potential for historic designation status. The Cyclorama of the Battle of Atlanta and the Burn's Cottage which are both National Register Historic Buildings are shown on this map as well. The 1940 maps display the formations of street networks extending into Chosewood Park and Boulevard Heights along with more residential development throughout the subarea. By 1972, interstate 20 had been built and development was booming throughout. The 2006 map begins to distinguish neighborhood development types, streetscapes and current conditions. Each neighborhood within the subarea has its own unique character and style, described below.

GRANT PARK

- **Housing style:** 1-2 story single family & duplexes- modified Queen Anne, Victorian era cottages, Craftsman bungalows, English vernacular revival, shotgun
- **Streetscape:** sidewalks, mature tree canopy, rolling terrain, on-street parking
- **Lot size:** approximately 1/8 to 1/4 acre
- **Condition:** well-established, developed in late 19th & early 20th century, renovations occurring over past 20 years

ORMEWOOD PARK

- **Housing style:** 1-2 story single family- Craftsman
- **Streetscape:** sidewalks, moderate tree canopy, on and off street parking
- **Lot size:** approximately 1/8 to 1/2 acre
- **Condition:** Well established, some transitional, infill single family

INDUSTRIAL/RAIL CORRIDOR

- **Housing style:** 1-2 story infill townhomes, contains the only higher density residential development in subarea along Confederate.
- **Streetscape:** sidewalks, lack of continuous or contiguous tree coverage, utility corridors, steep terrain
- **Lot size:** larger parcels, approximately 1 to 20 acres
- **Condition:** underutilized, mix of large expanses of impervious and underutilized greenspaces, prevalent chain link fencing, deteriorating commercial uses

CHOSEWOOD PARK

- **Housing style:** 1-2 story single family
- **Streetscape:** sidewalks, mature tree canopy, on and off-street parking, undulating landscape terrain
- **Lot size:** approximately 1/6 to 1/4 acre, some close to 1 acre
- **Condition:** well-established, current renovations & rehabilitation, connectivity in and around park is limited, connectivity limited to eastern portion of neighborhood for what appears to be safety and maintenance reasons.

ENGLEWOOD MANOR

- **Housing style:** 1-2 story multi-family
- **Streetscape:** sidewalks, minimal tree canopy, rolling terrain, on and off-street parking
- **Lot size:** na
- **Condition:** deteriorating , most homes lacking proper maintenance

BOULEVARD HEIGHTS

- **Housing style:** 1-2 story single family
- **Streetscape:** no sidewalks, moderate tree canopy, on and off street parking
- **Lot size:** approximately 1/8 to 1/2 acre
- **Condition:** Some transitional and some established, new infill single family occurring.

BENTEEN

- **Housing style:** 1-2 story single family
- **Streetscape:** no sidewalks, moderate tree canopy, off-street parking
- **Lot size:** approximately 1/4 to 1/2 acre
- **Condition:** 1970s residential development, minimal renovations

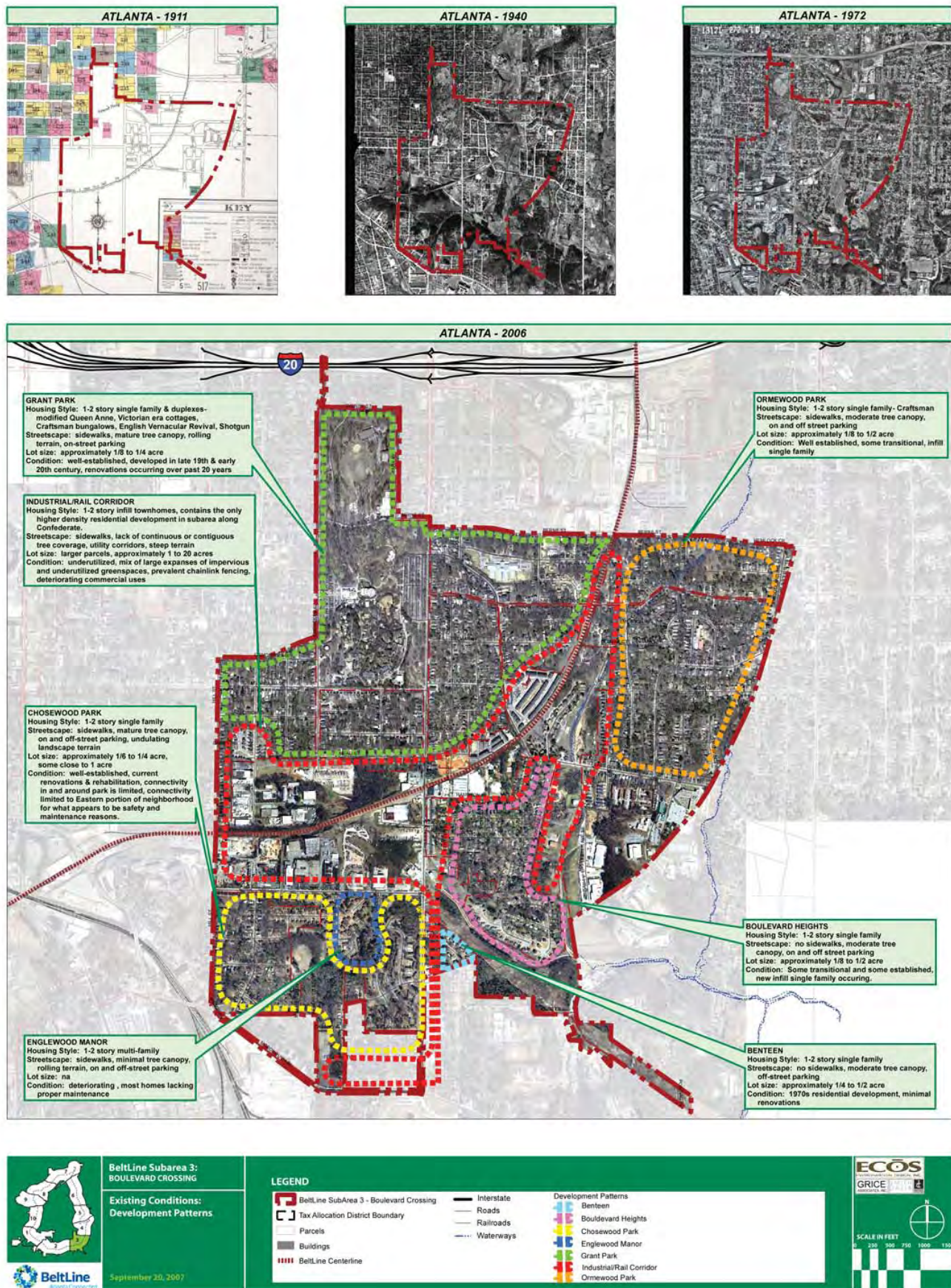


Figure F-1 - Development Patterns Map

Population / Employment

Population

The Boulevard Crossing population is increasing at about the same annual rate as the City of Atlanta and per projections by the Atlanta Regional Commission and City of Atlanta may increase 1.5 times by 2030. The median age for Boulevard Crossing is approximately 31 and will modestly increase to almost 32 by 2012. The majority of the population is Black; however, there are a significant percentage of Hispanic origin residents.

POPULATION					
	Census 2000	2007	2012	2007-2012 Change	2007-2012 Annual Rate
City of Atlanta	416,474	463,421	500,694	37,273	1.56%
Boulevard Crossing	7,471	8,537	9,362	825	1.86%

Table G.1 - Population

POPULATION BY AGE						
	Boulevard Crossing			City of Atlanta		
	2000	2007	2012	2000	2007	2012
Total	7,471	8,539	9,362	416,474	463,420	500,694
0 - 4	9.1%	9.3%	9.0%	6.4%	6.3%	6.4%
5 - 9	8.3%	7.8%	8.0%	6.6%	5.8%	5.6%
10 - 14	6.5%	7.0%	6.6%	6.0%	6.0%	5.3%
15 - 19	6.9%	5.4%	6.3%	7.2%	7.3%	7.0%
20 - 24	8.8%	7.3%	6.9%	9.4%	8.1%	9.7%
25 - 34	21.3%	21.0%	19.3%	19.7%	19.2%	16.7%
35 - 44	17.0%	15.8%	15.2%	15.5%	15.2%	14.8%
45 - 54	11.4%	13.0%	13.2%	12.0%	12.5%	12.9%
55 - 64	5.4%	7.7%	9.2%	7.4%	9.5%	10.7%
65 - 74	3.2%	3.4%	4.1%	5.0%	5.2%	5.7%
75 - 84	1.6%	1.7%	1.6%	3.3%	3.2%	3.3%
85+	0.5%	0.6%	0.7%	1.4%	1.6%	1.8%
18+	72.1%	72.8%	72.9%	77.7%	78.4%	79.4%

Table G.2 - Population by Age

POPULATION BY RACE/ETHNICITY

	Boulevard Crossing			City of Atlanta		
	2000	2007	2012	2000	2007	2012
Total	7,470	8,536	9,363	416,474	463,420	500,694
White Alone	36.9%	27.8%	23.4%	33.2%	29.9%	27.9%
Black Alone	53.0%	61.2%	64.6%	61.4%	63.6%	64.9%
American Indian Alone	0.3%	0.3%	0.2%	0.2%	0.2%	0.2%
Asian or Pacific Islander Alone	1.6%	1.5%	1.4%	2.0%	2.2%	2.4%
Some Other Race Alone	6.1%	7.2%	8.2%	2.0%	2.6%	3.1%
Two or More Races	2.1%	2.1%	2.1%	1.2%	1.4%	1.5%
Hispanic Origin	13.8%	14.3%	15.3%	4.5%	5.5%	6.2%
Diversity Index	68.2	65.9	65.0	55.4	55.6	55.9

Table G.3 - Population by Race / Ethnicity

HOUSEHOLDS

	Boulevard Crossing	City of Atlanta
2000 Households	2,718	168,147
2000 Average Household Size	2.71	2.30
2007 Households	3,131	189,708
2007 Average Household Size	2.70	2.29
2012 Households	3,447	206,778
2012 Average Household Size	2.69	2.28
2007 - 2012 Annual Rate	1.94%	1.74%

Table G.4 - Population by Household

Employment

The daytime and nighttime ratio is relatively low with more people living in rather than being employed in Boulevard Crossing. The largest employer in Boulevard Crossing is the government sector with 44.9%. The majority of businesses are however in the service sector, with retail and government following in second and third.

EMPLOYMENT		
	Boulevard Crossing	City of Atlanta
Total Businesses:	129	26,545
Total Employees:	2,247	331,119
Total Residential Population:	8,537	463,421
Daytime (Employee)/Nighttime (Population) Ratio	0.26	0.71

Table G.5 - Employment

EMPLOYMENT AND BUSINESSES BY SECTOR								
	Boulevard Crossing Businesses		Boulevard Crossing Employment		City of Atlanta Businesses		City of Atlanta Employment	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Agriculture & Mining	2	1.6%	6	0.3%	321	1.2%	1,366	0.4%
Construction	9	7.0%	276	12.3%	1,285	4.8%	6,904	2.1%
Manufacturing	5	3.9%	191	8.5%	641	2.4%	17,627	5.3%
Transportation	3	2.3%	10	0.4%	471	1.8%	14,167	4.3%
Communication	3	2.3%	10	0.4%	291	1.1%	6,646	2.0%
Electric, Gas, Water, Sanitary Services	0	0.0%	0	0.0%	35	0.1%	2,352	0.7%
Wholesale Trade	6	4.7%	263	11.7%	912	3.4%	8,959	2.7%
Retail Trade Summary	20	15.6%	66	2.9%	4,913	18.5%	52,447	15.8%
Finance, Insurance, Real Estate Summary	7	5.5%	27	1.2%	2,842	10.7%	30,794	9.3%
Services Summary	48	37.5%	389	17.3%	11,813	44.5%	138,164	41.7%
Government	17	13.3%	1,008	44.9%	984	3.7%	47,454	14.3%
Other	8	6.3%	0	0.0%	2,037	7.7%	4,239	1.3%
Totals	128	100.0%	2,246	100.0%	26,545	100.0%	331,119	100.0%

Table G.6 - Employment by Sector

Zoning

As expressed in the Atlanta Strategic Action Plan (ASAP), the City's zoning districts include seventeen types of residential zoning districts, eleven quality of life zoning districts (eight mixed residential districts and three mixed commercial districts), a live work zoning district, an office and institutional zoning district, six commercial zoning districts, six neighborhood commercial zoning districts, two industrial zoning districts, eighteen special public interest districts (SPIs), three types of planned development zoning districts, nine landmark districts, and eight historic districts. The majority of the Boulevard Crossing subarea consists of single family and two family residential zoning districts with minimum lot sizes from .21 (R4) to .17 (R5) acres. Commercial, industrial, and multi-family residential zoning districts are concentrated within the Tax Allocation District along the BeltLine and extend along the only two arterial corridors within the subarea- Boulevard and McDonough. Currently, only a handful of parcels are zoned one of the quality of life zoning districts (Multi-family MR or Mixed Use MRC). This will likely need to change for redevelopment and revitalization to meet the requirements to support transit and to fulfill the goals of the Boulevard Crossing community.

Two City of Atlanta overlay districts encompass a portion of the Boulevard Crossing subarea. The first is the Grant Park Historic District which is located north of the BeltLine and TAD properties. Development controls for residential, commercial, and transitional industrial properties include yards/ setbacks, heights, parking and driveways, screening, and architectural standards. The second overlay district and one that will be examined during this planning process to ensure that it assists in achieving the Boulevard Crossing community goals and desired neighborhood character, is the BeltLine Overlay District. Development controls for this district include transitional uses and yards, open space requirements and incentives, site limitations, sidewalk zones, relationship

of building to street, loading areas, driveways and parking, lighting, landscaping for parking, bicycle parking, and pedestrian bridges/tunnels. The following are the intent of the two overlay districts:

Intent of the Grant Park Historic District Regulations:

- To **promote the educational, cultural, economic and general welfare of the city** by preserving the district's architectural integrity, streetscape patterns, and cultural heritage.
- To **preserve the district's historic pattern and distribution of building types** that are characterized primarily by single-family residences, institutions, and neighborhood commercial buildings, many of which were constructed during the late 19th century and early 20th century.
- To **ensure harmony and compatibility of visual qualities and spatial relationships** that exist between buildings, and between buildings and the street, throughout the district.
- To **preserve the residential character** of all streets and thoroughfares in the district.
- To **preserve the historic street and lot pattern**, and design that are significant elements of the district.
- To **encourage and ensure development that is complementary to and compatible** with the existing historic structures in the district.
- To **encourage the use of existing alleys**, reinforcing the streetscape patterns and general physical character of the district.
- To **encourage economic development** and a **variety of housing opportunities; foster neighborhood revitalization**, and **discourage displacement** of residents.

Intent of the BeltLine Overlay District

Regulations:

- **Implement certain recommendations** contained in the comprehensive study known as the **BeltLine Redevelopment Plan** as adopted by the City of Atlanta;
- **Preserve a continuous corridor** along the BeltLine route of sufficient dimension for the implementation of transit, multi-use trails and green space;
- **Promote and maximize opportunities for safe and accessible green spaces, plazas, public art, and cultural and institutional buildings;**
- **Preserve opportunities for connecting trails** reaching beyond the BeltLine to create a broad network of trails throughout the city;
- **Encourage a grid of smaller blocks and connected streets** to improve access to the BeltLine, reduce congestion, and further the urban character of the area;
- **Preserve the historic physical character of the industrial districts** along the BeltLine by promoting adaptive re-use of historic structures and encouraging new construction to be consistent with the size, scale and/or character of those buildings;
- **Ensure that new construction is compatible with the character of existing** established adjacent single-family neighborhoods;
- **Create new mixed-use and commercial nodes** at BeltLine station areas that are pedestrian and transit-oriented;
- **Create a diversified urban environment** where people can live, work, shop, meet and play;
- **Promote public health and safety** by providing a pedestrian-oriented environment that includes active street-level uses, sufficient sidewalk widths, and primary pedestrian access from sidewalks to adjacent building entrances;
- **Promote development of a wide range of housing types** appropriate to meet various housing needs and income levels;
- **Facilitate safe, pleasant and convenient pedestrian and bicycle circulation** and minimize conflict between pedestrians and alternative transit modes;
- **Provide accessible and sufficient parking** in an unobtrusive manner by encouraging shared parking solutions and minimizing commercial parking in residential neighborhoods;
- **Maximize air and water quality**, including that which supports tree planting, greenspace and watershed protection, and bicycle parking;
- **Improve the aesthetics of street and built environments.**

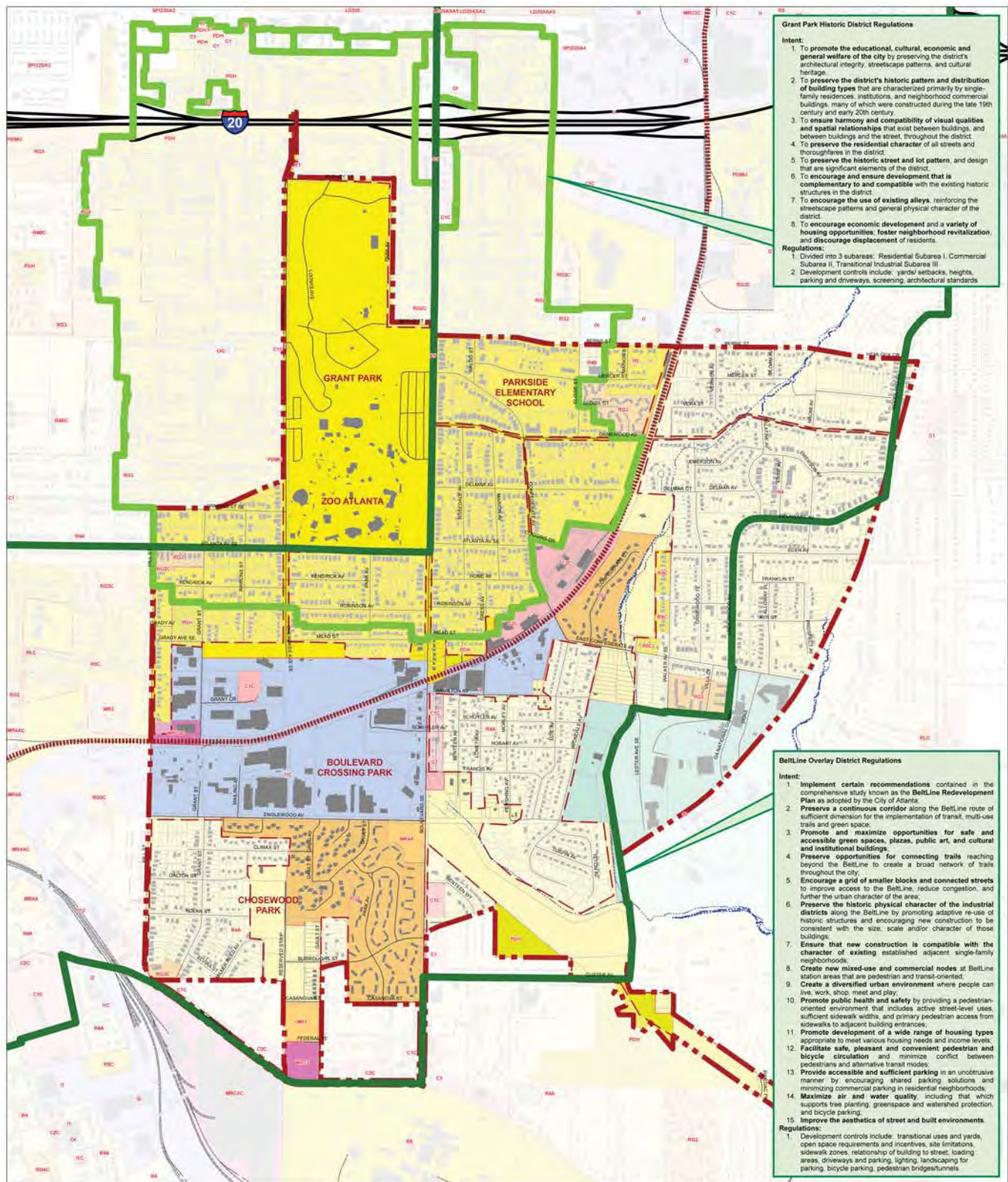


Fig H.1 - Zoning Map

Existing Land Use

The existing land use for the Boulevard Crossing BeltLine TAD properties was verified and revised via a windshield survey. The following provided by ABI and Urban Collage, are land use categories with corresponding definitions utilized during the windshield survey and displayed on the Existing Land Use Map (Fig. I.1):

Open Space:

- This category pertains to any piece of property that is *intentionally* being used for any open space uses (i.e., rather than a vacant lot or natural undeveloped property). It is important to remember that you are surveying the parcel, not portions of the parcel. Therefore, a parcel that contains an apartment complex that happens to have a small courtyard would not be considered “open space.” However, if the courtyard was a part of the apartment complex but on a parcel unto itself, that parcel would be considered open space. An open space does not have to be publicly-owned to be considered “open space.”

Samples: Parks (active or passive), plazas, recreation fields, trails, golf courses, nature preserves, school yards, courtyards, gardens, etc.

Single-Family Residential:

- This category pertains to any piece of property that is occupied by one, single-family housing unit (typically a house). This does not include “houses” that are subdivided into multiple units. This does not include a single parcel that contains more than one “house.” It does not matter whether the house is owner-occupied or a rental property as long as there is one dwelling unit per lot.

Samples: Detached house, townhouse on a fee-simple lot (i.e., there is one unit per lot), mobile home (if the mobile home is on a lot by itself), etc.

Low-Density Residential:

- This category pertains to situations in which multiple housing units are contained

within a single lot, but at a low density (i.e., approximately less than 12 units per acre). Once again, it does not matter whether the housing units are owner-occupied (such as in a condominium arrangement) or rental as long as there are multiple units per lot at a low density.

Samples: Several homes on a single lot, duplexes, triplexes, townhomes with ample spacing between buildings, 1 story assisted living facilities, etc.

Medium-Density Residential:

- This category pertains to situations in which multiple housing units are contained within a single lot, but at a medium density (i.e., approximately 12-36 units per acre). Once again, it does not matter whether the housing units are owner-occupied (such as in a condominium arrangement) or rental as long as there are multiple units per lot at a medium density. In practice, most apartment complexes fall in this category unless the buildings are one story and spaced far apart.

Samples: 2-4 story apartment complexes, tightly-packed urban townhomes, 2-4 story assisted living facilities, etc.

High-Density Residential:

- This category pertains to situations in which multiple housing units are contained within a single lot, but at a high density (i.e., approximately 36-72 units per acre). Once again, it does not matter whether the housing units are owner-occupied (such as in a condominium arrangement) or rental as long as there are multiple units per lot at a high density. In practice, most mid-rise apartment complexes fall in this category.

Samples: 5-12 story apartment/condo/senior/assisted living residential towers, etc.

Very High-Density Residential:

- This category pertains to situations in which multiple housing units are contained within a single lot, but at a very high density (i.e., above approximately 72 units per acre). Once again, it does not matter whether the housing units are

owner-occupied (such as in a condominium arrangement) or rental as long as there are multiple units per lot at a very high density. In practice, most high-rise apartment/condo complexes fall in this category.

Samples: *13+ story apartment/condo/senior/assisted living residential towers, etc.*

Low-Density Commercial:

- This category pertains to parcels that contain a commercial business – typically a business that sells goods and/or services (that is not manufacturing or industrial) at a low density (i.e., approximately 3 stories or less). For the purposes of this survey, this also includes general office uses (unless specifically related to a civic or service-provider “institution”).

Samples: *Retail establishments, restaurants/eating establishments, laundry, drug stores, offices, grocery stores, gas stations, automobile repair shops, florists, bakeries, coffee houses, repair shops, funeral homes, hotels, motels, spas, salons, bars, banks, lodges/clubs, commercial recreation facilities (eg., go-carts, miniature golf, driving range, workout club, batting cages, etc.), printing shops, leasing centers, strip centers, car washes, self-storage, movie theatres, etc.*

High-Density Commercial:

- This category pertains to parcels that contain a commercial business - typically a business that sells goods and/or services (that is not manufacturing or industrial) at a high density (i.e., approximately 4 stories or more). In practice, this type of commercial intensity is only found in downtown urban locations. For the purposes of this survey, this also includes general office uses (unless specifically related to a civic or service-provider “institution”).

Samples: *Malls, mid to high-rise office buildings (over 4 stories), mid to high-rise shopping centers (over 4 stories), etc.*

Industrial:

- This category pertains to parcels that contain a manufacturing, production or processing use. In general, this would include anything that requires the use of heavy machinery and

typically involves loading and unloading of heavy trucks. This category should also be used for areas that are designated for heavy storage of materials. For use in this survey, this should also include any utilities or communication-related uses.

Samples: *Trucking facilities, factories, power plants, recycling centers, junk yards, refuse processing centers, dumps, communication towers, power sub-stations, water treatment facilities, manufacturing facilities, distribution centers, etc.*

Office/Institutional:

- This category pertains to parcels that are used exclusively for civic use, or service-provider institutional uses (including offices for such uses). Institutional uses generally include any civic or service-related facility even if not publicly owned or operated.

Samples: *Healthcare providers, hospitals, schools (public or private), community centers, worship facilities, social service providers, police/fire stations, homeless shelters (non-residential), job training facilities, government offices, post offices, libraries, museums, correctional facilities, etc.*

Office/Institutional/Residential:

- This category pertains to parcels that contain a mix of the Office/Institutional uses described above and residential uses. Typically, this occurs where a specific service provider is also providing housing to its users. In practice, this condition will be rare.

Samples: *Residential homeless shelters, permanent care facilities, etc.*

Mixed-Use (20% residential):

- This category pertains to parcels that contain a mix of residential and non-residential uses, as long as the residential uses are approximately 20% or more of the development. In some instances this will include a mix of uses within a single building. In other cases, it will simply include separate buildings with separate uses but contained within a single property.

Apartment building with a drugstore on the bottom floor, an apartment complex on the same parcel as a strip center, etc.

Parking:

- This category is confined to parcels that are solely used for parking, even if they are associated with an adjacent use on another parcel. If a lot is used for parking but is not paved, then it should be categorized as “vacant land” (see the next category).

Samples: *Paved parking lot, parking deck, etc.*

Vacant Land:

- This category pertains to parcels that do not contain a primary structure. In some instances, a lot will contain the ruins of a dilapidated structure; if the ruins are simply the remaining foundation walls, then the lot should be considered “vacant.” If part or all of a dilapidated structure remains, then the lot should be categorized as the use that was last present in the structure (to the extent that it can be determined). If a lot contains a very small appurtenance, such as a shed or out-building, it may be considered vacant land.

Samples: *Undeveloped lot, a lot that once contained a structure, a lot cleared for construction but with nothing on it, a gravel lot used for parking, etc*

The Boulevard Crossing subarea is predominately single family (32.3%), but also contains significant public open spaces with Grant Park, Boulevard Crossing Park, and Chosewood Park across the BeltLine TAD. However, these large open spaces lack pedestrian and greenspace connectivity to each other. The remaining TAD properties providing for redevelopment and rehabilitation opportunities consist of approximately 20% industrial uses, 15% medium density residential uses, and 13% vacant land. Industrial properties are focused at the BeltLine between Boulevard and Hill Street. The Georgia Power substation is located north of the BeltLine in this area with a power easement bisecting southeast from the station through the intersection of Boulevard and Englewood,

limiting development at this intersection.

The former industrial buildings located to the southeast of the intersection of Boulevard and BeltLine were recently renovated to low density commercial uses. The multi-family parcels within the TAD north of the BeltLine have also recently been redeveloped; moreover, those south of the BeltLine provide potential revitalization opportunities and the redevelopment planning process for the largest of these owned by Atlanta Housing Authority is already underway. Much of the vacant land within the TAD is undeveloped and contains significant tree stands that are worth preserving. A few office/institutional and community facilities are scattered throughout the subarea and include the Equestrian Mounted Police Patrol, Parkside Elementary School, Chosewood Park Community Center, State of Georgia Confederate Avenue Complex, and churches.

During the land use windshield survey, building occupancy and building condition for the TAD properties was also verified and revised based upon external observations only. Overall the majority of buildings are in standard condition, with only a few substandard structures. No buildings were found to be either deteriorated or dilapidated. Approximately 70% of properties appeared to have occupied buildings, while the remaining properties appeared to be either partially occupied (this includes the Atlanta Housing Authority Property) or unoccupied.

The City of Atlanta is currently updating their comprehensive plan to the Atlanta Strategic Action Plan. Due to the impacts of the proposed BeltLine corridor and requirement needed to support transit, the future land uses should change substantially in this update. Several projects in the Boulevard Crossing study area are already within the permitting process including the parcel at McDonough and Gault Street, parcel at Grant Street and BeltLine, and large parcels along Avondale Avenue.

Existing Land Use within Boulevard Crossing (Subarea 3) TAD

Land Use Category	Acreage	% of Total Land within Subarea 3 TAD
Single Family	7.1	1.3%
Low Density Residential	1.7	0.3%
Medium Density Residential	79.5	15.0%
High Density Residential	1.3	0.2%
Low Density Commercial	5.4	1.0%
Office/ Institutional	10.3	1.9%
Office/ Institutional/ Residential	1.4	0.3%
Industrial/ TCU	104.3	19.7%
Open Space	176.4	33.4%
Right-of-way (Streets/ Railroad)	70.9	13.4%
Vacant	70.6	13.3%
Total	529.0	100.0%

Existing Land Use within Boulevard Crossing (Subarea 3)

Land Use Category	Acreage	% of Total Land within Subarea 3
Single Family	376.6	32.3%
Low Density Residential	28.5	2.4%
Medium Density Residential	96.5	8.3%
High Density Residential	1.3	0.1%
Low Density Commercial	8.5	0.7%
Office/ Institutional	75.9	6.5%
Office/ Institutional/ Residential	2.9	0.2%
Industrial/ TCU	108.0	9.3%
Open Space	178.3	15.3%
Right-of-way (Streets/ Railroad)	179.5	15.4%
Parking	0.8	0.1%
Vacant	110.1	9.4%
Total	1167.0	100.0%

Table I.1 - Existing Land Use Chart

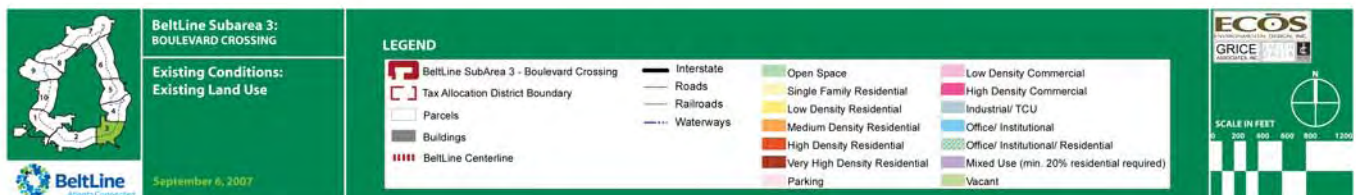
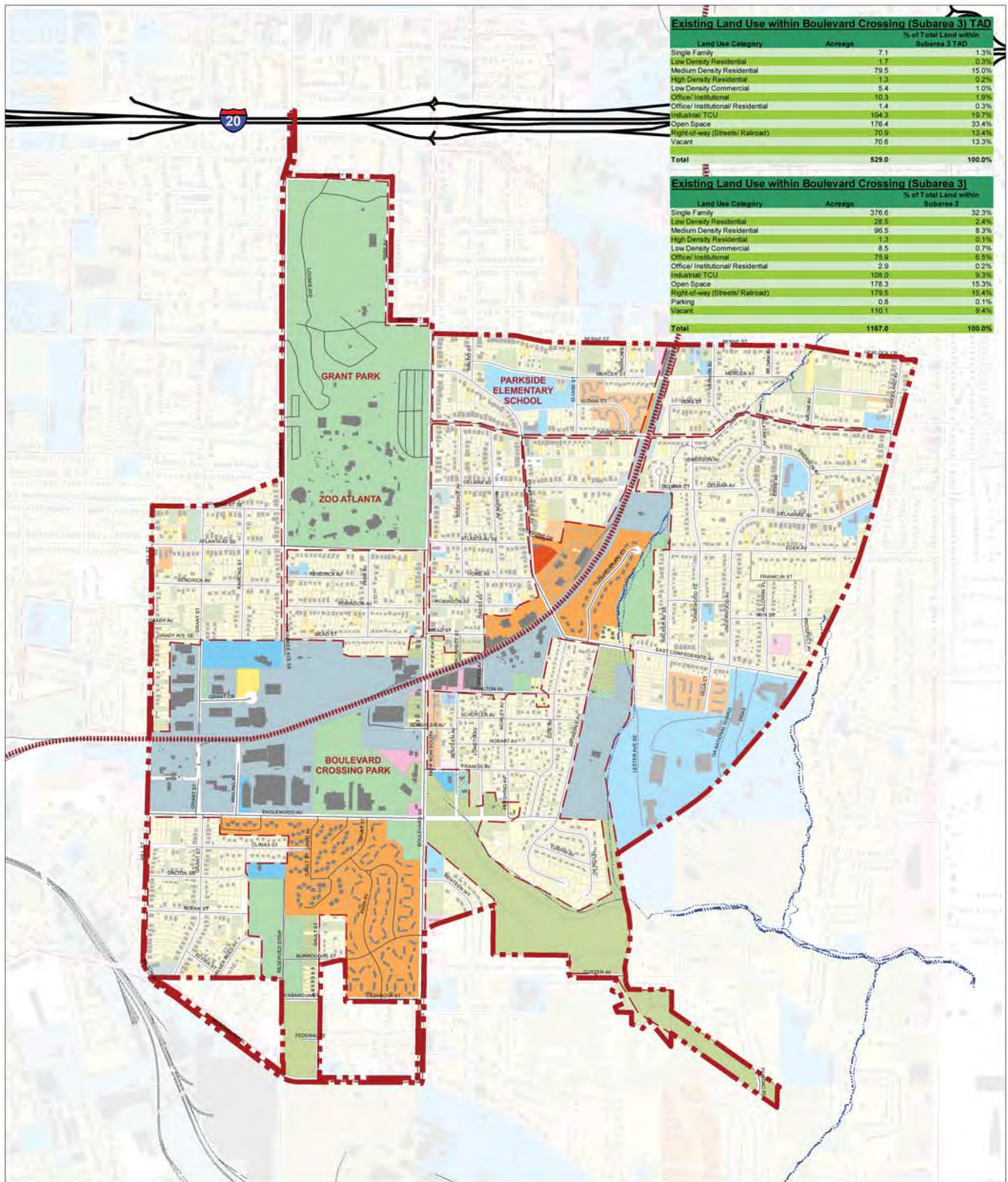


Figure I.1 - Existing Land Use

Existing Roadway Facilities

Existing Roadway Network

Subarea 3 consists of a diverse transportation infrastructure comprised of local streets, collectors, and principal arterials. These facilities must serve the multi-modal travel needs of those with trips originating and/or ending within the subarea, and of those who travel through it. In order to plan for future demand resulting from the implementation of the BeltLine, it is important to comprehensively assess the existing conditions of these facilities. In doing so, transportation deficiencies that may adversely affect safety, mobility, and quality of life - both now and in the future can be addressed. This report summarizes the findings from this assessment.

The first step in evaluating transportation facilities in the subarea is to accurately characterize their intended function. The relationship between roadway functional classification, mobility, and access is depicted in Figure 1. The figure shows that as access increases, mobility decreases, and vice-versa. The functional classifications of key facilities are shown in Figure 2, Existing Roadway Classification.

The following key facilities have been identified in Subarea 3:

Boulevard is the major north-south minor arterial that bisects Subarea 3. This roadway includes a four-lane cross-section along rolling terrain. The adjacent development along Boulevard consists of residential, retail, and commercial; and includes Grant Park and Zoo Atlanta. The speed limit along this roadway is 35 mph.

McDonough Boulevard runs along the southern border of Subarea 3 amidst a mix of residential, institutional (correctional facility), industrial, and retail developments. Between Milton Avenue and Sawtell Avenue the driveway concentration is relatively high. McDonough Boulevard is a minor arterial consisting of a blend of rolling and level terrain, with a speed limit of 35 mph.

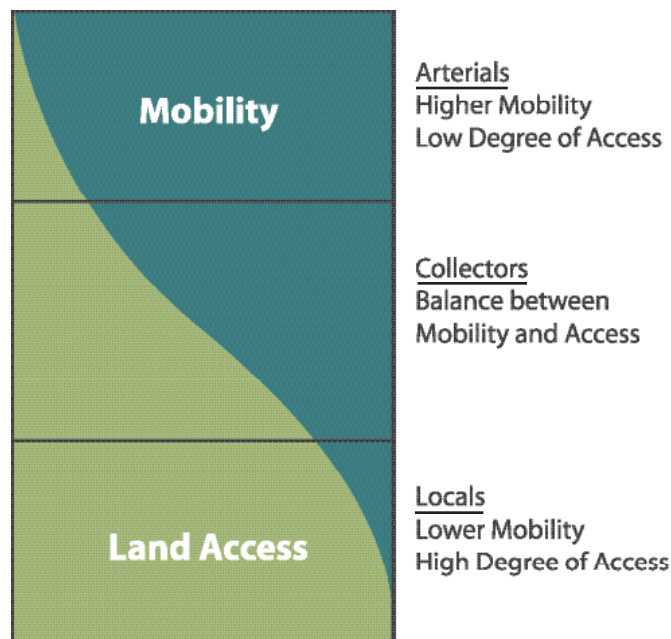


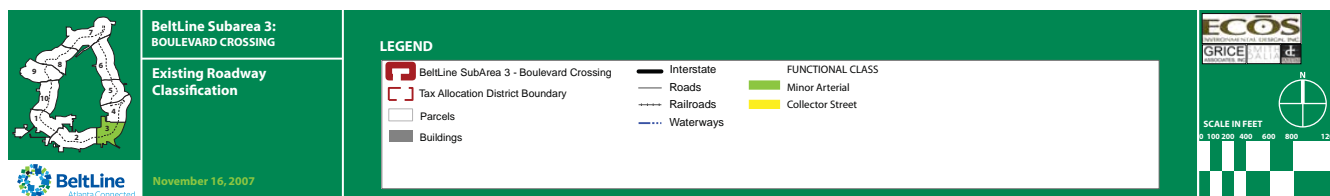
Figure 1 - Relationship of Functional Classification Highway Systems in Serving Traffic Mobility and Land Access. (Source: Safety Effectiveness of Roadway Design Features, Vol. 1, Access Control, FHWA, 1992)

Cherokee Avenue is another north-south collector that runs along the west side of Grant Park and Zoo Atlanta. The surrounding development is primarily residential with some retail. The posted speed limit is 30 mph.

Ormond Street is a relatively short east-west segment of roadway in Subarea 3, extending from Hill Street to Cherokee Avenue through a residential area. This segment of the collector is one-way with two lanes in the westbound direction. The posted speed limit for Ormond Street is 25 mph.

Atlanta Avenue is an east-west collector that connects Hill Street and Boulevard, two primary north-south facilities in Subarea 3. Atlanta Avenue extends through a residential area. This roadway has a two-lane cross-section, serving two-way traffic. The posted speed limit for this segment is 30 mph. Curbside parking exists throughout.

Englewood Avenue is an east-west facility that connects Hill Street and Boulevard. It has a two-lane cross section that accommodates two-way traffic. The posted speed limit for this roadway segment is 25 mph. The development adjacent to the facility consists of residential, commercial, and in-



30
SUBAREA 3

dustrial.

Network Traffic Controls

The review of the traffic controls for Subarea 3 included the gathering of detailed traffic signal timing and phasing parameters at each of the study intersections. This data served to develop an assessment of the traffic control make-up of the roadway network. Figure 3, Network Traffic Controls, shows the location of the study intersections throughout the subarea, as well as the type and mode of operation.

The traffic controls at the study intersections in this subarea consist of 12 signalized and six unsignalized intersections. Eight of these intersections are along Boulevard. The signalized study intersections on Boulevard vary in operational parameters, including different cycle lengths and modes of operation. The cycle length is the time required for the traffic signal to complete one full sequence of serving all traffic movements. The study intersections that don't have assigned cycle lengths operate in free mode. This mode of operation indicates that the intersections have variable cycle lengths and are not coordinated with the surrounding traffic signals.

On the southern end of Boulevard, at the intersections of McDonough Boulevard and Englewood Avenue, cycle lengths of 80 seconds are used for both the AM and PM peak periods. Having a series of traffic signals with the same cycle lengths provides the opportunity for "green" progression along the roadway, which helps to reduce traffic congestion in the peak direction of flow.

Subarea 3 includes the intersections of Boulevard with the I-20 EB and WB ramps. These intersections operate under the control of one traffic controller. A single computer processor controls both intersections, allowing them to operate in a synchronized manner. The nearby intersection of Boulevard with Glenwood Avenue is unsignalized. This intersection has been integrated into the traffic control plan, by having the stop bar for the northbound movement at I-20 EB placed south of Glenwood Avenue. This provides a unique traffic control con-

figuration that attempts to accommodate all three intersections. During the AM peak period, this traffic signal operates with a cycle length of 120 seconds. However, during the PM peak period, it operates in free mode.

Further south of I-20 is the intersection of Boulevard & Confederate Avenue. This intersection operates with a cycle length of 90 seconds during both the AM and PM peak periods. Data was also collected at the intersection immediately to the north at Berne Street, which was found to have the same timing parameters, allowing for coordinated operations between these intersections.

Although the AM cycle length of 90 seconds at Confederate Avenue is different from the AM cycle length of 120 seconds at I-20, there is still the opportunity for coordination among this series of intersections. Because 90 and 120 have least common multipliers of 360, and subsequent common multipliers of 720, 1080, 1440, and so forth, these signals can have "optimal" coordination once every four cycles, or 1/4th of the time. This is demonstrated in the following example. During the PM peak, there is no apparent coordination among this series of traffic signals.

Along Atlanta Avenue, the study intersections at Cherokee Avenue and Boulevard all operate in free

90 sec. cycle = 90 → 180 → 270 → 360 → 450
120 sec. cycle = 120 → 240 → 360 → 480 → 600

mode throughout the day. The remaining study intersections along McDonough Boulevard at Hill Street and Sawtell Avenue also consistently operate in this mode.

Existing Rail & Bridge Infrastructure

A field review of Subarea 3 rail and bridge infrastructure was conducted to obtain a general assessment of the condition of these facilities. As part of this process, the Georgia Department of Transportation's (GDOT) 2003 Bridge Inventory was provided by the City of Atlanta as part of the Review of Existing Information.

The furthest reach of the rail facilities in the subarea is near **Glenwood Avenue and Bill Kennedy Way**. At this location, as pictured in Figure 4, large con-

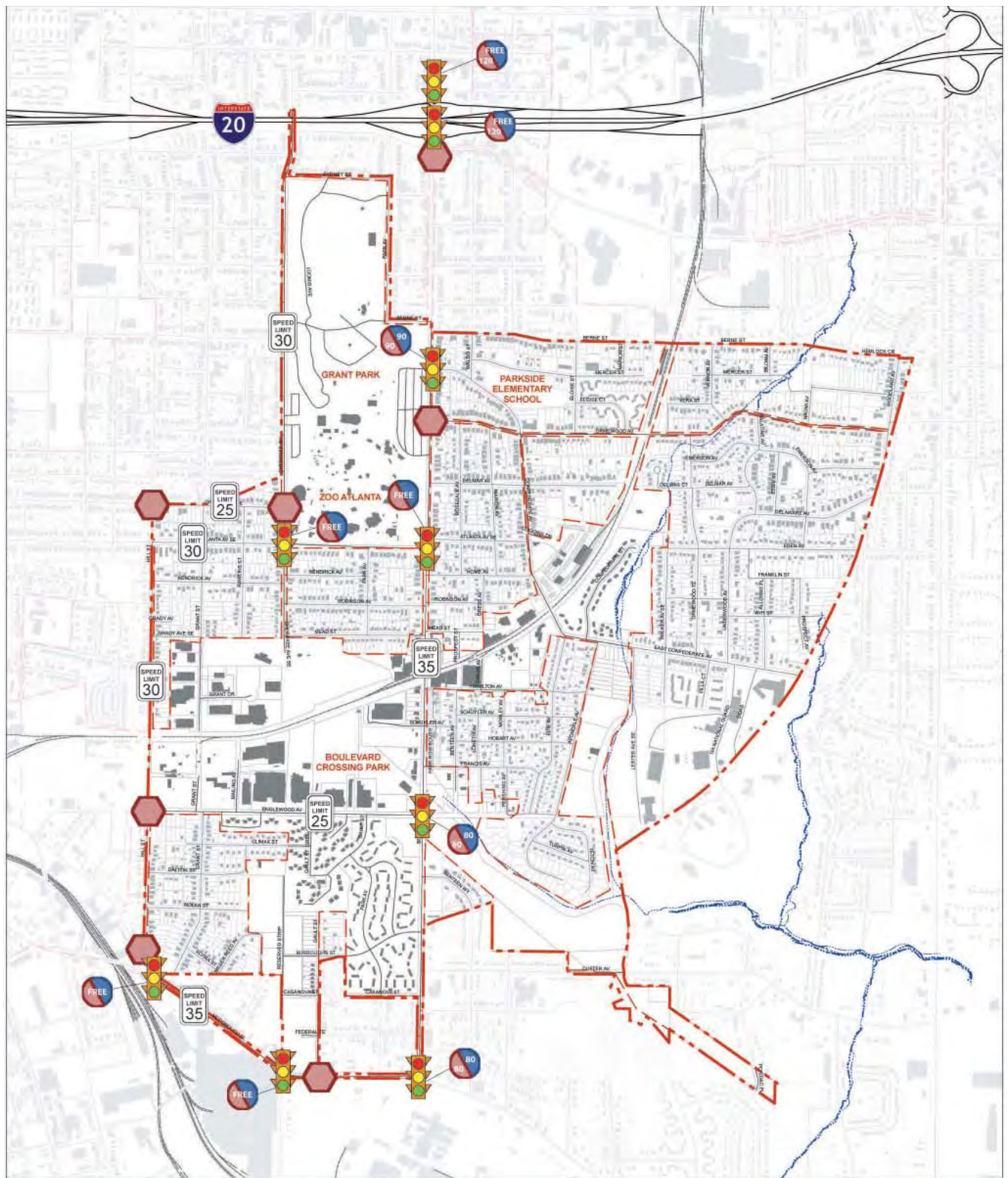


Figure 3 - Network Traffic Controls and Speed Limits

crete blocks have been placed to prevent the rail cars from moving beyond their current position.

Berne Street crosses over the CSX rail tracks near the northern border of the subarea. The document-



Figure 4 - Railroad tracks near Glenwood Avenue and Bill Kennedy Way

tation of this bridge (STRUCTURE ID 121-0427-0) in the 2003 GDOT Bridge Inventory notes the following:

- This all concrete bridge structure is in good condition with no reported deficiencies.

Figures 5 and 6 show the CSX rail tracks at Berne Street. As shown, these tracks are usually occupied by rail cars in a staged position.

A CSX Railroad bridge also crosses over **Confed-erate Avenue** (STRUCTURE ID 121-0526-0). There



Figure 5 - Berne Street over CSX Rail Tracks



Figure 6 - CSX Rail Tracks under Berne Street

are several mobility characteristics that can be discerned from the photograph of this bridge in Figure 7.

As Confederate Avenue travels under the bridge, it has sidewalks on both sides. The pedestrian fa-



Figure 7 - CSX Rail Tracks over Confederate Avenue

cilities on the right side of the figure show an intruding overgrowth of foliage. It was also noted that on the warning signage related to the bridge clearance height, the measured height has been painted over in black. This may relate to the bridge inventory notes, which state:

- This non-roadway structure has been inspected for clearances only. The minimum vertical clearance is substandard and requires posting. Our records indicate the minimum vertical clearance to be 12'-11". At the present time, the city should verify this clearance and post this structure in accordance with the Manual on Uniform Traffic Control.
 - Devices (current edition) Low Clearance Sign
- Inspection of the structural components is the responsibility of the owner.

Figure 8 provides a closer perspective of the bridge.

As **Ormewood Avenue** passes under a CSX rail



Figure 8 - Sidewalk under CSX Rail Tracks at Confederate Avenue

road bridge (STRUCTURE ID 121-0528-0), it has a considerably wide, unmarked cross-section. As can be seen in Figure 9, the vehicle traveling under the bridge is close to the center of the roadway. Sidewalks are present on both sides of the roadway, but the sidewalk on the right side of the figure appears to be substandard, incomplete and overgrown with foliage. This sidewalk was under some construction activity at the time of the survey. Also, it should be noted that overhead utility lines span under the



Figure 9 - CSX Rail Tracks over Ormewood Avenue

bridge. The bridge inventory notes for this location are as follows:

- This non-roadway structure was inspected for clearances only. The minimum vertical clearance does not require posting. Inspection of the structural components is the responsibility of the owner.

As **Hill Street** passes under a CSX bridge (STRUCTURE ID 121-0523-0) it has a relatively wide cross-section, with room for two lanes in one of the two directions, although it is not marked. Sidewalks are along both sides of the roadway under the bridge, but these sidewalks are in need of maintenance, as they are overgrown with foliage. These aspects of the crossings can be seen in Figure 10. This bridge has two separate inventory notations, which are apparently contradictory. The first note states that posting is not required, while the second states that the vertical clearance is substandard, requiring posting. These notes are as follows:

- This non-roadway structure was inspected for clearances only. The minimum vertical clearance does not require posting. Inspection of the structural components is the responsibility of the owner.
- This non-roadway structure has been inspected for clearances only. The minimum vertical clearance is substandard and requires posting. Our records indicate the minimum vertical clearance to be 13'-05". At the present time, the city should verify this clearance and post this structure in accordance with the Manual on Uniform Traffic Control Devices (current edition) Low Clearance Sign. Inspection of the structural components is the responsibility of the owner.

The CSX rail crossing at **Boulevard** is shown in Figure 11. The arrow shown in the roadway is placed



Figure 10 - CSX Rail Tracks over Hill Street

to prompt the merging of vehicles into a narrower, one-lane segment. A lane merge at a railroad crossing does not appear consistent with good traffic engineering design. The guardrail shown on the right side of the picture has significant damage, which may be related to vehicle crashes at this merge point.



Figure 11 - CSX Rail Crossing at Boulevard

A location map of the subarea's rail and bridge infrastructure is shown in Figure 12.

Walkability and Bikability Assessment

One of the most important aspects of the BeltLine Project is to strive for a multimodal transportation network that provides balanced capacity and safety for all travel modes, including pedestrians, bicycles, motor vehicles, buses and rail transit. Walking not only continues to be the most fundamental travel mode but also serves to connect all other travel modes in a modern transportation network. According to the 2001 National Household Transportation Survey data, trips made primarily by walking account for between 6 and 16 percent of all trips.

Bicycle Facilities

There is a lack of dedicated bicycle facilities within the subarea. Confederate Avenue (NB side) through East Confederate Avenue (both directions) is the only roadway with designated bike lane facilities. The focus for this effort, therefore, is directed towards roadway facilities that may also be used by cyclists. Cyclists are assumed to use vehicular lanes and shoulders as bikeways. In certain areas, the lane widths are sufficient to accommodate bicycle traffic; but this width may at times be occupied by parked vehicles. In other instances, the stretch of roadway where there is sufficient width may be too short to be a practical route. A summary of the lane widths for key roadways follows:

Confederate Avenue - Confederate Avenue runs from Boulevard, eastwards towards the BeltLine at Edie Ave, where it then changes to E. Confederate Ave. The roadway comprises of a two-lane cross-section that supports traffic in both direction throughout the residential area. From Boulevard to Edie Ave, the cross-section width is approximately 30 feet and from Edie Ave to Moreland Ave about 40 feet on average.

Bike lanes are available along most of the roadway. The bike lane on the eastbound portion of the roadway starts at Edie Ave and ends at Woodland Ave. In the opposite direction (WB), the bike lane begins at Woodland Ave and ends at Ormewood Ave. Sidewalks are present on both sides of Confederate Avenue, except for the eastbound section at the BeltLine (from railroad crossing to Edie Ave).

The circled region, in the aerial view below, shows the end of the existing bike lane along Confederate Avenue.



Figure 13 - Bike lane on Confederate Avenue

Grant Park - The gated entrance to Grant Park intersects Boulevard at Confederate Ave. This is a signalized intersection. Although the roadway has a cross-section width of 34 feet that supports two-way traffic into and out of the park, there are no pavement markings to delineate traffic or pedestrian movements. There are no sidewalks or crosswalks to support pedestrian activity at this location.

Boulevard - Traveling north from McDonough Boulevard, Boulevard has a four-lane cross-section with relatively narrow lanes of 10 feet. As Boulevard crosses the proposed BeltLine, the northbound direction reduces from two through lanes to one through lane and curbside parking. This roadway returns to a cross-section with 10-foot lanes shortly after Confederate Avenue.

McDonough Boulevard - The segment of this roadway in Subarea 3 does not appear conducive to bicycle traffic. In the eastbound direction, leaving its intersection with Boulevard, the lane width is 17 feet. However, at the intersection with Gault Street, the roadway broadens to a four-lane cross-section with 11 to 12-foot lanes. Approaching the intersection with Hill Street, the lanes become more narrow at 9 to 10 feet.

Hill Street - Hill Street runs through a residential area, which is typically more supportive of bicycle

and pedestrian traffic. The southbound direction has an approximate width of 19 feet throughout the residential area. As Hill Street reaches I-20, the lanes become much narrower (10' – 12').

Cherokee Avenue – This roadway has parking along both sides of the street for most of its length. The roadway has an unmarked cross-section width of 40 feet. The curb lanes are set aside for parking along most of the roadway, which leaves Cherokee functionally operating as a two-lane roadway with 10 to 12-foot lanes.

Atlanta Avenue – This facility travels through a residential area with relatively wide lanes in each direction. Approaching Cherokee Avenue from the west, the widths are 20 feet, but reduce to 14 feet as they cross the intersection. Further east, closer to Boulevard, these lanes are approximately 17 feet in width. There is parking on both sides of the street.

Ormond Street – Ormond Street has a posted speed limit of 25 mph. This street, through primarily residential areas, also has relatively wide lanes. On the north side of Ormond Street, which is a one-way street, the westbound lane varies between 20 and 21 feet. Parking is on both sides of the street.

Englewood Avenue - With a 40-foot cross-section, Englewood Avenue has a 20-foot lane in each direction. This area includes industrial development in a mix with residential and commercial.

Pedestrian Facilities

In order to obtain a better understanding of how the existing pedestrian network serves the needs of pedestrians with various abilities, potential safety and operations issues were identified, and necessary measures to improve pedestrian facilities were developed. As part of the survey, a formal walkability survey was conducted throughout Subarea 3. This field survey is based on the recently published “Pedestrian Road Safety Audit Guidelines and Prompt Lists (Report No.: FHWA-SA-07-007)” by the Federal Highway Administration (FHWA) in July 2007.

For the field walkability survey, the transportation network throughout BeltLine Subarea 3 was categorized into the following four zones, each identified with the letters A through D, concerning pedestrian mobility, accessibility and safety:

- Zone A: Streets
- Zone B: Street Crossings
- Zone C: Parking Areas/Adjacent Developments
- Zone D: Transit Areas

For each zone, three major topic areas and nine subtopic categories were carefully evaluated in the field, as displayed in Table 1 below:

Table 1 – Walkability Survey Methodology

Walkability Survey Topics and Subtopics	
Topic	Subtopic
Pedestrian Facilities	1. Presence, Design, and Placement
	2. Quality, Condition, and Obstructions
	3. Continuity and Connectivity
	4. Lighting
	5. Visibility
Traffic	6. Access Management
	7. Traffic
Traffic Control Devices	8. Signs and Pavement Markings
	9. Signals

Source: FhWA, Pedestrian Road Safety Audit Guidelines and Prompt Lists

Major roadways in the subarea were identified during the walkability survey. Survey results on each facility are discussed in the following section:

Hill Street (I-20 WB to McDonough Blvd)

Hill Street has some pedestrian mobility and safety issues. Figure 14 shows one instance of driveways intersecting sidewalks, which may force pedestrians to travel on the streets. This may be very problematic for those in wheelchairs. This issue may also limit pedestrian visibility.



Figure 14 – Hill Street (between Englewood and Atlanta)

In many cases, the walking surfaces along Hill Street are not adequate or well maintained. There are many obstructions (i.e. - utility poles, trees, and foliage) along Hill Street sidewalks. The sidewalks under the overhead railroad tracks, north of Englewood Ave, are in disrepair and require extensive maintenance.

The BeltLine will connect 45 in-town neighborhoods with parks, transit and trails for commuters, bicyclists and pedestrians.

In some areas, ramps are not provided, and signs and pavement markings are not suitable. Pedestrian signal pushbuttons are either missing, damaged or not in conformance with the ADA standards in many cases. Below are examples of some locations reviewed for pedestrian walkability issues.

The intersection at the **I-20 WB Ramp and Hill Street** has pedestrian crossing facilities that pose

safety concerns. The exit ramp terminates at Hill Street, with wide turning radii, as shown in Figure 15. Another major concern is the missing warning signs and/or stop signs to alert freeway motorists approaching the intersection. Also, due to the slope shown in Figure 16, it is difficult for oncoming motorists to see the crosswalk, creating safety concerns for this crossing point.



Figure 15 – Hill Street at I-20 WB Ramp



Figure 16 – Hill Street at I-20 WB Ramp Approach

The intersection of **Ormond Street and Hill Street** presents a different type of problem. This location has no stop bars or pedestrian signals. There are no curb ramps in some corners. Uneven surfaces and catch basins at the end of crosswalks create obstructions for pedestrians. Figures 17 and 18 show some the issues described.



Figure 17 – Hill Street at Ormond Street



Figure 18 – Crosswalk Alignment at Hill Street and Ormond Street

Cherokee Avenue (I-20 to Mead Street)

Cherokee Avenue is one of the more pedestrian friendly locations studied. Well-maintained sidewalks are provided on both sides of the street. A majority of the locations near Zoo Atlanta do have ramps, and only a few areas along the roadway are not ADA-compliant.

There are, however, some issues related to pedestrian safety. In some areas, driveways are close to crossing points. There are a few locations where conflicts between bicycles and pedestrians are of concern.

At some intersections, pedestrian signal pushbuttons are not ADA accessible. Stop bars and crossing pavement markings are either worn or missing at some locations.

The landing areas at some bus stops are not adequately maintained. Figure 19 shows the only sidewalk stretch found with significant access issues.



Figure 19 – Bus Stop on Cherokee Avenue near Grant Park

The intersections of **Glenwood Avenue and Cherokee Avenue** contain a few walkability issues. In some areas there are no curb ramps. Additionally, the wide curb radii may increase the speed of right-turning movements.

Figures 20, 21, and 22 show some crossing points found along Cherokee Avenue, with obstructions and missing ramps.

Pedestrian mobility concerns were observed at the **Zoo Atlanta** parking lot. Some areas have steep grades, which may pose a challenge for some pedestrians, particularly those with disabilities or mobility problems.



Figure 20 – Crossing at Cherokee Avenue and Glenwood Avenue



Figure 21 – Obstruction at Crossing at Cherokee Avenue and Glenwood Avenue



Figure 22 – Obstruction and Lack of Curb Ramps at Crossing on Cherokee Avenue and Glenwood Avenue

Atlanta Avenue (Hill Street to Boulevard)

An assessment of **Atlanta Avenue** revealed a variety of pedestrian and motorist issues. Some of these problems are described in previous sections of this document. The issues on Hill Street and Cherokee Avenue were discussed in previous sections.

Sidewalks are provided along both sides of the Atlanta Avenue. Most of the sidewalks are in good condition. An overgrown tree trunk, partially blocking the sidewalk, is the only exception. Figure 23 illustrates the above mentioned condition.



Figure 23 - Sidewalk on Atlanta Ave. near Boulevard

In some areas, driveways are too close to crossing points. At some intersections, pedestrian signal pushbuttons are not provided or are placed in a manner that limits ADA accessibility. Stop bars and crossing pavement markings are degraded or absent at several locations.

Englewood Avenue (Hill Street to Boulevard)

The assessment of **Englewood Avenue** revealed many pedestrian mobility issues. Curb ramps, stop bars and crossing pavement markings are either worn or not provided along some sections. The walking surfaces along Englewood Avenue are steep and uneven in some areas. Transit stops are typically in a substandard state.

Englewood Avenue also has many transit-related issues. Most bus stop areas do not appear to conform to acceptable standards of walkability. At some locations there are no designated pedestrian

crossings to access the stops, transit waiting areas or adequate paved surfaces. The limited pedestrian crossings available do not appear to be convenient for transit users. This is depicted in Figure 24.

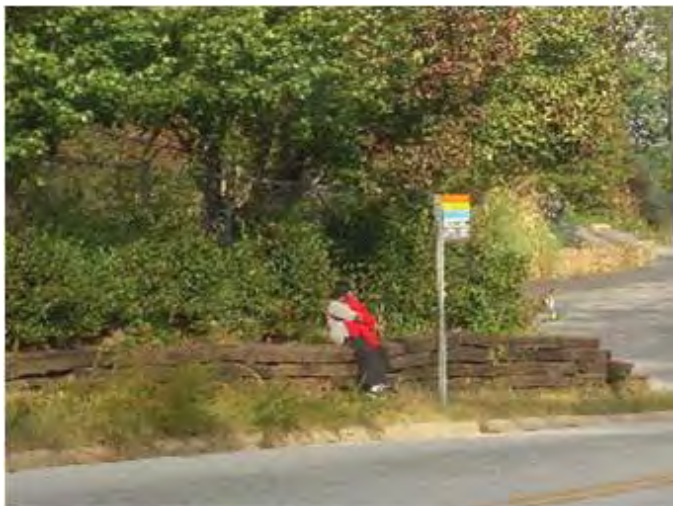


Figure 24 - Bus Stop on Englewood Avenue near Boulevard

The sidewalks along Englewood Avenue are in need of extensive maintenance. Figure 25 shows an example of a sidewalk location that requires extensive clearing and maintenance.



Figure 25 - Sidewalk on Englewood Avenue between Hill Street and Boulevard

Although sidewalks are provided along most of the roadway, one segment provides a sidewalk on only one side of the street. For the area with two sidewalks, one side is almost completely overgrown with foliage. This partially blocked segment

constricts pedestrian access to bus stops and other areas. Visibility may become a significant issue for pedestrians, bicyclists and motorists for these segments. Figure 26 shows a bus shelter, along a sidewalk, that is almost completely overgrown with vegetation.



Figure 26 - Englewood Avenue between Hill Street and Boulevard

Some transit stop locations don't appear to be well-coordinated. In most areas there are poor connections among pedestrian facilities. Figure 27 shows an example of one such bus stop on Englewood Avenue near Hill Street. This bus stop is located on a steep slope near a corner with a wide curb radius.



Figure 27 - Bus Stop at Englewood Avenue near Hill Street

The bus stop sign is placed in a location lacking the following items:

- Sidewalk
- Proper walking path
- Adequate landing platform
- Wheelchair access
- Safe refuge
- ADA accommodations
- Crosswalk
- Homeowner property line boundary
- Level surface

McDonough Boulevard (Milton Avenue to Boulevard)

The pedestrian facilities in the study area along **McDonough Boulevard** are primarily in a dilapidated state. Pedestrian signals are typically not properly oriented or timed at a number of locations. In some cases, pedestrian signs are worn to an illegible state. This is depicted in Figure 28.



Figure 28 - McDonough Boulevard near Boulevard

Walking boundaries are not always discernible by pedestrians. Curb ramps, stop bars and crossing pavement markings are either worn or missing in some sections. Walking surfaces are degraded, partially blocked, and uneven in a number of segments, which can make the area impassable for wheelchairs. Figure 29 shows some of these issues.

There is also discontinuity among the sidewalks along the roadway. Although sidewalks are located on both sides of the street, they are sometimes at the same elevation as the roadway or missing a landscaped



Figure 29 - Corner at McDonough Boulevard and Boulevard buffer zone. A considerable amount of obstructions (poles, posts, bushes and trees) limit the walkway passage to an insufficient width. Figure 30 and Figure 31 show some of the issues described.



Figure 30 - Sidewalk on McDonough Boulevard near Milton Avenue



Figure 31 - Crossing on McDonough Boulevard at Milton Avenue

Along McDonough Boulevard, bus stops located at stop bars may create visibility issues between pedestrians and motorists. Additionally, crosswalks are not located within a close proximity to some stop locations, limiting safe and efficient access. Water settlement is also an issue along this roadway. Figure 32 shows standing water at the bottom of a curb ramp.



Figure 32 - Water Settlement on McDonough Boulevard

Boulevard (I-20 to McDonough Boulevard)

Various pedestrian safety issues are identified along this 2.1-mile stretch of **Boulevard**. Sidewalks are present on both sides of the street along the majority of Boulevard. However, abrupt discontinuity does occur at several intersections where there are no appropriate crossings provided.

As Figure 33 shows, the sidewalk ends abruptly at the at-grade rail crossing, which presents difficulty and hazard for pedestrians in wheelchairs, pushing strollers or with visual impairments, especially under wet or icy surface conditions.

Figure 34 shows a car partially blocks the sidewalk, which would force wheelchairs or groups of pedestrians to use the road. Compounded with the cross slope of the driveway crossing the sidewalk, the situation creates safety concerns for pedestrians. This photo also shows that there is no separation/buffer between travel lanes and sidewalks.



Figure 33 - Sidewalk on Boulevard close to Railroad Crossing



Figure 34 - Sidewalk on Boulevard close to Atlanta Avenue

At some locations, the widths of sidewalks along Boulevard are barely enough for two pedestrians walking in opposite directions to pass each other. Sidewalks are also frequently obstructed by permanent and/or temporary objects such as utility poles, sign posts, manholes, vegetation, parked vehicles, etc. Partially obstructed sidewalks present significant challenges to pedestrians with visual or mobility impairments.

As shown in Figure 35, the sidewalk is partially blocked by a trash can and overhanging tree limbs. As shown in Figure 36, the sidewalk along Boulevard is narrowed down to less than three feet due to obstructions by vegetation and parked vehicle. As displayed by the above figures, buffers that effectively separate pedestrians and motor vehicles are not consistently present along the entire length of Boulevard. Along a significant portion of Boulevard, no separation is provided between pedestrians on sidewalks and vehicles in curb lanes. This situation is frequently compounded with narrow sidewalks.



Figure 35 - Boulevard – East of Grant Park



Figure 36 - Sidewalk on Boulevard near Grant Park

Overhead street lighting exists along the entire Boulevard, but are scarcely distributed along some sections. Street lights enhance the visibility of sidewalks, however at many locations they are blocked by trees along sidewalks. Trees also block lights from overhead street lighting, causing visibility issues of pedestrians during night or dark daytimes.

Surface conditions of sidewalks vary along the roadway. At many sections pavement is not adequately maintained. Cracks, gaps and vegetation cause inconvenience and hazards to wheelchairs, the visually impaired, and elderly using walkers.

Street crossings present much greater challenges to pedestrians. Various issues can be illustrated by photos taken at identified key intersections, described in the following sections.

As shown below in Figure 37, crosswalk markings are significantly degraded. The grade slope shown in the figure is close to the maximum limit of ADA standards, making it difficult for wheelchairs to cross the street.



Figure 37 - Boulevard at I-20 Westbound Ramp

As displayed in Figure 38, the crosswalk markings extending from the top-left to the bottom-right corner nearly fades, and is barely visible in this figure. The ladder marking from left to right is immediately adjacent to curb lane and overlaps the faded crosswalk at the corner.



Figure 38 - Crossing and Curb Ramp on Boulevard at I-20 Westbound Ramp

As shown below in Figure 39, a depressed grate is in the pedestrian "desired line" of crossing Boulevard. Confederate Avenue crosswalk markings and appropriate signs are missing at this location.



Figure 39 - Boulevard at Confederate Avenue

The intersection of Boulevard and Ormewood Avenue is unsignalized. As Figure 40 shows, the pedestrian crossing across Boulevard is marked and



Figure 40 - Boulevard at Ormewood Avenue

signed. However, drivers turning left from Ormewood Avenue onto Boulevard may have difficulty finding acceptable gaps. The multiple skid marks evident at this location, shown in Figure 41, may be a indicator of a problem at this location which may affect pedestrian mobility and safety.



Figure 41 - Crossing at Boulevard and Ormewood Avenue

At the intersection of Boulevard & Atlanta Avenue, a pedestrian signal is non-operational, as shown in Figure 42.



Figure 42 - Pedestrian Signal at Boulevard and Atlanta Avenue

As shown in Figure 43, a curb ramp is missing to connect the sidewalk at the top and the marked crosswalk.



Figure 43 - Crossing at Boulevard and Atlanta Avenue

The barricaded driveway at the left side of Figure 44 intersects the sidewalk at the corner of the intersection, potentially creating conflicts between pedestrians and vehicles turning right from Boulevard to Atlanta Avenue.



Figure 44 - Barricaded Driveway at Corner of Boulevard and Atlanta Avenue

Another malfunctioning pedestrian signal is shown above in Figure 45. The pushbutton is not correctly oriented and not accompanied by appropriate signs to indicate how to use it, possibly causing confusion for pedestrians.



Figure 45 - Malfunctioning Pedestrian Signal on Boulevard

In the bottom left corner of Figure 46, another misplaced pushbutton is shown without appropriate accompanying signs at the same intersection.



Figure 46 - Pedestrian Button with Inappropriate Placement

Figure 47 shows a completely disoriented pedestrian signal head, which may cause confusion and signal wrong information to pedestrians waiting to cross street. This photo also shows, as found in many other intersections, the two perpendicular



Figure 47 - Disoriented Pedestrian Signal Head

crosswalks share one narrow curb ramp causing inconvenience for pedestrians since the curb ramp does not align with the pedestrian desire lines and may divert wheelchairs into vehicular travel lanes.

As shown in Figure 48, the curb ramp is missing for one of the crossings. Wheelchair users crossing the street may have to use travel lanes due to a disconnect between sidewalks and crosswalks. The pavement in the landing area is cracked. Grates in the crosswalk also create tripping hazards for wheelchair users, visually impaired and elderly using walkers or canes.



Figure 48 - Intersection of Boulevard and Englewood Avenue

Below, Figure 49 displays rough crosswalk surface and a disconnection between marked crosswalk and sidewalk without curb ramp.

An inventory of sidewalks along the key roadways



Figure 49 - Crossing at Boulevard and Englewood Avenue

of Subarea 3 was conducted, which included the documentation of some of the sidewalk characteristics and gaps along the roadways. These characteristics varied greatly, but the Team focused on several variations of pedestrian pathways in an attempt to create a composite of the sidewalks in the subarea. Figure 50 shows the gaps in sidewalks, as indicated by directional arrows. This figure also shows several photographs of the varying sidewalk characteristics. As shown in these photographs, although sidewalks exist, some are substandard in design or condition.

As shown in Figure 50, Englewood Avenue has the greatest gaps in pedestrian accommodations. This may be a reflection of the adjacent development in the area being primarily industrial. The residential areas of Subarea 3 have typically broad coverage. There are also relatively long segments of Berne Street and Ormewood Avenue without sidewalks on the western end of the subarea. This occurs in a low-density residential area.

Conclusions from Walkability and Bikability Assessment

In conclusion, the survey of Subarea 3 reveals some common problems throughout most of the facilities. Below is a list of typical issues.

- Lighting conditions for pedestrians require improvements at both sidewalks along streets and street crossings.

Street crossings at intersections or mid-block crossings were frequently poorly designed, planned and maintained. Typical issues include:

Crosswalks do not align with pedestrian “desired” pathways, such as being offset between marked crosswalk and sidewalks they connect to. Countermeasures may include repainting crosswalks to line up with sidewalks.

- Worn crosswalk markings.

Inadequate pedestrian signal design, installation, activation and timing.

- Rough and cracked walking surfaces.

Lack of ADA facilities, such as ADA standard pushbuttons and curb ramps.

• Sidewalks/street boundaries are often not discernible to people with visual impairments.

• Sidewalks are not adequate and properly maintained. Too many obstructions (utility poles, trees, shrubs) and damaged surfaces.

• Transit locations need significant maintenance and improvements

• Crosswalks terminate at catch basins and drainage opening areas

• Missing or faded stop bars and crosswalk pavement markings.

• Missing or damaged pedestrian signal push buttons.

Pedestrian Volumes

The pedestrian volumes at the subarea’s key intersections were collected in concert with the collection of AM and PM peak period vehicular turning movements. These volumes, by approach, are summarized in Table 2 and Table 3. The highest volume of pedestrians during both peaks are found at the Boulevard intersections of Atlanta Avenue, Glenwood Avenue, I-20 EB ramp, McDonough Boulevard, and Ormewood Avenue. High pedestrian volumes were also found on Hill Street at the I-20 EB and WB ramps.

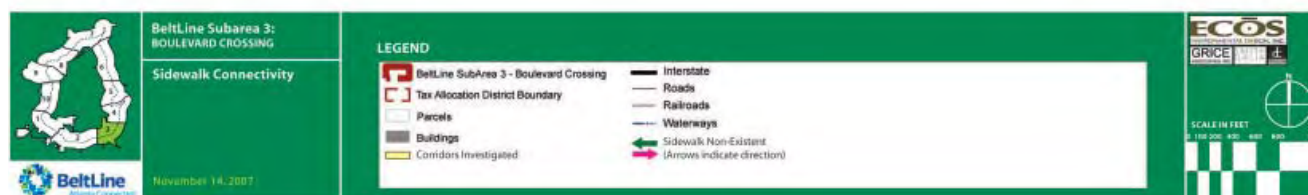


Figure 50 – Subarea 3 Sidewalk Connectivity

Table 2 – AM Peak Hour Pedestrian Volumes

Intersection	NB	SB	EB	WB	Hourly Total
Boulevard & Atlanta	8	8	6	17	39
Boulevard & Confederate	14	2	4	4	24
Boulevard & Englewood	0	6	0	0	6
Boulevard & Glenwood	2	3	21	0	26
Boulevard & I-20 EB	8	10	11	9	38
Boulevard & I-20 WB	0	0	0	0	0
Boulevard & McDonough	8	9	16	7	40
Boulevard & Ormewood	18	10	0	0	28
Cherokee & Atlanta	3	7	4	0	14
Cherokee & Glenwood	4	6	6	1	17
Cherokee & Ormond	14	9	0	8	31
Hill & Englewood	1	0	3	24	28
Hill & I-20 EB on ramp	19	11	12	1	43
Hill St. & I-20 WB off ramp	18	7	5	12	42
Hill & Ormond	20	2	1	2	25
McDonough & Gault	0	0	7	13	20
McDonough & Milton	2	0	3	6	11
McDonough & Sawtell	0	0	0	0	0

Table 3 – PM Peak Hour Pedestrian Volumes

Intersection	NB	SB	EB	WB	Hourly Total
Boulevard & Atlanta	7	19	4	8	38
Boulevard & Confederate	1	2	0	0	3
Boulevard & Englewood	0	0	0	0	0
Boulevard & Glenwood	10	14	4	4	32
Boulevard & I-20 EB	17	8	1	6	32
Boulevard & I-20 WB	0	2	0	0	2
Boulevard & McDonough	4	0	11	11	26
Boulevard & Ormewood	14	11	1	3	29
Cherokee & Atlanta	1	1	0	0	2
Cherokee & Glenwood	12	0	4	9	25
Cherokee & Ormond	4	5	1	0	10
Hill & Englewood	6	5	2	5	18
Hill & I-20 EB on ramp	3	8	0	0	11
Hill St. & I-20 WB off ramp	7	8	3	5	23
Hill & Ormond	11	2	7	0	20
McDonough & Gault	0	3	3	2	8
McDonough & Milton	1	3	5	5	14
McDonough & Sawtell	0	0	8	5	13

Volume and AADT Information

The AADT (Annual Average Daily Traffic) along **Boulevard** varies based on location. Near its intersection with McDonough Boulevard, the bi-directional AADT is 10,900 vehicles per day (vpd). Further north, near the intersection of Berne Street, the bi-directional AADT is approximately 19,500 vehicles per day. This is related to the facility being “fed” by its nearby intersecting collector routes, such as Atlanta Avenue, Confederate Avenue, Ormewood Avenue, and Berne Street. These trips mostly have the northern destination of I-20 and beyond. This is also reflected in an AADT of 31,400 vpd north of I-20. This is also due to traffic exiting I-20 onto Boulevard.

AADT data was collected at two locations along **Cherokee Avenue**, north and south of Atlanta Avenue. To the north, which leads to Grant Park, the bi-directional AADT is approximately 3900 vpd. To the south, which terminates in an industrial area, the bi-directional AADT is 1800 vpd.

Along **Hill Avenue**, AADT volumes were collected in three locations, two near I-20 and one near McDonough Boulevard. Just north of I-20, the bi-directional AADT is approximately 23,000 vpd. Just south of I-20, the AADT is a much lower 5,200 vpd. This would support the fact that much of the traffic from I-20 has a northern destination. Near McDonough Boulevard, within a residential area just south of an industrial area, the bi-directional AADT is 3300 vpd.

McDonough Boulevard near its intersection with Sawtell Avenue has a bi-directional AADT of 11,800 vehicles per day.

Englewood Avenue has a bi-directional AADT of approximately 2,200 vpd. The directional distribution of this traffic is nearly even, as this traffic seeks to access either Hill Street or Boulevard.

The AADT and peak hour turning movement counts across the Subarea 3 traffic network are shown in Figure 51 and Figure 52 respectively.

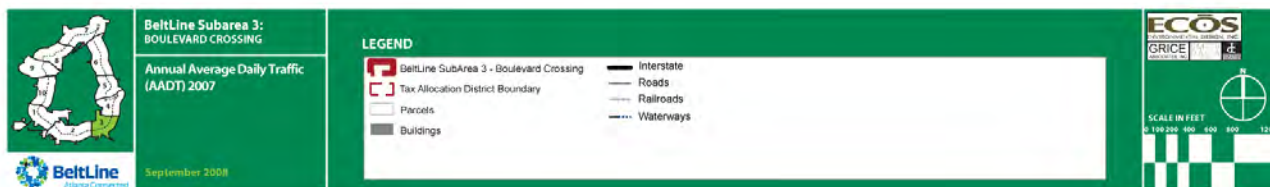
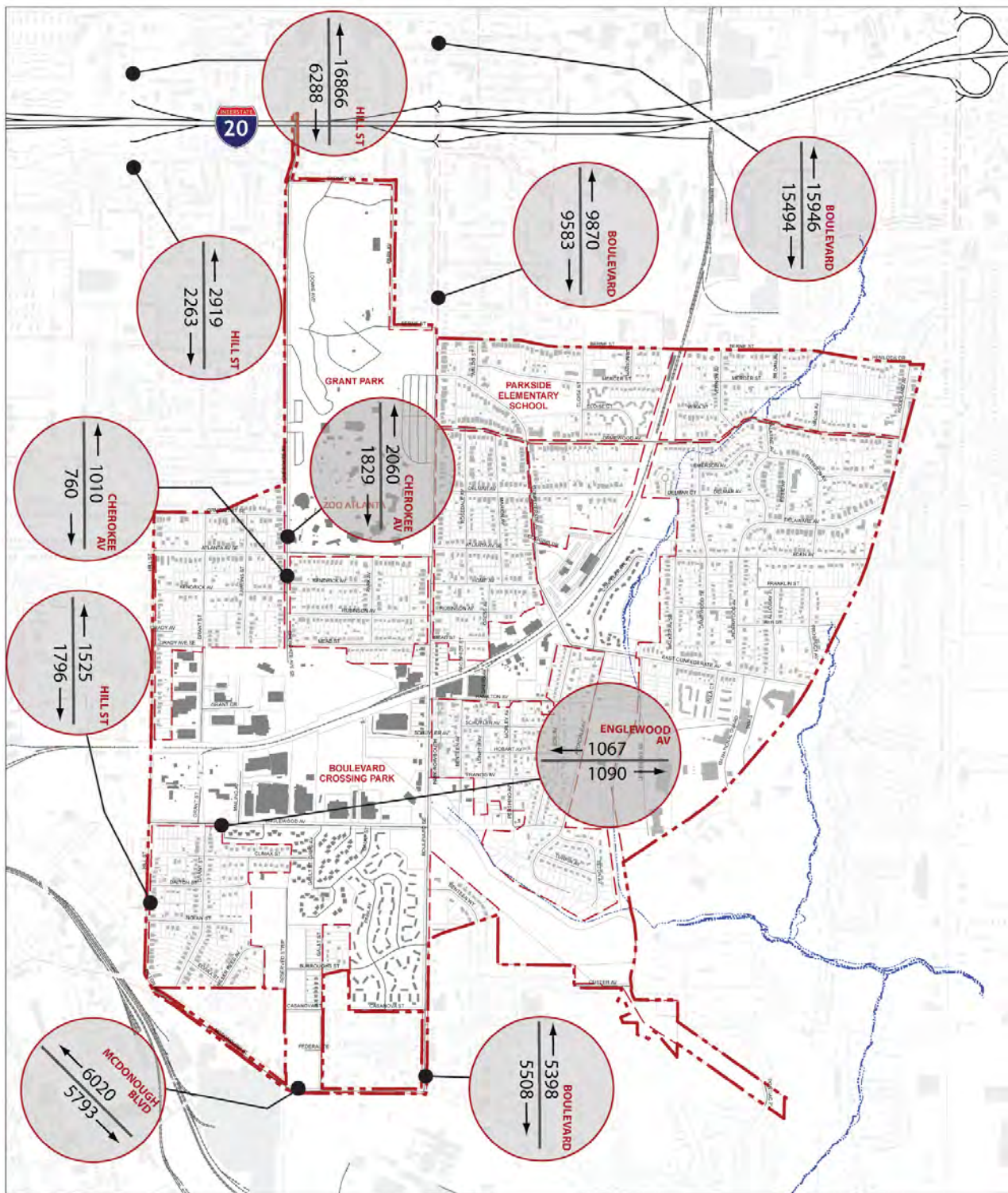


Figure 51 – Subarea 3 Average Daily Traffic

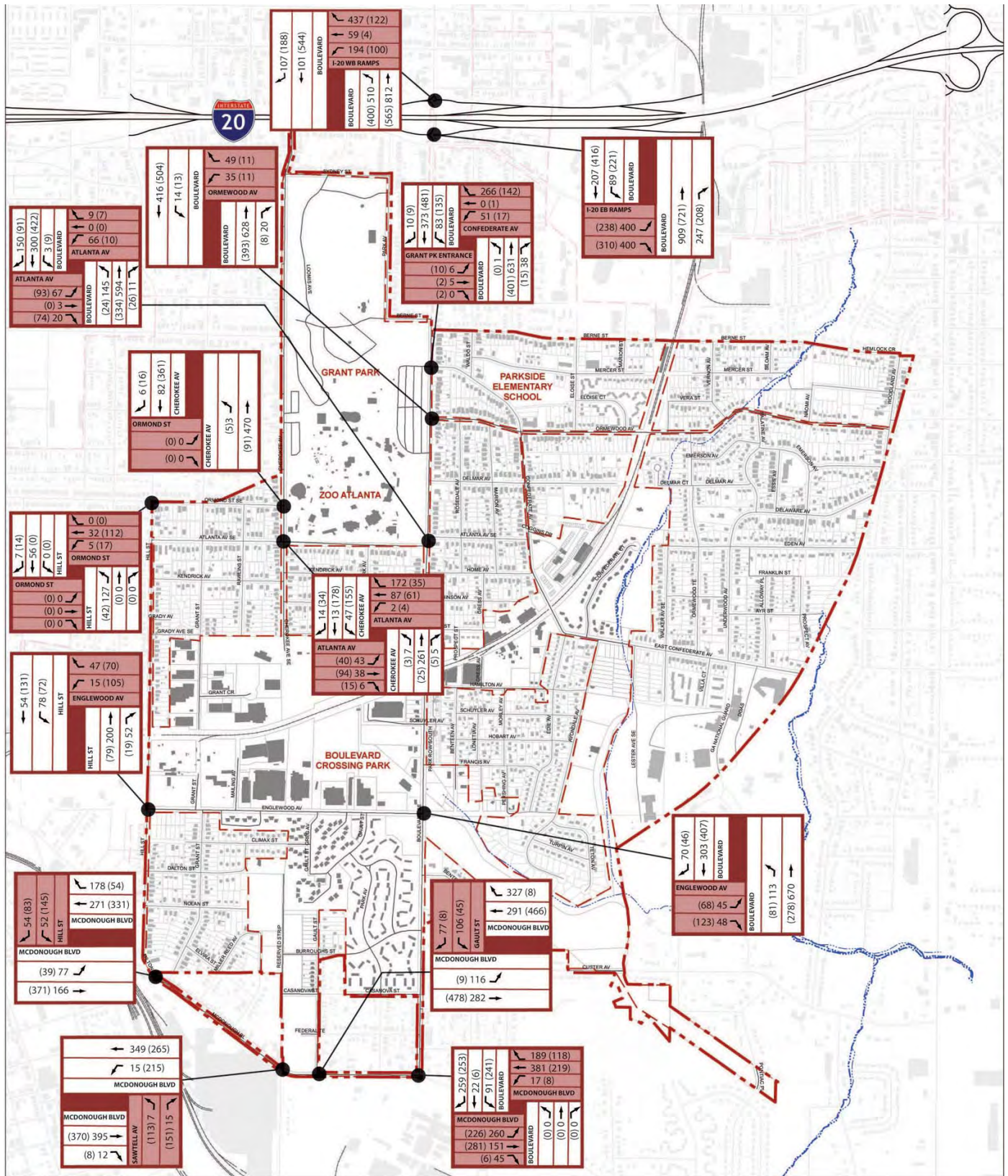


Figure 52 - Subarea 3 Peak Hour Turning Movements Counts

Transit Service

Transit is an important travel option in Subarea 3, and will continue to play an integral role in the future transportation system with implementation of the BeltLine. Currently, the subarea is served by the Metropolitan Atlanta Rapid Transit Authority (MARTA). There are five transit routes (4, 32, 49, 97 & 397) provided. Figure 53 shows the Marta Bus Routes in the subarea.

Route 4 – McDonough / Grady Hospital

Route 4 serves the Chosewood Park Community, traveling along the southern boundary of the subarea along McDonough Boulevard and Milton Avenue. It has an average daily ridership of **2,493 passengers**. The surrounding area is primarily made up of single-family and low-density development, with some industrial and vacant properties as well.

Previous studies have proposed a pedestrian plaza and commercial node near the intersection of McDonough Boulevard. More mixed use development is also planned for the area. The McDonough Boulevard Streetscape Project will increase roadway capacity and enhance the environment for pedestrians, and may encourage more use of transit. This community is well-established as a single-family residential neighborhood, with several property renovations and rehabilitations underway. The proposed changes in land use may increase density in the area, with a corresponding increase in transit usage. Route 4 provides service to the Georgia State and Five Points Rail Stations.

Route 32 - Eastland / Bouldercrest

With connectivity to the King Memorial Transit Station, Route 32 has a ridership averaging **2449 passengers** per day. The route serves the Ormewood Park and Grant Park Communities, as well as the small industrial portion of the study area via East Confederate, Underwood, Delaware, Woodland, and Ormewood Avenues, and Boulevard. It can be expected that workers traveling to and from businesses in the industrial zone and the State Government Complex on East Confederate Avenue comprise the users of this route. Although the industrial

facilities appear to be diminishing, established single-family neighborhoods remain stable. There is also an increase in the amount of higher-density in-fill housing. The changing land use may result in changes in transit ridership. There are streetscape and intersection improvements proposed for the Boulevard, East Confederate Avenue, and Ormewood Avenue. The construction of these improvements may temporarily disrupt transit operations in those areas; however the improved pedestrian amenities should have a positive affect on transit usage in the long term.

Route 49 – McDonough

Route 49 provides service to the Five Points MARTA Station. This route traverses several communities within Subarea 3, including Chosewood Park, Englewood Manor, Boulevard Heights, Custer/McDonough/Guice, and Benteen, all single-family residential neighborhoods. This route also covers a small industrial sector. The route follows Custer Avenue, Boulevard, Englewood Avenue, and Hill Street. Future plans for this area forecast more medium- and high-density residential and mixed use development. This change in land use may increase ridership from its current level of **2422 passengers** per average weekday. A future BeltLine Rail Station is planned along this route on Hill Street.

Route 97 - Georgia Avenue/ Grant Park

Route 97 buses operate along Boulevard, as well as Atlanta, Hamilton, and Cherokee Avenues. Current land use is predominantly single-family residential and park space. The route also intersects with a portion of the neighboring industrial area. Future land use plans indicate that the area will not undergo significant changes, except the portion near Hamilton Avenue and Boulevard, where more mixed use properties are forecast to develop near the future BeltLine. The proposed Grant Park Trolley line may operate along Boulevard. Streetscape projects are planned for Confederate, Atlanta, and Cherokee Avenues, and Boulevard. These transportation improvements will benefit pedestrian accessibility to transit along these thoroughfares, although construction activity may cause temporary disruptions. The route carries an average of **1,032 passengers**

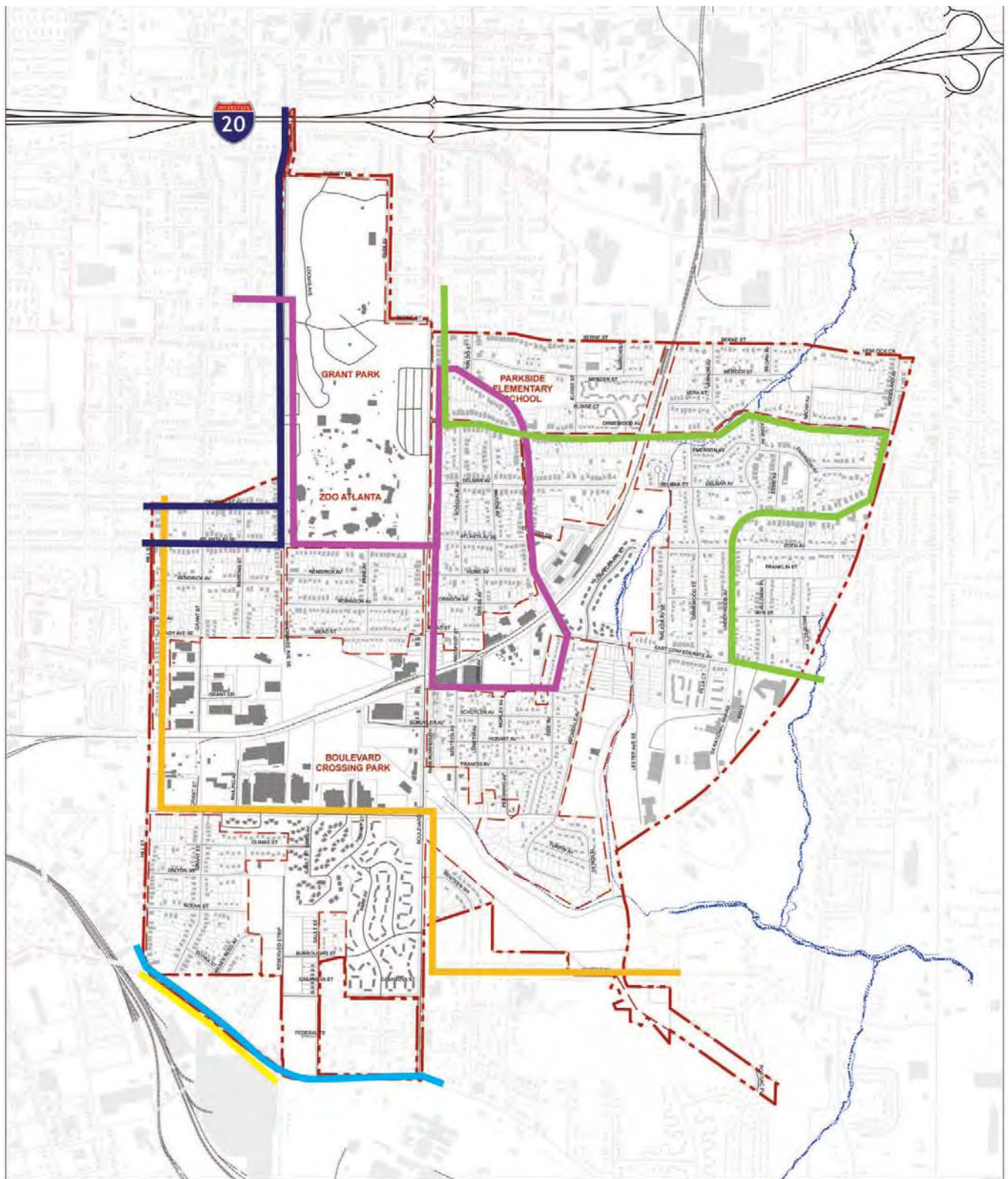


Figure 53 - MARTA Bus Routes

per weekday. The route serves the Five Points Rail Station, Zoo Atlanta and the Georgia Aquarium.

Route 397 - Cherokee Avenue

Route 397 uses a small vehicle to provide service to the King Memorial Rail Station, Zoo Atlanta, Cyclorama, and Grant Park. Within the Sub-area Route 397 travels along Cherokee Avenue, Ormond Street and Atlanta Avenue. The Grant Park Community served by this route is characterized by well-established single-family residential neighborhoods. No changes in land use are proposed for this area. There is a pedestrian plaza planned for the intersection of Ormond Street and Cherokee Avenue, and an Atlanta Avenue streetscape project is also in the program. The improvements will enhance the transit user's overall environment. The proposed Grant Park Trolley line will follow the same path as Route 397 through the study area. The route presently carries an average of **97 passengers** per weekday.

Super Block Identification

A super block is a street block that is typically larger than the traditional blocks found in the urban setting or context. These blocks are often formed by consolidating several smaller blocks and are often barred to through traffic. These super structures, although once popular, have over time lost their appeal since these large block sizes tend to limit pedestrian and vehicular circulation. Long blocks provide a barrier to pedestrian and bike traffic, and can contribute to safety concerns for pedestrians since it may encourage mid-block crossings and higher vehicular speeds along block lengths. The connectivity, walkability and economic environment of a community can be enhanced by introducing paths which break up super block structures since this increases the mobility of system users.

The typical urban city block varies from one city to another. In Chicago the typical block size is approximately 330 ft x 660 ft, while in New York, the block sizes may be 200 ft x 600 ft. In some areas in New York the north-south block length can be roughly 1/20 of a mile or 260 ft, while the east-west length can be 1/5 of a mile or 1,056 ft. Typical street connectivity standards or goals as indicated in the Vic-

toria Transport Policy Institute, recommend that maximum block sizes should be limited to 5-12 acres. Of course, these standards should be flexible enough to accommodate specific conditions that may arise, such as geographic barriers or special land use. For the purpose of this assessment, the typical block size would be defined as a block having an average land area of approximately 5 acres. Block sizes over 12 acres will be considered a super block.

To determine the existence of super blocks within Subarea 3, a GIS map was produced with the relevant existing block information. As can be seen in Figure 54, the majority of Subarea 3 has block sizes that are 4 acres or less. Areas A, E and F were the only blocks identified as having land areas close to or exceeding the upper threshold used to determine a typical block size. Area A has a land area of 13 acres however; this site does not support the typical land use in an urban setting. This area is a special site since it houses the Zoo Atlanta site. Area F can be considered a super block with an area of 17.4 acres; however there are a number of streets which permeate the interior of this block which can increase its accessibility.

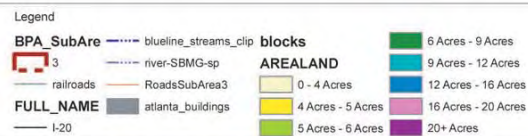
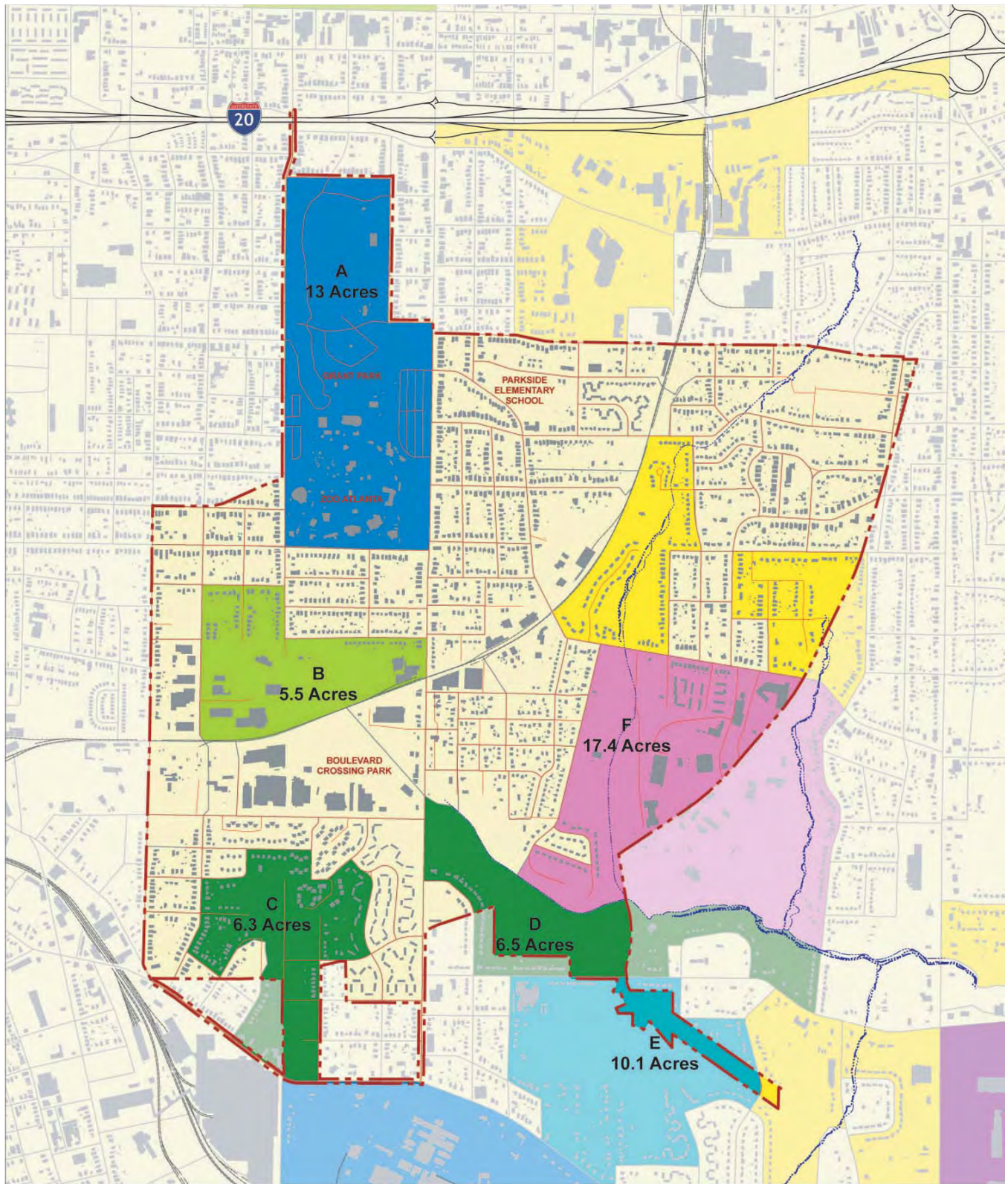


Figure 54 - Super Block Identification

Street Connectivity

The term “street connectivity” looks at how well a road or pedestrian system connects points of origins to points of destinations. This measure does not only look at the directness of links but also focuses on the density of connections within a system.

A highly connected area typically:

- Possesses a dense system of parallel routes and cross-connections within an area which typically forms a grid-like pattern of arterial, collector and local streets
- Has few closed-end streets
- Has many points of access
- Has narrow streets with sidewalks or off-street paths
- Has frequent intersections to create a pedestrian-scale block pattern
- Has traffic calming devices such as curb extensions, crosswalks or landscaping
- Has pedestrian and bicycle connections

Where street connections are not possible due to barriers to connectivity

(Source, CPW, University of Oregon, 2003).

Street connectivity studies conducted in 1997 by Metro, the Portland Metropolitan Area's elected regional government, found that in general:

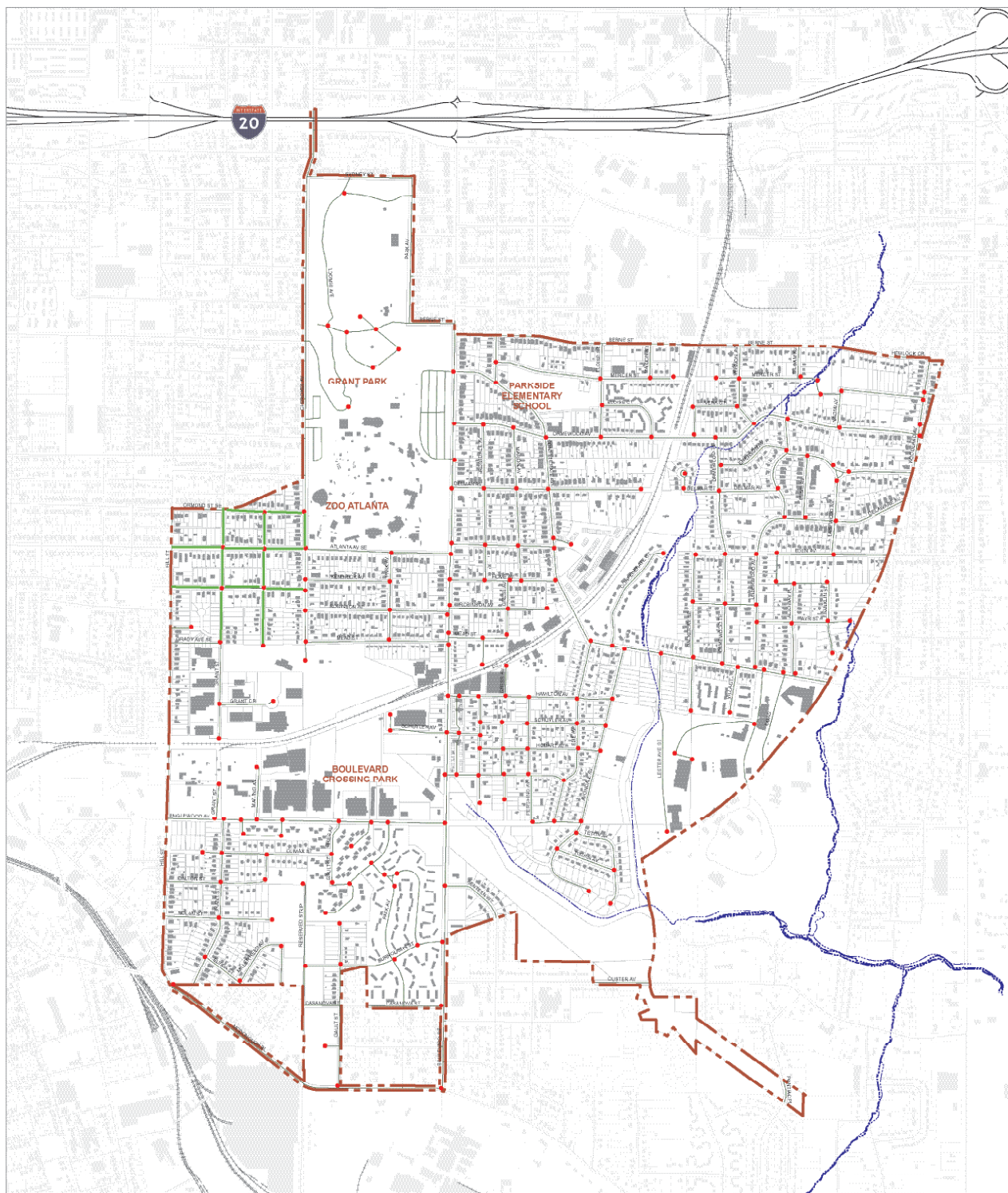
- High levels of local street connectivity reduce the amount of local traffic on major streets.
- There are overall reductions in vehicle hours of delay, vehicle miles of travel and average trip length in areas with high local street connectivity.
- Returns from greater street connectivity increases at a diminishing rate. Where the marginal benefit derived from increasing connectivity from a low level to a moderate level is higher than the marginal benefit received from moving from moderate to high connectivity levels.
- Providing a moderate level of connectivity (between 10 to 16 connections per mile) achieves the most cost effective method of improving regional street flow.

- Street connectivity ultimately improves livability in communities.

This does not suggest that there are no negative externalities produced as a result of increased street connectivity in an area. Some potential drawbacks that may result include the diversion of traffic into residential neighborhoods, and diminished capacity on major streets due to new intersections. However, mitigation measures can be adopted to reduce these externalities.

To determine the street connectivity of Subarea 3, this assessment made use of a connectivity index. A connectivity index can be used to determine, quantitatively, the level of an area's connectivity. There are several different methods which can be used to determine the level of street connectivity in an area; however, for this analysis a simple connectivity ratio will be utilized. The connectivity ratio looks at the number of roadway links divided by the number of roadway nodes that exists in the system:

According to the Victoria Transport Policy Institute's report titled Roadway Connectivity, Creating More Connected Roadway and Pathway Networks, updated July 2008, a minimum connectivity index value of approximately 1.4 is required for a “walkable” community. To determine the street connectivity index and ultimate connectivity of Subarea 3, it was necessary to first produce a GIS-based map of the subarea and associated roadway or major street network centerlines. Using these maps, the areas links and nodes were



**BeltLine Subarea 3:
BOULEVARD CROSSING**

Street Connectivity

September 2008

LEGEND

- BeltLine SubArea 3 - Boulevard Crossing
- Tax Allocation District Boundary
- Parcels
- Building
- Interstate
- Roadways
- Railroads
- Waterways
- Nodes
- Links

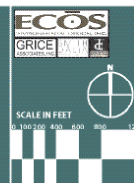
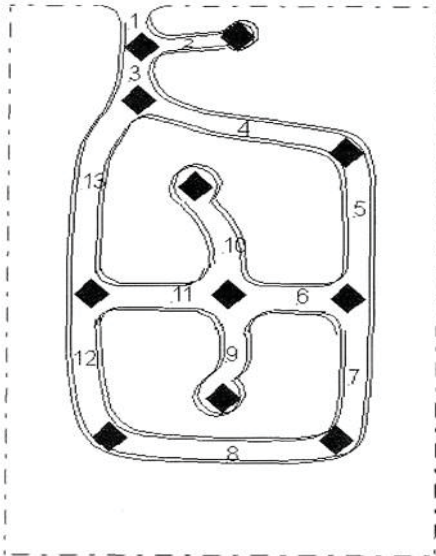


Figure 55 - Street Connectivity

identified and recorded, as shown in the following Figure 55, entitled Street Connectivity.

Roadway links are identified as segments between intersections while roadway nodes are the intersections. The following example from the Unified Development Ordinance for the Town of Mount Pleasant, NC, reflects a basic application of street

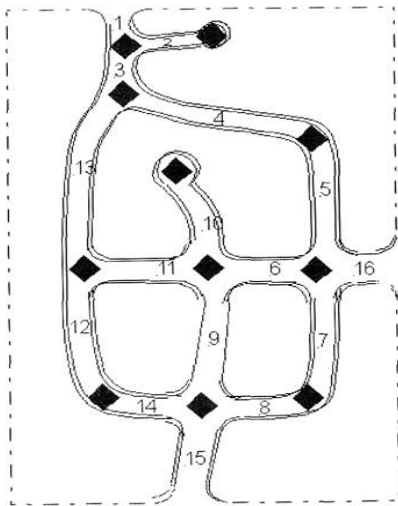
$$\frac{13 \text{ links}}{11 \text{ nodes}} = 1.18 \text{ ratio}$$



connectivity. Below is an example of a network that does not meet the minimum ratio:

However, the example below from the same ordi-

$$\frac{16 \text{ links}}{11 \text{ nodes}} = 1.45 \text{ ratio}$$



nance shows a modified network that meets the minimum threshold for connectivity:

There are approximately 218 nodes and 321 associ-

ated links identified in Subarea 3. The connectivity index produced in this subarea was 1.472, which is at the minimum connectivity value needed to support a walkable community.

The index obtained for Subarea 3 gives a general indication of the street connectivity for the area. A higher index usually means that travelers have increased route choice, which allows for more direct connections for access between points of origins and destinations. While this index number serves as a general guide to the street connectivity, there exist several limitations to the process. These limitations include:

- Street connectivity ultimately improves livability in communities.
- Centerline or street information for the area may not be complete or may not include new road construction
- Connectivity levels for motorized and non-motorized modes may differ,
- Paths or trails that may be used by pedestrian and bike traffic may not be represented in the GIS source data used in the street connectivity calculations, however,

these paths do increase the overall connectivity of the system.

Safety Analysis - Roadways

Crash data was also collected for roadway segments in Subarea 3. This information was used to

$$\text{Crash Rate} = \frac{\text{no. of crashes} \times 10^8}{\text{ADT} \times 365 \text{ days/year} \times \text{L miles}}$$

calculate the crash rate for key roadways. Crash rate — total crashes per 100 million Vehicle Miles Traveled (VMT):

The calculated rates were compared to average rates for the State of Georgia between 2003 and 2005 based on classification. The three applicable classifications are urban minor arterial, urban collector road, and urban local street. The crash rates for key roadways are shown in Table 10.

As can be seen, the crash rates are significantly higher than the statewide averages. The highest is **McDonough Boulevard**, which has a rate that is nearly 3 times the statewide average. The most

influential variable here is the short distance over which these crashes occur (0.64 miles). As mentioned above, the intersection of McDonough Boulevard and Boulevard has the highest number of crashes (67) and accident rate (2.97) of all the study intersections in the subarea.

Hill Street and **Boulevard** have roadway crash rates of 8.81 and 8.28 per million vehicle miles (MVM) of travel, respectively. Boulevard has a total of 290 crashes over the four-year period. It should be noted that this is the longest segment and has the highest ADT. One notable aspect of the comparison of these two roadways that have similar rates is that this occurs over a shorter distance of Hill Street, with approximately 1/5th the volume. Also, these roadways have different functional classifications.

A similar comparison can be made between **Cherokee Avenue** and **Englewood Avenue** which have different classifications, and section lengths. Although Englewood has significantly fewer accidents (14 versus 37), the shorter distance over which this occurs appears to be an “equalizer.” The

Table 4. Roadway Crash Rates

Corridor	Classification	Total Acc.	AADT vpd	Section Length miles	Accident Rate per MVM	Statewide Avg. per MVM
Hill St.	Collector	41	3,321	0.96	8.81	5.13
Boulevard	Minor Arterial	290	15,180	1.58	8.28	5.54
McDonough Blvd.	Minor Arterial	155	11,813	0.64	14.04	5.54
Cherokee Ave.	Collector	37	2,830	1.19	7.53	5.13
Englewood Ave.	Local Road	14	2,157	0.59	7.53	3.88

statewide average for each of their classifications is another key distinction. Englewood further exceeds the Georgia statewide average for local roads (3.88 per MVM), in comparison to Cherokee Avenue for collector roads (5.13 per MVM).

Safety Analysis - Intersections

In the assessment of safety within Subarea 3, network crash data was extracted from the Georgia Department of Transportation's (GDOT) crash database for the years of 2002 through 2005. Crash data was gathered for several intersections and key roadway facilities for which traffic volume data was collected. This data was synthesized to determine the total number of crashes and crash rate occurring in each year, as well as the type. Results for intersection crashes is summarized in Table 5.

In a review of the results for Subarea 3, the highest total number of crashes occurred at the intersection of Boulevard and McDonough Boulevard. The two predominate types of collisions are right angles and rear-ends. These two collision types are common at intersections, being a point of convergence for multiple movements and directions of flow. However, the rate at which these crashes occurred is nearly double the rate of the second-highest intersection.

The practice of calculating the crash rate creates an "equalizer" that factors the traffic volume into the assessment of crashes and creates a more equitable comparison among intersections. However, the functional classification is also a distinguishing factor for which consideration should be given. Typically, the volume of traffic on a roadway is indicative of the classification. These two roadways are both minor arterials.

The crash totals for right-angle and rear-end collisions, may appear to diminish the relatively lower totals for other types of crashes. However, there are four reported head-on collisions reported over the four-year period. Three of these collisions occurred in solely in 2004. This intersection also had two sideswipe-opposite collisions. In comparison with head-on collisions, this type of collision may be seen as the lesser of the two outcomes of a common safety concern. This may be related to the skewed alignment of the westbound approach of

McDonough Boulevard into one receiving lane. Additionally, the opposing eastbound left has con-



Figure 56 - Boulevard and McDonough Boulevard

siderable demand during peak conditions. The geometric alignment of this intersection is depicted below in Figure 56.

The next tier of intersections also has a considerable number of crashes, but significantly fewer than the intersection of Boulevard and McDonough Boulevard. These intersections include the Boulevard intersections of Glenwood Avenue and Confederate Avenue, which are both intersections of a minor arterial and collector street.

At the I-20 intersection of Boulevard & Glenwood Avenue there is a relatively balanced occurrence of right-angle, rear-end, and sideswipe-same direction crashes. As shown in Figure 57, this intersection is functionally within the intersection of the I-20 Eastbound ramp, which is conceivably a factor, given driver expectancy and anticipation and driver response to a complex traffic control configuration. One example of this is the location of the traffic signal heads for the northbound Boulevard movement. Because the Glenwood Avenue ap-

Table 5. Intersection Crash Summary

<u>Intersection</u>	<u>Year</u>	<u>Right Angle</u>	<u>Head On</u>	<u>Rear End</u>	<u>Sideswipe-Same Direction</u>	<u>Sideswipe-Opposite Direction</u>	<u>Collision Not With Vehicle</u>	<u>Pedestrian</u>	<u>Total Crashes</u>
Boulevard @ McDonough Blvd									
	2002	4	0	8	1	0	2	0	15
	2003	4	1	8	6	0	1	0	20
	2004	5	3	6	3	2	0	0	19
	2005	6	0	5	2	0	0	0	13
	Total	19	4	27	12	2	3	0	67
Boulevard @ Glenwood Ave									
	2002	4	0	6	1	1	0	0	12
	2003	4	0	3	3	0	0	0	10
	2004	0	0	2	3	0	0	0	5
	2005	4	0	4	4	0	1	0	13
	Total	12	0	15	11	1	1	0	40
Boulevard @ Confederate Ave									
	2002	3	0	4	3	0	0	0	10
	2003	4	0	1	0	1	0	0	6
	2004	3	0	2	1	1	2	0	9
	2005	3	0	4	1	0	3	0	11
	Total	13	0	11	5	2	5	0	36
McDonough @ Sawtell Rd									
	2002	0	0	2	0	0	1	0	3
	2003	3	0	1	1	2	0	0	7
	2004	1	1	0	1	0	1	0	4
	2005	2	1	3	1	0	0	0	7
	Total	6	2	6	3	2	2	0	21
Boulevard @ Englewood Ave									
	2002	1	0	2	1	1	0	0	5
	2003	0	0	1	1	0	1	0	3
	2004	1	0	2	2	0	1	0	6
	2005	0	0	0	1	0	1	0	2
	Total	2	0	5	5	1	3	0	16
Boulevard @ Atlanta Ave									
	2002	0	0	0	1	0	0	0	1
	2003	0	0	2	0	0	0	0	2
	2004	1	0	3	1	2	0	0	7
	2005	2	0	2	0	0	1	0	5
	Total	3	0	7	2	2	1	0	15



Figure 57 - Boulevard & Glenwood Avenue
proach does not have any signal indications, drivers are left to judge or anticipate the movements of conflicting traffic.

The intersection of Boulevard and Confederate Avenue has slightly fewer crashes, but a higher crash rate of 1.54 versus 1.20 at Glenwood Avenue.

The third tier of intersections, in terms of the total number of crashes, includes the intersections of Boulevard and Atlanta Avenue, Boulevard and Englewood Avenue, and McDonough Boulevard and Sawtell Road. Of these three intersections, the intersection of McDonough Boulevard and Sawtell Road has the highest crash total (21) and rate (1.18).

One notable aspect of the crash statistics at this intersection is the two head-on collisions that have taken place. This is one of only two study intersection in the entire subarea, where this type of collision occurs. It should also be noted that there were two (2) sideswipe-opposite collisions at this intersection. The differentiation between these two types of collisions is often matter of angular degrees. A similar case is noted above for the intersection of Boulevard and McDonough Boulevard. This may be related to the positioning of this intersection within a horizontal curve as shown in Figure 58.



Figure 58 - McDonough Boulevard and Sawtell Road
The Boulevard intersections of Atlanta Avenue and Englewood Avenue have similar statistics, in terms of crashes. The intersection at Englewood has a slightly higher rate. The offset side-street configuration of Atlanta Avenue may have some relationship with the consistent occurrence of rear-end collisions at this intersection. While this intersection is controlled by a traffic signal, the width of the intersection (approximately 180 feet) may necessitate



Figure 59 - Boulevard and Atlanta Avenue

longer clearance times. The offset configuration of

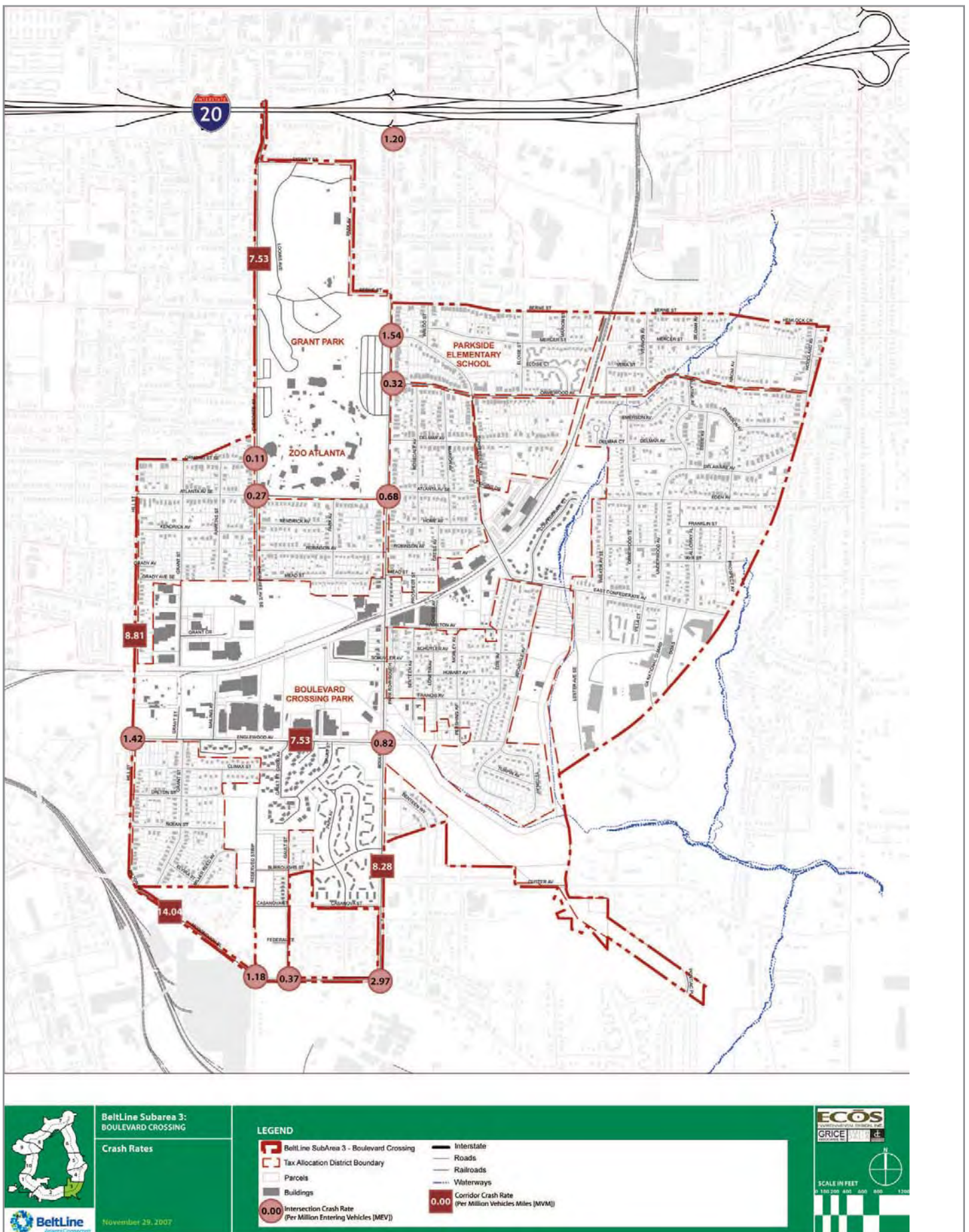


Figure 60 - Crash Rates

this intersection is shown in Figure 59.

The final tier of intersections included a far lower number of crashes. Of these remaining intersection, only the intersection of Hill Street and Englewood Avenue has more than ten (10) crashes over the four-year period from 2002 through 2005. With only 11 total crashes, this intersections still has a crash rate of 1.42, which is comparable to the intersection of Boulevard and Confederate, which has 33 total crashes. The other intersections in this group with a four-year total of crashes of less than ten include:

- Boulevard and Ormewood Avenue (6)
- Cherokee Avenue and Glenwood Avenue (0)
- Cherokee Avenue and Ormond Street (1)
- Cherokee Avenue and Atlanta Avenue (3)
- Hill Street and Ormond Street (0)
- Hill Street and McDonough Boulevard (0)
- McDonough Boulevard and Gault Street (7)

Figure 60 on the previous page shows crash rates for the study intersections.

Recommendations from Previous Plans

There have been various transportation improvement projects for Subarea 3 recommended in previous studies and plans. While none of these are programmed in the current RTP, they have been considered for their relevance and possible incorporation in the BeltLine Subarea 3 Plan.

Atlanta Commuter On-Street Bike Plan (1995)

In the development of this plan, the Mayor's Bicycle Planning Committee recommended three (3) tiers of on-street bicycle planning projects. These include 1-Year, 5-Year, and 15-Year projects. The bike

Table 6. Atlanta Commuter On-Street Bike Plan Recommendations

<i>Five-Year Projects</i>	
<i>Berne Street</i>	<i>From Grant Park to City limits via Bouldercrest Drive</i>
<i>Boulevard</i>	<i>From Eastside Trolley Trail to Grant Park</i>
<i>East Confederate Avenue</i>	<i>From Grant Park to Woodland Avenue</i>
<i>Hill Street</i>	<i>From Memorial Drive to Lakewood Way</i>
<i>Hilliard Street/Cherokee Avenue</i>	<i>From John W. Dobbs Avenue to Grant Park</i>

lane projects that fall within the limits of Subarea 3 are included in the following table.

Livable Centers Initiative - City Center (2001)

Although this initiative encompasses an area that lies mostly outside Subarea 3, there are several recommendations that are within the subarea or have potential impacts that extend from the Center City area. The specific associated recommendation related to Boulevard, for which is recommended "less extensive streetscape improvements but should still have wide sidewalks and street lighting"

Atlanta BeltLine Redevelopment Plan, Future Circulation Plan, Traffic Impacts & Roadway Improvements (2005)

This document, compiled by Grice & Associates in 2005, summarized proposed improvements based on an assessment of transportation mobility that contributed to an overall circulation plan. The resulting recommendations, generally described, are as follows:

- Glenwood Avenue
 - o Intersection improvements
 - Glenwood Avenue at Boulevard
 - o Capacity Improvements
 - Glenwood Avenue from Boulevard to
- Boulevard
 - o Intersection Improvements

- Glenwood Avenue at Boulevard and
Boulevard at Englewood Avenue
- o Signal Improvements
 - Atlanta Avenue at Boulevard
- o Streetscape Improvements
 - Atlanta Avenue to Englewood Avenue



Figure 61- Cherokee Avenue at Atlanta Avenue

- Cherokee Avenue
 - o Intersection Improvements
 - Cherokee Avenue at Atlanta Avenue
 - o Capacity Improvements
 - Widen from Mead Street to Atlanta Avenue
 - Upgrade southern portion from Mead Street to Atlanta Avenue to accommodate increased traffic from new extension
 - Extend Cherokee 2000' from southern terminus to Englewood Avenue, 4 Lanes
 - Construct new underpass at Cherokee under BeltLine
- Englewood Avenue
 - o Intersection improvements:
 - Englewood Avenue @ Boulevard
 - Englewood Avenue @ Cherokee
 - Englewood Avenue @ Hill Street
 - o Streetscape Improvements:
 - From Hill Street to Boulevard
- Hill Street
 - o Intersection Improvement
 - Hill Street at Milton Avenue
 - o Streetscape Improvement from Englewood Avenue to Atlanta Avenue

Draft Comprehensive Transportation Plan for Grant Park and Affected adjoining neighborhoods (2007)

This report makes specific recommendations for the Grant Park area, including Boulevard, Cherokee Avenue, Confederate Avenue, Glenwood Avenue. These recommendations, that include great detail, are summarized below.

- Boulevard
 - o Install landscaped curb “bulb-outs” from CSX rail tracks north to Confederate Ave.
 - o Reduce incorrect four-lane configuration of Boulevard to three lanes, starting from CSX tracks north to Confederate Ave.
 - o Maintain one through north/south lane on each side, install a ‘two way left turn lane’ in the center all the way from the CSX (BeltLine) tracks north to Confederate Ave.
 - o Accommodate bicycle lanes on each side of Boulevard south of CSX rail crossing to McDonough Blvd.
 - o Add left turn arrows on Boulevard at Atlanta Ave. in both directions. Left turn arrow for southbound Boulevard traffic would facilitate eastbound access to Beazer development (300 Units) as well as to Ormewood



Figure 62 - Boulevard at Atlanta Avenue

Park. Left turn arrow for northbound Boulevard would facilitate westbound traffic onto Atlanta Ave. before I-20 and Memorial Dr.

- o Add left turn arrow to traffic light on Boule-

ward southbound at Confederate Ave. to facilitate left turn into Ormewood Park neighborhood (east bound).

- o Make traffic lights on Berne St. activated ONLY by pedestrians and by approaching traffic. Berne St. is no longer a through street. If and when activated, maintain current 'green wave' sequence on Boulevard with light at Confederate. This would facilitate left turn onto Berne east-bound, from Boulevard southbound when light is red at Confederate Ave. (one block away).
- o Add stop sign to Parkside Elementary School crosswalk on Waldo at Mercer St. to provide students with a safe route to school.
- o Provide and maintain safe pedestrian routes across Boulevard.
- o Install directional signage at the Glenwood/Memorial Bridge on Glenwood Ave. to indicate access to I-20 (BEFORE reaching Boulevard).
- o Install/create "Traffic Calming Devices" for all 'feeder' traffic onto Boulevard from: Atlanta Avenue, Confederate Avenue, Berne Street and Glenwood Avenue.
- o GDOT has agreed to post directional signage on I-75/85 north/south indicating Fulton St. as off-ramp to Zoo/Cyclorama. City is prepared to post directional signage from Fulton St. to Zoo/Cyclorama via Hank Aaron Dr. / Georgia Ave / Atlanta Ave.
- o Move northbound traffic light 100 ft. south on Boulevard to avoid congestion/blockage of retail driveways (BP /Fire Stations, 465 Blvd.). Replace small "Do not block driveway" sign with large "Stop here on red".
- o Repaint north and southbound through lanes on Boulevard just north of the I-20 bridge to clearly indicate the existing and dangerous 'jog to the left' lane shift. Install overhead signs (bent arrows) as well as eye-level warning arrows, also in each direction, to alert drivers of existing lane shifts.
- o Southbound on Boulevard., prior to /at I-20 west bound on-ramp, add additional "right turn only" lane as well as an additional "right turn only" overhead sign to facilitate southbound traffic flow from Blvd. onto I-20 westbound. Add painted 'mini-strips' to

continuing ("through") southbound lanes to



Figure 63 - Boulevard

indicate lane shift to the right on the bridge itself. Add overhead signs, also, to indicate 'lane shift to the right.'

- o Pedestrian Related Recommendations
 - Reduce four-lane configuration of Boulevard from Confederate Ave. south to CSX rail tracks (McDonough Blvd.)
 - Increase visibility of all pedestrian crosswalks – especially those to/from Grant Park proper.
 - Install pedestrian in-road upright signs in all crosswalks.
 - Install additional pedestrian crosswalk at Berne St., south of 'dog-leg'. Install Pedestrian / traffic activated light to facilitate access to Grant Park. (Especially for Parkside Elementary School).
 - Repair pedestrian traffic control buttons at all traffic lights. (Atlanta, Confederate Ave., Berne St.)
 - Create Pedestrian Corridor, along Boulevard, between Grant Park and Cabagetown 'Mill'. Place concrete planters along the sidewalks on the I-20 overpass bridge for noise abatement, new urban streetscape and to increase pedestrian safety.
 - Move current crosswalk on Boulevard at I-20 to a safer location, in line with current Glenwood Ave.
- o Quality of Life Enhancements
 - Post "No freight trucks on Boulevard"

- in much more visible locations, BEFORE trucks actually proceed down/turn onto Blvd. at I-20 and also on McDonough Blvd to prevent trucks from turning north onto Boulevard from the south.
- “Streetscape” the I-20 overpass with concrete planters.
- Landscape with trees and shrubs the ‘bulb-outs’ used to protect the resident parking between CSX rail tracks and Confederate Ave.
- Cherokee Avenue
 - o Strategies to Address Increased Commuter Traffic
 - North/southbound on Cherokee Ave., at Georgia Ave., install a dedicated left turn lane with dedicated left turn arrows.
 - Calm traffic/protect west side resident parking by installing landscaped curb ‘bump-outs’.
- o Pedestrian Related Recommendations
 - Increase visibility of all pedestrian cross walks - especially those to/from Grant Park Proper.
 - Install additional crosswalks at new stop sign on Cherokee Ave. and Sidney westbound. Paint “stop line” in northbound lane at stop sign at Glenwood Ave.
 - Create Pedestrian/Bicycle Corridor along Cherokee Ave. between Zoo/Cyclorama and Oakland Cemetery/M. L. King Marta Station.
 - Install curb ‘bump-outs’ in front of both (Milledge, Ormond) fountains on Cherokee Ave. to 1) calm traffic; 2) create extra ‘public space’ for fountain enjoyment. Enhance with landscaped planters for added pedestrian safety and enjoyment.
 - Consider a traffic-calming curve at Milledge Avenue to create pedestrian plaza and focal point at the Milledge Fountain and Ormond St. Fountain, both currently slated for renovation. Storm drainage may be an issue for this design at Milledge.
- Consider a pedestrian-focused plaza at Grant Central Pizza area, perhaps with stamped or colored asphalt.
- o Quality of Life Enhancements
 - Maintain all in-road pedestrian crosswalk upright signs.
 - Maintain all pedestrian ‘flag’ stations.
- Glenwood Avenue
 - o Mobility Recommendations
 - Replace destroyed “No Left Turn” sign on Glenwood at Boulevard.
 - Replace uprights south of Boulevard traffic island to prevent illegal left turns from southbound Boulevard onto eastbound Glenwood. Replace the destroyed “No Left Turn” sign onto Glenwood.
 - Move crosswalk on Boulevard at Glenwood to just south of the traffic island, in line with former intersection. Provide a refuge island for pedestrians crossing Boulevard.
 - Install I-20 directional signage on Glenwood at Kennedy Memorial Drive (Glenwood Park intersection).

Existing Conditions Summary

The assessment of existing conditions in Subarea 3 suggests that there are many transportation infrastructure challenges, affecting all modes of travel, which must be remedied.

The subarea has adequate north-south and east-west connectivity. The north-south connectivity is supported almost exclusively by Boulevard, highlighting the need to encourage uses of alternate routes.

An assessment of the subarea’s traffic control network finds that many signals are not well-coordinated, suggesting that vehicular mobility in the area may be hindered.

Pedestrian mobility was also evaluated by means of a comprehensive review of the pedestrian accommodations throughout the subarea. This review found that pedestrian accessibility is significantly limited. The majority of pedestrian facilities are not

in conformance with current standards.

Transit mobility throughout the subarea was also reviewed, revealing that transit service in some instances lacks coverage and connectivity.

A cursory review of rail and bridge infrastructure was also conducted to gain a sense of the condition of these facilities. Much of the rail in this subarea appears to be abandoned and at times detrimental to pedestrian mobility. All of the bridge structures examined were found to meet minimum vertical clearances.

This assessment of existing conditions also evaluated the occurrence of crashes on key roadways and at study intersections. The crash rates in this subarea are considerably higher than the statewide average for similar facilities.

A review of previous transportation recommendations reflects extensive past efforts to promote transportation improvements in the area. These recommendations largely focused on streetscape projects, which may take various forms. Improvements that focus on pedestrian mobility are a noted priority.

These findings will be used to ascertain the transportation improvements which will be needed in this subarea to support the redevelopment of the BeltLine.

Previous Studies

A significant part of the initial planning effort for the Boulevard Crossing Study involved the development and analysis of a comprehensive inventory of existing plans, projects, studies, conditions and agreements that may influence or impact the planning process.

The purpose of the inventory and analysis was to review the goals, objectives and recommendations for land use, transportation, parks, infrastructure, urban design and other key planning elements to determine the points of consensus and identify inconsistencies among the plans. In addition, the analysis ensured that the recommendations developed for the Boulevard Crossing Study would continue to build upon and refine the community values, principles and recommendations expressed in previous planning initiatives.

In total, thirty-eight plans were reviewed for the inventory process, including several noteworthy plans:

- Atlanta BeltLine Redevelopment Plan (2005)
- Atlanta BeltLine Street Framework Plan (2006)
- Atlanta BeltLine Redevelopment Plan- Circulation Plan- Traffic Impacts & Roadway Improvements (2005)
- Atlanta Project Greenspace (on-going)
- COA Department of Public Works Programmed Projects (on-going)
- Chosewood Park Land Use Concept (2007)
- PATH Foundation: Chosewood/ Grant Park Connector Plan (2007)
- Proposed Comprehensive Transportation Plan for Grant Park and Affected Adjoining Neighborhood (2007)
- Chosewood Park Neighborhood – Proposed Land Use Plan (2006)
- Proposed Trolley/ BeltLine Maintenance Facility & Street Car Tourist Loop (2006)
- Moreland Avenue Corridor Master Plan (2005)
- DCA Quality Growth Resource Team Study for Grant Park Neighborhood (2003)
- Memorial Drive- Martin Luther King, Jr. Drive Area Revitalization Study (2001)
- Southside Atlanta Redevelopment Plan (2000)

The key recommendations from the above plans have been grouped into two categories and are displayed on the Previous Studies Maps (Figures K.1 and K.2). The first previous studies map- Land Use, Urban Design, and Parks utilizes the Atlanta Redevelopment Plan as a base to compare and note consensus with other planning study recommendations. Concerning land use recommendations most overlap is in the Chosewood and Englewood area- south of the BeltLine and west of Boulevard. The Comprehensive Development Plan for City of Atlanta is currently being updated; however, the current future land use map is inconsistent with all recommendations of the BeltLine Redevelopment Plan. Other proposed features noted on the plan from previous studies include Chosewood Park Community Center, Pedestrian Plazas at Grant Park and McDonough Boulevard, Commercial Nodes throughout the Grant Park neighborhood, and BeltLine/ Streetcar Maintenance Facility along Cherokee Avenue.

The second previous studies map- Transportation and Infrastructure displays that most plans tended to build upon one another or addressed different aspects of the subarea's transportation network. Recommendations included proposed streetscape improvements for the major roadways focused on neighborhood connectivity, traffic calming, and the pedestrian environment. Proposed bike routes, multi-use trails, and Grant Park Trolley Line are also displayed on the previous studies map. The proposed street network from the Atlanta BeltLine Street Framework Plan is of particular importance as it strives to connect the neighborhoods via an enhanced street grid. A more detailed explanation of the key previous transportation recommendations can be found in the Existing Roadway Network section of this report.

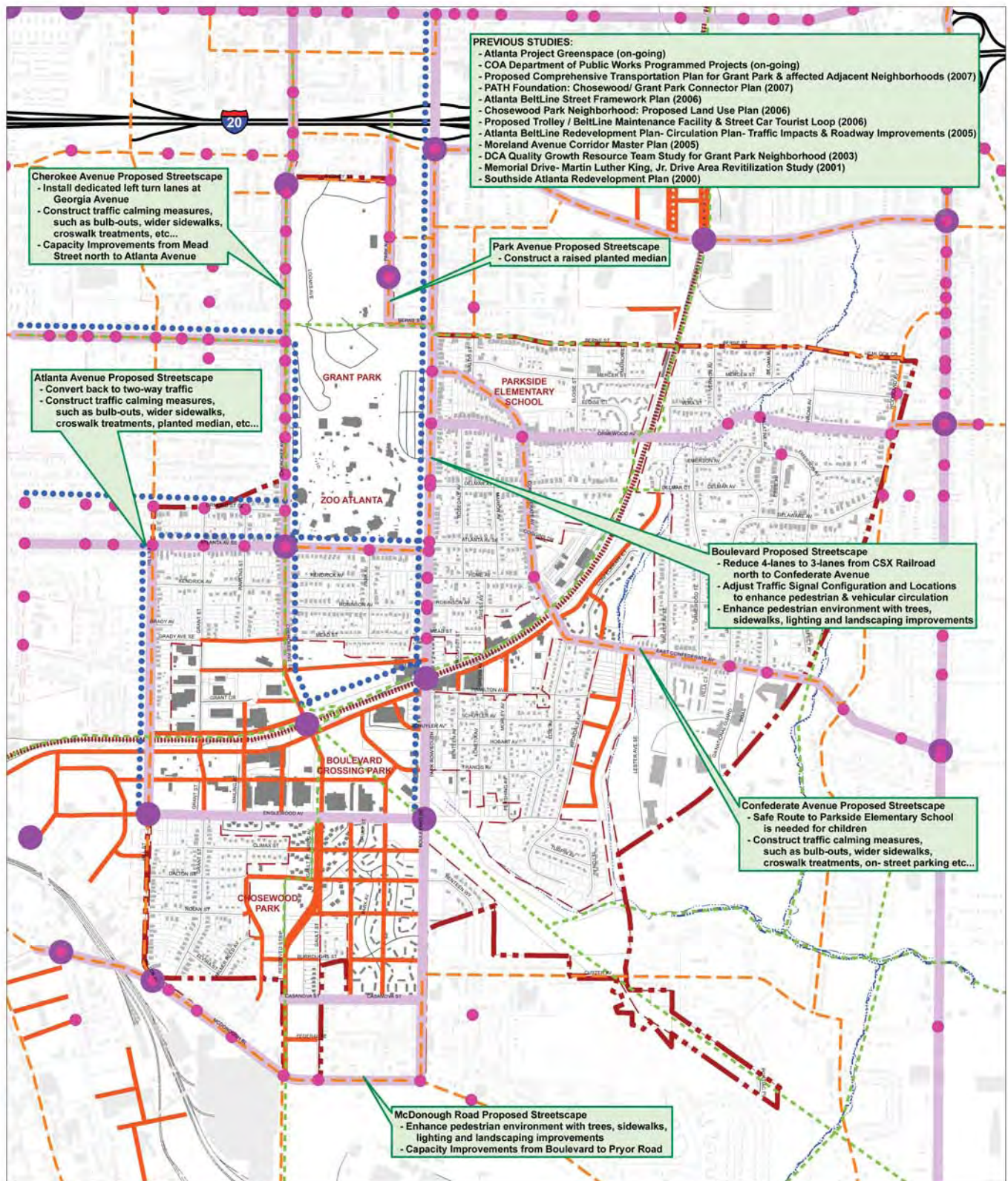


Figure K.2 - Previous Studies - Transportation

Several hundred program, project and policy recommendations are represented within the existing plans studies. The majority of the recommendations are more at the program and policy level and could not be mapped. Equally as important to consider through the planning process are the following highlights of the program and policy level recommendations organized into general plan element categories:

Transportation and Infrastructure

- Require access management with new development, which may include right-in/right-out islands and shared driveways.
- Employ Context Sensitive Solutions (CSS) approaches for transportation projects to include all stakeholders in the visioning and design process and to implement designs that reflect the environmental, social, and historical environment in which they are situated.
- Ensure that all traffic controls, including signage, striping, and pavement markings are consistent with current MUTCD (Manual of Uniform Traffic Control Devices) standards.
- Prohibit street abandonment or closure as part of new development, unless new streets are created with equal or greater connectivity to the existing grid.
- Enhance access both within the redevelopment area and to nearby destinations and neighborhoods through a series of new streets, trails, and streetscapes
- Establish standards for on-street angled parking citywide.
- Consider “back-in” angled parking as an option in commercial areas. This type of parking accommodates both drivers and cyclists who use the on-street bicycle network.
- New Development and Parking: Any major new development in the area should also provide parking internal to its own site
- Parking Requirements: Adequate to provide for residents, visitors and users of retail and commercial space.
- Encourage rear service lanes to provide connectivity and reduce turning movements.
- Smart Corridors – Focus on Intelligent Transportation System (ITS) strategies that support effective management and operations of the transportation system.
- Reduce speed limits on the internal residential streets from 35 to 25.
- Create supportive streetscape environments for mixed-use and New Urbanist-style development.
- Install sidewalks and encourage traffic calming measures throughout all NPU's.
- Eliminate the one-way streets and provide traffic calming measures on two-way streets.
- Maintain, rather than reduce, vehicular capacity along main streets using elegant traffic calming measures.
- Upgrade Signal System, Controls, and Communications
- Ensure that all traffic signals within the corridor are installed, maintained, timed and coordinated in accordance with the latest standards.
- Upgrade span-wire traffic signals to mast arm signals.
- Reduce impacts of trucks on local streets.
- Improve traffic problems associated with industrial traffic.
- To maintain accessibility along sidewalks and ensure vehicular safety, utilities and other impediments including utility poles, sign posts, and fire-hydrants, within sidewalk and in roadway clear-zones should be removed or relocated in accordance with GDOT and ADA standards.
- Greater use of alternate transportation should be encouraged.
- Study the addition of traffic signals on Boulevard Avenue.
- Improved basic amenities and pedestrian facilities at all bus stops.
- Provide a protected pedestrian walk phase or leading phase at signalized intersections.
- Establish engineering guidelines and cross-sections for trail and transit that encourage a pedestrian-friendly environment.
- Provide better pedestrian access to mass transit and parks.
- Use alleyways as pedestrian walkways connecting with sidewalks.

- Accommodate cyclists and pedestrians on bridges and tunnels that cross freeways, rivers, creeks, railroads, and other major barriers.
- Improve crosswalks; make them more visible (street lights and or pavers at intersections).
- Adopt the Georgia Department of Transportation Pedestrian and Streetscape Guide and Traffic Signal Design Guidelines as the design guides for the City of Atlanta.
- Improve street lighting along main pedestrian areas and around the park; alleyways could have a light at each end and one or two along the interior.
- Enforce current requirements for owners to maintain the sidewalks in front of their property.
- Require all portions of public street-serving sidewalks, even when their width extends onto private property, to be held to the same design and accessibility standards as the portion within the public right-of-way.
- Utilize two sidewalk ramps at intersection corners. Ramps should direct pedestrians to crosswalks. When only one ramp is provided pedestrians are pointed towards the middle of the intersection.
- Provide a knee wall, fence, hedge or curb at the back of the required sidewalk in residential areas to provide a boundary between the public and private realms.
- Widen and sign sidewalks for trail users.
- Utilize pedestrian countdown signals at all new signalized crossings.
- Require new development to bury utilities, unless economically prohibitive.
- Make trail access points as frequent as possible. Where feasible, provide access points every 1/4 mile.
- Create trail spurs to increase access to the Beltline loop from nearby, and especially underserved, neighborhoods.
- Develop trail design standards and operational guidelines to make sure that Beltline trails can be used for recreation, exercise, and transportation. This may require additional lighting to allow bicycle and walking commuters to use the trails for evening commutes.
- Consistently incorporate bicycle facilities into the City's transportation planning process.
- Review, revise, and develop policies regarding road maintenance, improvements, signing, and striping to accommodate bike facilities.
- Link bicycle projects with other transportation systems to facilitate commuting and other trips by bicycle.
- Design and construct all street improvements to accommodate appropriate bicycle facilities, based on the street and traffic conditions.
- Provide a smooth surface and transition over all below-grade utility access covers, utility covers, and at-grade railroad crossings. (Coordinate with the railroad companies to provide needed improvements on crossings.)
- Provide efficient and effective maintenance on all on-street bike facilities, thereby providing optimal commuting and recreational opportunities.
- Upgrade loop detectors to be sensitive to bicycle presence and/or upgrade crosswalk signals so the crosswalk button is accessible to cyclists from the street.
- Place/replace all drainage grates on all streets so they are perpendicular to the direction of the traffic and flush with the pavement surface.
- Discourage street patterns that include cul-de-sacs and dead ends, which cause long, indirect routes.
- Assure that road repairs and patching on all streets are uniform, smooth and free of dips and bumps.
- Require bike racks in new multifamily residential developments.
- Enforce current requirements for bicycle racks in commercial developments.
- Increase bicycle ridership as viable mode of transportation by providing a network of on-street bikeways that is accessible to all neighborhoods and serves both residents and visitors.
- In conjunction with the pedestrian lead times at signalized intersections, allow cyclists to also use this lead time.
- Reduce motor vehicle travel speeds in

neighborhoods, as necessary, by providing traffic calming devices or other methods to slow motorists' speeds.

- Link on-street bikeways with transit stations and work with MARTA to place bike racks on the transit buses.
- Segments of the population do not have access to transit and must use automobiles to travel. Expanding travel options for residents improves both the quality of life and increases economic opportunity.
- Critically review development plans located within ½ mile of transit stations to ensure safe and convenient walking and biking opportunities.
- Encourage the creation of transportation infrastructure (including streets, sidewalks, and bike lanes) that is well connected to new and existing transit stops and major destinations.
- Design transit stops along the Beltline that are accessible via the trail and/or a well-connected sidewalk system to enable transit riders to gain their 30 minutes of daily physical activity.
- Enhanced transit amenities at schools, activity centers and all recommended nodes, includes shelters, lighting, seating, trash receptacles, maps & schedules.
- Develop a comprehensive transit and pedestrian-bike plan, which achieves connectivity with existing local and area community assets (Carter Center, Grant Park, MARTA Stations, etc.) even if that means using shared surface streets or additional right-of-way acquisition.
- Strong pedestrian and bus links should be developed.
- Bus services should link the area's vital tourist and historical resources.
- Require new bus shelters to be located in the street furniture and tree planting zone of the sidewalk, rather than blocking the clear zone.
- Work with MARTA to modify bus routes for focused service between parks, commercial zones.
- Encourage MARTA to establish corridor-wide bus service.
- Establish a "park and neighborhood" shuttle/trolley linking existing tourist sites, commercial centers, transit station(s), and parking facilities. The shuttle might also connect with tourist sites in other parts of the city.
- Integrate trail and transit design.
- Preserve Historic Rail Infrastructure and incorporate into the greenway/transit landscape design.
- Transportation systems should be enhanced to ensure safe and functional circulation for pedestrians and automobiles.
- Provide adequate lighting along the trails, within parks, around transit stops, and along sidewalks and walkways that access these features of the Beltline.
- Provide appropriate infrastructure for biking.
- Implement interventions for pedestrian and cyclist safety that focuses on separation by time and space, increasing pedestrian/cyclist visibility, and reducing motor vehicle speeds.
- Provide safe rail crossings.
- Encourage safe separation of pedestrian and vehicular traffic.
- Accommodate safe and effective bicycle traffic.
- Study the creation of railroad quiet zones that silence freight train horns near residential areas according to regulation by the Federal Railroad Administration.
- Connect the Beltline to existing schools in the area through Safe Routes to Schools programs, which include education, outreach, and infrastructure improvements. Through the partnership of the Atlanta Public Schools, the Fulton and DeKalb County Health Departments, Beltline, Inc., the City of Atlanta, the Georgia Department of Transportation, and others, SRTS can provide mutual benefit by encouraging children to be physically active and reducing school-related traffic congestion.
- Empower Grant Park residents to effectively participate in decision-making processes that determine the manner in which local streets are used instead of acquiescing to increasing demands from drive-through commuters.

- Increase bicycle ridership as viable mode of transportation by providing a network of on-street bikeways that is accessible to all neighborhoods and serves both residents and visitors.
- Support the Atlanta Regional Commission's goals for reducing air and noise pollution as well as traffic congestion .
- Increase Transportation Infrastructure Investments.
- Provide for the efficient and economical use of public infrastructure.
- Re-evaluate existing off-street parking space requirements for new commercial development, and encourage use of shared parking wherever possible.
- Implement the parking proposals identified in the Grant Park Master Plan (paid parking) and negotiate an arrangement to dedicate parking revenues for improvements of the park.
- Set-up metered parking in the primarily commercial areas of the neighborhood; negotiate an arrangement to keep these parking revenues in Grant Park community, perhaps as a funding source for the GPRC (example: Downtown Athens, Georgia).
- Develop a neighborhood parking program (i.e., decals for residents, passes for resident guests); investigate programs in other communities. (Example: French Quarter in New Orleans).
- Evaluate potential parking solutions for Grant Park, including alternate, attended, paid parking locations such as industrial areas (off hrs. and weekends), church lots, school lots, NFL facility.
- Manage traffic congestion.
- Ensure equitable access for all citizens to range of options for education, transportation, housing, employment, human services, culture, and recreation.
- The region should also seek greater coordination of regional scale water/ sewer, transportation, land use plans and infrastructure spending toward achieving common objectives, with State actions, plans and permits consistent with, and supportive of these objectives.

Greenspaces

- Provide a variety of park types, including passive parks and active parks.
- Upgrade park infrastructure and facilities.
- Partner with organizations to create a park system that is the best it can be.
- Link with existing parks and attractions, making each space more accessible.
- Provide ADA access to new facilities and add access where needed to existing facilities.
- Provide opportunities that allow people with disabilities to participate in a non-threatening environment.
- Rehabilitate and in some cases expand existing neighborhood parks.
- Historic Sites - Historic Sites Inventory - Atlanta's Lasting Landmarks inventory should be expanded to include sites of important historical events.
- Historic Sites - Park Master Plans - All park master plans should include the preservation, enhancement, maintenance and management of historic sites and features.
- Create the sense among motorist that they are driving through parks and neighborhoods, rather than the sense they are driving on arterials bordered by parks and neighborhoods.
- Encourage the building of trails and walking paths to promote healthy exercise and create programs to teach about nature and the environment.
- Complete key street, intersection, and connectivity improvements simultaneously with the parks and trails development.
- Encourage connected greenspaces all around the corridor to capitalize on existing natural amenities and to frame new residential opportunities.
- Encourage the creation of at least 20% greenspace in new development.
- Maintain current and future greenspace at "best-of-class" standards.
- Improve green space and tree canopy along main streets.
- Increase greenspace and assure all facilities and playgrounds comply with life safety codes.

- Create standards for greenspace to be included in all major capital projects, both public and private.
- Protect Historic and Cultural Assets - Greenways will secure the City's historic heritage and cultural life by increasing the accessibility and inter-relationships of significant historic and cultural facilities.
- Install police or 911 call boxes at periodic intervals to boost people's sense of personal safety.
- Incorporate injury prevention messages in parks, trails, and transit stations to decrease risk of injury.
- Design parks, trails, and transit to promote 24-hour formal and informal surveillance and increase feelings of personal safety.
- Budget for maintenance of park facilities, trails, and the transit system including transit cars.
- Consider creating a neighborhood watch program, "Adopt a park/trail," or Beltline patrol or police force to monitor activities on the Beltline (neighborhood groups can also assist with park and trail clean-up activities).
- Educate users about ways to maintain personal safety through signage, newsletters, and neighborhood meetings. This Beltline focused effort can be an expansion of the Atlanta police force's current activities.
- Develop a specific public safety plan for newly developed parks and trails.
- Crime will be reduced by increasing visibility and activity levels in greenways and parks and by providing new routes for police patrols.
- Study daylighting previously buried streams and restoring other natural functions to manage stormwater runoff.
- Air quality, water quality, and biodiversity will be improved through the reduction of automobile emissions, conservation of urban forest, protection of floodplains and erodible soils, and provision of wildlife habitat corridors.
- Protect and enhance existing wetlands and urban forests.
- Need to adopt long range management plans for all park sites.
- Plan for future upgrades by monitoring population trends.
- Implement educational interventions both onsite, in parks and along trails, and in the broader Atlanta community to encourage physical activity. The City Parks and Recreation Department can partner with the Fulton County Department of Health and Wellbeing to develop educational signage, handouts, programs, and other interventions.
- Increased public open space and protected landscaped greenways will improve the City's visual quality.
- Increase public open spaces - The abundance, quality and accessibility of parks and open space Citywide will be increased by the parks and greenways system.
- Preserve the required 75-foot stream buffers as open space, especially in undeveloped areas.
- Design environments that promote formal and informal social interaction by embracing an expanded definition of public space that includes sidewalks, parking lots, and streets.
- Strengthen communities - Increased opportunities will be provided for neighborhood residents to interact with one another, strengthening the sense of community.
- All parts of the community should be connected through a series of open green spaces, streetscapes, bike routes, and trails.
- Encourage the creation of green roofs (which provide water resources benefits, as well as serving as additional green/public space) by educating developers and builders and by offering incentives.

Land Use and Urban Design

- Adopt land use regulations that prioritize the needs of pedestrians, bikers, and transit users.
- Preserve institutional, civic, religious and residential land uses.
- Limit commercial and mixed-use development to existing or planned centers.
- Concentrate industrial uses in areas with best highway and rail access.

- Convert marginal industrial, underused and underutilized industrial properties, commercial, and residential uses to mixed-use and residential uses.
- Rehabilitate many existing industrial uses including improved landscape buffering and property maintenance.
- Participate in citywide efforts to establish infill development standards.
- Continue development of vacant infill lots in the neighborhood as single-family and duplex residences in the Grant Park neighborhood.
- Provide opportunities to live close to jobs and other amenities.
- Create an active mix of uses along Memorial Drive, Boulevard and Hill Streets.
- Encourage high-density, mixed-use development around transit stations so that neighborhood-oriented commercial uses will be close to the residential uses, thereby improving accessibility for pedestrians and cyclists.
- Neighborhood Commercial - Conduct collaborative marketing efforts to ensure healthy tenant mixes.
- Change development regulations to accommodate existing non-conforming uses and to promote creation of the neighborhood commercial nodes recommended.
- Require new development to utilize the basic urban design standards contained in the City of Atlanta Urban Design Policy and codified in the Quality of Life Zoning Districts.
- Use community focal points (churches, schools, etc.) as anchors for future nodes.
- Locate residential units, schools, senior centers, day care centers, and hospitals away from high-volume road segments.
- Encourage nodal development
- Encourage medium-, high-, or very high-density residential development, particularly in areas that are designated for nodal development, and other selected areas.
- Each region should promote and preserve a regional “identity,” or regional sense of place, defined in terms of traditional architecture, common economic linkages that bind the region together, or shared characteristics.
- Traditional downtown areas should be maintained as the focal point of the community. For newer areas where this is not possible, the development of activity centers that serve as community focal points should be encouraged. These focal points should be attractive, mixed-use, pedestrian-friendly places where people choose to gather for shopping, dining, socializing, and entertainment.
- Traditional neighborhood development patterns should be encouraged, including use of more human scale development, compact development, mixing of uses within easy walking distance of one another, and facilitating pedestrian activity.
- Shape appealing physical environments that enhance walkability and positive social interaction.
- Establish enforceable and workable land use and urban design guidelines focusing on pedestrian-and transit-oriented mixed use development, potential reuse of historic structures and giving consideration to sustainable building practices.
- Form partnerships with organizations like the Atlanta Neighborhood Development Partnership, the Atlanta Housing Authority, the Atlanta Housing Association of Neighborhood-Based Developers, and others.
- Provide incentives for building new affordable infill housing on vacant sites in the neighborhood.
- Require new development to reserve ten percent of proposed units for affordable housing.
- Make the City of Atlanta more livable by increasing the availability of affordable workforce housing with city incentives, making Atlanta one of America’s safest cities, and collaborating to improve the public schools, and growing parks and protected greenspace.
- Require a diversity of housing types and prices within the Beltline TAD.
- Provide a range of size, cost, and density in each community to make it possible for all who work in the community to also

live in the community (thereby reducing commuting distances), to promote a mixture of income and age groups in each community, and a range of housing choice to meet market needs.

- Adopt design guidelines for appropriate (but affordable) infill housing, including multifamily developments that blend into the neighborhood (not detectable from the street).
- Establish policies and programs to prevent displacement in areas surrounding the Beltline TAD. Efforts like property tax freezes, assistance to make housing improvements, and other programs can reduce displacement of residents from neighborhoods where property values are rapidly increasing.
- Encourage high density housing within walking distance of retail and transit to reduce the need to drive.
- The south side of the Beltline represents the greatest prospect for development of large quantities of new housing in “village center” settings. In particular, the intersection of Boulevard and the Beltline provides a unique opportunity for a new mixed-use village center with storefront retail and loft housing (“Boulevard Crossing”). This type of development would bring neighborhood retail services to an area of town where such services are in high demand, but currently scarce, as well as linking visitors to Grant Park.
- Increase variety of housing choices (location, type, price-point) by both promoting removal of barriers that restrict the market, and creating incentives to encourage more development options.
- Allow “granny flats” (accessory housing units) for new and existing housing development as a practical way to provide housing choice.
- Develop transit station areas and plan transit land use areas.
- Focus new housing and job growth near transit stops and locate new transit stops near existing neighborhoods.
- Use nodal land use patterns to support transit.

- Recognize and preserve 1950s early auto-related uses.
- Emphasize and highlight existing historical and other cultural amenities.
- Encourage property owners to retain the original facade and integrity of historic structures, when possible.
- Support variations of zoning open space requirements for buildings over 50 years old to permit their reuse.
- Preserve historic structures as much as possible and encourage them to be reused or incorporated into new development.
- New development should refer to the Atlanta Urban Design Commission historic resources survey and report for identification of preservation targets.
- Support the preservation and rehabilitation of significant historic buildings.
- Inventory historic buildings eligible for the National Register of Historic Places.
- Pursue opportunities for economic development and job creation.
- Employ the principles of sustainability and balance to ensure the economic viability of all communities and to enhance the state's economic competitiveness.
- Establish business incentives to attract new commercial opportunities, including: revolving loan fund and façade grant program.
- Build the foundation for sustainable job growth by supporting the growth of target industries, creating and growing business recruitment, retention and expansion capabilities, and increasing the capital available for development and business growth.
- Prepare for the influx of residents and development by championing major projects, increasing the economic vitality of underdeveloped areas; make it easier to develop in Atlanta.
- Enhance economic development by increasing property values, attracting commercial development and encouraging visitors and tourists.
- Provide Small Business Assistant Programs for local business owners and entrepreneurs.

- Stabilize adjacent neighborhoods through enhanced public safety and existing building code enforcement.
- Support and grow existing neighborhood watch programs.
- Adopt a stormwater ordinance to reduce impervious surfaces and hence stormwater runoff. Such an ordinance should call for compact development that uses narrower streets, reduced parking requirements, and vegetated buffers along large swaths of pervious surfaces.
- Give special attention to large abandoned structures or sites, including those that may be environmentally contaminated;
- Ensure that buildings in commercial and mixed-use areas provide roofs that appear primarily horizontal from the street; provide continuous storefronts along the sidewalk; and prohibit parking lots between building and the street.
- Maximum Heights: on Memorial Drive (limit to be 66'-0") Height limit is 76' at Hill Street and Boulevard intersections at areas adjacent to commercial or mixed-use structures. At side streets height limit is 45 feet. Interior block height requirements are to be determined by transitional height plane.
- Building Set-backs: Build to street line, 15'-25' from curb at major streets, 15' or less to match existing patterns at interior streets.
- Provide buildings that create a pleasant scale by requiring buildings to define the public street, like walls define a room and ensuring that balconies, porches, etc. provide articulation but do not destroy the delineation of the street.
- Building Conditions - Support homeowners who want to make improvements that reduce occurrences of substandard, deteriorated, and dilapidated structures.
- Building Conditions - Utilize renovation or redevelopment to reduce occurrences of substandard, deteriorated, and dilapidated industrial or commercial structures.
- Building Pattern Policies - Use the residential building disposition in historic neighborhoods as models for new buildings in proposed multifamily areas. Multifamily buildings not in nodes should be built to within 15 feet of the sidewalk.
- Building Pattern Policies - Use residential building disposition in historic neighborhood as a model for new buildings in proposed single-family areas.
- Building Pattern Policies - Use the sidewalk-oriented pre-World War II building disposition in historic neighborhood centers as models for new commercial or mixed-use buildings. Buildings in centers should be built up to the sidewalk and should be connected to form a continuous wall.
- The establishment of an architecturally similar arcade element (series of arches, roofed, with areas/shops in the spaces between the arches) at the base of all new buildings along Memorial Drive, MLK Drive, Hill Street and Boulevard.
- Preserve and protect neighborhoods by requiring that new development complement the existing neighborhood, by creating transitions between single family housing/low-rise development and taller buildings and commercial properties, and by offering programs and assistance to help at-risk households remain in the community.
- Preserve single-family detached residential neighborhoods against encroachment by nonresidential or incompatibly scaled residential development.
- Promote and emphasize neighborhood conservation.
- Provide neighborhood scaled development.
- Revise zoning; implement overlay zoning; or create parallel zoning. Allow densities and/or mixes of uses that are sufficient to promote economically viable development and existing housing development is a practical way to provide housing choice.
- Protect existing single family residential land uses from conversion or redevelopment through supportive zoning.
- Educational and training opportunities should be readily available in each community – to permit community residents to improve their job skills, adapt to technical

advances, or to pursue entrepreneurial ambitions.

- Create opportunities for citizens to learn more about community planning and actively encourage their involvement in public decision making.
- Encourage the clean up and redevelopment of brownfield sites.
- Assess environmental conditions of potential brownfield sites to determine appropriate clean up and redevelopment.
- Form alliances between residential interest and adjacent businesses and institutions.
- Discourage strip commercial development .
- Develop long-range plan for revitalizing existing commercial structures and creating future neighborhood commercial districts.
- Promote residential density near available infrastructure.
- Require the density of proposed redevelopment to decrease away from the corridor to ensure suitable transitions to nearby single family neighborhoods.
- Encourage the dispersal of social service agencies throughout the City, including residential facilities for elderly persons, mentally-and physically -disabled persons, and persons who are undergoing rehabilitation.
- Enhance the international cultural reputation of Atlanta.

Public and Cultural Arts

- Encourage the use of cultural activities and art in all parks and civic projects.
- Collaborate, educate, and advocate with agencies, community groups and corporations to provide all residents of Atlanta with every opportunity to be touched and inspired by the arts and cultural experiences.
- Foster public interest and participation in the arts.
- Educate citizens and public officials as to the value and contribution that arts and cultural events have made and can make to the community.

- Promote local artists involve citizens of all economic and social levels in arts and cultural planning and programming.
- Foster and support local artists and grassroots arts groups such as theater, dance, music, literary, and visual arts organizations.
- Heighten Atlanta's image as one of America's cultural leaders.
- Provide technical assistance to artists and organizations for the purpose of enhancing their impact on the community.
- Fully implement the Public Art Master Plan.
- Establish gateways and entry features within the urban landscape.
- Re-design entrance bridges into Grant Park.
- Establish a historic marker program in the study area's historic neighborhoods.

Opportunities & Challenges

Based upon the detailed existing conditions inventory and analysis covered in the proceeding sections, the following are opportunities and challenges identified for the Boulevard Crossing Subarea organized by Circulation, Greenspaces, and Land Use and Urban Design:

Circulation

- Opportunities:
 - Proximity to I-20 and downtown
 - Arterial street connectivity beneath / under rail line & alternative street routing schemes across at Grant St. and Cherokee Ave. at the BeltLine to relieve Boulevard congestion
 - Bus / Transit corridor along Boulevard
 - Re-establish street grid in Englewood Manor to improve connectivity
 - At grade road crossing at Boulevard with BeltLine & bus / rail. Transfer Point via MARTA Bus Route 97
 - Bus / rail transfer point at Ormewood and BeltLine intersection via MARTA Bus Route 32
 - Bridge improvement projects at Berne Street that include transit stops accessible from the surface street
- Challenges:
 - Topography between Hill St. & Boulevard
 - Rail line disrupts street grid / connectivity & limited accessibility by adjacent residential neighborhoods
 - Collector street accessibility to Boulevard & no bus route continuity along Boulevard
 - Active rail line for part of the BeltLine
 - BeltLine bridge crossing above East Confederate & distance between grade. Will need separated crossings
 - Narrow right-of-way within single family neighborhoods

Greenspaces

- Opportunities:
 - Intensification of Zoo Atlanta at Grant Park
 - Connectivity & direct access with Zoo Atlanta, BeltLine and Grant Park
 - Greenspace connectivity along Grant Street via open industrial frontage due to existing tree canopy
 - Proposed Boulevard Crossing Park
 - Chosewood Park Improvements
 - Existing Chosewood Park expansion into undeveloped adjacent land & greenspace connectivity
 - Greenspace connectivity & park expansion via Intrenchment Creek & utility easement

- Challenges:
 - Utility easement & topography at Boulevard Crossing Park
 - Lack of greenspace opportunities in the Ormewood Park Neighborhood

Land Use and Urban Design

- Opportunities:
 - Potential for mixed use due to proximity to BeltLine
 - Redevelopment of Englewood Manor
 - Redevelopment / rehabilitation of industrial & vacant land
- Challenges:
 - Existing Georgia Power Substation
 - Redevelopment of Englewood Manor area consistent with community values and needs
 - Utility easement bisects vacant land south of Boulevard Crossing Park

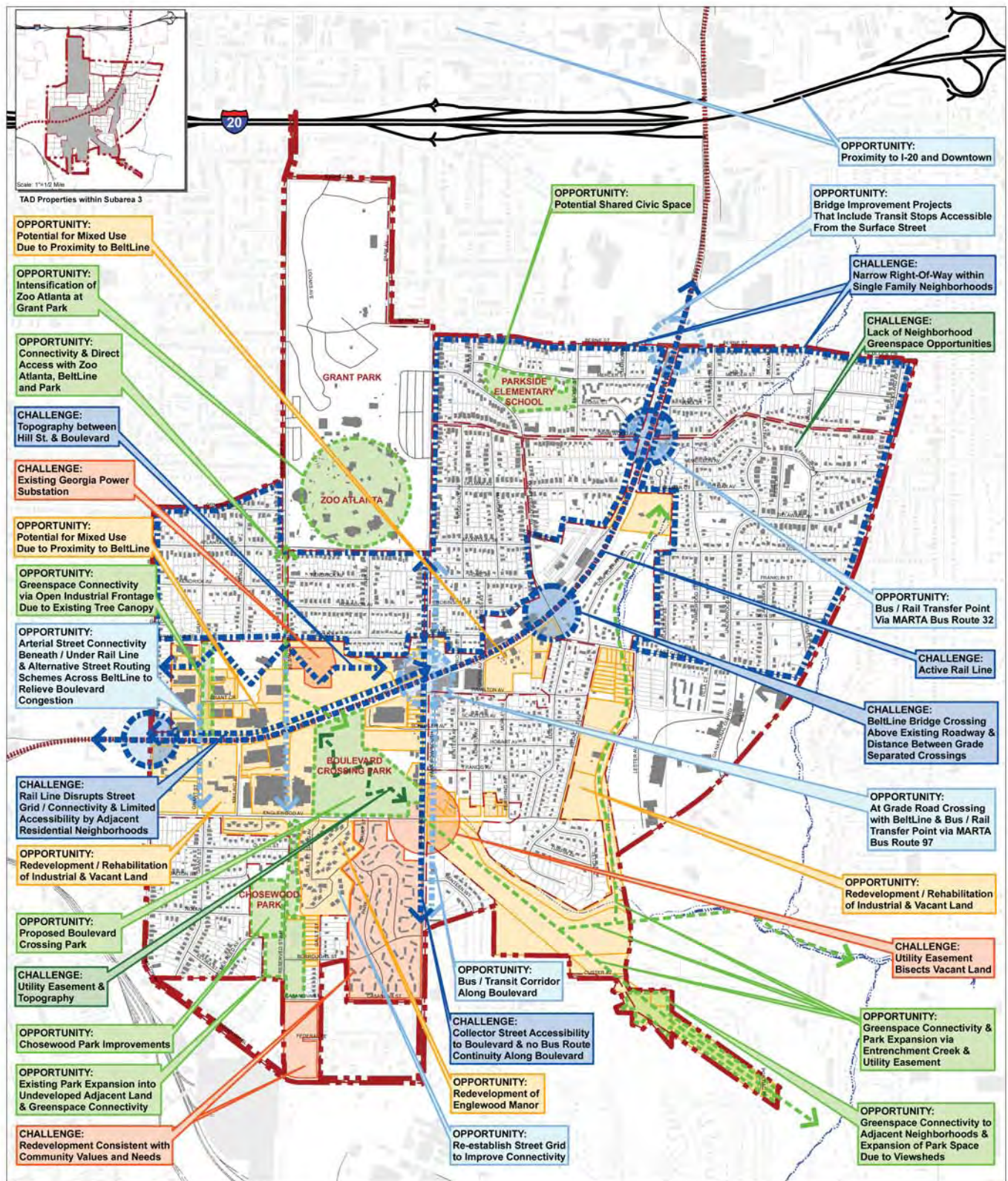


Figure L.1 - Opportunities and Challenges

Atlanta BeltLine Master Plan

SUBAREA 3 BOULEVARD CROSSING

Park Master Plan

Prepared for
Atlanta BeltLine, Inc.
By Ecos Environmental Design
Grice & Associates
Smith Dalia Architects
Dovetail Consulting

Adopted by the Atlanta City Council on March 16, 2009



BeltLine
Atlanta Connected



BOULEVARD CROSSING PARK

COMPREHENSIVE MASTER PLAN

Prepared By:
ECOS Environmental Design, Inc.

Prepared For:
Atlanta BeltLine, Inc.
City of Atlanta

Adopted by the Atlanta City Council
on March 16, 2009.

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY:

The City of Atlanta in Conjunction with Atlanta Beltline, Inc. retained the Ecos Environmental Design, Inc. team to develop a master plan for the future Boulevard Crossing Park. The Park will be one of the very first parks to be developed around the in-town transit loop and it will provide much needed civic greenspace in a city desperately in need of more parkland. The Boulevard Crossing Park site is located in the heart of the Chosewood community; a historic, urban neighborhood rich with diversity and character. The property is approximately 21 acres of dilapidated land that had housed light industrial and commercial uses for decades.

Through a guided community process, values, goals, and objectives were formulated to guide the park planning process. The goals and objectives for this park are not only to follow the established neighborhood development values of "Green, Diverse, and Historic," but also to:

- Reclaim/restore/create & expand community environmental resources.
- Provide open, cultural, and civic spaces to promote social interaction and a thriving community.
- Ensure the recreational needs of the City of Atlanta are compatible with Boulevard Crossing community needs.
- Identify, interpret and protect community historic and cultural resources.

Throughout design development, the Ecos team worked closely with community members, study group participants, steering committee members, Atlanta BeltLine, Inc., and the Atlanta Department of Parks Recreation and Cultural Affairs to incorporate expressed programming needs and amenities while meeting the overall goals and objectives for Boulevard Crossing Park. Feedback was consistently acquired, processed, and incorporated into the park plan, as appropriate and resulted in the 'Urban Confluence' final master plan. The plan was completed concurrently with overall planning for Subarea 3 of the Beltline, integrating with proposed land use, transportation and circulation. A full description of the extensive public engagement process eliciting public input and dialogue as well as the a complete explanation of the planning and design process are captured in this document.

The Urban Confluence master plan seeks to restore the highly-disturbed landscape through infusing it with active and passive recreation, art, and nature, while acknowledging its urban location. It is a balance of urban elements and natural systems emphasizing public health, community building and environmental interpretation. The master plan addresses circulation and connectivity, passive and active recreation, the environment, and the arts.

The design process included a series of steps expanded on in this report, including:

- Site inventory and Analysis
- Conceptual Master Plan Development
- Final Master Plan Development
- Overall Public Process

Additionally, this report addresses:

- Estimated development costs associated with a Phase 1 park development plan
- Areas of the park that will necessitate a resource management program to develop, restore, and protect its natural communities.
- Suggested items to address in a comprehensive resource management plan that will ensure the success of the Boulevard Crossing landscape.

This park master plan and report will guide subsequent phased development, operations and any consideration of future new initiatives proposed at Boulevard Crossing Park.

PROJECT GREENSPACE

PROJECT GREENSPACE:

In 2006, the City of Atlanta launched Project Greenspace, an initiative to create a framework for improving, growing, and managing Atlanta's parks and recreation. Through this program, a long-term action plan will be established to build the capacity for connecting people to greenspaces throughout the city. Communities, civic organizations, and the private sector were called upon to help shape the future of Atlanta's greenspace through participating in a series of public hearings, roundtable discussions and surveys. Participants were asked to share perceptions of Atlanta's current greenspace, vision for improvement and greenspace priorities.

Initial greenspace goals were established by Project Greenspace and include:

- Significantly increase the acreage of core parkland.
- Develop greenways with multi-use trails to connect trails and greenspaces.
- Continue to improve park maintenance and security.
- Continue to improve recreational facilities and programs to meet citizen's needs.
- Permanently protect environmentally sensitive lands such as floodplains, wetlands, and natural habitat areas.
- Protect and restore Atlanta's tree canopy – increase tree cover to 40%.
- Increase the function of parks and greenspaces as community gathering areas and establish a major venue for special events and festivals.
- Integrate Atlanta's history, cultural heritage, and arts into the greenspace system as an expression of community identity.
- Establish a source of funding for parks and greenspace.
- Promote public and private partnerships to "grow" the greenspace system.
- Promote and coordinate dedicated greenspace within development and redevelopment projects.

Key findings from a 2006 citywide parks and recreation survey reveal that less than half of all participants live within walking distance from adequate parks and greenspace. When asked to list their top four park and recreation priorities, responses included:

- Walking and biking trails (49%)
- Small neighborhood parks (35%)
- Large community parks (33%)
- Nature center and trails (22%)

When asked what needs the City of Atlanta's park system does not meet, the top five responses include:

- Walking and biking trails (55%)
- Nature center and trails (54%)
- Park Shelters and picnic areas (41%)
- Community Gardens (41%)
- Indoor fitness and exercise trails (40%)

Overall, the most important park facilities indicated by respondents were:

- Walking and biking trails (49%)
- Small neighborhood parks (35%)
- Large community parks (33%)

The goals of Boulevard Crossing Park align with those of Project Greenspace, with an aim to grow and improve Atlanta's park and recreation space and improve quality of life. The final master plan incorporates many of the stated needs and priorities from the public survey mentioned above. Boulevard Crossing Park focuses on restoring the existing highly-disturbed landscape and building community through infusing it with active and passive recreation, art, and nature. The park focuses on connectivity to the surrounding and adjacent neighborhoods and includes a hierarchy of footpaths and bike trails throughout, with proximity to the future BeltLine.

INVENTORY AND ANALYSIS

Inventory:

- Site inventory and analysis involved a comprehensive evaluation of existing conditions using GIS data and information gathered during a site visit as well as research on the history of the site and surrounding community. The site visit to the future Boulevard Crossing Park took place on July 27, 2007 by the ECOS Environmental Design Inc. team and Paul Taylor, Assistant Director of the City of Atlanta Parks Design Office. The purpose of the site visit was to conduct a visual assessment to verify and expand upon previous information gathered. Critical features and their relationship to the site were noted, and project-specific issues identified.



By: Ecos Environmental Design, Inc.

July 2007

- A Phase I and partial Phase II Environmental Site Assessment (ESA) were conducted by Peachtree Environmental, Inc. in October and November of 2005. The Phase I included a review of the property history, interviews, site reconnaissance, an inspection of not only the site, but also adjacent properties, and an agency records review. The purpose of the Phase I ESA was to determine the potential presence of and risks related to hazardous materials or petroleum products. Because it was established that possible underground storage tanks existed from a former truck and automotive repair facility, a partial Phase II ESA was conducted to test soil and groundwater for contamination. Subsequently, the removal of two 3000 gallon tanks was directed by Environmental Technology Resources, Inc. (ETRI) in February of 2006. A No Further Action letter was sent to the Georgia

Department of Natural Resources on May 2, 2006 by ETRI to confirm that the site presented no additional known risks.

- All data collected during the inventory process was overlaid to create a series of inventory and analysis maps which outline current conditions and emphasize significant opportunities and challenges. Individual maps looked specifically at hydrology, buildings, utilities, land cover, land forms (elevation/slope), neighborhood context, and additional site considerations such as high and low points, beltline access and street access. As indicated in the maps below, sensitive site conditions such as topography, existing utilities, and park boundaries will play a significant role in design development. The maps were presented to the Steering Committee for review on August 16, 2007.
- Following the conceptual design process in December 2007, an additional site visit was taken by ECOS Environmental Design and Smith Dalia Architects to further investigate the existing stream and steep slopes and determine the feasibility of daylighting the stream. After close examination and further research it was determined that the existing piped stream was part of Combined Sewer Overflow (CSO) mitigation. Daylighting this stream is not a viable design option, as it would not contribute to the overall goal of the park design, would be costly, and would possibly present health risks. Additionally, in order to properly daylight the stream and re-establish stream buffers, a significant amount of parkland would be consumed, taking away from critical usable park and recreation space.



By: Ecos Environmental Design, Inc.

July 2007

- **Context**

The context map displays the boundaries of the future Boulevard Crossing Park within Subarea 3 of the BeltLine and relative to existing parks within this section, including Grant Park and Chosewood Park. It shows the location of the proposed BeltLine trail and reveals opportunities for connectivity between the green spaces in Subarea 3 to each other and to surrounding neighborhoods.

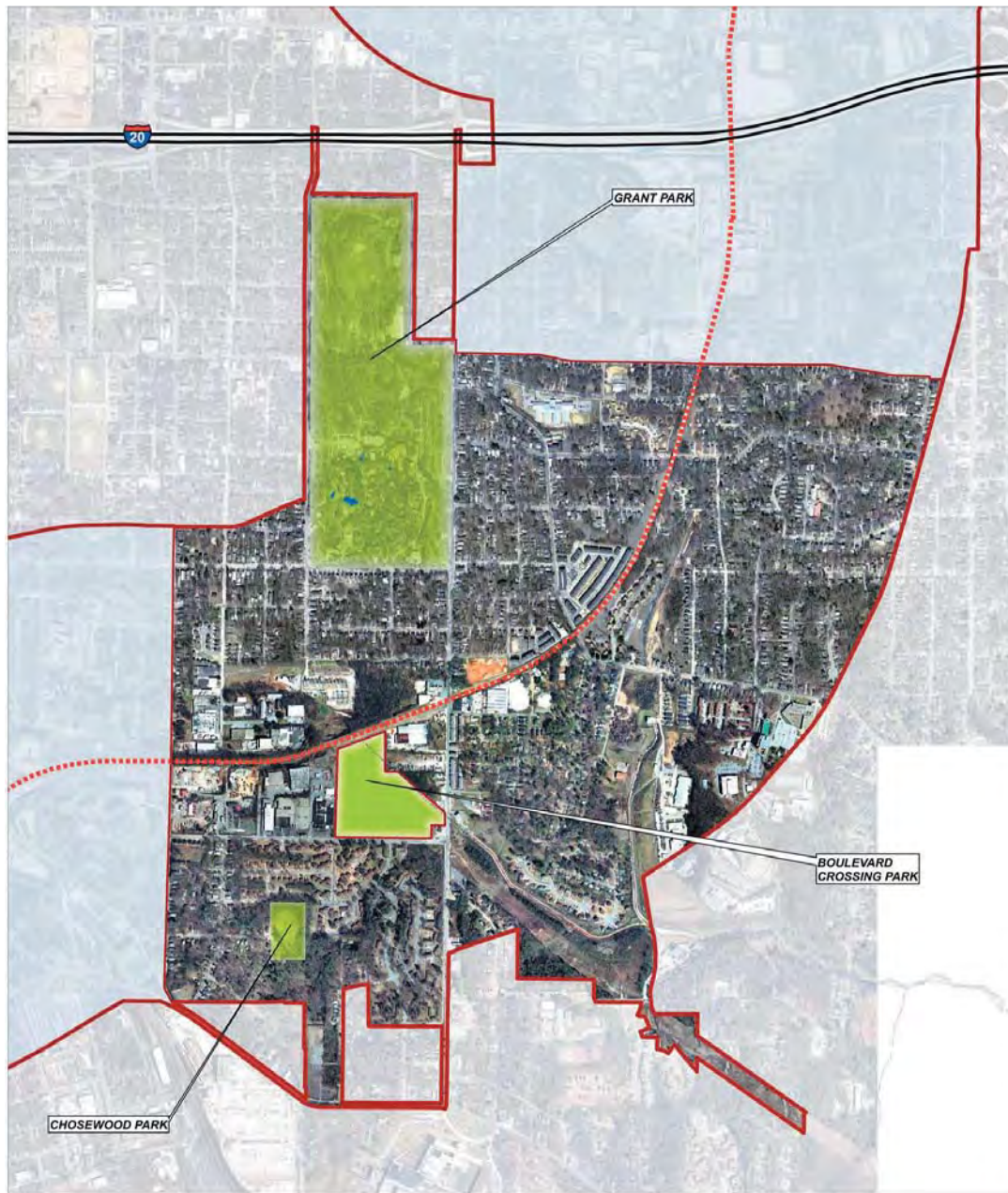


FIGURE A

- **Hydrology**

The hydrology map indicates an existing stream running through Subarea 3 and the future Boulevard Crossing Park. After further investigation through a site visit, it was discovered that the portion of this stream running through the park site is piped underground and combined with stormwater and sanitary sewer water in that area. This map also shows watershed and sub-watershed boundaries in proximity to the site and within which the site exists. The future Boulevard Crossing Park is located with the Ocmulgee Sub-Watershed. Specific to the Boulevard Crossing Park site, hydrologically speaking, there are no jurisdictional waters or wetlands. The site contains some of the lowest elevations in the area, therefore significant amounts of stormwater runoff drains through the park property.

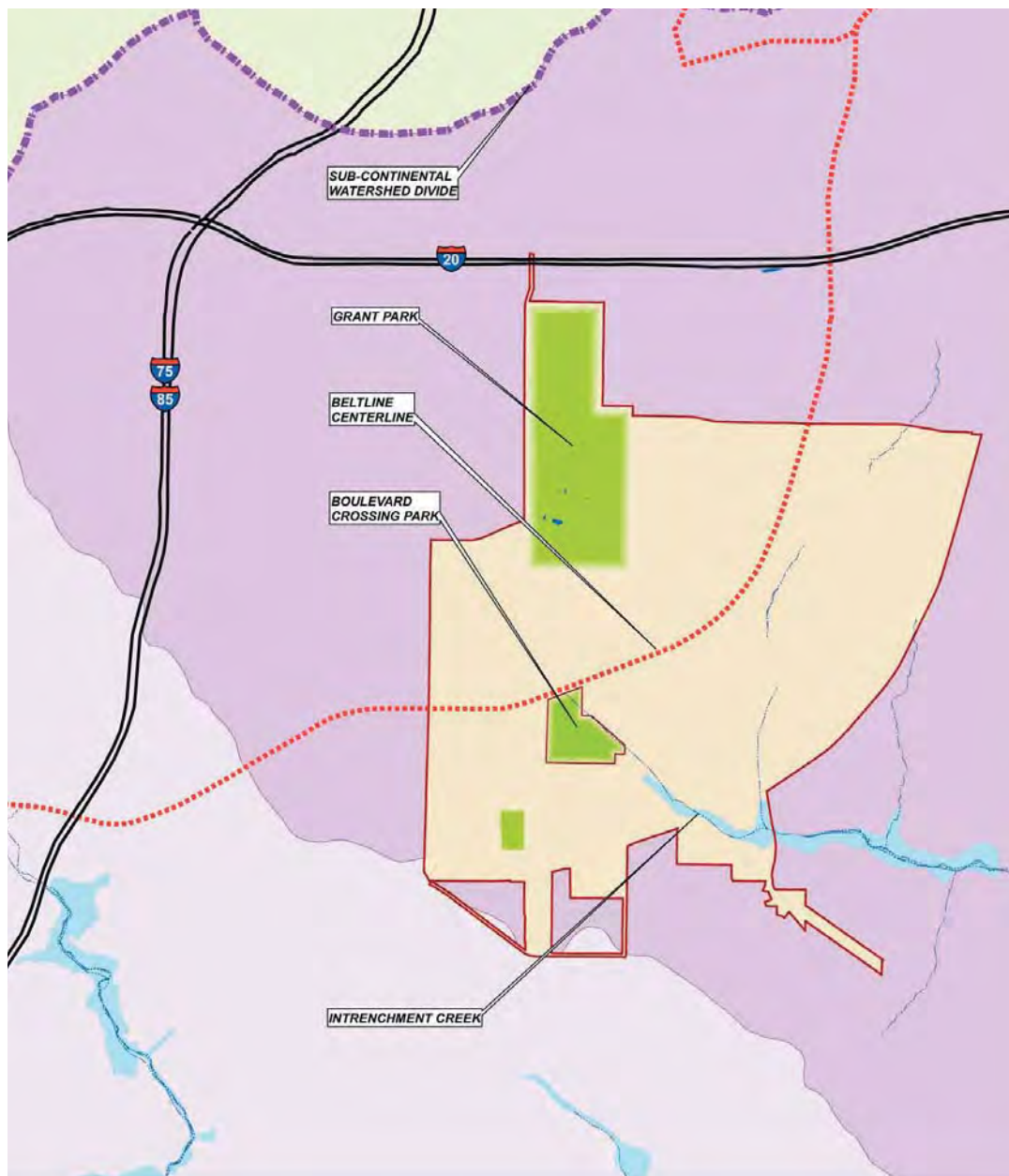


FIGURE B

- **Building Inventory**

Four existing buildings and several concrete walls were located on the site, varying in size and condition. An additional visual assessment was made to determine the possibility of retrofitting all or some of the buildings. The buildings had no significant historical context, but could be restored if necessary. All buildings were vacant when the site was inventoried, except for the smallest facility which housed the impound lot offices. The buildings were all former light industrial/commercial warehouse style facilities. The design team considered the potential for reuse of at least one of the structures; however site constraints, a lack of funding for both renovation and ongoing operations, and the potential for significant vandalism and criminal activity led the City of Atlanta to demolish the structures. 'Green' demolition was undertaken in the Fall 2007 in four areas of the park site including, 1179 Boulevard, 500 Englewood, 510 Englewood, and 520 Englewood. Green demolition focuses on diverting waste from traditional landfills through materials re-use and recycling. Over 95% of all material located in these areas was successfully reused or recycled.



A. STEEL FRAME, METAL SIDING WITH BRICK BASE



B. BRICK WAREHOUSE



C. MASONRY AND STEEL WAREHOUSE



D. STEEL FRAME BUTLER BUILDING

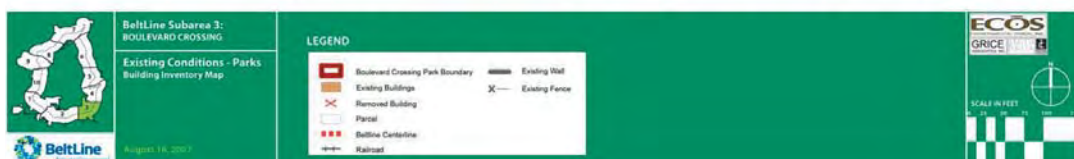


FIGURE C

- **Utilities**

Two significant easements run through the site, including a 200' Georgia Power Company transmission line easement from the southeast to the northwest corners of the site, ultimately originating from the Georgia Power Grant Park substation that is just north of the BeltLine corridor. The 200 foot easement contains large metal transmission line towers as well as lesser lines on lower wood poles. It is possible that the lines on the wood poles can be relocated to the perimeter of the site. Also a 30' Sanitary Sewer Easement which stretches along the Eastern edge of the property. Both can limit design opportunities, as development is restricted or limited within these areas. Any additions to the site within these areas can not block or impede access to the easement areas. The map also locates existing gas meters, along the perimeter of the site.



1. SOUTHEAST DOWN POWER EASEMENT



2. WEST ALONG ENGLEWOOD AVENUE



3. NORTHWEST TOWARDS ATLANTA SKYLINE



4. NORTH ALONG BOULEVARD SE



BeltLine Subarea 3:
BOULEVARD CROSSING
Existing Conditions - Parks
Utility Map
August 16, 2009

LEGEND

	Boulevard Crossing Park Boundary		Gas Meter
	Existing Buildings		Standard Overhead Power Lines
	Pavement		High Tension Power Lines
	BeltLine Centerline		Power Line Easement
	Railroad		Sanitary Sewer Line
	Abandoned ROW		Sanitary Sewer Line Easement



FIGURE D

- **Land Cover**

While the majority of the property consists of impervious surfaces and kudzu, this map indicates areas of existing tree cover suitable for possible restoration, as indicated by the bright green shade. The largest area of existing trees/woodland in the north-central portion of the property has the most potential for rehabilitation. Though a significant amount of invasive exotic species such as Chinese privet and English ivy have overrun the wooded area, kudzu has not yet greatly impacted these trees. A plan to eradicate the invasive species and increase diversity by re-introducing more native species will go a long way to helping restore this piece of urban woodland.



BeltLine Subarea 3:
BOULEVARD CROSSING
Existing Conditions - Parks
Land Cover Map
August 16, 2017

LEGEND

Boulevard Crossing Park Boundary	Existing Buildings
Partial	Impervious Surface
Beltline Centerline	Kudzu
Railroad	Disturbed Right-of-Way
	Tree Cover



FIGURE E

Boundaries of areas covered with kudzu are clearly marked on this map with the darkest shade of green; indicating areas where clearing and remediation will be necessary. Areas beneath the kudzu were indeterminate, but mostly assumed to be bare earth. However, it was observed in some locations that the kudzu had overtaken some paved/developed areas of the property. The kudzu is not only a problem within the park property but on adjacent properties as well, and will continue to be a maintenance consideration as long as it is within the vicinity of the park property.

Additionally, the impervious surfaces and existing buildings on this site include hard-packed gravel parking area, predominantly located in the impound yard, concrete slab surrounding buildings, and roofs. All of these areas help to contribute to increased problems from excess stormwater runoff. Redevelopment of the park will greatly improve the hydrologic function of the property.



By: Ecos Environmental Design, Inc.

July 2007

Pavement for abandoned facilities.



By: Ecos Environmental Design, Inc.

July 2007

Abandoned commercial/industrial facilities.



By: Ecos Environmental Design, Inc.

July 2007

Looking North to the future BeltLine and power substation beyond.

- **Landforms: Elevation/Slope**

Elevations range on this site from a low of 880' to a high of 1000' above sea level. The land has been heavily manipulated over time; at some point in time every portion of the nearly 22 acres has been considerably disturbed. Along Englewood Avenue five different industrial/commercial facilities had been constructed, each of which has impressed a significant footprint on the land, creating several plateaus within the site that could be utilized in such a way as to limit earth moving or help to separate dissimilar uses within the new park.

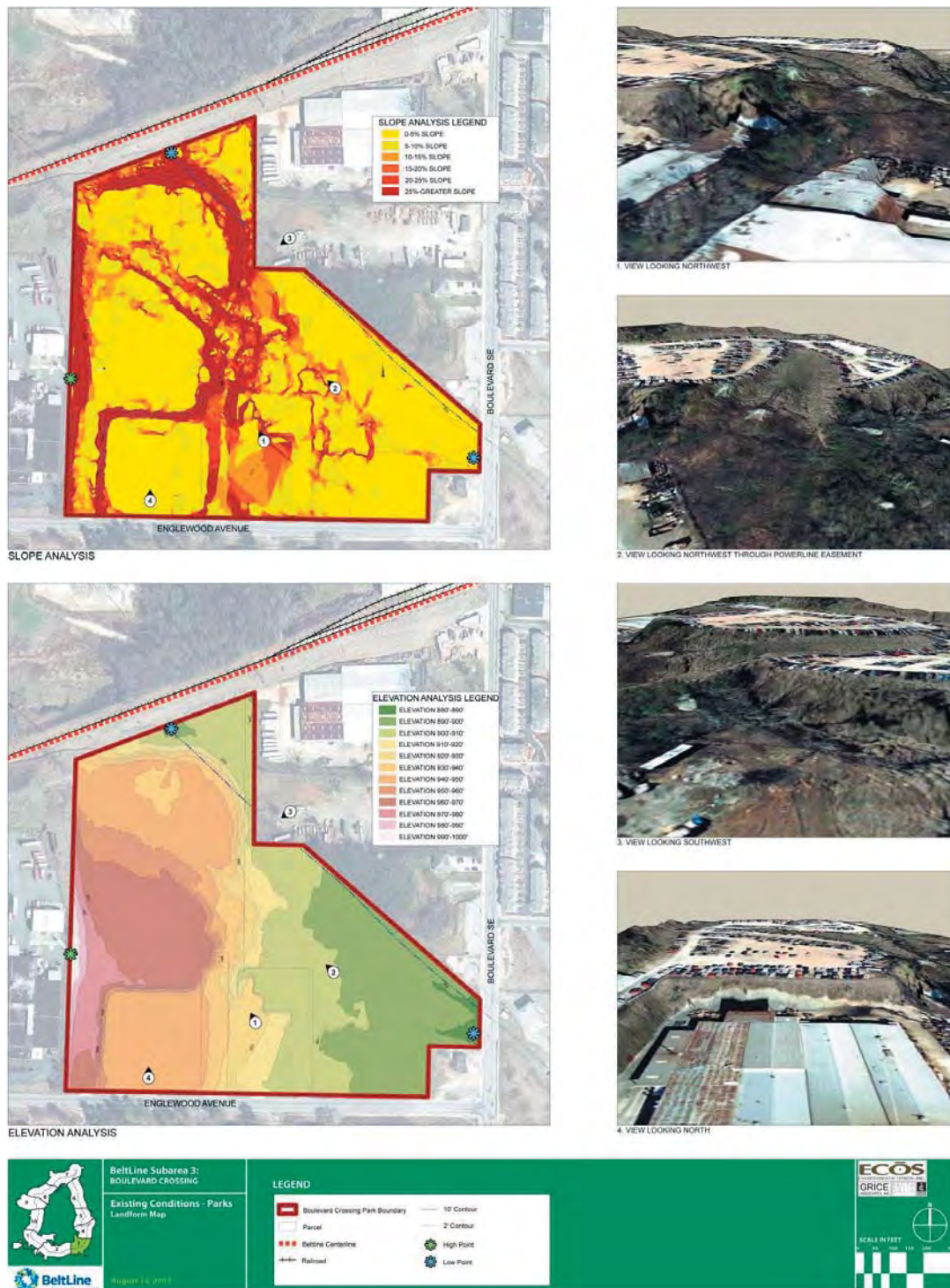


FIGURE F

This map looks at the land form in two ways; first through a slope analysis which color codes the steepness of the land. Colors range from yellow for the flattest areas (0 to 5% grade) through shades of orange and finishing with red for the steepest slopes (25% grade or steeper). There are certainly areas where the grade changes are nearly vertical. The resulting map visually identifies those areas of steep slopes that become difficult and more expensive to manipulate. As a result portions of the park begin to visually emerge as prime opportunities for certain recreational programming types.

The second map is an elevation analysis which indicates elevation change in feet above sea level for the entire park property. Colors range from green for the lower elevations upward through shades of yellow, orange, red, and white as elevations rise. This map shows that the site rises in elevation predominantly from east (Boulevard Road) to west with a fairly quick and significant elevation change occurring about halfway across the property. When compared to the slope analysis map correlations can begin to be made between the two sources of information, which allow the design team to make better educated decisions about recreational programming.

This degree of change gives the design team a chance to integrate existing slopes into park design concepts, using them to separate activities, create transition zones and/or design onsite stormwater management strategies. This can be an advantage rather than a hindrance. The Landforms map also notes the highest point, located on the Western edge of the property and near the future Cherokee Avenue extension, and two lowest points, one along the Eastern edge near Boulevard Road SE and one on the Northern edge, adjacent to the future BeltLine corridor. All of the points exist along the edge of the property and are significant points to consider when designing for connectivity and pedestrian access.



By: Ecos Environmental Design, Inc.

July 2007



By: Ecos Environmental Design, Inc.

July 2007



By: Ecos Environmental Design, Inc.

July 2007

Utility lines and kudzu through the park land.

- **Site Considerations**

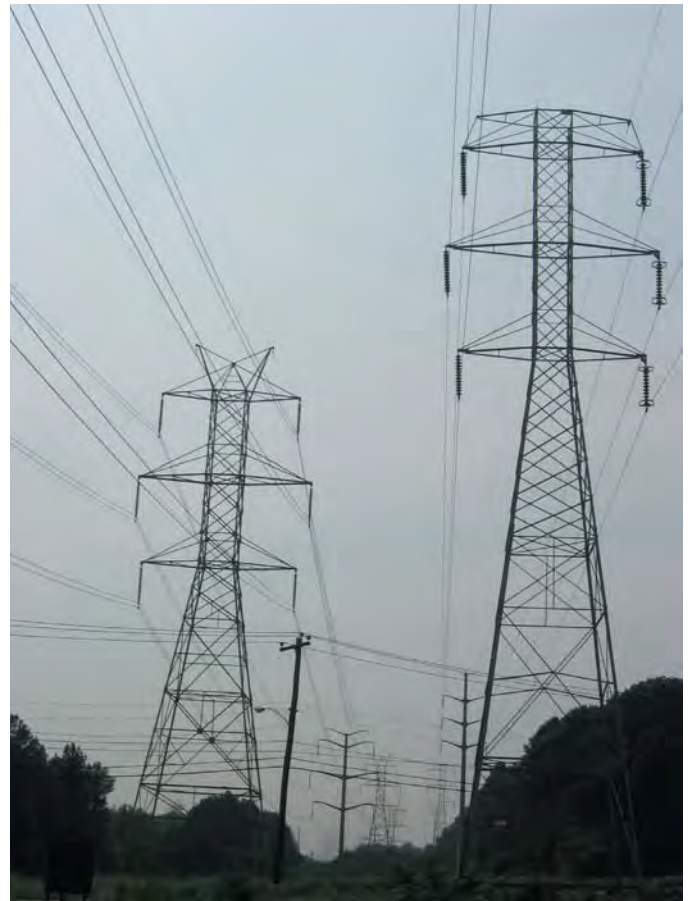
The site considerations map highlights specific features from previous maps that will heavily impact park design. This map assimilates all of the information from the individual analysis maps in an attempt to identify site constraints and opportunities holistically.



FIGURE G

Major themes begin to appear and are represented as such. For example, with connectivity and accessibility to surrounding neighborhoods as two important goals of the park, this map indicates important areas of both BeltLine and street access around the perimeter of the park property. These areas are indicated by purple and green dotted lines which reinforce the length of the edges of the park with access, as well as the potential for access at many points along those edges.

Also indicated in this map are topographical challenges, including high points, low points and steep slopes of 20% or greater (indicated by the brown hatch). Two significant areas of potential park development are indicated with large green 'bubbles'; these areas are directly related to the lay of the land as can be understood via review of the Landforms Map. The 200' existing power line easement is shown in this map as a wide yellow band that dissects the property. The color of the band is intentional as it indicates caution because the presence of the easement will potentially affect programming and development opportunities within the park.



By: Ecos Environmental Design, Inc.

July 2007

Georgia Power transmission lines crossing through the park land.



By: Ecos Environmental Design, Inc.

July 2007

Intersection of Englewood and Boulevard looking Southeast.



By: Ecos Environmental Design, Inc.

July 2007

Englewood Avenue looking downhill East.



By: Ecos Environmental Design, Inc.

July 2007

CONCEPT MASTER PLAN DEVELOPMENT

Conceptual Master Plan

Obtaining input from the public was an integral part of conceptual master plan development. Three distinct groups were identified and involved immediately in the public process, including the Steering Committee, Atlanta Parks Department and Atlanta Beltline, Inc. The Steering Committee was comprised of the ECOS design team, members of the City of Atlanta, community representatives, and members of the Atlanta Parks Department. Additionally, study group meetings were continually held, serving as a public forum for discussing community needs, obtaining continual feedback throughout the design process, and establishing and prioritizing goals. Study groups were open to any community member or concerned citizen.

On September 20, 2007 goals and objectives for Boulevard Crossing green space were established by study group participants. These provided the foundation for design development. The previously establish values are "Green, Diverse, and Historic." The goals and objectives are established to further the values as development proceeds throughout Subarea 3.

The goals include:

- Reclaim/restore/create & expand community environmental resources.
- Provide open, cultural, and civic spaces to promote social interaction and a thriving community.
- Ensure the recreational needs of the City of Atlanta are compatible with Boulevard Crossing community needs.
- Identify, interpret and protect community historic and cultural resources.

The Ecos design team began the conceptual design process following a thorough review of data from the inventory and analysis, the online community questionnaire results, steering committee input, and Boulevard Crossing's values and goals. From this, three themed concepts were formed: the Restorative Landscape, the Sportscape, and the Urban Confluence. The production of multiple themed concepts allows for the investigation of different combinations of facilities, spatial relationships, intensities of development and circulation options to elicit further discussion and idea generation.

An in-house design charrette was held at Ecos Environmental Design, Inc. on October 12, 2007 to further explore and develop these themes. During the charrette, participants addressed circulation and connectivity, active recreation, passive recreation, and the arts, weaving each theme tightly with the needs and goals of the community in an effort to provide a variety of effective design solutions. Active recreation refers to leisure activities that involve exercise or play, while passive recreation encompasses less intensive activities that are often compatible with natural landscapes.

The three conceptual designs were further refined by the Ecos led design team following the charrette. Objectives and attributes were clearly defined according to each theme and are listed below. The designs all recognize the site's location adjacent to the future BeltLine transit and trail and connect Englewood Avenue to the BeltLine via the PATH: Grant Park-Chosewood connector.

Sportscape:

- The Sportscape design concept highlights primarily active recreation. It consists of an extensive collection of opportunities for both organized team and individual sports. While highly-planned, the park program is also comprised of spaces for passive, unprogrammed recreation within reclaimed, natural areas.
 - Circulation
 - Major roads exist on the perimeter of the park. The Grant Park-Chosewood connector trail runs down the middle of the park from Englewood Avenue to the BeltLine. Parallel parking is abundant along Englewood Avenue and the future Cherokee Avenue extension. Vehicular traffic is permitted within the park; the entrance road takes advantage of existing topographic conditions and runs parallel to the future Cherokee Avenue extension. It becomes a one-way loop road which provides additional head-in parking interior to the park. This park entrance road not only affords better access to recreation areas, but also allows for temporary closure during special events providing unimpeded pedestrian flow. A park-wide trail system

connects pedestrians to all areas of the park and consists of a range of footpaths including paved walks, multiuse trails, and fitness paths. Connections to the surrounding community are available and prominent on all sides of the park, facilitating pedestrian access into the park. The Englewood Avenue streetscape, gateway, and plaza define the primary pedestrian entrance to the park and creates a prominent continuous edge to the park.

- Active Recreation

- Using the data collected from community questionnaires, the Sportscape concept includes a wide variety of desired sporting activities. Active sports fields and activity zones are organized by type throughout the site. Court sports including two full-sized basketball courts, four tennis courts and two sand volleyball courts are grouped and located adjacent to the Englewood Avenue streetscape and park gateway. A 20,500 sq. ft. outdoor skate park mimicking an urban plaza with street obstacles, stairs, planters, etc. extends from the building. An art/climbing wall offers additional activity while anchoring the space. Within the one-way looped park road there are activities for children and parents, including a 5500 sq. ft. children's play space, a water play feature and two bocce ball courts. Additionally, two youth/U12 soccer fields are located in the Northern portion of the park. Unprogrammed activities are located away from more formally programmed areas, and include a one-half mile fitness trail, complete with 10 fitness stations and a 1.25 acre multi-use field.

- Passive Recreation

- Passive recreation is integrated into the park system away from active recreation areas for a more private, quiet, and casual park experience. Spaces designed to separate active and passive zones become restored natural areas. A trail system connects pedestrians to restored woodlands and wetlands, and offers a variety of walking experiences, including hard and soft surface trails, boardwalks,

and overlooks. A community garden consisting of 75 terraced plots follows the natural contours of the site and is equipped with a storage shed/park office. The terraced community gardens are located on the steep slopes of the property, beneath the electric transmission lines, therefore utilizing a difficult area with an appropriate activity. Overlapping with the restored woodlands and located near the stormwater pond, a 1.25 acre multi-use field also provides passive opportunities such as quiet space for lounging, reading, picnicking and other activities. The 0.6 acre, fenced-in, leash-free dog park is located separate from active spaces and near the restored woodland for shade.

- The Arts

- The Englewood Avenue streetscape/park gateway offers ample space for rotating art installations, art festivals, and permanent sculpture. Smaller gateways exist on all sides of the park, as well, serving as display space with high visibility. Additionally, both the entrance plaza and the water feature plaza are important public spaces where visitors may gather to admire community and/or performance art. The art and climbing walls in the skate park complex maybe adorned with ever-changing graffiti art. Both the viewing amphitheatre located near the outdoor skate park and the multiuse field may be used for performance art, movies, or speaking engagements.

- Other defining elements:

- The Sportscape design concept does not explore the option of daylighting the stream, but instead fills that section of the park largely with restored woodlands and a 36,500 sq. ft. regional stormwater management pond. Picnic shelters are located throughout the site for an additional type of community gathering space.

Sportscape

A highly organized and extensive collection of active recreation opportunities including both team and individual sports including basketball, soccer, individual fitness, inline hockey, soccer, baseball/softball, etc.

Program Elements

Circulation: Major perimeter roads adjacent to the park to better access recreation areas. Vehicular access allows for temporary closure during special events to allow unimpeded pedestrian / transit / bicycle access. Pedestrian flow to be delineated in a hierarchy of paved paths and trails. Connections to surrounding community shall be prominent on all sides of the park.

Active Recreation: Active sports fields and activity zones to be organized by type throughout the park. Indoor and outdoor activities may coexist.

Passive Recreation: Trail system which may include soft and hard surface trails, boardwalks, and overlooks. Plan provides quiet areas separate from buzz of activity spaces between active zones and for restoration opportunities.

The Arts: Extensive opportunities for outdoor art installations, temporary rotating or permanent, features at important public spaces/gateways.



BeltLine Subarea 3:
BOULEVARD CROSSING

Boulevard Crossing
Park -
Conceptual Master
Plan



ECOS
GRICE
OCTOBER 22, 2009



FIGURE H

Restorative Landscape:

- The Restorative Landscape design concept emphasizes repairing the existing highly-disturbed urban landscape to create a naturalized new-urban park with picturesque views throughout. The defining elements of this landscape are largely ecological systems, passive recreation, public art, individual health and interpretation of the restored landscape.
 - Circulation
 - Major roads exist on the perimeter of the Restorative Landscape; however a secondary road allows vehicles to enter the park. Unlike the Sportscape and Urban Confluence concepts, vehicular access to the park is given from both Englewood Ave. and the future Cherokee Avenue extension. The road becomes a large sweeping one-way loop with parallel parking on one side. Additional parallel parking exists along Cherokee Avenue and Englewood Avenue. Connections to the surrounding community are prominent on all sides of park with pedestrian entrances delineated by tree-lined gateways and streetscapes. A terraced plaza located off of Englewood Avenue marks the primary pedestrian entryway to the park while giving prominence to the park. Pedestrian flow is additionally defined by paved walks, and multiuse trails offering varying levels of connection to the restored landscape.
 - Active Recreation
 - Active sports fields and activity zones are clustered together on the site. A 22,000-33,000 square foot skate plaza which also serves as an area for court games is located adjacent to two tennis courts. A 15,000 sq. ft. boundless playground incorporates nature into its design providing opportunities for discovery, exploration and active play. A multi-use field equivalent to one adult soccer field can be used for a variety of unprogrammed sporting or gathering activities.
 - Passive Recreation
 - The Restorative Landscape provides a variety of public gathering spaces that differ in size and degree of privacy.
- Broad swaths of restored natural areas are woven throughout the landscape, making the space a natural oasis in an urban setting. An extensive trail system, including soft and hard surface trails, boardwalks, and overlooks, connects pedestrians to activities throughout the park and encourages interactions with nature. A 75-plot community garden is located on the Boulevard/Englewood corner of the park for ease of access and serves as a catalyst for community interaction. The garden offers opportunities not only for recreation and exercise, but also for education and art. A large breed, 1-acre dog park is located separately from a small breed ½-acre dog park; both are fenced-in and off-leash. The large multi-use field placed near two main vehicular entrances into Boulevard Crossing Park, provides additional space for passive activity.
- The Arts
 - The Restorative Landscape incorporates space for outdoor art installations of varying scales. Park gateways located on all sides of the property mark major pedestrian entrances offering highly visible presentation space. Educational art displays are used to interpret restored natural areas along the wetland boardwalk and within the restored woodland. A terraced plaza sits adjacent to an open air pavilion/market for outdoor art festivals, art presentations, or farmer's markets. The pavilion potentially re-uses an existing building or recreates a similar footprint and supplies additional space for a park operations office. A earthen sculpture is incorporated into the park as playful art element that doubles as a temporary seating area for performances. It is situated in the landscape in such a way as to take advantage of existing contours. Seating capacity could be upwards of 1500 people, it is functional for small plays, concerts and other local performance art, as well as movie nights and speaking engagements. A sculpture garden with large scale sculpted earth art is located near the within the lower elevation portions of the

Restorative Landscape:

Emphasis on restoring the highly disturbed landscape to an urban oasis. Active recreation is a component, but larger emphasis is placed on natural systems, passive recreation, public art, individual health, and interpretation of the landscape. Picturesque views throughout.

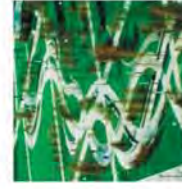
Program Elements

Circulation:
Major perimeter Roads, adjacent to Beltline, vehicular traffic kept to the perimeter of the park. Pedestrian paths to be developed along a variety of footpaths, paved walks, and multiuse trails which provide varying levels of connection to the restored landscape. Connections to surrounding community shall be prominent on all sides of park.

Active Recreation: Active sports fields and activity zones to be organized into a single location / complex.

Passive Recreation:
Extensive trail system which may include soft and hard surface trails, boardwalks, and overlooks. Plan for a variety of spaces for passive recreation, as well as broad swaths of restored natural areas. Edible landscape / community gardens.

The Arts:
Extensive opportunities for outdoor art installations featured at public art galleries and integrated into restored habitat with opportunities for interpretation. Potential for performance art with small amphitheater 500-2500.



BeltLine Subarea 3:
BOULEVARD CROSSING

Boulevard Crossing
Park -
Conceptual Master
Plan

LEGEND
Passive Recreation
Active Recreation
Park
Trail
Art
Amenity
Vehicular
Playground
Recreation Building
Dog Park
Community Garden
Amphitheater
Sculpture
Sculpture

ECOS
GRICE
OCTOBER 1, 2009
SCALE IN FEET
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390 400 410 420 430 440 450 460 470 480 490 500 510 520 530 540 550 560 570 580 590 600 610 620 630 640 650 660 670 680 690 700 710 720 730 740 750 760 770 780 790 800 810 820 830 840 850 860 870 880 890 900 910 920 930 940 950 960 970 980 990 1000

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0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390 400 410 420 430 440 450 460 470 480 490 500 510 520 530 540 550 560 570 580 590 600 610 620 630 640 650 660 670 680 690 700 710 720 730 740 750 760 770 780 790 800 810 820 830 840 850 860 870 880 890 900 910 920 930 940 950 960 970 980 990 1000



FIGURE I

park and near the Englewood Avenue gateway providing visual interest, play space and large sculpture installation opportunities.

- Other defining elements:
 - Because the emphasis of the Restorative Landscape is to bring back the natural landscape, the design includes a daylighted stream that is approximately 700' in length. The stream is currently piped through the eastern edge of the property to a combined sewer overflow (CSO) facility just east of Boulevard, at which point the stream is day-lit into a concrete channel. The design concept includes a re-established stream buffer and riparian habitat, as well as a constructed wetland. Two stormwater ponds are placed at low points on the property to manage stormwater on-site, collecting it for irrigation.

Urban Confluence:

- The Urban Confluence merges nature, recreation, and urban elements together through restoring the natural systems and reinterpreting them for the urban environment. This design concept acknowledges its urban location and infuses nature with both active and passive recreation, public art, and public event space to offer a diverse range of experiences within the nearly 22 acre park space.
 - Circulation
 - Vehicular traffic is largely kept to the perimeter of the park. Parallel parking is included along Englewood Ave. and the future Cherokee Avenue extension. A one-way loop road with parallel parking is proposed within the East side of the park, with vehicles entering from the future Cherokee Avenue extension and to be used either by daily visitors or for event parking and service access. The park-wide trail system includes a hierarchy of footpaths such as paved walks and multi-use trails to provide pedestrian access throughout the park; trails connect pedestrians to natural areas such as the re-established stream and riparian habitat, restored woodlands and a large lake. Connections to the surrounding community are prominent on all sides of the park. The Grant

Park-Chosewood connector trail runs through the middle of the park from Englewood Avenue to and under the future BeltLine Transit and Trail. Tree-lined streetscapes and park gateways delineate park entrances. A terraced plaza is the primary entryway into the Urban Confluence, bringing visitors from the Englewood Avenue gateway into the park.

- Active Recreation
 - A variety of sports fields and activity zones are incorporated to give visitors the recreation alternatives requested by the community and currently lacking in the neighborhood. On the southeastern side of the park, two full-sized adult basketball courts are provided along with a 20,000 square foot outdoor skate park. The skate park is proposed as a combination of traditional concrete bowls and ramps set within a larger area made to mimic the urban challenges that skate enthusiasts love, such as stairs, walls, ledges, plazas, etc. The acreage within the one-way loop road in the park is also used for active recreation, including two sand volleyball courts and two bocce courts. The Great Lawn on the northern end of the park serves as a multi-use field for a variety of non-programmed 'pick-up' sports such as Frisbee, soccer, or flag football. A one-half mile Life Fitness trail winds through the riparian habitat and around the lake and includes 12 fitness stations with a variety of equipment. A 14,000 sq. ft. boundless playground is equipped with a range of play opportunities, including a 'nature space' comprised of sculpted earthen mounds and wholly natural materials, providing a counterpoint to the manufactured boundless playground made of brightly colored materials. A 4000 sq. ft. "sprayground" or water play area sits adjacent to the playground. This popular alternative to a traditional pool requires much less water use, has much lower operating costs, and can be a valuable source of revenue.

Urban Confluence:
Emphasis on bringing nature, recreation and urban life together into balance. Restore the highly disturbed landscape, infuse it with active recreation and natural systems. Include passive recreation, public art, individual health, and interpretation of the restored landscape. Urban in nature, nature in urban. Landscapes are restored and integrated for the urban environment.

Program Elements

Circulation:
Major perimeter roads, adjacent to BeltLine, vehicular trails, kept to the perimeter. Pedestrian and bicycle flow to be delineated in a hierarchy of footpaths, paved walks, and multi-use trails which provide varying levels of connection to the restored landscape. Connections to surrounding community shall be prominent on all sides of park.

Active Recreation: Active sports fields and activity zones to be organized into like groups and to provide recreation alternatives currently lacking in the City park system.

Passive Recreation: Extensive trail system which may include soft and hard surface trails, boardwalks, and overlooks. Plan provides for a variety of public spaces of differing sizes, as well as broad swaths of restored natural areas. Edible landscape / community gardens.

The Arts: Extensive opportunities for outdoor art installations featured at public spaces/gateways as well as integrated into restored habitat with opportunities for interpretation. Potential for performance art with maximum capacity 500-2500.



BeltLine Subarea 3: BOULEVARD CROSSING
Boulevard Crossing Park - Conceptual Master Plan

LEGEND

- Passive Recreation
- Active Recreation
- PATH
- Trail
- Art Installation
- Planting
- Stream & Wetland
- Community Garden
- Water/Wetland
- Scenic View
- Structure

ECOS GRICE
ARCHITECTS

ON-TOUR 21.1.2009

SCALE 1" = 100'



FIGURE J

- Passive Recreation
 - The extensive park-wide trail system meandering throughout the site includes soft and hard surface trails, boardwalks, and overlooks. Broad swaths of natural areas within the trails create private, passive experiences. The Great Lawn, not only provides for active recreation activities, but also allows for more passive use including picnicking, reading, and simply enjoying the sun. The terraced community gardens follow existing site contours and are comprised of 75 plots, nestled under the power lines on the steep slopes between the two major usable areas of park land, therefore making use of space that might not otherwise be practical. Public spaces that vary in size and type are made available throughout the site, including a sculpted earth component that can be utilized as a performance stage and gathering space, small plazas and pavilions. A 1.2 acre dog park is located on the low, Northwestern portion of the property and is easily accessible from the interior park trails. The dog park contains fenced-in, off-leash sections for both large and small breeds.
- The Arts
 - Opportunities for outdoor art installations are considerable throughout this concept, including along park gateways and within plazas. Reclaimed, restored portions of the park, such as the woodlands, stream, lake and constructed wetland present opportunities for interpretive, educational art, as well as large sculpture installations. The open-air pavilion/market includes space for art festivals or displays. A small sculptural amphitheatre built into the existing contours seats up to 1500 people and provides space for performance art, movies and speaking engagements.
- Other defining elements:
 - The Urban Confluence suggests the possibility of a land swap that will improve stream daylighting options,

allowing for an additional portion of the stream to be included in the design. This portion of land is currently allocated for commercial development. In exchange this portion of land, the park would give up the northwestern corner of the park, which will potentially serve as a more functional space for commercial development.

PREFERRED CONCEPT:

The three design concepts were presented to the Boulevard Crossing Subarea Steering Committee on October 23, 2007. The goal of this meeting was to choose one concept with which to move forward into the master planning phase. Overall, the group voiced concerns about the overlap with existing activities in nearby neighborhoods, maintenance for dog parks, and general park maintenance. It was suggested that the provision of uses in Boulevard Crossing Park relate directly to adjacent community need, not future reallocation of facilities from other parks to this one. The committee proposed that the developer to the east of the site should be restricted from putting services or the “back” of their future development to the park. Comments on the Sportscape indicated that the design did not provide enough variety, duplicating some existing activities in adjacent neighborhoods and did not include daylighting the stream. The Restorative Landscape lacked desired active recreation zones and contained two separate dog parks, as opposed to the preferred one larger dog park.

After careful review and consideration, the Steering Committee favored the Urban Confluence programming concept, noting specifically the great lawn, the lake and stream, gardens and amphitheatre as exciting amenities that will positively contribute to the neighborhood. The dog park was viewed as a positive amenity due to its contained, single centralized location within the site. Suggestions for changes of specific areas in the design included:

- Lake: Increase the size of the lake and place pavilions around the lake.
- Daylighted stream: Bring the stream further into the park.
- One-way loop road and parking: Delineate pedestrian crossing areas and traffic calming devices used in these areas.
- Terraced community gardens: Terraced agriculture is a positive amenity; however, community operation costs, the proximity of the dog park, as well as possibilities for expansion should be considered.
- Amphitheater: The amphitheatre can be used by adjacent communities and/or the Bureau of Cultural Affairs to sponsor art programs or other events. Consider sun angles with respect to performances. Provide parking adequate for large gatherings and highlight alternative transportation options.
- Skate park: Provide a sheltered skate park in addition to the outdoor skate park. The location,

close to the street, is preferred.

- Boundless playground/sprayground: Separate the play areas for small children away from active areas for young adults/high school students (i.e. the skate park and basketball courts away from the boundless playground/sprayground.)
- General: Add an arboretum or formal garden. Locate more pavilions throughout the site. Highlight potential educational opportunities and potential programmatic elements for area schools.

DEPARTMENT OF PARKS, RECREATION, AND CULTURAL AFFAIRS (DPRCA) FEEDBACK:

The concepts were further discussed with the Atlanta Parks Department on December 11, 2007. The meeting generated a list of questions and concerns for the ECOS design team to address during further design development. Those included:

- Regional retention – The Parks Department indicated that if the Department of Watershed Management specified need of land for regional stormwater requirements then the Park Master Plan would need to respond appropriately. Per a December 18, 2008 note from Joe Basista, Deputy Commissioner of the City of Atlanta Department of Watershed Management, “the hydraulic modeling results received ... indicate that the existing combined sewer running through the proposed park is not capacity limited under the conditions of our wastewater consent decree, thus do not anticipate a capacity relief project. As such, DWM will not be able to apply any water / sewer funding to a storm water pond at the park location. The modeling results indicate that there may be some storm water management benefit to a pond, but again, not eligible for water / sewer funding.”
- Amphitheatre – How will this be used? The intent of the space and the fact that it’s a city wide park must be clear. The City could not limit such a facility only to local use. Parks Commissioner Diane Harnell Cohen was very concerned with the specific challenges around programming of an amphitheater due to past experiences.
- Dog Park – This area must be a minimum of two (2) acres. No unofficial dog park will allowed. Will there be a transit policy for animals on the BeltLine?
- Skate Park – Draft 2007 Strategy for Skate Parks provision suggested a hierarchy of skate parks within the City. Direction on the size of the skate park for Boulevard Crossing needs to be obtained from the city.
- Sand Volleyball – Maintenance seemed to be a concern from the Parks Department, but more

than maintenance, was actual need. The Parks Department felt that the demand for such a programming activity did not actually exist and the space could be better utilized in the master plan.

- Active Recreation – Provide clear separation between the skate park, basketball courts, and children's play areas in order to keep different age groups and levels of activity properly clear of one another.
- Multi-use fields – Clearly define what this means and who would use it. Provide an alternative plan if programmed elements do not happen.
- Develop cost estimates.
- If the adjacent property owner donates land, does this count against their allowable density?

COMMUNITY FEEDBACK:

In order to obtain community feedback, park concepts presented as part of a larger Draft Study Area Master Plan to Study Group participants on January 10, 2008. Community comments for each design include:

Restorative Landscape:

- The park activities and attributes should foster diversity.
- Are two dog parks necessary? A dog park is a good idea but must be well-maintained given the current challenges and neglect within our parks in the area. Locate the dog park away from the entrance and more isolated.
- The skate park is a must! Use the incline for events and movie screening.
- The road should be within park boundaries for legal and topo reasons.
- How would these proposed city parks be maintained, given the current challenges and neglect within our parks in the area?
- Why doesn't Schuyler street connect thru to the park?
- All park plans need parking if it will be active destination.
- The most intensive uses (skate park, basketball, etc) should be located away from residential uses at the southwest corner and placed at North end/rear RR R/W. The railroad would be a natural buffer.
- Move the Cherokee Ave. extension to the East off at

Englewood. The topo does not allow what is shown.

- Where's the parking for the 1500 person amphitheatre? Remember the neighborhood layout of Chastain?

Urban Confluence:

- Façade to hide power station with 1880's style, nature center and ice cream shop.
- Remove embankment, slope rail down to street level through Grant Circle to Grant Street. Eliminate 2 bridge/ tunnel.
- Reduce the number of courts, but keep all types including basketball.
- Provide only one dog park.
- No basketball courts, they already exist in Grant Park.
- Opening stream takes too much space.
- Volleyball courts with sand exist on GA avenue in Phoenix park and they are never used.
- Skate park and corridors can be incorporated with intro "art".
- Art or slopes and angles can be utilized by skate boarding and in-line skating in corridors along corridors or paths. There are many examples in Barcelona and Germany.
- I like the urban confluence plan the best. The plan brings people together for a variety of activities.

Sportscape:

- The value of this park will be in active sports (create a destination or skating, mountain biking and dog runs).
- This design includes a good mix of activities but keeps more intense activities (i.e. skate park) away from residential areas.
- Bury the power lines over park if possible.
- Parking around the kids playground is not safe! Cars park- kids go play and adults stay in car to do adult or illegal things! This occurred previously in Grant Park.

Following the three thorough reviews by the community and committee members of the three design concepts, the ECOS Design Team began working to refine the chosen concept, Urban Confluence, for the final master plan phase. This phase used the data collected during the reviews, continually referring back to the park goals and objectives and Boulevard Crossings overall values in order to develop the preferred master plan for Boulevard Crossing Park. Refer to Appendix E for previous drafts of the final master plan.



By: Ecos Environmental Design, Inc.

January 2007



By: Ecos Environmental Design, Inc.

January 2007

FINAL MASTER PLAN

FINAL MASTER PLAN:

The final master plan addresses recreational programming needs expressed by community members, Study Group participants, Steering Committee members and the Atlanta Department of Parks, Recreation and Cultural Affairs (DPRCA). It incorporates amenities as appropriate to meet the goals and objectives for green space in Boulevard Crossing Park as well as the intentions of the Urban Confluence design concept. Feedback was consistently acquired, processed, and incorporated throughout the master planning process, resulting in the final Urban Confluence master plan.

The Urban Confluence master plan seeks to restore the existing highly disturbed landscape through infusing it with active and passive recreation, art, and nature. It is a balance of urban elements and natural systems emphasizing public health, community-building and environmental interpretation. As with all phases of the design process, the final master plan addresses circulation, active recreation, passive recreation, the arts, and the environment.

- Circulation:

- Vehicular traffic is kept to the perimeter of the park in order to promote pedestrian circulation within the park as well as to maximize park land for recreational programming, rather than single use parking. With the implementation of proposed infrastructure in the surrounding community, the BeltLine and an emphasis on pedestrian connectivity, the park will have the density to support adequate pedestrian traffic, alleviating the need for parking within the park. Integrating parking within the park may necessitate a revised master plan. Nevertheless, parking should never displace anchoring or feature elements such as the Great Lawn, Earthen Spirals, plazas, playgrounds, skatepark, and wetland areas which are integral to the success of the Boulevard Crossing Park Master Plan. The Cherokee Avenue Extension extends along the Western edge of the property, connecting Englewood Avenue to Grant Park north of the BeltLine and Georgia Power substation, through a proposed vehicular and pedestrian tunnel. Parallel parking is proposed along both sides of the Cherokee Avenue Extension,

as well as along Englewood Avenue.

- A variety of footpaths, including paved walks, multi-use trails, and boardwalks, provide connections to restored natural areas and activity zones throughout the park and enhance the visitor experience. The paths within the earthen spirals lead pedestrians to a high point in the park for beautiful views of the park, surrounding neighborhoods, and city skyline in the distance. Gateways on Englewood, Boulevard, and Schuyler streets establish dramatic entryways to the park and create prominent connections to the community on all sides. The plan acknowledges and makes use of existing land forms, using the topography to separate activity zones, create entryways, and create views.
- Active Recreation:
 - The plan reflects a range of sports activities currently lacking in the city park system, with programmed activity zones organized into like groups. The skate park and two basketball courts are located in the same plaza space, which are separated from the boundless playground and sprayground both horizontally and vertically in order to ensure that skate park and basketball activities do not disrupt playground patrons. A skate park about 20,000 sq. ft. in size incorporates the traditional bowls and ramps with “urban plaza” elements such as stairs, benches, railings and ledges that are legal to ride. The skate park is somewhat sunken into the earth and the perimeter of the park becomes a nearly 360 degree viewing terrace of the internal activities. The surrounding public plaza clearly defines the limits of the skate park activities. The boundless playground and sprayground contain features that promote cognitive, physical, social and behavioral development in a natural setting for ages 2-10, integrating earth art, water, and movable parts to impart a sense of place. The playground is intentionally large and multifaceted. It is important that the natural elements are integrated with proven constructed elements to provide a balance of play opportunities for children of all ages and abilities. The Great Lawn acts as an unprogrammed multi-use field for both

FIGURE K

individual and team activities. The lawn is over an acre in size allowing room for numerous activities or large gatherings of passive park goers. The perimeter trail around the Great Lawn is wide enough that a significant number of park visitors can comfortably share the loop for walking jogging, rollerblading, or the like, and it can be utilized as festival space for booths or similar setups. The rest of the park trail system winds its way through the 21 acres, varying in slope and surface and giving visitors a range of walking and running choices. Life-fitness stations are located along the trails and along the restored woodlands and meadow for a more private and quiet active experience. The trail and pedestrian circulation system throughout the park is meant to be clearly delineated.

- **Passive Recreation:**

- The park design offers a variety of public spaces differing in size and degree of privacy and interlaced with broad sweeps of restored natural areas. Picnic shelters are located on the site for public gatherings. Overlooks and boardwalks placed along the extensive trail system provide spaces for quiet, passive activity such as reading, talking or reflection. A range of soft and hard surface trails meandering through the site gives visitors a choice of walking experience. The Great Lawn and City View Terrace are unprogrammed space which can be used for group or individual passive activity. Benches and game tables are located along the Central Promenade. A 2-acre, fenced-in, off-leash dog park is divided into two separate areas for large breed and small breed dogs and contains restored woodlands and picnic shelters. A community garden consists of 30, 10x10 plots, a work shelter, and orchard. It is located near the Englewood Promenade for ease of access and includes space for additional plots to be added in the future.

- **The Arts:**

- There are abundant opportunities for outdoor art installations, the incorporation of artistic design in park elements, and performance art featured within the design. Gateways, promenades, plazas and park nodes are prominent locations where art can be showcased and art festivals, farmers markets, and small workshops can occur. Educational art can be integrated into restored habitat

areas such as the constructed wetland and woodlands. The earthen spirals and grand staircase leading down to the Great Lawn create an amphitheatre-like setting for performance art, movies, or speaking engagements. The earthen spirals as well as the earthen modules within the boundless playground additionally serve as functional land art. An 18-foot paved path surrounds the Great Lawn for potential festival booth space to accommodate Class C and D festivals consisting of 251 to 49,999 people. Plaza spaces connecting the Great Lawn and skate park and surrounding the skate park act as secondary festival or event space or can host smaller public gatherings.

- **The Environment:**

- Restored natural landscapes are interpreted and stylized for the urban environment throughout the park design using a decision-making hierarchy of preservation, conservation, and regeneration. As an important connection point along the proposed Atlanta BeltLine, Boulevard Crossing Park plantings align with the goals of the Atlanta BeltLine Arboretum conceptual plan to create a 22-mile long continuous “tree museum.” Plant collections within the park appropriately reflect the designated “Natural Neighborhood” theme established by Atlanta BeltLine Inc, and Trees Atlanta. The Boulevard Crossing Park landscape is predominantly native, making it largely drought tolerant and low-maintenance while creating habitat for urban wildlife throughout. Existing woodlands are revitalized and re-established along the Eastern edge. The onsite stormwater management system includes one centrally located half-acre pond surrounded by a $\frac{3}{4}$ acre constructed wetland, with an additional one-quarter acre stormwater pond at the lowest point on site. Water is collected not only from the park site, but also from adjacent sites and is used for flood control and reuse in on-site irrigation. The Meadow running along the constructed wetland, central pond, and restored woodland is water-wise and low-maintenance. Sustainable materials are used within the site including locally produced compost, locally grown plant material, and recycled mulch. Waste production is properly managed from recycling receptacles throughout the park to construction waste recycling. Trails and

boardwalks make natural, restored areas of the park highly accessible to visitors and facilitate interaction with nature and environmental education. Through creating this connection with the natural landscape, the park positively impacts community and human health.

- Possible Additional Amenities:
 - A public restroom may be added contingent not only on available resources for ongoing custodial maintenance, but also on adequate pedestrian traffic flow for increased safety and to justify the expense. The facility will be located in a highly visible, easily accessible area of the park. Automatic lighting, sinks and toilets may be used to decrease maintenance requirements.

Boulevard Crossing VALUES

Green - Diverse - Historic

GOALS with corresponding OBJECTIVES

Greenspace

- Reclaim/restore/create & expand community environmental resources.
 - o Restore existing streams and incorporate new water features for recreational educational opportunities, stormwater management and habitat.
 - o Enhance existing and create new opportunities, such as recycling, composting and gardening and recommend these activities/amenities be included in future development.
 - o Encourage the urban forest by preserving and appropriately planting new trees via an expanded open space network, enhanced streetscapes, and neighborhood arboretum programs.
 - o Promote the importance of the community's environmental resources through interpretative education, incorporation of LEED- green development principles, and habitat restoration.
- Provide open, cultural, and civic spaces to promote social interaction and a thriving community.
 - o Create a variety of outdoor programming/ spaces for family and community gatherings for all development.
 - o Establish community specific events and programs, such as "Celebrate Diversity" and "Cultural Festivals" to showcase the cultural significance and history.
 - o Provide multi-purpose civic and recreational facilities at various scales to serve the community, including plazas, markets, squares, amphitheater, library, rink.
- Ensure the recreational needs of the City of Atlanta are compatible with Boulevard Crossing Community needs.
 - o Provide multi-use accessibility and connectivity to and through the community's significant parks- Grant, Boulevard Crossing, and Chosewood.
 - o Create diverse spaces for recreation and reflection, such as habitat preservation areas, trails, and picnic facilities.
 - o Promote innovative programming within the community open space network, such as wireless technology, community art, and outdoor climbing activities, such as climbing wall, play fields/facilities, and water play areas.
 - o Encourage and maintain safe and secure environment in park design and utilization through lighting and visibility.
- Identify, interpret and protect community historic and cultural resources.
 - o Provide interpretive opportunities to showcase the community's significant assets, such as Fort Walker and Intrenchment Creek.
 - o Establish a seamless connection between historic and contemporary features, such as Zoo Atlanta and Chosewood Park.
 - o Promote recognition of the community's diverse, historically intact neighborhoods, such as, Inland New Historic District and the historic events that were integral to the community's development.
 - o Enhance community identity by integrating public art, heritage, culture and historic community assets.



FIGURE L





DRAFT MASTER PLAN REVIEW:

The Steering Committee met on January 17, 2008 to review the draft Master Plan. Members were pleased with the overall park design. Much of the meeting included a discussion on the next phase of design and implementation. Comments and concerns included:

- Consider irrigation: Reuse stormwater for gardens and grounds.
- Amenities are needed for the dog park, i.e. water fountain.
- Community gardens: Look into possible partnerships – i.e. Georgia Organics, Urban Gardener
- Lighting plans: Consider phasing. Lighting is important for safety.
- Consider call boxes to increase security.
- Is it possible to consider extending the water body in the dog park for dog swimming?
- Consider connectivity to the park from the western property line.
- Consider harnessing water from surrounding developments and provide underground storage vaults to hold water.
- Avoid liners in the pond construction.
- Is it possible to bury power lines in any part of the park?
- Park Service shed should also serve as a tool shed for the community garden.
- Include a compost area for the community garden.
- Recycle construction waste (mulch.)
- Use sustainable materials on site (permeable pavement, concrete with high fly ash.)
- Allow artists to be involved during the design and construction phase.

Necessary revisions were made to the design by the Ecos design team based on these comments and concerns. Changes included an additional Grand Staircase connecting the park to the future mixed-use development on the Western side of the park. In addition, a small gateway was placed at the Schuyler Street/South Park Avenue entrance to heighten community connectivity on this edge.

The Boulevard Crossing Park Final Master Plan was presented to the Study Group on February 21, 2008. Participants were given the opportunity to prioritize areas of the park that they would like to see developed first. With a total of 81 respondents, 30% chose the Great Lawn, 16% the Stormwater Management

ponds, 15% the skate park and 11% the dog parks. Less than 10% preferred each of the following: Boulevard Promenade, community gardens, multi-use trails, basketball courts, earthen spirals, central promenade/staircase, playground/sprayground, and the constructed wetland. The purpose of this exercise was to assist in phasing the future implementation of the park, assuring not only a cohesive development plan, but also a park that is immediately accessible to the community. The meeting revealed a passionate community enthusiastic about the addition of Boulevard Crossing Park.



By: Ecos Environmental Design, Inc.

February 2007

PUBLIC PROCESS

Three distinct groups were involved in the public process: the Steering Committee, Study Group, Atlanta Parks Department, and Atlanta Beltline, Inc. The Steering Committee was comprised of the Ecos Environmental Design team, members of the City of Atlanta Department of Parks, Recreation and Cultural Affairs, and community representatives. Study Groups were open to any community member or concerned citizen and served as a forum for discussing community needs, obtaining continual feedback on the design process, and establishing and prioritizing goals.

SURVEY RESULTS:

Following the kick-off meeting on July 11, 2007, a master plan survey was created to begin obtaining public input. It included a series of questions to help guide the design process. The survey was posted online on October 10, 2007 and was open to the public, but focused on the Chosewood community. For a complete list of survey responses see attached. Significant findings include:

Preferences: Facilities

Adults: 1. Life Fitness Trail

2. Open Multi-use Field
3. Mountain Bike Trail

Teens:

1. Open Multi-use Field
2. Skate Park
3. Soccer Field

Children:

1. Playground
2. Open Multi-use Field
3. Sprayground

Other Facilities Preferences: Dog Park, Walking Path/ Trail System, Washrooms, Performance Space, Trees, Water, Inline Skating Rink, Natural Areas, Lighting/ Safety/Security, Accessibility, and Parking.

Question responses: % Desirable

- Desire to capture stormwater from the park and adjacent areas: 66.1%
- Naturalization/reforestation zone within the park: 76.4
- Daylighting of streams currently piped under the park land: 78.5%
- Large open space for random play: 78.7%
- Onsite presence of City Parks staff in a maintenance

facility: 62.7%

- Importance of connecting park paths with adjacent developments: 78.4%
- Importance of shared parking with adjacent developments: 47.3%
- Importance of adjacent commercial businesses: 37.1%

Demographics:

Family Types: Singles/Couples – With and w/out children & empty nesters

Age Groups: Under 18 to greater than 60 years old

Male/Female: 46.4%/53.8%

Proximity to Park: 66% of respondents live within 1 mile of park land

MEETINGS AND PRESENTATIONS:

Meetings and presentations were consistently held throughout the design process to give updates and acquire feedback. The following is a timeline and summary of all forums held:

August 16, 2007: Steering Committee Meeting

Existing Conditions Presentation/Discussion

September 20, 2007: Study Group

Goals and Objectives Presentation/Discussion

October 23, 2007: Steering Committee Meeting

Programming Concept Review

December 11, 2007: Atlanta Parks Department

Conceptual Plan Review

January 10, 2008: Atlanta Parks Department

Master Plan Development Update

January 10, 2008: Study Group

Draft Study Area Master Plan Presentation/ Discussion (Park Concepts)

January 17, 2008: Steering Committee

Draft Master Plan Presentation/Discussion

February 21, 2008: Study Group

Final Master Plan Presentation/Implementation Preferences

April 21, 2008: Beltline Quarterly Briefing

Overview of Final Master Plan draft

LANDSCAPE MANAGEMENT

Landscape Management Plan:

To ensure the success of the Boulevard Crossing landscape, a comprehensive, adaptive management plan should be developed addressing the following areas/elements: mowed lawn, ornamental and street trees, manicured plantings, woodlands, the meadow, the constructed wetland, stormwater ponds, the skate park, outdoor festival space, facilities, the dog park, community gardens, art, the boundless playground and educational elements. Adaptive landscape management plans provide effective strategies for responding to changing conditions. It should not only address the aesthetic aspects of the areas/elements listed above, but also their function within the larger landscape. The landscape management plan should be developed in response to, and integrated with, the resource management plans. Further, appropriate, potential partnerships necessary for the success of the individual areas/elements should be identified.

Mowed Lawn:

To help reduce overall maintenance necessary for turf areas, appropriate, adaptive species should be considered. Proper species selection can affect drought tolerance, resistance to pests, dependence on fertilizers, frequency of mowing, and wear resistance. Total mowed acreage for Boulevard Crossing Park is 1.65 acres. In addition to fertilization and mowing, aeration and irrigation schedules should be implemented. Soil remediation procedures should be explored, such as soil additives or amendments to reduce compaction, increase water retention and/or increase rooting depths.

High Maintenance Zone

Arboriculture:

The arboriculture plan includes street trees, ornamental trees and existing and restored woodlands. General maintenance activities should include pruning, trimming, fertilizing, watering and cabling, as necessary. Consistent monitoring for disease and damage should be conducted. Invasive plant removal is critical to the restoration and establishment of the woodlands. Engineered soils mixtures should be used for trees planted in paved or high traffic areas. A detailed resource management plan is recommended for these areas.

Low to Medium Maintenance Zone

Park Plantings:

Plantings throughout the park are intended to be largely native, minimizing water-use and maintenance and providing habitat for urban wildlife. A significant portion of the park is designed to be natural, necessitating less pruning than more formal gateways and programmed sections. These distinct, manicured areas of the park should be clearly identified with proper maintenance requirements and water requirements specified according to plant species and proposed aesthetic. The manicured landscape covers almost 3.5 acres of the site. In order for native plants to thrive, invasive plant removal must occur. Large amounts of kudzu, privet and ivy were noted during the site visits. Procedures for removal should be outlined in a resource management plan, including long term preventive measures.

Medium Maintenance Zone

Woodland restoration:

Woodland areas within the design, totaling over three acres, are both restored and newly developed. Invasive plant removal is critical to the success of these areas. Within the restored areas, damaged or diseased trees should be specified for removal. A tree protection plan for existing, healthy trees should be in place for the construction period. Periodic prescribed burning can be used to help long-term control invasive plant species. In order to increase plant diversity, supplementary plantings of native trees, shrubs, and herbaceous plants should be installed.

Low Maintenance Zone

Meadow:

The meadow contributes to over 2 acres of the site plan. The proposed meadow, provides a native, drought tolerant, low-maintenance habitat. Mowing schedules should include cutbacks, appropriate to the plant palette two to three times per year in order to control invasive species and assist in regeneration. Prescribed burns can be used as appropriate to aid in controlling invasive species and promoting growth of native species. In order for the meadow to remain in its successional stage, all woody plants should be removed if mowing or burning does not adequately prevent them. Additional measures that can be taken to preserve the health of the meadow include: trash and plant debris removal and supplemental weed control.

Medium Maintenance Zone

Constructed Wetland:

A constructed wetland sized at over $\frac{3}{4}$ acre is included in the park's stormwater management system. Constructed wetlands not only create habitat for urban wildlife and are aesthetically pleasing, but, if properly managed, are also effective for pollutant removal from stormwater. Appropriate plant material is crucial to the proper functioning of the wetland and should cover up to fifty percent of its surface area in order to maintain pollutant uptake. The wetland should maintain a continuous base flow in order to sustain plant material and a range of aquatic predators to inhibit mosquitoes and other vectors. Maintenance schedules should include cleaning debris within and around the water and vegetation harvesting depending on growth rates of plant material. Erosion control measures should be taken around the banks of the wetland to avoid sedimentation. Sediment build-up within the wetland should be monitored and removed if it exceeds 10-20% of the main pool area. Invasive plant species need to be removed and prevented within the wetland.

Medium Maintenance Zone

Stormwater Ponds:

Two wet ponds totaling over $\frac{3}{4}$ of an acre are located within the park design to assist with onsite stormwater management and flood control. Stormwater ponds hold runoff for extensive periods, improving water quality through allowing pollutants to settle out. Maintenance plans for stormwater ponds should include frequent inspections where issues with inlets and outlets, eroded areas, debris build-up, sediment accumulation, and invasive vegetation can be quickly identified and repaired. In addition to aeration, introducing aquatic life, assuming water levels are significant and consistent, can reduce the potential for mosquitoes. Draining and dredging may be considered no more than approximately once every ten years if nutrient levels in the water become too high and/or water levels too low. Vegetation appropriate for wetland areas should be used to increase the aesthetic value of the ponds, direct pedestrians to designed, designated access points to the waters edge, and discourage access in other areas to minimize edge damage.

High Maintenance Zone

Skatepark management:

Park design should include durable, permanent structures and surfaces to reduce maintenance needs and follow appropriate safety standards. Injury at skate parks is a significant concern, however statistically, most skateboarding injuries occur while skating in

unsafe often illegal environments. That said, call boxes or emergency alert systems can be included within the skatepark. The location of the Boulevard Crossing skate park creates an optimal line of site for local law enforcement, as well. Management strategies for skateparks vary. All strategies necessitate creating a strong set of safety policies and procedures. Several approaches have proven successful in skateparks around the country including:

- Pay to skate: Establishing a pay to skate program requires hiring onsite management personnel to collect fees and supervise the skate park, setting up hours of operation, and establishing skatepark policy enforcement strategies. A hierarchy of fees can be set, with lower fees for area residents.
- Membership fees: Length of membership is often set either monthly or quarterly. This management strategy does not necessarily require onsite management personnel; however a management group must be identified not only to collect fees and manage memberships, but also to determine improvement needs for which to allocate fees.
- Timed lighting: Timed lighting systems allow skaters to use the park after dark for a designated length of time and discourage skaters from using the park after hours. This management approach provides free space to skate and is enforced solely by local law enforcement, parents, peers, etc.
- Park closing hours: This passive management approach relies on the enforcement of Boulevard Crossing Park closing hours to manage skaters. Signs are posted within the park to communicate closing hours.

Operational needs are significantly increased using pay to skate and membership fee management strategies. Additional infrastructure may also be required including fencing, booths, and bathrooms. The neighborhood scale of Boulevard Crossing Park may not warrant fee-based approaches to skate park management.

Establishing partnerships with skate clubs or community groups is vital to the success of any skate park. Creating a sense of ownership with users has been proven more effective for deterring vandalism and violence. That said, daily inspections should be made to any skate park to remove broken glass or other harmful debris and monitor and remove graffiti. User groups and partner groups can not only assist with management, but also organize programmed

activities within the park such as movie nights, demos, lessons, fundraisers, and contests.

High Maintenance Zone.

Outdoor Festival management:

Refer to the Class C and D outdoor festival requirements listed in the proposed City of Atlanta's Policy for Outdoor Events in Parks in Response to Level 4 Drought Restrictions, issued January 9, 2008. Class C and D outdoor festivals include events where the anticipated attendance is between 251-49,000 people. Remediation and restoration periods vary from one to four weeks depending on the size of the gathering and can include aeration, watering, reseeding and fertilizing. Limiting large events within the park and keeping intensive activities on park hardscapes such as gateways, plazas, promenades and the 18' concrete walk surrounding the Great Lawn will assist in reducing landscape damage.

High Maintenance Zone

Facilities:

Maintenance plans for park shelters can include a budget, schedules and procedures for cleaning and repairs. The plans should include a regular trash pick-up schedules, procedures for graffiti removal, repairs related to safety for users, etc.

Low Maintenance Zone

Dog Park:

Successful dog park development and management depends on strong partnerships with community members, local organizations, dog park clubs and/or neighborhood associations. Partner groups can monitor the park, ensuring that rules are followed and the space is properly maintained. It is also important that all dog park users be responsible for assisting with maintenance, monitoring, and managing the park. Involving users and community members in the development and management process can create a sense of ownership which strengthens the value and effectiveness of the park. Maintenance issues to address in a detailed dog park management program include sanitation, noise, safety, repair, vegetation and turf care, and substrate repair. A clear set of policies and procedures should be established and posted in the park. Amenities can be added that not only create a more pleasant dog park experience, but also give users what they need to assist with maintaining the park, such as water line accessibility for drinking and maintenance, disposal bags, benches and trash cans. Recommended dog park substrates include turf, wood chips or a combination. Wood chips should be sized

according to playground specifications. For more information on creating off-leash dog parks, refer to the City of Atlanta Department of Parks, Recreation, and Cultural Affairs document, Creating Off Leash Dog Parks: A Step-By-Step Guide. Volunteer Maintenance Zone

Community Garden:

As with dog parks, community gardens require partnerships in order to be managed and maintained effectively. An urban garden community group should be established to serve as an umbrella garden management organization. Management responsibilities may include marketing, setting up an application process and fee system per plot, fundraising, general upkeep, acquiring materials such as compost, seeds, and stakes, determining growth, and organizing events. Application and/or plot fees for individual plots should cover irrigation, electrical, materials and any security costs. Additional relationships can be set up with area schools, churches, retirement homes or other neighborhood groups to "adopt" plots. The garden should strive to involve community members of all ages to create an overall sense of ownership and help prevent vandalism. A strong set of guidelines and rules need to be written and posted throughout the garden. Guidelines may be included for waste management, use of tools and facilities, irrigation, and materials use. Education programs can be organized onsite in conjunction with the county extension agency, GA Organics, local professionals, community members and other community garden groups.

Volunteer Management Zone

Boundless Playground/Sprayground:

Both playground and sprayground maintenance needs such as waste management and equipment repair can be included in the overall park maintenance plan. Equipment in the sprayground could be set to a timer and sensors or activated when users press buttons or pull strings. Additional management for the sprayground could be warranted if the sprayground is scheduled to be a revenue generating amenity. Additionally, the sprayground will need daily inspection for glass and debris and monitoring of water and filtration systems. The need to set operating hours, charge fees, or if equipment takes additional maintenance would be covered by a pay-for-play system. Community partnerships should also be explored for these added management needs.

High Maintenance Zone

Art:

Management for art installations and performance art will best be implemented by partner organizations such as local artist groups, theatre troops, public art commissions or other community organizations under the auspices of the Office of Cultural Affairs. Issues with vandalism can be combated not only through creating a sense of ownership and connecting the community to the art, but also through installing appropriate lighting and signage. Individual sponsorship organizations can fund installations, organize art openings or performance events, provide a system to review potential art for placement, support art educational programs and manage the art installation process.

All Maintenance Zones

Education:

Opportunities for both passive and active education exist throughout the park.

Educational signs can be posted in coordination with art installations and community events, throughout naturalized areas of the park, and along the path system and fitness trail. The park can serve as an outdoor classroom for schools, and community groups in collaboration with partner organizations. Active lessons or demonstrations can take place in both programmed and unprogrammed areas of the park and are subject to meeting City of Atlanta operating and permitting requirements.

All Maintenance Zones



FIGURE O

NATURAL RESOURCE MANAGEMENT

The purpose of a natural resource management program for Boulevard Crossing Park is to establish systematic approaches for developing, restoring and protecting natural communities within the park while maintaining public use. Natural resource management plans assess existing natural resources before development to determine the potential environmental impacts of development. Specific resource management plans are suggested for the park that will specify detailed policies and procedures necessary to ensure and sustain the success of the park's naturalized areas and minimize the influence from public activity. All plans should reflect the park's urban location and closely relate to the park's overall landscape maintenance plan. Each plan should include baseline inventories of significant, existing resources and potential guidelines for long-term monitoring. Plans should also identify potential educational programs, research partnerships and funding opportunities. It is recommended that the Natural Resource Management Program include the following plans: Invasive Species Removal Plan, Stormwater Management and Reuse Plan and a Developed and Restored Landscape Plan (Flora and Fauna).

Invasive Species Removal Plan:

During initial site visits the design team found the following invasive, exotic species to be predominant throughout the site: kudzu, privet, and ivy. The removal of all aggressive, invasive species is critical to the success of both developed and restored natural areas and necessary to maintain diverse native plant communities. Detailed procedures necessary to eliminate invasive species should be outlined, including long-term strategies for prevention and management. A hierarchy of methods can be instituted depending the species and aggressive nature of the invasive plant. Effective removal techniques should be conducted in an environmentally sensitive manner, if possible.

Stormwater Management/Reuse Plan:

Strategies for managing the wet ponds and constructed wetland should include proper plant selection, the potential for introducing aquatic life, water reuse and its impact on habitat health, pollutant removal, sediment control and overall management of chemical and biological processes of the water collected. Water reuse plans should encompass watering zones and systems for individual areas

through the site. Within the current plan, water is collected solely from onsite areas; however there is the potential for additional water catchment from adjacent development sites. Possibilities for offsite water collection, including quantities, partnerships, storage needs, infiltration approaches and effects on habitat should be fully explored.

Developed and Restored Landscape (Flora/Fauna) Plan:

Within the Boulevard Crossing Park design, restored and developed naturalized landscapes include woodlands, the meadow, the constructed wetland, and the manicured landscape (including street trees, turf areas, ornamental plantings.) This resource management plan should identify approaches for the development or restoration of each of these categories with respect to their affect on urban habitat development for both wildlife and plant life. The plan should include long-term goals for naturalizing large sections of the park.

Overall Natural Resource Management Guidelines:

The following guidelines are a compilation of plan recommendations for general resource management from various sources, including the National Park Service and the National Audobon Society. Each natural resource management plan for Boulevard Crossing Park may include the following sections/subsections:

- I. Site specific assessment
 - a. History
 - b. Existing conditions
 - c. Existing resources
 1. Ecological
 2. Cultural
 3. Habitat sensitivity
- II. Restoration/mitigation
 - a. Specific procedures
 1. Habitat sensitive/appropriate landscaping
 2. Water conservation/Water quality
 3. Waste management
 4. Invasive plant removal
 - b. Activities schedule
- III. Protection strategies for mitigated areas
 - a. Education

- b. Visitor access/carrying capacity
- c. Pest management

IV. Monitoring

- a. Specific procedures
- b. Long-term activities schedule
- c. Partnerships and Resources

Resources for additional information on natural resource management:

- National Park Service:
<http://www.nps.gov/nationalmallplan/Studies.html>
<http://www.nps.gov/policy/MP2006.pdf>
- City of Chico:
http://www.chico.ca.us/common/_mod_resource.asp?p=367&f=446
- US Fish and Wildlife Service/Department of Defense: http://library.fws.gov/Pubs9/es_integrated_nrplans02.pdf
- Audubon International:
<http://www.auduboninternational.org/resources/principles.htm>
- University of Florida
<http://edis.ifas.ufl.edu/fr126>
- City of Boston
http://www.cityofboston.gov/parks/openspace_doc.asp
- Massachusetts Department of Conservation and Recreation (DCR)
http://www.mass.gov/dcr/stewardship/acec/rmp_guidelines.pdf
- City of Kirkland
http://www.ci.kirkland.wa.us/__shared/assets/Nat_Rsrc_Mgt_Plan_IL352.pdf

ESTIMATED DEVELOPMENT COSTS

ESTIMATED COSTS:

Phase I Development: Boulevard Crossing Park
The Phase I development plan for Boulevard Crossing Park includes those amenities expressed by community participants at the Final Master Plan presentation on February 21, 2008 as priorities for first phase development. Top responses include The Great Lawn, Stormwater Management Ponds, Skate Parks, and the Dog Park.

The goal of Phase I is to offer a cost-effective, cohesive design strategy that expresses the intent of the larger design concept while creating excitement within the community momentum for Phase II.

Phase I Development begins with site clearing, grubbing, and rough grading throughout the entire site not only to prepare areas included in this phase for fine grading, but also to prime the property for future phases, create interim, passive, usable space, and prevent the spread of existing invasive species.

Detailed design, including precise siting, will be undertaken using strategies from Crime Prevention Through Environmental Design (CPTED) which emphasizes techniques for preventing or reducing crime through smart design. Examples include: maximizing visibility using adequate lighting, providing pedestrian friendly streets and sidewalks, clearly defining gateways and entrances and using plantings to clearly define public versus private spaces,

The following amenities are to be completed in Phase I:

Circulation:

- Paths: Sections of the proposed foot path system will be completed to connect the Eastern edge of the Boulevard Promenade to the central storm pond, the central pond to the grand staircase and the central pond to the Great Lawn.
- Sidewalks: Five foot sidewalks will be completed along Englewood Avenue from Cherokee Avenue to the Central Promenade as well as along the park side of Cherokee Avenue, from Englewood to the Central Promenade.
- Promenades: The Central Promenade will be fully constructed, including stairs, columns, game tables, benches, and plant material. A

portion of Englewood Promenade will be completed beginning at Cherokee Avenue and extending to the Central Promenade. The Eastern edge of the Boulevard Promenade directly parallel to Boulevard Avenue will also be constructed.

- Plazas: All plaza spaces will be built, including the central plaza between the Great Lawn and Skate Park, the plaza surrounding the Skate Park and the plaza on the perimeter of the basketball courts. All plant material, stair cases, and columns, and benches will be installed.
- Cherokee Avenue: A portion of the future Cherokee Avenue extension will be constructed from Englewood Avenue to the Central Promenade. The road base will be installed and utilized as a temporary gravel parking lot until the full road is built in the future. This will provide off street parking until more becomes available. If funding allows, a base course of asphalt (permeable, if possible) will be laid in order to minimize dust and erosion and allow for pavement markings to designate parking spaces.

Active Recreation:

- Dog park: The dog park will be prepared. Fencing and other amenities are to be provided in accordance with the City of Atlanta policy on off-leash dog parks.
- Great Lawn: The Great Lawn will be completed with the 18' concrete walk. The City View Terrace will likely not be included.

Passive Recreation:

- Skate park: The skate park will be completed in full.
- Basketball Courts: Both basketball courts will be built with the surrounding plaza space.

The Arts:

- Earthen spirals: Both earthen spirals with path systems and vegetation will be completed.

The Environment:

- Revegetated slopes: Slopes surrounding the Great Lawn totaling approximately 1 acre will be stabilized and revegetated.
- Stormwater management ponds: The stormwater pond in the rear of the site totaling .25 acres will be built. The lower portion of the

central stormwater pond, totaling .25 acres will be completed.

- Tree canopy, ornamental trees, tree masses: Canopy and ornamental trees will be installed along built promenades and Cherokee Avenue. Tree masses will be established surrounding the dog park, skate park and the Central Promenade. Existing woodland areas will be restored and may include supplemental plantings. Should new development projects throughout Neighborhood Planning Unit (NPU) find the need to locate tree recompense plantings elsewhere within the NPU, it is highly recommended that they be directed to Boulevard Crossing Park.
- Meadow: The complete Meadow will be installed, including steep slopes surrounding the City View Terrace and Great Lawn and areas around the Stormwater Pond and Dog Park. In addition, sections of the park to be developed in Phase II, including the Constructed Wetland and Community Garden will be seeded and established as temporary meadow during Phase I. This will not only assist with stabilizing the soil, but will also create a cohesive, natural aesthetic until Phase II construction can begin.

Establishing immediate partnerships through identifying volunteer opportunities can reduce construction and management costs. Initial volunteer opportunities could include: Citizens on Patrol, park planting, art installation (including forming earth sculptures), native plant removal, Adopt-a-Park, Trail, or Section of the Park, and community garden construction.

Possible amenities for Phase II are the playground/sprayground, constructed wetland, community gardens, City View Terrace, group shelters, public restrooms and an additional stormwater pond.

In providing estimates of probable construction costs, the client understands that the consultant has no control over the cost or availability of labor, equipment or materials, or over market conditions or the contractor's method of pricing, and that the consultant's opinions of probable construction costs are made on the basis of the consultant's professional judgment and experience. The consultant makes no warranty, express or implied, that the bids or the negotiated cost of the work will not vary from the consultant's opinion of probable construction cost.

OPTION ONE:			
Earthwork	Description	Unit Cost	Quantity
Earthwork	Rough	30,000/AC	21 Acres
Earthwork	Fine	15,000/AC	10 Acres
Site Clearing and Grubbing	Complete	7,500/AC	21 Acres
Erosion and Sediment Control	Complete	3,750/AC	21 Acres
Dog Park	Complete	13,500/AC	2 Acres
Dog Park Fencing	Complete	10.50/LF	1613 LF
Englewood Promenade	From SE corner to edge of Central Promenade	392.00/LF	402.43 LF
Skate Park	Complete	435,600/EA	1 EA
Basketball Court	Complete	48,000/EA	2 EA
Stormwater Managemt Pond System	1/2 size central pond (.25 AC) & Full size rear pond (.25 AC)	82,884/AC	5 AC
8' Concrete Walk	Blvd to Storm Pond/Pond to Grand Stair, Pond to G. Lawn	55,00/LF	1355.26 LF
18' Concrete Walk	Complete	123.75/LF	900 LF
5' Concrete Sidewalk	Englewood Ave. & Park side Cherokee Ave to Central Prom.	34.40/LF	1069 LF
35' Central Promenade	Complete	188/LF	1010 LF
25' Boulevard Promenade	Eastern edge	135/LF	141.3 LF
Plaza	Complete	9.50/SF	7536 SF
Plaza-Basketball Perimeter	Complete	9.50/SF	7475 SF
Plaza Other (Stairs, Columns)	Complete	47.00/SF	20757 SF
Site Lighting	1/3 Site	37000/AC	3 AC
Earthen Spirals	Complete	42287.70/EA	2 EA
Cherokee Avenue - gravel with parking	2/3 length, Gravel Drive	7.14/SY	2457.8 SY
Lawn Area	Great Lawn/Spirals	63616.36/AC	2.45 Acres
Trees Canopy	1 Side Englewood/ 1 Side Cherokee	400/EA	40 EA
Trees Ornamental	Along Central Promenade and Plaza	325/EA	69 EA
Trees Masses	Masses for Dog Park/Woodland Skatepark/Entrance	15000/AC	2 Acres
Steep/Revegetative Slopes	Around Great Lawn	4140/AC	5 AC
Meadow	Complete + Temporary Open Space	300/MSF	174240 SF
		SubTotal	\$3,840,066
		Design/Eng. Fees (0.08)	\$307,205
		Contingency (0.10)	\$384,007
		TOTAL	\$4,531,278

FIGURE P

Urban Confluence:

Emphasis on bringing nature, recreation, and urban elements together into balance. Restore the highly disturbed landscape. Infuse it with active recreation and natural systems. Include passive recreation, including walking, jogging, and interpretation of the restored landscape. Urban in nature, nature in urban. Restored natural landscapes are stylized and interpreted for the urban environment.

Program Elements

Context:
Major perimeter roads, adjacent to the Beltline, vehicular traffic kept to the perimeter of the park. Pedestrian flow to be delineated in a hierarchy of paths, including a primary path and multiple paths which provide varying levels of connection to the restored landscape. Connections to the surrounding community shall be prominent on all sides of park.

Active Recreational: Active sports fields and activity zones to be organized into like groups and to provide recreation alternatives currently lacking in the City park system.

Passive Recreation: Extensive trail system, which may include soft and hard surface trails, boardwalks, and overlooks. Plan provides for a variety of public spaces of differing sizes, as well as broad swaths of restored natural areas and an edible landscape / community gardens.

The Arts: Extensive opportunities for outdoor art installations featured as well as integrated into restored habitat with potential for performance art and Class C or D festivals.

Environment: Significant stormwater management in the form of ponds and wetlands. Predominantly native landscape with lower maintenance requirements. Use a decision-making hierarchy of preservation, conservation and regeneration. Park will increase natural habitat, food and use of native plants and trees and manage waste production.



BeltLine Subarea 3:
Boulevard Crossing

Boulevard Crossing
Park -
Conceptual Master
Plan

Green Tree Wetland	Active Recreation	Passive Recreation	Trail	From The Station	Hardening Wetland	Regrowth	Dog Park	Community Garden	Wetland	Wetland	Wetland	Wetland



OCTOBER 14, 2008



FIGURE Q

APPENDIX A: Community Survey Results

Boulevard Crossing Park - BeltLine Sub-Area #3

Park Master Plan Community Survey



Comprising approximately 22 acres, Boulevard Crossing is the first new park completely assembled along the BeltLine's "Emerald Necklace".

Funding from the City of Atlanta's Opportunity Bond was utilized for acquisition of the land and will fund initial development. Park Master Planning is currently underway as part of the overall planning for this BeltLine segment ("Sub-Area").

A diverse range of active and passive recreational uses for a wide range of age groups will be considered in planning this park which must serve to meet both the needs of local neighborhoods as well as those of the greater city-wide BeltLine community. Multi-use trail connections with Chosewood Park and Grant Park are proposed components and are also in planning stages.

Your response to this survey will help to assess needs for park facilities and amenities as we work towards developing a master plan for the future development and operation of Boulevard Crossing Park.

**Please forward your completed survey by Monday October 8th 2007 to:
Ecos Environmental Design**

1. For **Adults**, check off the 3 most important facilities/uses you would like to see:

2. For **Children** (under 12), check off the 3 most important facilities/uses you would like to see:

3. For **Teens/Youths**, check off the **3 most important** facilities/uses you would like to see:

4. **Other** Facilities - check off the **3 most important** needed at Boulevard Crossing Park:

- ☐ i) Leash-free Dog Park
☐

5. Are there other facilities, uses, amenities or features would you like to see :

6. How desirable would the use of a portion of the park be for creation of a **storm water pond** that would assist in conserving water from both the park and other adjacent areas?

☐ Not Desirable ☐ Neutral ☐ Very Desirable

7. How desirable would be a **naturalization zone which would be allowed to re-forest?**

☐ Not Desirable ☐ Neutral ☐ Very Desirable

8. Efforts are being made to uncover streams that were put into sewer pipes years ago - to "daylight" them - and recreate them as 'natural' streams. How desirable would it be to pursue this "**Daylighting**" of **Streams** at Boulevard Crossing?

☐ Not Desirable ☐ Neutral ☐ Very Desirable

9. How important is it to provide large **open spaces for random play?**

☐ Not Important ☐ Neutral ☐ Very Important

10. How desirable would an on-site presence of City Parks staff in a **maintenance facility** be?

☐ Not Desirable ☐ Neutral ☐ Very Desirable

11. How important is it to integrate with new developments which will occur around the park:

a) Pathways connecting the park and adjacent developments:

☐ Not Important ☐ Neutral ☐ Very Important

b) Parking that would be shared:

☐ Not Desirable ☐ Neutral ☐ Very Desirable




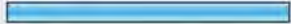








c) To have commercial businesses adjacent:










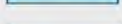
☐ Not Desirable ☐ Neutral ☐ Very Desirable

Other comments on adjacent development:

<p>12. Which of the following best describes your family?</p> <p><input type="checkbox"/> i) Single</p> <p><input type="checkbox"/> ii) Single with children _____ younger than 12 _____ age 12 - 18 _____ age 18+</p> <p><input type="checkbox"/> iii) Couple</p> <p><input type="checkbox"/> iv) Couple with children _____ younger than 12 _____ age 12 - 18 _____ age 18+</p> <p><input type="checkbox"/> v) Empty nester</p> <p><input type="checkbox"/> vi) Other _____</p>	
<p>13. In what age group do you belong?</p> <p><input type="checkbox"/> i) <18</p> <p><input type="checkbox"/> ii) 19 - 29</p> <p><input type="checkbox"/> iii) 30 - 44</p> <p><input type="checkbox"/> iv) 45 - 60</p> <p><input type="checkbox"/> v) 60+</p>	<p>14. I am</p> <p><input type="checkbox"/> i) Male</p> <p><input type="checkbox"/> ii) Female</p>
<p>15. How far of a walk will it be from your residence to Boulevard Crossing Park?</p> <p><input type="checkbox"/> i) Less than $\frac{1}{4}$ mile <input type="checkbox"/> ii) $\frac{1}{4}$ to $\frac{1}{2}$ mile <input type="checkbox"/> iii) $\frac{1}{2}$ mile to 1 mile <input type="checkbox"/> iv) more than 1 mile</p>	
<p>16. Which Neighborhood do you live in?</p> <p><input type="checkbox"/> i) Boulevard Heights</p> <p><input type="checkbox"/> ii) Chosewood Park</p> <p><input type="checkbox"/> iii) Grant Park</p>	<p><input type="checkbox"/> iv) Ormewood Park</p> <p><input type="checkbox"/> v) Peoplestown</p> <p><input type="checkbox"/> vi) Other _____</p>
<p>17. Other Comments:</p> 	

Boulevard Crossing Park - Master Plan Survey














1. For Adults, check off the 3 most important facilities/uses you would like to see:		
	Response Percent	Response Count
Soccer Field 	18.0%	98
Baseball/Softball Field 	10.9%	59
Football Field 	1.8%	10
Open Multi-use Field 	54.2%	295
Basketball Courts 	6.8%	37
Volleyball Courts 	10.3%	56
Tennis Courts 	32.9%	179
Skateboard park 	14.0%	76
Life/Exercise/Fitness Trail 	67.5%	367
Disc ("Frisbee") Golf 	11.2%	61
Mountain Biking Trail system 	41.0%	223
Multi-use 'arena' pad (in-line skating, floor hockey, lacrosse etc) 	24.6%	134
Comments		74
answered question		544
skipped question		8

2. For Children (under 12), check off the 3 most important facilities/uses you would like to see:		
	Response Percent	Response Count
Soccer Field 	35.5%	170
Baseball/Softball 	18.8%	90
Football Field 	2.3%	11
Open Multi-use Field 	48.0%	230
Basketball Courts 	3.3%	16
Playground 	75.4%	361
Skateboard Park 	18.6%	89
Spray Pad with water jets, (no standing water) 	45.3%	217
Exercise/Fitness Trail 	21.1%	101
Court games (Hopscotch etc) 	22.8%	109
Comments		52
answered question		479
skipped question		73

3. For Teens/Youths, check off the 3 most important facilities/uses you would like to see:

	Response Percent	Response Count
Soccer Field 	36.0%	171
Baseball/Softball Field 	24.2%	115
Football Field 	7.4%	35
Open Multi-use Field 	46.7%	222
Basketball Courts 	19.2%	91
Volleyball Court 	5.5%	26
Tennis Courts 	15.8%	75
Skateboard park 	40.0%	190
Life/Exercise/Fitness Trail 	28.0%	133
Disc ("Frisbee") Golf 	11.6%	55
Mountain Biking Trail system 	26.3%	125
Multi-use 'arena' pad (in-line skating, floor hockey, lacrosse etc) 	31.8%	151
Comments		22
<i>answered question</i>		475
<i>skipped question</i>		77

4. Other Facilities – check off the 3 most important needed at Boulevard Crossing Park:

	Response Percent	Response Count
Leash-free Dog Park 	59.4%	321
Community Garden Plots 	20.7%	112
Picnic Areas/Shelters 	34.4%	186
Special Event space 	13.3%	72
Games Tables (Chess, Backgammon etc.) 	7.8%	42
Washrooms 	35.6%	192
Ponds 	22.4%	121
Concessions 	3.7%	20
Parking 	16.1%	87
Special Events space for festivals 	18.9%	102
Wireless connectivity for laptop computers 	16.1%	87
Walking Pathway/Trail system 	53.9%	291
Other (Please Comment) 	1.7%	9
Comments		50
<i>answered question</i>		540
<i>skipped question</i>		12

5. Are there other facilities, uses, amenities or features would you like to see :		Response Count
		114
	<i>answered question</i>	114
	<i>skipped question</i>	438

6. How desirable would the use of a portion of the park be for creation of a storm water pond that would assist in conserving water from both the park and other adjacent areas?					Response Count
	Not Desirable	Neutral	Very Desirable		
Check one, please	6.6% (36)	27.3% (148)	66.1% (359)		543
			<i>answered question</i>		542
			<i>skipped question</i>		10

7. How desirable would be a naturalization zone which would be allowed to re-forest?					Response Count
	Not Desirable	Neutral	Very Desirable		
Check one, please	4.1% (22)	19.5% (106)	76.4% (415)		543
			<i>answered question</i>		542
			<i>skipped question</i>		10

8. Efforts are being made to uncover streams that were put into sewer pipes years ago – to "daylight" them - and recreate them as 'natural' streams. How desirable would it be to pursue this "Daylighting" of Streams at Boulevard Crossing?					Response Count
	Not Desirable	Neutral	Very Desirable		
Check one, please	2.6% (14)	19.0% (103)	78.5% (426)		543
			<i>answered question</i>		542
			<i>skipped question</i>		10

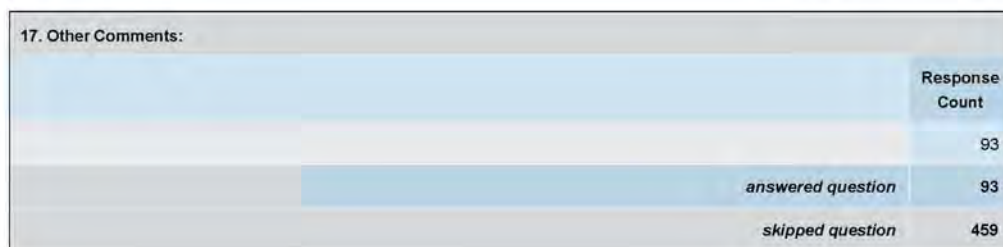
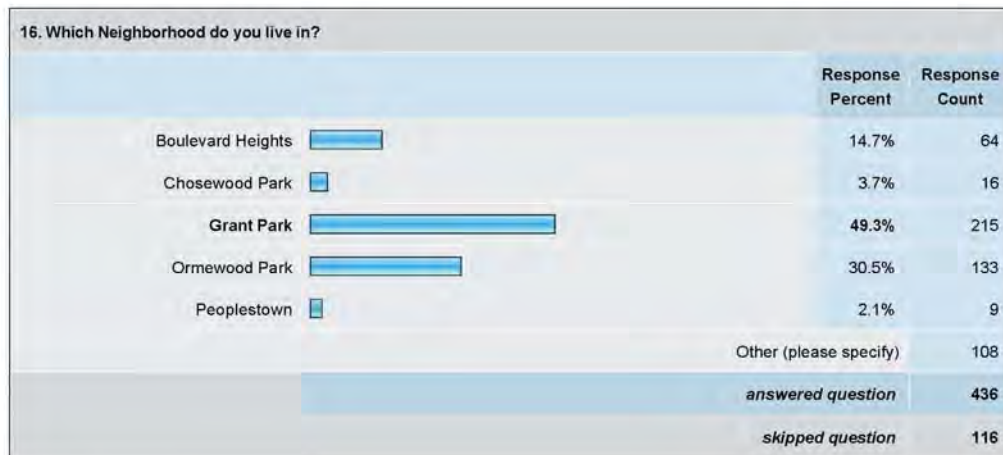
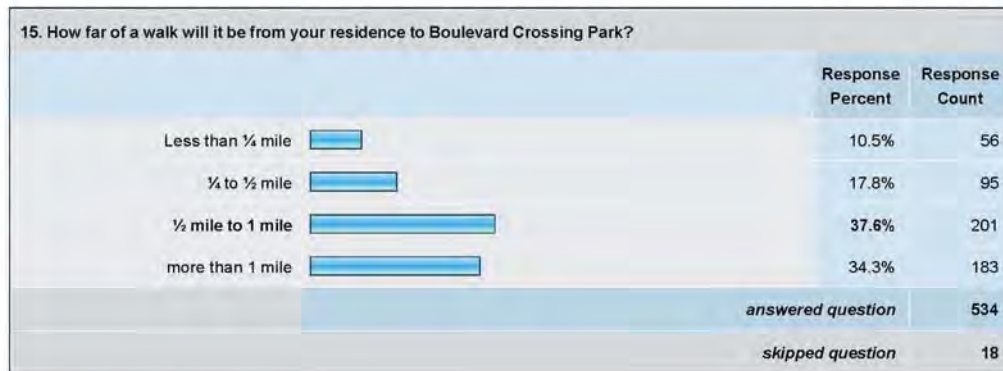
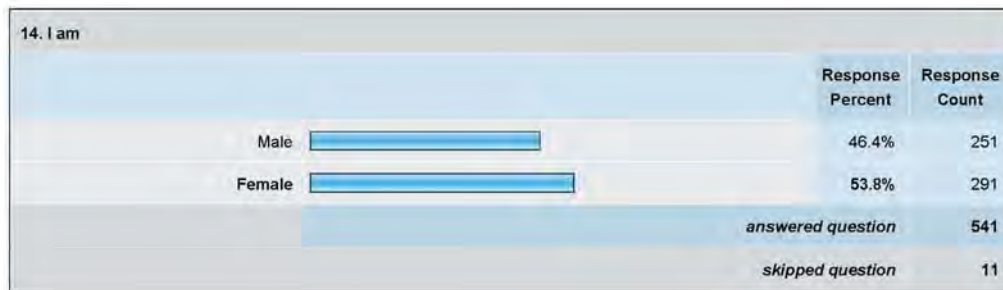
9. How important is it to provide large open spaces for random play?					Response Count
	Not Important	Neutral	Very Important		
Check one, please	2.8% (15)	18.5% (100)	78.7% (426)		541
			<i>answered question</i>		540
			<i>skipped question</i>		12

10. How desirable would an on-site presence of City Parks staff in a maintenance facility be?					Response Count
	Not Desirable	Neutral	Very Desirable		
Check one, please	4.8% (26)	32.5% (176)	62.7% (340)		542
			<i>answered question</i>		541
			<i>skipped question</i>		11

11. How important is it to integrate with new developments which will occur around the park:				
	Not Important	Neutral	Very Important	Response Count
a) Pathways connecting the park and adjacent developments:	3.5% (19)	18.1% (98)	78.4% (425)	542
b) Parking that would be shared:	14.2% (76)	38.5% (206)	47.3% (253)	535
c) To have commercial businesses adjacent:	21.0% (113)	41.9% (225)	37.1% (199)	537
Other comments on adjacent development:				70
answered question				541
skipped question				11

12. Which of the following best describes your family?			
		Response Percent	Response Count
Single		20.3%	111
Single with children - younger than 12		2.0%	11
Single with children - age 12 – 18		1.3%	7
Single with children - age 18+		0.6%	3
Couple		28.4%	155
Couple with children - younger than 12		41.4%	226
Couple with children - age 12 – 18		1.8%	10
Couple with children - age 18+		1.1%	6
Empty nester		1.1%	6
Other (please comment)		0.0%	0
Other (please specify)		2.2%	12
answered question			546
skipped question			6

13. In what age group do you belong?			
		Response Percent	Response Count
<18		1.1%	6
19 – 29		15.9%	87
30 – 44		69.0%	378
45 – 60		13.9%	76
60+		0.4%	2
answered question			548
skipped question			4



APPENDIX B: Meeting Materials

Staff Agenda
BeltLine Master Plan
Boulevard Crossing Study Group Meeting
September 20, 2007; 6:30 – 8:30 pm
Zoo Atlanta – Action Resource Center

1. Welcome – **Matthew Dickison** (5 minutes)
 - a. Welcome
 - b. Overview
 - c. Parks Survey
 - d. Additional Announcements
 - e. Sign In Sheet
 - f. Upcoming Meetings/Contact Information
2. BeltLine Update – **Nate Conable** (10 minutes)
3. Master Planning Review – **Shannon Kettering & John Funny**
4. Vision, Values, Goals and Objectives – **Shannon Kettering**
5. Small Group Goals and Objectives Exercise - **Shannon Kettering/Matthew Wilder/John Funny**
6. Next Steps – **Shannon Kettering & Matthew Dickison** (5 minutes)

Supply List:

1. Agendas (Matthew)
2. Study Group Meeting Dates (Matthew)
3. BeltLine Tour Flyers (Matthew)
4. Sign-In Sheet (Matthew)
5. Surveys (Matthew)
6. Easels (**ECOS**)
7. Large Note Pads (**ECOS**)
8. Large Pens (**ECOS**)
9. Projector (**ECOS**)
10. Laptop (**ECOS**)
11. Posters (**ECOS**)
12. Sticky-notes for public comment regarding posters (**ECOS**)
13. Index Cards/Comment Cards (**ECOS**)
14. Directional Sign (Matthew)

Agenda
BeltLine Master Plan
Boulevard Crossing Park Steering Committee Meeting
October 23, 2007; 6:00 – 8:00 pm
Zoo Atlanta – Action Resource Center

Handouts available as attendees arrive:

- Greenspace Goals and Objectives
- Survey Results

1. Welcome – **Matthew Dickison** (5 minutes)
 - a. Welcome
 - b. Overview of purpose of meeting
 - c. Additional Announcements
 - d. Sign In Sheet
 - e. Upcoming Meetings/Contact Information
2. Recap of Site Analysis (5 minutes)
3. Presentation of 3 Park Master Plan Concepts – **Matthew Wilder**
4. Concept Plans Discussion – **Matthew Wilder/Ed Akins/Gretchen Gigley**
5. Next Steps – **Matthew Wilder & Matthew Dickison** (5 minutes)

Supply List:

1. Agendas (Matthew D)
2. Study Group Meeting Dates (Matthew D)
3. Sign-In Sheet (Matthew D)
4. Handouts (**ECOS**)
5. Easels (**ECOS**)
6. Large Note Pads (**ECOS**)
7. Large Pens (**ECOS**)
8. Posters (**ECOS**)
9. Index Cards/Comment Cards (**ECOS**)
10. Directional Sign (Matthew)

Boulevard Crossing Park Concept Themes



BeltLine

Subarea 3 - Boulevard Crossing Park – Concept Review Meeting II – October 23, 2007

Sportscape:

A highly organized and extensive collection of active recreation opportunities including both team and individual sports, including skateboarding, cycling, individual fitness, inline hockey, soccer, baseball/softball, etc.

Program Elements

Circulation:

Major perimeter Roads, adjacent to Beltline, vehicular traffic may enter the park to better access recreation areas. Vehicular access allows for temporary closure during special events to allow unimpeded pedestrian / transit / bicycle access. Pedestrian flow to be delineated in a hierarchy of paved walks and multiuse trails. Connections to surrounding community shall be prominent on all sides of the park

Active Recreation:

Active sports fields and activity zones to be organized by type throughout the site. Indoor and outdoor activities may coexist.

Passive Recreation:

Trail system which may include soft and hard surface trails, boardwalks, and overlooks. Plan provides quiet areas separate from buzz of activity. Spaces between active zones allow for restoration opportunities.

The Arts:

Extensive opportunities for outdoor art installations, temporary rotating or permanent, features at important public spaces/gateways

Restorative Landscape:

Emphasis on restoring the highly disturbed landscape to an urban oasis. Active recreation is a component, but larger emphasis is placed on natural systems, passive recreation, public art, individual health, and interpretation of the restored landscape. Picturesque views throughout

Program Elements

Circulation:

Major perimeter Roads, adjacent to Beltline, vehicular traffic kept to the perimeter of the park. Pedestrian flow to be delineated in a hierarchy of footpaths, paved walks, and multiuse trails which provide varying levels of connection to the restored landscape. Connections to surrounding community shall be prominent on all sides of park.

Active Recreation:

Active sports fields and activity zones to be organized into a single location / complex.

Passive Recreation:

Extensive trail system which may include soft and hard surface trails, boardwalks, and overlooks. Plan provides for a variety of public spaces of differing sizes, as well as broad swaths of restored natural areas. Edible landscape / community gardens.

The Arts:

Extensive opportunities for outdoor art installations featured at public spaces / gateways as well as integrated into restored habitat with opportunities for interpretation. Potential for performance art with small amphitheater 500-2500 person capacity.

Urban Confluence:

Emphasis on bringing nature, recreation, and urban elements together into balance. Restore the highly disturbed landscape, infuse it with active recreation and natural systems. Include passive recreation, public art, individual health, and interpretation of the restored landscape. Urban in nature, restored natural landscapes are stylized and interpreted for the urban environment.

Program Elements

Circulation:

Major perimeter Roads, adjacent to Beltline, vehicular traffic kept to the perimeter of the park. Pedestrian flow to be delineated in a hierarchy of footpaths, paved walks, and multiuse trails which provide varying levels of connection to the restored landscape. Connections to surrounding community shall be prominent on all sides of park

Active Recreation:

Active sports fields and activity zones to be organized into like groups and to provide recreation alternatives currently lacking in the City park system.

Passive Recreation:

Extensive trail system which may include soft and hard surface trails, boardwalks, and overlooks. Plan provides for a variety of public spaces of differing sizes, as well as broad swaths of restored natural areas. Edible landscape / community gardens

The Arts:

Extensive opportunities for outdoor art installations featured at public spaces/gateways as well as integrated into restored habitat with opportunities for interpretation. Potential for performance art with small amphitheater 500-2500 person capacity.

Boulevard Crossing VALUES

Green – Diverse - Historic

GOALS with corresponding OBJECTIVES

Greenspace

- Reclaim/restore/create & expand community environmental resources.
 - Restore existing streams and incorporate new water features for recreational/ educational opportunities, stormwater management, and wildlife habitat.
 - Expand community sustainable opportunities, such as recycling, composting, and gardening and recommend these activities/ amenities be included in future development.
 - Enhance the urban forest by preserving and appropriately planting new trees via an expanded open space network, enhanced streetscapes, and neighborhood arboretum programs.
 - Promote the importance of the community's environmental resources through interpretation/ education, incorporation of LEED- green development principles, and habitat restoration.
- Provide open, cultural, and civic spaces to promote social interaction and a thriving community.
 - Provide indoor and outdoor programming/ spaces for family and community gatherings for all development.
 - Establish community specific events and programs, such as “Celebrate Diversity” to unite the community and showcase its cultural significance and unique history.
 - Provide multi-purpose civic and recreational facilities at various scales to serve the community, including plazas, markets, squares, amphitheater, library, rink.
- Ensure the recreational needs of the City of Atlanta are compatible with Boulevard Crossing community needs.
 - Provide multi-use accessibility and connectivity to and through the community's significant parks- Grant, Boulevard Crossing, and Chosewood.
 - Ensure passive spaces for mediation and reflection, such as habitat preservation areas, trails, and picnic facilities.
 - Promote innovative programming within the community open space network, such as wireless technology.
 - Provide active adventure activities, such as climbing wall, play fields/facilities, and water play areas.
 - Encourage and maintain safe and secure environment in park design and utilization through lighting and visibility.
- Identify, interpret and protect community historic and cultural resources.
 - Provide interpretive opportunities to showcase the community's significant assets, such as Fort Walker and Intrenchment Creek.
 - Establish a seamless connection between the BeltLine and community features, such as Zoo Atlanta and Chosewood Park.
 - Promote recognition of the community's diverse, historically intact neighborhoods, such as, install new historic/ educational markers to commemorate sites or events that were integral to the community's development.
 - Enhance community identity by integrating public art, heritage, cultural and historic community assets.

Boulevard Crossing Sub-Area

SOUTHEAST STUDY GROUP MEETING

Zoo Atlanta ~ February 21, 2008



1. **Welcome**, *Rukiya Eaddy, Citizen Participation Advocate Associate*
2. **BeltLine Update**, *Rukiya Eaddy, Citizen Participation Advocate Associate*
3. **Boulevard Crossing Park-Final Draft Master Plan**, *Matt Wilder, ECOS Environmental Design, Inc.*
 - **Background and Context**
 - **Concept Review**
 - **Summary of Public Input**
 - **Final Draft Park Master Plan Presentation**
4. **Questions and Comments**
5. **Phasing Prioritization Exercise**

Questions?

Please direct all Master Planning questions and/or comments to:

*Matthew Dickison
Senior Urban Planner
404-865-8591
mdickison@atlantaga.gov*

*For general questions, contact:
Rukiya Eaddy
Citizen Participation Advocate Associate
404-588-8285
readdy@atlbeltline.org*



PLACEMAKING AT BOULEVARD CROSSING : HOW WILL IT BE ACHIEVED?

WHAT IS PLACEMAKING?

Balanced Elements



Land Uses & Urban Design



Circulation



Greenspace



Public & Cultural Arts

Appropriate Scale

City-
development pattern comprised of centers, communities, neighborhoods, and corridors and serve a city-wide population.

Center/Community-
development pattern that serves a broader community, even regional.

Neighborhood-
development pattern that serves the immediate residents and businesses.



Center / Community Scale



Neighborhood Scale

Quality Design

Supports Transit

- Mix of Uses
- People
- Businesses
- Civic Spaces
- Clear access and connections
- Walkable 'zones' that offer different densities and intensities



Supports Community Values & Goals

Land Use & Urban Design

- Encourage development that is compatible with community values and future needs.
- Facilitate mixed use 'centers' (living, working and shopping) to promote economic development, serve the community neighborhoods and support alternative transportation modes.
- Maintain a variety of residential opportunities, including mixed-income and workforce housing to strengthen the diverse community.

Circulation

- Explore opportunities to incorporate innovative strategies into community-wide transportation solutions commensurate with future needs.
- Provide connectivity continuity and redundancy among various modes of transportation.
- Allow transportation facilities to promote seamless neighborhood boundaries, while preserving and/or enhancing community distinctions and character.
- Ensure future usage by developing a sustainable financial structure for maintenance.

Greenspaces

- Reclaim/restore/locate & expand community environmental resources.
- Ensure the recreational needs of the City of Atlanta are compatible with Boulevard Crossing community needs.

Public & Cultural Arts

- Provide open, cultural, and civic spaces to promote social interaction and a thriving community.
- Identify, interpret and protect community historic and cultural resources.
- Expand civic facilities to support community growth.

Values: GREEN DIVERSE HISTORIC



BeltLine Subarea 3:
BOULEVARD CROSSING

ECOS ENVIRONMENTAL DESIGN, INC. | GRICE & ASSOCIATES | SMITH DALIA ARCHITECTS | DOVETAIL CONSULTING



PLACEMAKING AT BOULEVARD CROSSING: PLANNING PROCESS

PROCESS

Site Inventory & Analysis



Opportunities & Challenges Map



Comparison



Influences



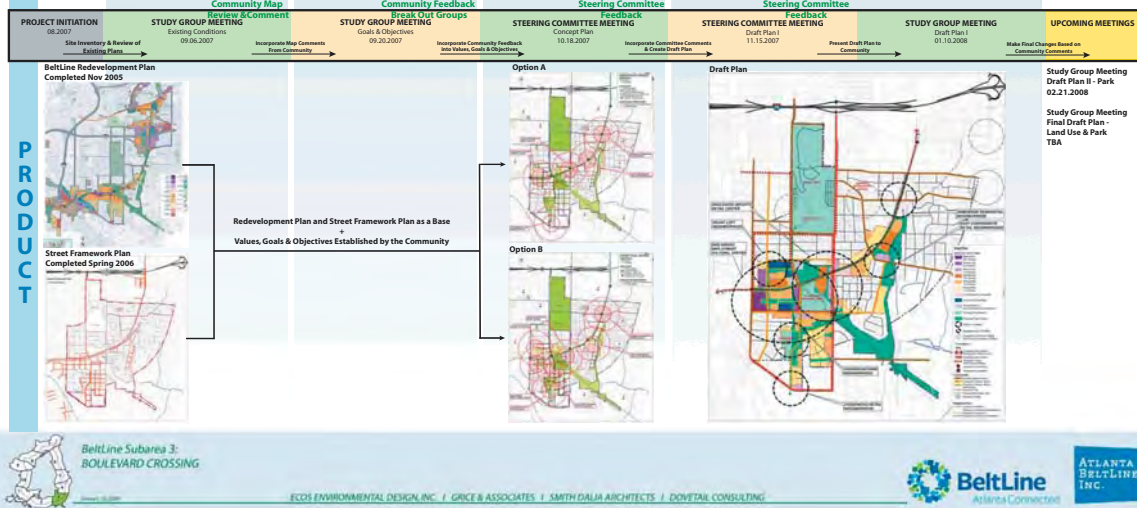
Draft Plan Components



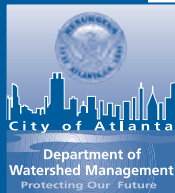
- Review Existing Conditions & Previous Studies
- Present Values, Goals & Objectives
- Present Opportunities & Challenges for Land Use, Circulation & Open Space

- Consensus on Values, Goals & Objectives
- Presentation on Establishing Placemaking Elements
- Scale
- Design
- Present Concept Plan Option A & B

- Review Placemaking and Influences from Existing Conditions
- Presentation of Draft Plan Elements: Land Use, Circulation, Greenspace & Public & Cultural Arts



APPENDIX C: Custer Ave. Combined Sewer Overflow



Custer Avenue Combined Sewer Overflow (CSO) Storage & Dechlorination Facility

Project Overview:

A small number of the City's older neighborhoods is served by a combined sewer system. In such a system, stormwater and sanitary sewer flows (or wastewater) are collected in the same pipe.

During dry weather and light rainfall, the combined sewer flows are collected and treated at the wastewater treatment plants. During heavy rainfall, flows from the combined sewer system exceed the capacity of the downstream sanitary sewer pipes. Overflows, known as combined sewer overflows (CSOs) occur, sending untreated or minimally treated wastewater flowing into small, local streams.

In the 1980s and 1990s, CSO treatment facilities were constructed to capture, treat and disinfect the combined sewer overflows before they were discharged to streams. However, federal and state regulations governing CSO discharges and water quality standards have become more stringent over the years. Now, the City is under federal Consent Decree to significantly decrease CSOs and bring them into compliance with current water quality regulations by 2007.

The Custer Avenue project is part of the CSO Remediation Program. The City will address the CSO problem by constructing additional underground storage and upgrading treatment facilities, and separating combined sewers in selected basins. These improvements will allow the City to provide clean, safe water to residents and downstream neighbors. It will also allow the City to build a best-in-class water utility, which will provide consistent, reliable service to households, businesses and other cities and counties.

Project Description:

A new 10-million-gallon, underground linear storage facility will be constructed, and, along with the existing 34-million-gallon Intrenchment Creek CSO Storage Tunnel, will increase the total overflow storage capacity to 44 million gallons. To build the facility, a 30-foot diameter vertical construction access shaft, approximately 120 feet deep, will be excavated into rock and its walls will be reinforced with concrete where required for stability. The shaft will provide access to construct the below-ground storage facility that will be excavated into solid rock using drill and blasting construction methods.

In addition, the existing Intrenchment Creek CSO Treatment Facility will be upgraded to provide a higher level of treatment. Currently, the flows pumped from the tunnel are treated using bar screens, grit removal, settling basins and chlorine disinfection. The upgrade will include the addition of fine screening, filters and enhanced disinfection systems to control harmful bacteria and other residuals. The cleaned CSO flows will be discharged into Intrenchment Creek, a tributary of the South River.

over→



APPENDIX D: Master Plan Drafts



Urban

Confluence:

Enriches on bringing nature, recreation, and urban elements together into balance. Restores the highly disturbed landscape, infuses it with active recreation and natural systems. Includes passive recreation, active recreation, and interpretation of the natural landscape. Urban in nature, restored natural landscapes are stylized and interpreted for the urban environment.

Program Elements

Circulation:

Major perimeter roads, adjacent to the Beltline, vehicular traffic kept to the perimeter of the park. Pedestrian flow to be delineated in a hierarchy of paths, including a network of paths which provide varying levels of connection to the restored landscape. Connections to surrounding community shall be prominent on all sides of park.

Active Recreation: Active sports fields and active zones to be organized into like groups and to provide recreation alternatives currently lacking in the City park system.

Passive Recreation: Extensive trail system which may include soft and hard surface trails, boardwalks, and overlooks. Plan provides for a variety of public spaces of differing sizes, as well as broad swaths of restored natural areas. Edible landscape / community gardens.

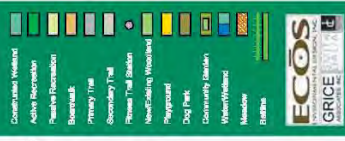
The Arts: Extensive opportunities for outdoor art installations featured at public spaces/gateways as well as integrated into restored habitat with interpretive signage. Potential for performance art and Class C or D festivals.

Environment: Significant stormwater management in the form of ponds and wetlands. Predominantly native landscape with lower maintenance requirements. Use a decision-making hierarchy of preservation, conservation and regeneration. Park will increase stormwater storage and use sustainable and properly manage waste production.



BeltLine Subarea 3:
BOULEVARD CROSSING

Boulevard Crossing
Park
Conceptual Master
Plan



Urban Confluence:

Emphasis on bringing nature, recreation, and urban elements together into balance. Restores the highly disturbed landscape, infuses it with active recreation and natural systems, and provides a recreation, play, and habitat landscape and interpretation of the restored landscape. Urban in nature, restored natural landscapes are stylized and interpreted for the urban environment.

Program Elements

Chokehold:
Major perimeter roads, adjacent to Beltline, vehicular traffic left to the perimeter of the park. Pedestrian flow to be delineated in a hierarchy of footpaths, paved walks, and multiuse trails which provide varying levels of connection to the restored landscape. Connections to surrounding urban environment shall be prominent on all sides of park.

Active Recreation: Active sports fields and activity zones to be organized into like groups and to provide recreation alternatives currently lacking in the City park system.

Passive Recreation:
Extensive trail system which may include soft and hard surface trails, boardwalks, and overlooks. Plan provides for a variety of public spaces of differing sizes, as well as broad swaths of restored natural areas. Edible landscape / community gardens.

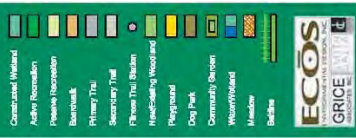
The Arts:
Extensive opportunities for outdoor art installations featured at public spaces/gateways as well as integrated into restored habitat with opportunities for interpretation. Potential for performance art and Class C or D habitats.

Environment:
Significant stormwater management in the form of ponds and constructed wetlands. Predominantly native landscape with lower maintenance requirements. Use a hierarchy of preservation, conservation and regeneration. Park will increase human well-being. Select and use sustainable materials and properly manage waste production.



BeltLine Subarea 3:
BOULEVARD CROSSING

Boulevard Crossing
Park -
Conceptual Master
Plan



Atlanta BeltLine Master Plan

SUBAREA 3

BOULEVARD CROSSING

Transportation Analysis Report

Prepared for
Atlanta BeltLine, Inc.
By Ecos Environmental Design
Grice & Associates
Smith Dalia Architects
Dovetail Consulting

Adopted by the Atlanta City Council on March 16, 2009



BeltLine
Atlanta Connected



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1.0 Introduction

The Atlanta BeltLine is a large-scale public infrastructure project to redevelop 22 miles of abandoned and/or underutilized rail lines around Atlanta's urban core to a street car/light rail facility. In addition, this project proposes to rezone/redevelop properties within approximately one-half mile of rail line right-of-way. When complete, the project will encompass greenspace, trails, transit, and economic development. The conceptual layout of the BeltLine is shown in Figure 1-1.

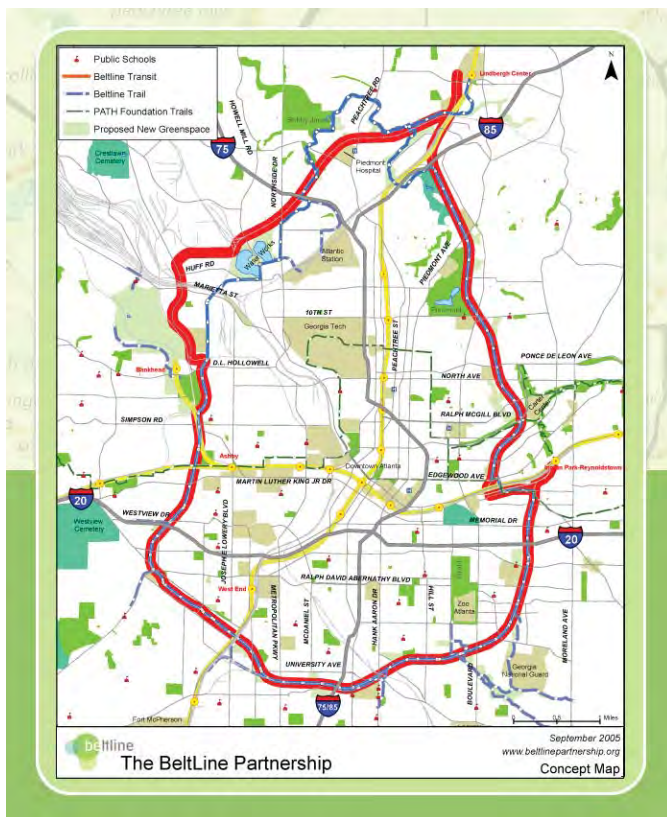


Figure 1-1 - Concept Map of Overall BeltLine Area

Purpose of the Report

As a component of the City of Atlanta's Beltline Redevelopment Master Planning effort, Atlanta BeltLine, Inc. identified the need to evaluate existing and future traffic operations and safety. For the purposes of planning and implementation, the BeltLine has been divided into ten subareas as shown in Figure 1-2. This report documents the traffic analysis for Subarea 3, also referred to as Boulevard Crossing.

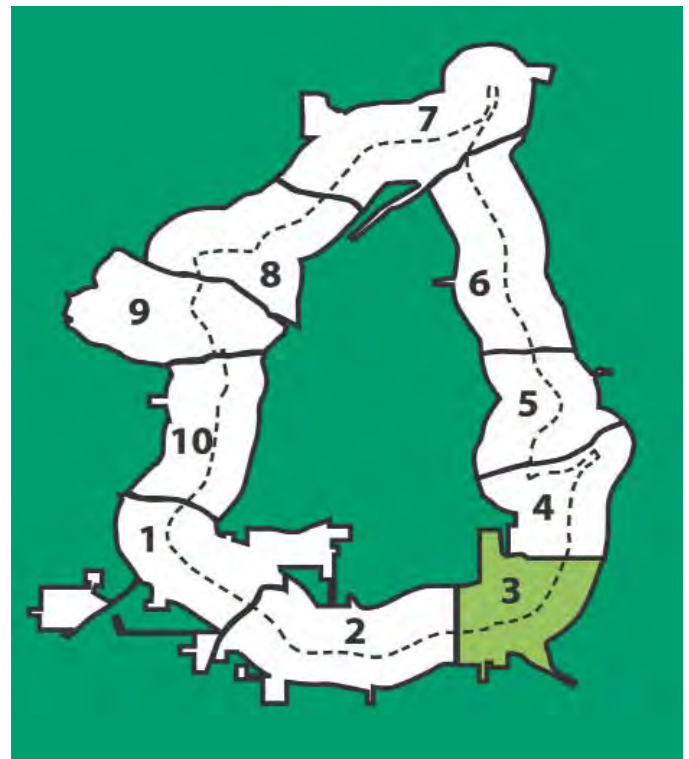


Figure 1-2 - Concept Map of Subarea 3

The traffic impacts of proposed BeltLine redevelopment within the subarea needed to be evaluated to determine what, if any, improvements are necessary to allow the transportation infrastructure to efficiently and safely serve future demand. Future conditions were evaluated both with and without BeltLine redevelopment so that the effects of site-generated traffic and proposed changes in land use can be known. Based on the findings of the traffic analysis, recommendations were made on mitigations needed to improve overall safety and traffic operations.

BeltLine Subarea 3 Overview

Subarea 3 is in the southeast quadrant of the BeltLine and is comprised of the geographical area that is bordered by Boulevard to the east, McDonough Boulevard to the south, Hill Street to the west, and Berne Street to the north. Although these streets have been identified as borders, the transportation analysis boundaries extend beyond this geographical area to include the intersections of Boulevard with I-20 eastbound and WB ramps. Figure 1-3 shows the general study limits of Subarea 3.

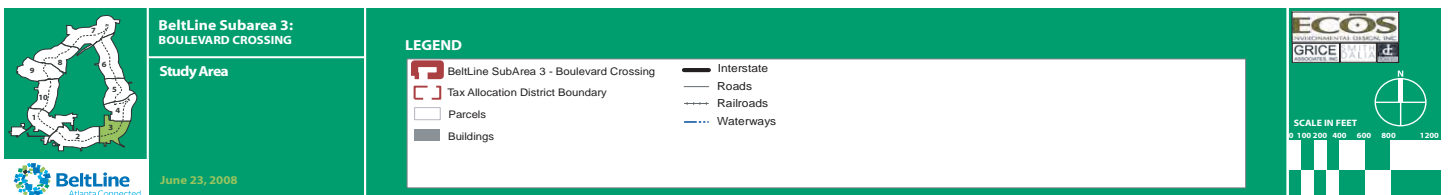
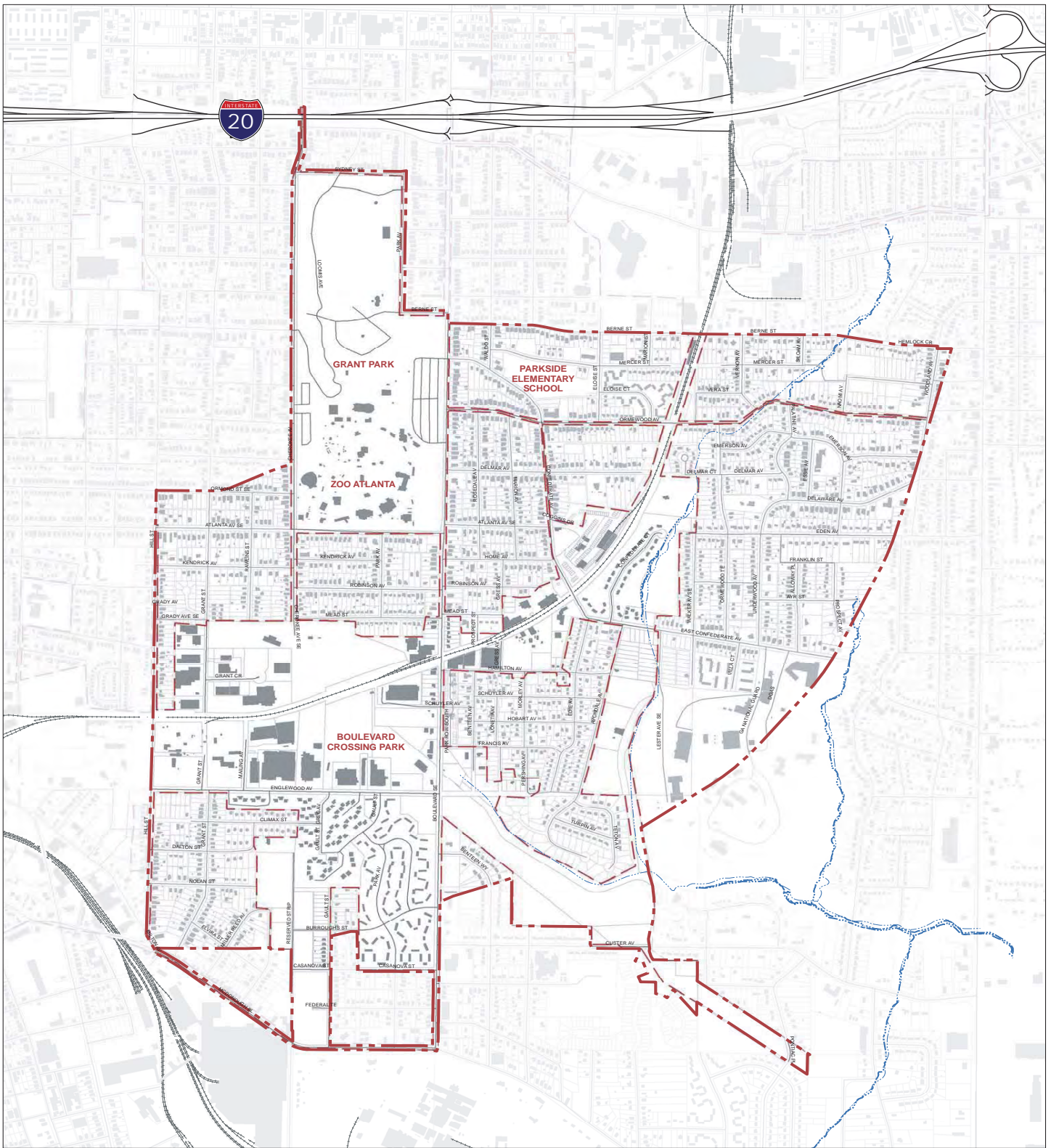


Figure 1-3 - Sub Area 3 Study Area

Subarea 3 encompasses 1,167 acres of land, 529 of which are within the Tax Allocation District. The major roadways in Subarea 3 are Boulevard, Cherokee Avenue, McDonough Boulevard, Confederate Avenue, Ormewood Avenue, Ormond Street, Englewood Avenue, Atlanta Avenue, and Hill Street.

Subarea 3 transportation analysis was based on development forecasts from the Atlanta BeltLine Market Study conducted by Robert Charles Lesser & Co. Based on this market study, the forecasted Year 2020 BeltLine redevelopment within this subarea will consist of addition of approximately 41,000 square feet of office/institutional, 62,000 square feet of specialty retail, 34,000 square feet of quality restaurant, 41,000 square feet of high turnover sit down restaurant, and 2,858 residential units. The BeltLine's path through this subarea is anticipated to be 1.3 miles long.

For the purposes of traffic analysis, the subarea is organized into two focus areas. The first Focus Area includes Boulevard and Cherokee Avenue. The second Focus Area includes McDonough Boulevard, Englewood Avenue, Atlanta Avenue, and Hill Street.

Mobility Policies

Over-arching principles for mobility and circulation developed for the subarea plan were integrated throughout this Transportation Analysis Study. These principles are in keeping with the community's vision for its transportation system, and were developed through the study's comprehensive public involvement process. The following are the goals and objectives upon which transportation improvement recommendations were based.

Circulation Goals and Objectives

- Explore opportunities to incorporate innovative strategies into community-wide transportation solutions commensurate with future needs.
 - o Provide transportation demand strategies based on existing density and the scale of planned developments that minimize single-occupancy trips, limit contribution to peak-hour congestion,

and encourage the use of alternative modes.

- o Implement state-of-the-practice traffic control strategies that are more responsive to fluctuating demand, serve multiple modes, and convey key traffic information to travelers in a dynamic framework.
- o Employ the City's existing traffic calming program's established criteria, street prioritization, public involvement, and a "suite" of traffic calming measures including bulb-outs, traffic circles, pedestrian refuges, chicanes, etc.
- Provide connectivity, continuity and redundancy among various modes of transportation.
 - o Incorporate strategies for a continuous network of pedestrian and bicycle facilities as part of planned streetscape and roadway improvements.
 - o Improve drainage systems and provide methods for monitoring water levels for preemptive notification.
 - o Ensure the community-wide accessibility to local activity centers through improving multi-modal connectivity (filling the gaps), including transit, bicycles, and pedestrians.
- Allow transportation facilities to promote seamless neighborhood boundaries, while preserving and or enhancing community distinctions and character.
 - o Provide safe and efficient pedestrian and bicycle accessibility across major roadways.
 - o Give high priority to pedestrian and bicycle safety improvements near schools, while helping local schools initiate "Safe Routes to Schools" Programs.
 - o Work with community groups and

public safety officials to promote “safe driver” educational programs, implement appropriate traffic control strategies, and conduct routine traffic enforcement.

- Ensure future usage by developing a sustainable financial structure for maintenance.
 - o Establish policies that promote improved street maintenance and provide communities a convenient method for reporting maintenance issues and learning the status of maintenance requests.

Summary of Report Contents

This report defines the existing transportation network and the anticipated impacts of the BeltLine project, including parks, transit, trails, and economic development, on the system in the future.

Section 2, Existing Roadway Facilities, describes the existing transportation system in the Boulevard Crossing Subarea. It details information on key roadways including roadway classification, geometry, traffic control composition, and vehicular traffic volumes.

Section 3, Study Methodology, describes the methodology used to determine the level of service (LOS) of key intersections.

Section 4, Existing Traffic Operations, details the results of the 2007 LOS analysis and provides information on traffic operational and safety characteristics of the roadway network in each Focus Area. This section identifies current operational deficiencies.

Section 5, Baseline Traffic Operations, details the evaluation of traffic operations at key intersections for the Build Year of 2020 and the Design Year of 2030, if the BeltLine is not constructed. This component of the analysis will provide a basis for quantifying the impacts of the BeltLine. Projected traffic volumes in this scenario account for future growth and development that would occur in the subarea other than BeltLine-specific development. This

section provides information on the trip generation and distribution analysis used to determine how anticipated future Baseline development traffic would affect the network. Section 5 also provides the LOS results with and without projects recommended to improve future year traffic operations.

Section 6, BeltLine Traffic Operations, evaluates future traffic operations at key intersections with the proposed BeltLine facilities and economic development in place for Years 2020 and 2030. The same methodology used in Section 5 was used for the BeltLine traffic operations analysis, allowing operational problems to be identified and remedies proposed.

Section 7, Conclusions and Recommendations, describes recommendations identified to make the Focus Area’s transportation network operate more efficiently and safely in future years under both Baseline and BeltLine conditions.

Appendices containing supporting documentation can be found at the end of the report.

2.0 Existing Roadway Facilities

A detailed understanding of the existing roadway network, including its operational and geometric characteristics, connectivity, and traffic patterns, is an important element of the planning process for future transportation projects. A detailed inventory and assessment of the Subarea 3 transportation system is included in the study's Existing Conditions Report. This section of the Transportation Analysis Report contains a brief overview of the subarea's roadway network as it relates to the evaluation of existing and future year traffic operations.

An important characteristic of the transportation system is the intended purpose of its major facilities. The relationship between roadway functional classification, mobility, and access is depicted in Figure 2-1. The figure shows that as access increases, mobility decreases, and vice-versa. The functional classification of the roadways in Subarea 3 are shown in Figure 2-2. Boulevard and McDonough Boulevard are classified as Minor Arterials. Confederate Avenue, Ormewood Avenue, Hill Street, Atlanta Avenue, Ormond Street, and Cherokee Avenue are classified as Collectors.

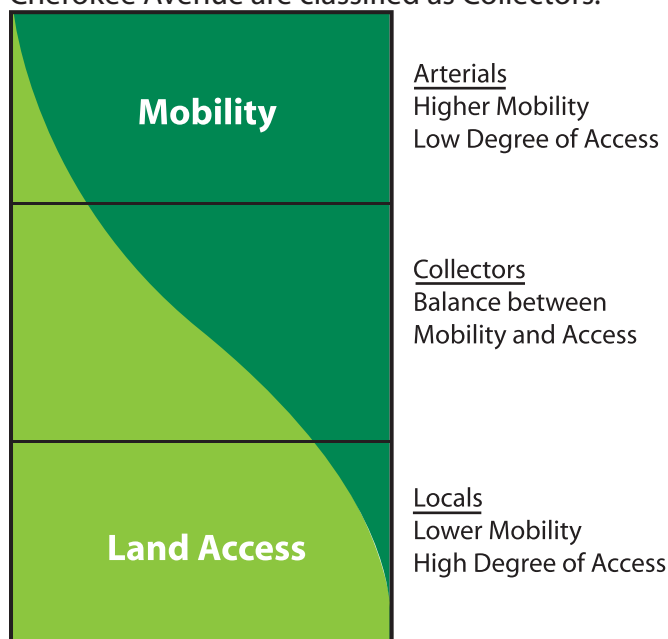


Figure 2-1 - Relationship of Functional Classification Highway Systems in Serving Traffic Mobility and Land Access. (Source: Safety Effectiveness of Roadway Design Features, Vol. 1, Access Control, FHWA, 1992)

The key facilities in Sub-Area 3 include:

Boulevard is the major north-south minor arterial that bisects Sub-Area 3. This roadway includes a four-lane cross-section along rolling terrain. The adjacent development along Boulevard consists of residential, retail, and commercial; and includes Grant Park and Zoo Atlanta. The speed limit along this roadway is 35 mph.

McDonough Boulevard runs along the southern border of Sub-Area 3 amidst a mix of residential, institutional (correctional facility), industrial, and retail developments. Between Milton Avenue and Sawtell Avenue the driveway concentration is relatively high. McDonough Boulevard is a minor arterial consisting of a blend of rolling and level terrain, with a speed limit of 35 mph.

Cherokee Avenue is another north-south collector that runs along the west side of Grant Park and Zoo Atlanta. The surrounding development is primarily residential with some retail. The posted speed limit is 30 mph.

Ormond Street is a relatively short east-west segment of roadway in Sub-Area 3, extending from Hill Street to Cherokee Avenue through a residential area. This segment of the collector is one-way with two lanes in the WB direction. The posted speed limit for Ormond Street is 25 mph.

Atlanta Avenue is an east-west collector that connects Hill Street and Boulevard, two primary north-south facilities in Sub-Area 3. Atlanta Avenue extends through a residential area. This roadway has a two-lane cross-section, serving two-way traffic. The posted speed limit for this segment is 30 mph. Curbside parking exists throughout.

Englewood Avenue is an east-west facility that connects Hill Street and Boulevard. It has a two-lane cross section that accommodates two-way traffic. The posted speed limit for this roadway segment is 25 mph. The development adjacent to the facility consists of residential, commercial, and industrial. Hill Street is a north-south collector that runs parallel to Boulevard, through exclusively residential areas. Given the residential land-use, the driveway

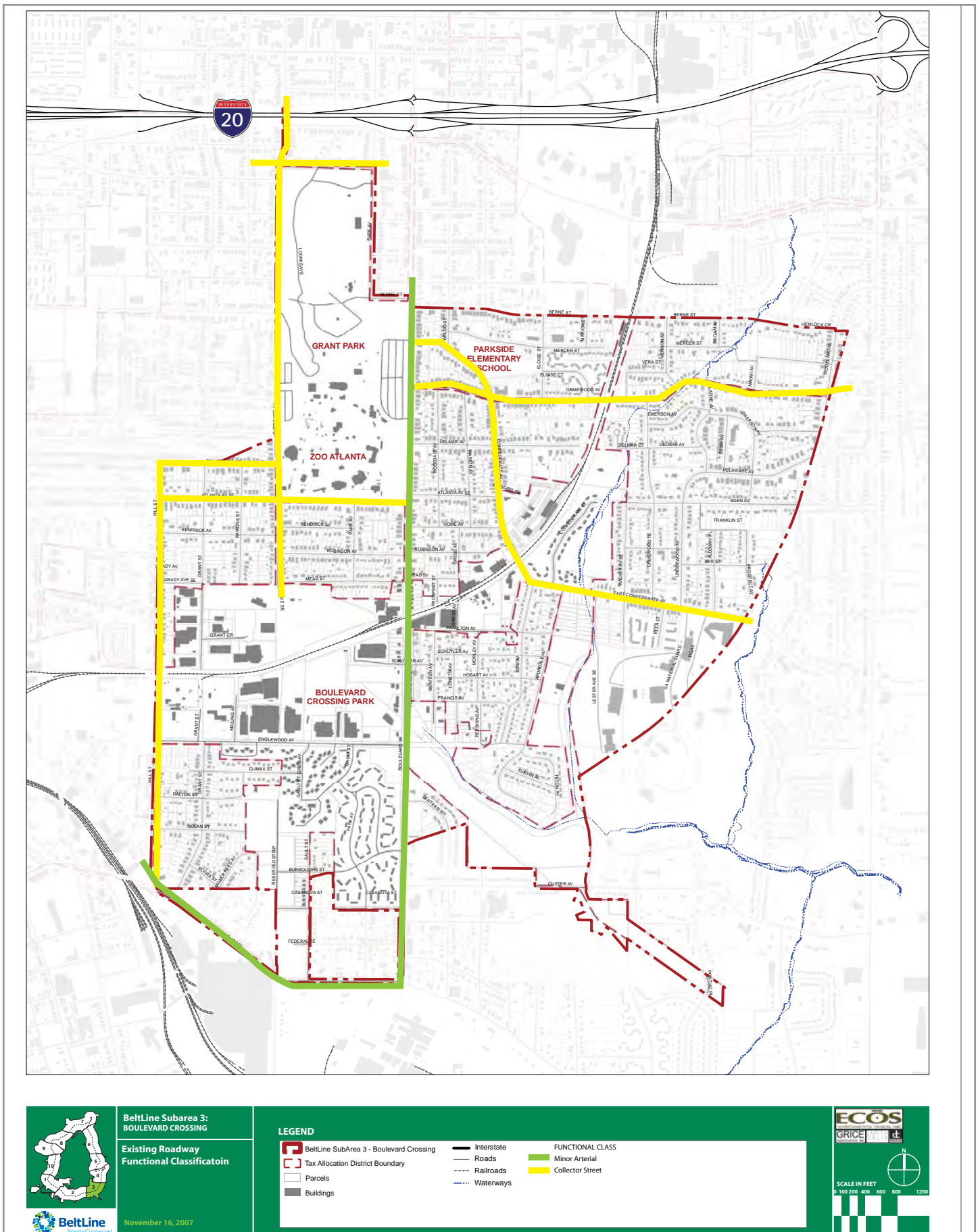


Figure 2-2 - Existing Roadway Functional Classification

concentration is relatively high throughout the corridor. The cross-section shifts from 4 lanes just north of I-20 to 3 lanes just south of I-20, and further down to a two-lane cross-section from Glenwood Avenue to Georgia Avenue. While this two-lane cross-section continues south throughout the remainder of the corridor, there is a short section between Georgia Avenue and Ormond Street, where Hill Street is one-way in the southbound direction. The speed limit along Hill Street is 30 mph.

Ormewood Avenue is an east-west collector street that runs parallel to Berne Street, through a residential neighborhood. The roadway comprises of a two lane cross-section with a speed limit of 25 mph.

Confederate Avenue is a collector street that runs eastwards from Boulevard towards the BeltLine at Edie Avenue, where it then changes to East

Confederate Avenue. The roadway runs through a residential neighborhood and provides access to Georgia National Guard. The cross-section comprises of two-lanes, and the speed limit along Confederate Avenue is 30 mph.

A summary of the geometric and operational characteristics of the key facilities in Subarea 3 can be found in Table 2-1 below.

Figure 2-3 shows Annual Average Daily Traffic (AADT) on these key facilities. AADT was estimated by applying monthly seasonal and axle factors to the 24-hour tube counts collected as part of the project. Boulevard carries the highest AADT in Subarea 3, with nearly 20,000 vpd.

Figure 2-4 shows intersection traffic control at key intersections and posted speed limits on major roadway segments.

Table 2-1. Key Facility Characteristics

Roadway	From	To	Functional Classification	AADT	No. of Lanes	Bike Lanes	Posted Speed (mph)	Truck %
McDonough Boulevard	Boulevard	Gault Street	Minor Arterial	11,813	3	N	35	15.4
McDonough Boulevard	Gault Street	Milton Avenue	Minor Arterial	11,813	4	N	35	15.4
Hill Street	Milton Avenue	Atlanta Avenue	Collector Street	3,321	2	N	30	9.6
Boulevard	McDonough Boulevard	Schuyler Avenue	Minor Arterial	10,906	4	N	35	9.5
Boulevard	Hamilton Avenue	Confederate Avenue	Minor Arterial	19,453	3	N	35	8.3
Boulevard	Confederate Avenue	I-20	Minor Arterial	19,453	4	N	35	8.3
Cherokee Avenue	I-20	Atlanta Avenue	Collector Street	3,889	2	N	30	7.9
Cherokee Avenue	Atlanta Avenue	Mead Street	Collector Street	3,889	2	N	30	3.5
Atlanta Avenue	Hill Street	Boulevard	Collector Street	Not available	2	N	30	Not available
Englewood Avenue	Hill Street	Boulevard	Collector Street	2,157	2	N	25	13.3
Ormewood Avenue	Boulevard	Woodland Avenue	Collector Street	Not available	2	N	25	Not available
Confederate Avenue	Boulevard	Edie Avenue	Collector Street	Not available	2	Y	30	Not available
East Confederate Avenue	Edie Avenue	Edge of Study Area	Collector Street	Not available	2	Y	Not available	Not available
Ormond Street	Edge of Study Area	Cherokee Avenue	Collector Street	Not available	1	N	25	Not available

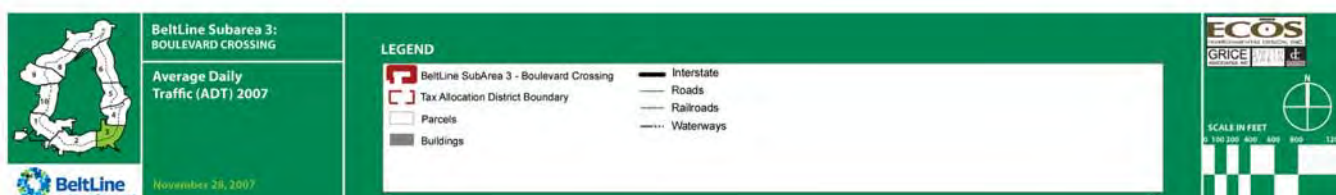
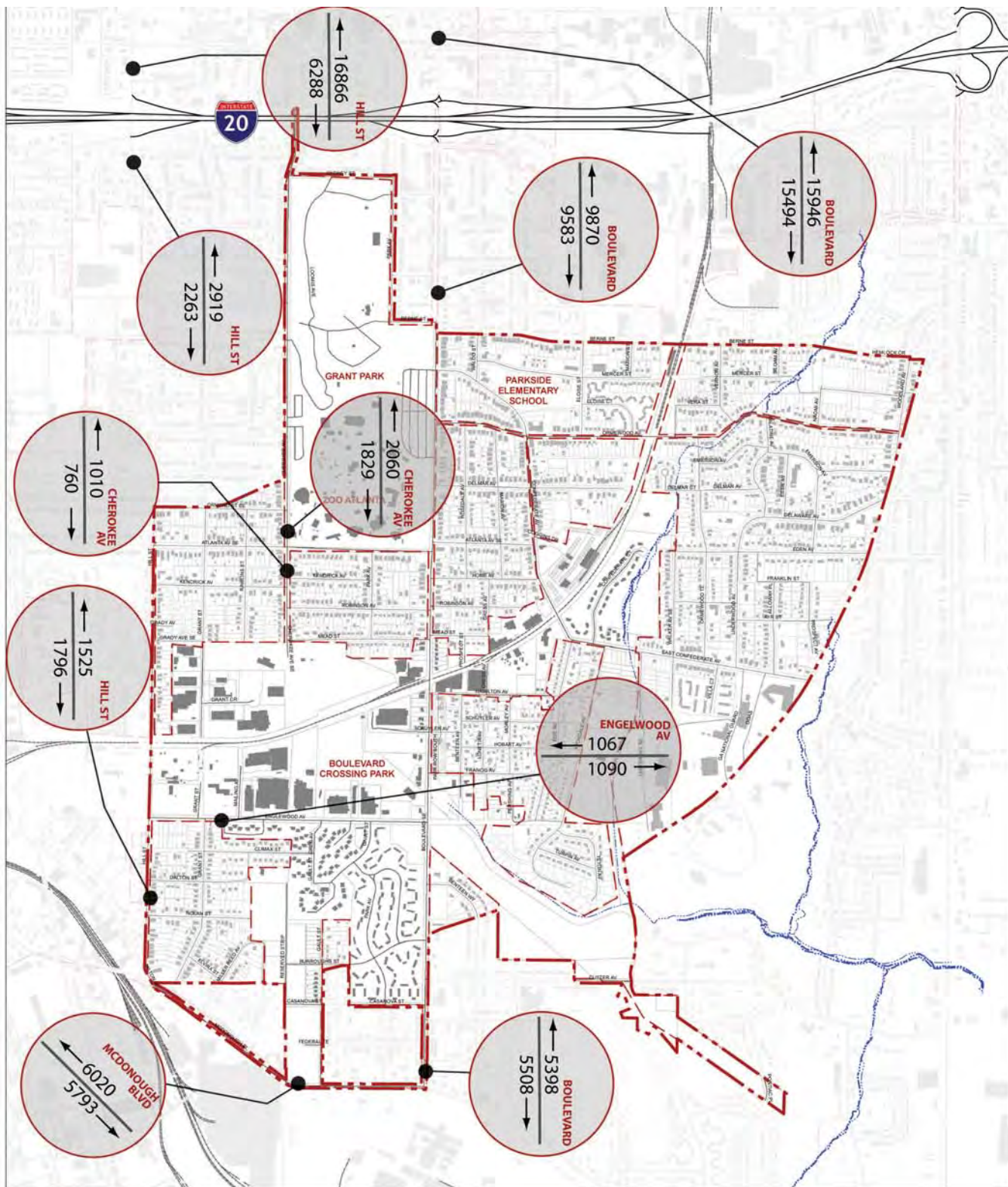


Figure 2-3 – Annual Average Daily Traffic

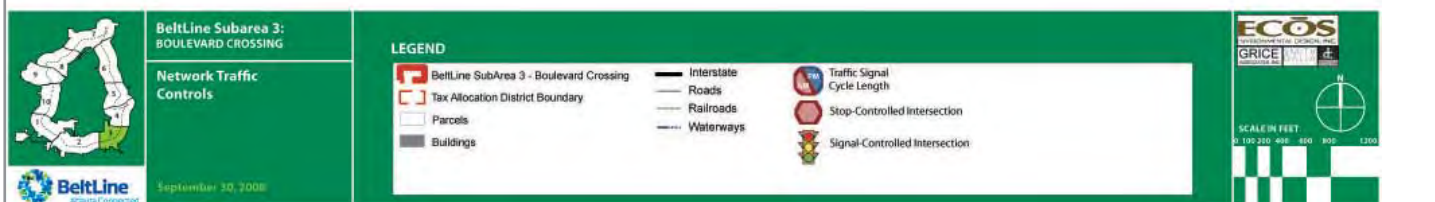
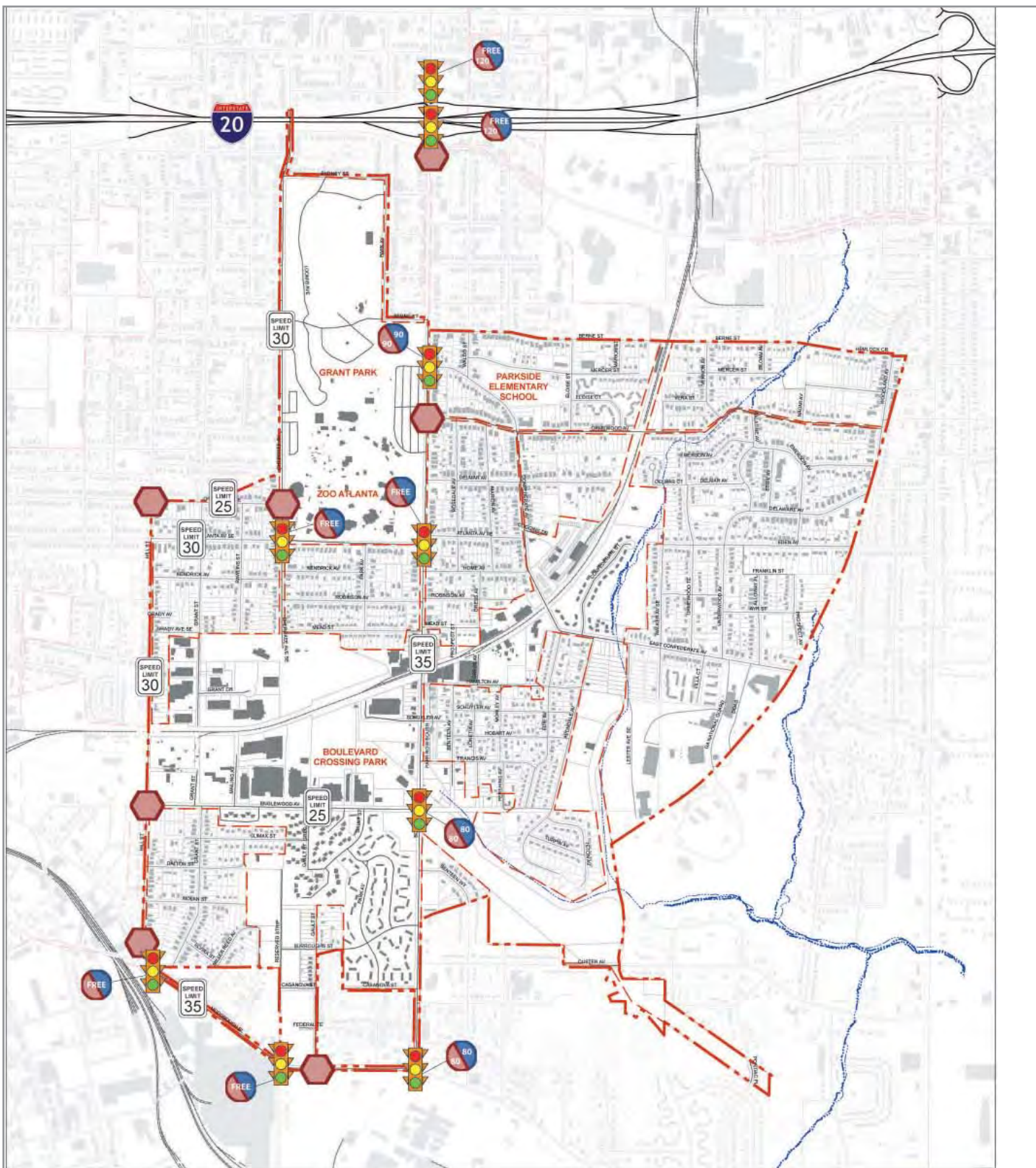


Figure 2-4 - Network Traffic Controls and Speed Limits

3.0 Study Methodology

Relevant information on the subarea was obtained from numerous data sources, including the City of Atlanta, the Georgia Department of Transportation (GDOT), the Master Planning Team, and engineering field observation, measurement, and assessment. The collected information was reviewed, summarized and analyzed to ascertain the current condition of transportation within the subarea, and any anticipated future conditions resulting from the implementation of the BeltLine. The methodologies used in these analyses are described in this section.

The transportation analysis for this study was concentrated on intersection operations since the capacity of a facility is often dictated by its intersections. Two key indicators of operational efficiency at an intersection were determined – level of service (LOS) and volume to capacity ratio (v/c). These indicators, also known as measures of effectiveness (MOEs), are important elements of the transportation planning and design processes to ensure the provision of acceptable traffic operations.

Level of service is defined in the Transportation Research Board’s (TRB’s) Highway Capacity Manual (HCM), 2000 edition, as “a qualitative measure describing operational conditions within a traffic stream, based on service measures such as speed and travel time, freedom to maneuver, traffic interruptions, comfort, and convenience.” LOS is categorized using letters A through F, with LOS A designating the best operating conditions, and LOS F signifying the worst. LOS designations are not based on safety factors.

Volume to capacity ratio (v/c) is defined as the ratio of flow rate to capacity of a facility, and is sometimes referred to as the degree of saturation. This measure ranges from 0 to 1.0 for conditions in which demand is less than the capacity of an intersection, to more than 1.0 for oversaturated conditions. In general, these two parameters are good indicators

of an intersection’s performance, but should be evaluated carefully as they are complex variables with several factors influencing them.

Capacity and level of service analyses were conducted using SYNCHRO traffic analysis software and the companion SimTraffic traffic simulation software. SYNCHRO implements the HCM’s analytical procedures. SimTraffic demonstrates potential impacts of congestion and spillback on network traffic operations, and provides validation for testing of operational improvements. These features were useful in assessing the performance of existing and future intersection configurations, as well as improvement alternatives recommended for this project.

Level of service and capacity for signalized and unsignalized intersections are determined differently, and are described below.

Signalized intersections

For signalized intersections, LOS is a factor of a combination of traffic, geometric, and traffic signal conditions, and is a measure of the average control delay per vehicle. For signalized intersections, LOS is obtained at the approach and lane group levels, and is then aggregated to the intersection level. Table 3-1 shows the LOS criteria for signalized intersections.

Table 3-1. LOS Criteria for Signalized Intersections

LOS	AVERAGE STOPPED DELAY PER VEHICLE (SEC)
A	≤ 10
B	> 10 and ≤ 20
C	> 20 and ≤ 35
D	> 35 and ≤ 55
E	> 55 and ≤ 80
F	> 80

Source: Highway Capacity Manual, 2000

When the intersection as a whole performs at an acceptable level of service, but individual lane groups or approaches do not, then changes in signal timing splits should be considered to improve operations for disadvantaged movements.

A v/c ratio of less than 1.0 indicates that the travel demand is less than the intersection's capacity. When there is more demand than capacity, the v/c ratio is greater than 1.0, which corresponds to oversaturated, congested conditions. In this condition, there is more approach demand than the intersection can handle, resulting in queues at the intersection approach(es). It is possible for delay to decrease with increasing capacity if it occurs in lane groups with excess capacity.

It is also possible to have unacceptable LOS with v/c ratios of less than 1.0. Motorists in a particular lane group can experience unacceptable delays when the v/c ratio for the intersection as a whole is less than 1.0. This is likely caused by inefficiencies in the traffic signal timing plan being used, versus any specific traffic or geometric deficiencies.

Unsignalized intersections

Methodologies for analyzing unsignalized intersections depend on the nature of the traffic control – whether the intersection is two-way stop-controlled (TWSC), or all-way stop-controlled (AWSC). For TWSC intersections, specific conditions such as channelization, number and use of lanes, and the approach conditions of the minor streets are considered. Capacity cannot be explicitly calculated as it can for signalized intersections, as it is based on factors such as the distribution of gaps in the major street traffic stream, driver judgment in selecting gaps, and the follow-up time required by each driver in a queue. For AWSC intersections, it is also important to include the manner in which right of way is alternated between approaches and the departure headways between conflicting movements in the analysis.

For unsignalized intersections, LOS can only be generated at the approach level, and is a measure of the computed control delay. Traffic and geometric conditions are key factors in determining delay at these intersections. Table 3-2 shows the LOS criteria for unsignalized intersections.

LOS criteria for signalized and unsignalized intersection types are different because driver perception typically varies between them. A driver expects

heavier traffic volumes at signalized intersections, and therefore may expect and thus tolerate longer delays. Conversely, an intersection is perceived to be unsignalized because it has lower volumes and shorter delays. Thus a driver's idea of an acceptable delay is somewhat shorter than the same time spent delayed at a signalized intersection.

Table 3-2 - LOS Criteria for Unsignalized Intersections

LOS	AVERAGE STOPPED DELAY PER VEHICLE (SEC)
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Source: Highway Capacity Manual, 2000

Scenarios to be Analyzed

In order to evaluate existing traffic operations, data from the sources listed previously were supplemented by traffic volume counts collected in September of 2007. These counts consisted of both turning movement counts (TMCs) collected at key intersections, as well as 24-hour approach and classification counts collected along major facilities. Using the intersection TMCs, detailed capacity analyses were performed for the AM peak period from 7:00 a.m. – 9:00 a.m., and the PM peak period from 4:00 p.m. to 6:00 p.m. The results of the existing conditions capacity and LOS analysis can be found in Section 4.0.

Once the existing conditions analyses were completed, they were used as a basis to project future traffic operations under Baseline and BeltLine scenarios. This allowed for an accurate assessment of the impacts of future development on the system. For the purpose of future conditions analysis, future traffic volumes were projected using the following equation:

$$V_f = V_c \times (1 + r)^n$$

Where:

V_f - Future year base traffic volume

- V_c - Existing year (2007) traffic volume obtained from field traffic counts
- r - Average annual growth rate
- n - Future year - existing year (2007). For example, $n = 13$ for the year 2020

For this project, it was determined that an average annual growth rate of 2.2% for Baseline scenarios and 2.0% for BeltLine scenarios would be used to account for normal background traffic growth and migration into and out of the subarea over time. These growth rates are deemed to be conservative values, and are slightly higher than the growth rate forecast by the regional travel demand model for this area.

Level of service and capacity analysis methodologies used for existing conditions were repeated for projected future conditions under the following scenarios:

Baseline Year 2020 - Projected future traffic operations in Year 2020 based on applying growth rates to existing volumes and adding trips from development projects already underway or planned, which are consistent with the existing 15-year land use plan. These conditions were analyzed on the roadway network which includes transportation improvement projects already planned and programmed for implementation by Year 2020.

Baseline Year 2020 with projects - Projected future traffic operations in Year 2020 as described for Baseline Year 2020 above, but with transportation improvements in place which were recommended to mitigate operational deficiencies identified in the previous analysis.

Baseline Year 2030 - Projected future traffic operations in Year 2030 based on applying growth rates to Baseline 2020 volumes. These conditions were analyzed on the roadway network which includes transportation improvement projects already planned and programmed for implementation by Year 2030.

Baseline Year 2030 with projects - Projected future traffic operations in Year 2030 as described for

Baseline Year 2030 above, but with transportation improvements in place which were recommended to mitigate operational deficiencies identified in the previous analysis.

BeltLine Year 2020 - Projected future traffic operations in Year 2020 based on applying growth rates to existing volumes and adding trips from anticipated BeltLine-specific land uses in place, and with all development that is projected for build-out by that time. These conditions were analyzed on the roadway network which includes transportation improvement projects already planned and programmed for implementation by Year 2020.

BeltLine Year 2020 with projects - Projected future traffic operations in Year 2020 as described for Beltline Year 2020 above, but with transportation improvements in place which were recommended to mitigate operational deficiencies identified in the previous analysis resulting from BeltLine traffic.

BeltLine Year 2030 - Projected future traffic operations in Year 2030 based on applying growth rates to BeltLine Year 2020 volumes. These conditions were analyzed on the roadway network which includes transportation improvement projects already planned and programmed for implementation by Year 2030.

BeltLine Year 2030 with projects - Projected future traffic operations in Year 2030 as described for Beltline Year 2030 above, but with transportation improvements in place which were recommended to mitigate operational deficiencies identified in the previous analysis resulting from BeltLine traffic.

The results of the level of service and capacity analyses for each of these scenarios were reviewed to evaluate the traffic conditions at each of the study intersections. The results were categorized by Focus Area. The findings and any scenario-specific recommendation are discussed in each section, and are summarized in Section 7, Conclusion and Recommendations.

4.0 Existing Traffic Operations

The primary objective of this study is to evaluate the impact of BeltLine-generated traffic on nearby roadways and intersections in identified Focus Areas within the subarea. For the purposes of traffic analysis, Subarea 3 is organized into two Focus Areas. Focus Area One includes Boulevard and Cherokee Avenue. Focus Area Two includes McDonough Boulevard (except for its intersection with Boulevard), Englewood Avenue, Atlanta Avenue, and Hill Street.

Sixteen key intersections (study intersections) were identified for analysis and potential improvements. They include:

Focus Area One

Signalized intersections

- Boulevard at I-20 Westbound Ramps
- Boulevard at I-20 Eastbound Ramps
- Boulevard at Confederate Avenue
- Boulevard at Atlanta Avenue
- Boulevard at Englewood Avenue
- Boulevard at McDonough Boulevard
- Cherokee Avenue at Atlanta Avenue

Unsignalized intersections

- Boulevard at Glenwood Avenue
- Boulevard at Ormewood Avenue
- Cherokee Avenue at Ormond Street

Focus Area Two

Signalized intersections

- McDonough Boulevard at Sawtell Street
- McDonough Boulevard at Milton Street

Unsignalized intersections

- McDonough Boulevard at Gault Street
- Hill Street at Milton Avenue
- Hill Street at Englewood Avenue
- Hill Street at Ormond Street

The location of the study intersections, and their existing lane geometries can be found in Figure

4-1. The existing conditions analysis is based on turning movement counts collected in 2007. These counts are shown in Figure 4-2.

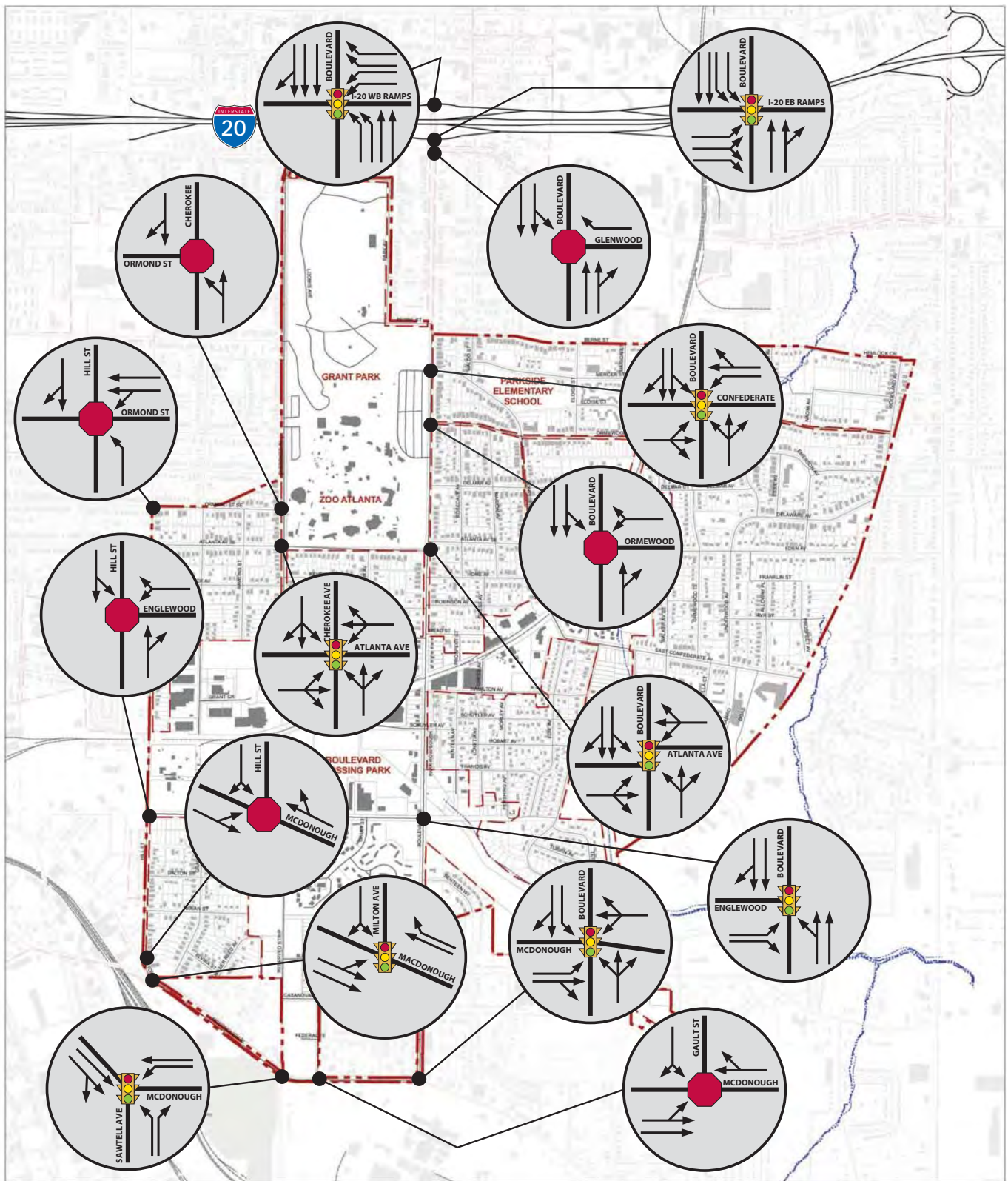
Intersection level of service analysis results for Subarea 3 are shown in Figure 4-3. Results indicate that the majority of the intersections are currently operating at an acceptable level of service.

Focus Area One

Focus Area One results are summarized in Table 4-1. The intersections of Boulevard with the I-20 ramps perform well overall, with the exception of the EB ramp during the AM peak. The two ramp intersections are operated by the same traffic controller, therefore their v/c ratios are the same. While the v/c ratio approaches 1.0 for the morning peak period, the delay at the EB ramp is greater, with LOS D. NB through movements and EB turning movements from this off ramp are high. There is also no right turn on red from the EB off ramp, which also contributes to the overall delay. The EB off-ramp signal timing is also likely configured to clear exiting ramp traffic to ensure that traffic does not spill back onto the interstate. On the other hand, the WB off ramp is much longer and provides much greater storage for traffic stopped at the traffic signal. There is also slightly less overall volume at this intersection.

The intersection of Boulevard at Atlanta Avenue experiences significant delays in the morning peak period, though it performs well in the afternoon. This intersection has a LOS F and a v/c ratio of 1.6 in the AM peak, indicating that operational deficiencies are critical. With this condition, small changes in demand can significantly increase delays. The full range of operational and design improvements should be considered at this location. Because this intersection is made up of two off-set T- intersections, there are delays experienced from both EB and WB approaches as the intersection operates with a split phase timing plan. With split phase operation, there are longer cycle lengths and greater delay on an approach as green time must be allocated to the conflicting approach.

The intersection of Boulevard and McDonough also operates poorly during the morning peak pe-



**BeltLine Subarea 3:
BOULEVARD CROSSING**

Existing 2008 Lane Configuration

SEPT 30, 2008

LEGEND

- BeltLine SubArea 3 - Boulevard Crossing
- Tax Allocation District Boundary
- Parcels
- Buildings
- Interstate
- Roads
- Railroads
- Waterways
- Signalized Intersection
- Unsignalized Intersection

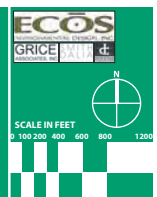


Figure 4-1 - Existing Lane Geometries

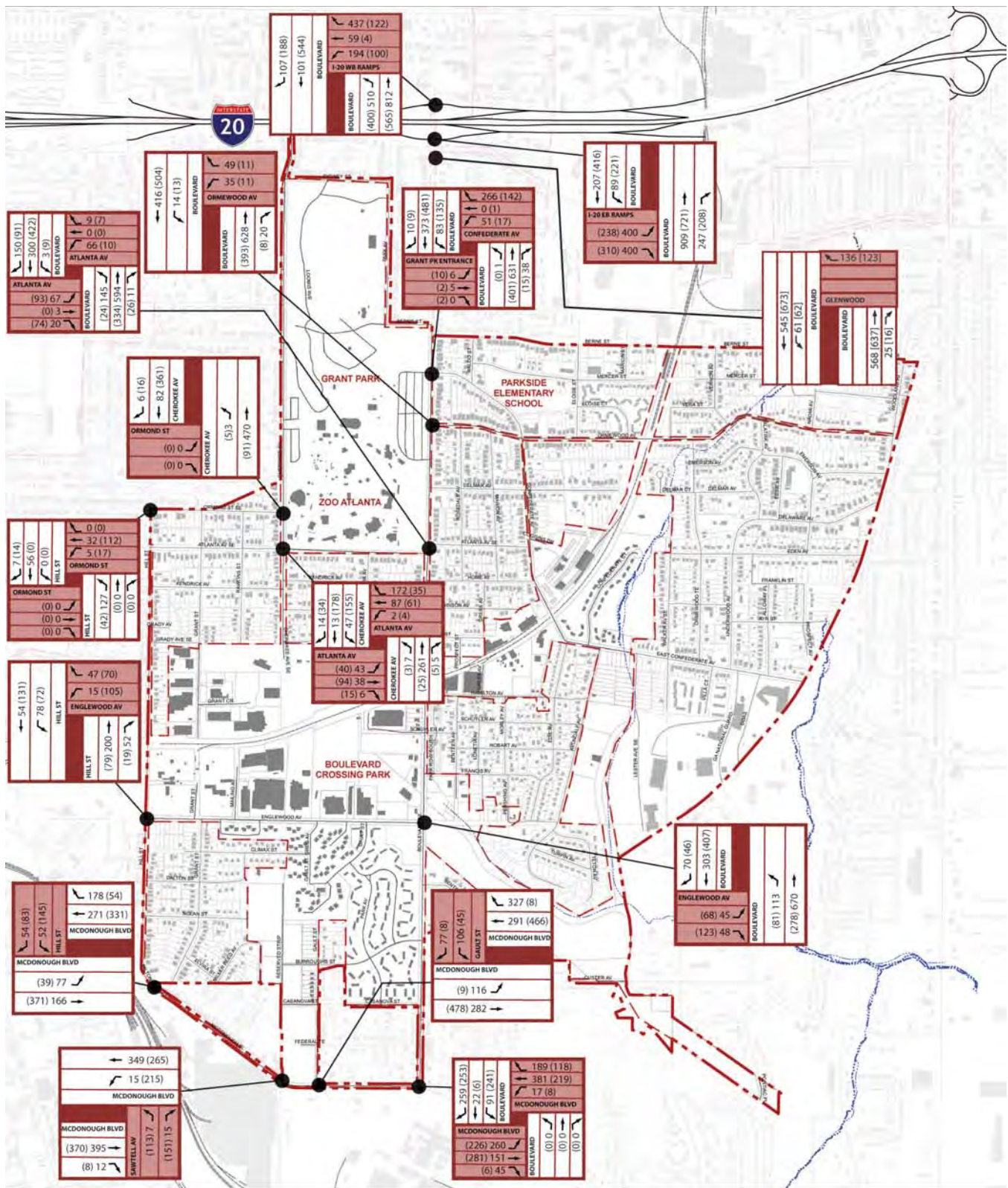


Figure 4-2 - Existing Turning Movement Counts

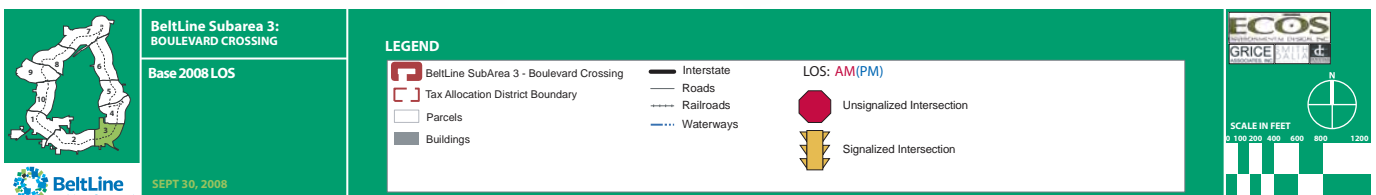
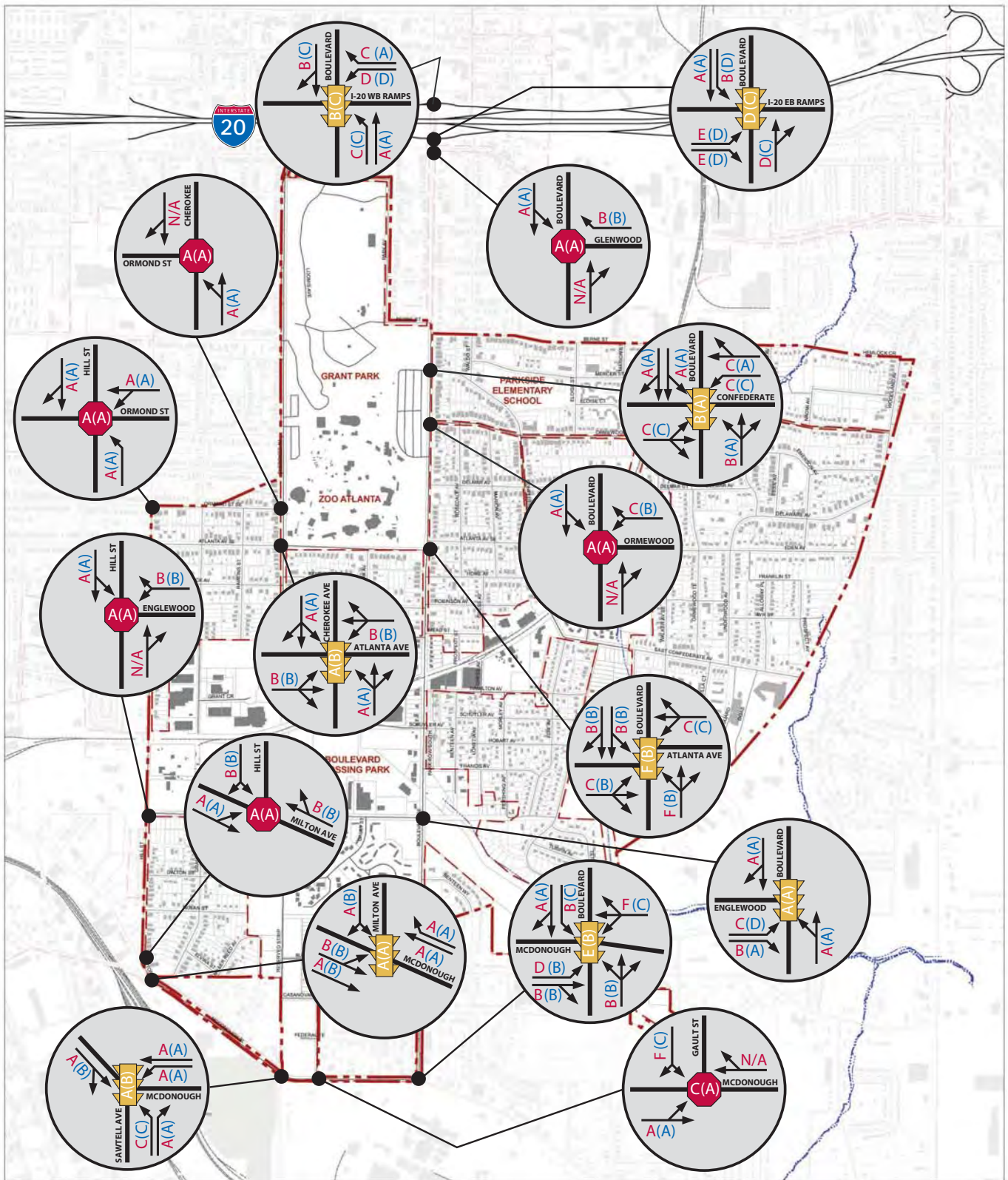


Figure 4-3 - Existing Level of Service (LOS)

riod. There are appreciable volumes EB and WB on McDonough at this intersection, with the WB approach being the heaviest. This approach also has the greatest delay as volumes conflict with opposing EB left turners. The WB approach has a LOS of F. The corresponding high v/c ratio indicates that operational and design changes should be considered at this location.

Table 4-1. Focus Area One - Existing Intersection Operations

INTERSECTION	AM Peak		PM Peak	
	LOS	v/c	LOS	v/c
Boulevard at Interstate 20 WB Ramp	B	0.91	C	0.88
Boulevard at Interstate 20 Eastbound Ramp	D	0.91	C	0.68
Boulevard at Glenwood				
WB Approach (Stop)	B	N/A	B	N/A
SB Approach (Free)	A	N/A	A	N/A
Boulevard at Confederate Avenue	B		A	
Boulevard at Ormewood Avenue				
WB Left (Stop)	C	N/A	B	N/A
SB Approach (Free)	A	N/A	A	N/A
Boulevard at Atlanta Avenue	F	1.60	B	0.52
Boulevard at Englewood Avenue	A	0.35	A	0.45
Boulevard at McDonough Boulevard	E	1.24	B	0.67
Cherokee Avenue at Ormond Street				
NB Approach (Free)	A	N/A	A	N/A
Cherokee Avenue at Atlanta Avenue	A	0.52	A	0.38

Focus Area Two

Focus Area Two results are summarized in Table 4-2. Focus Area Two intersections perform very well, with LOS of A and B for most intersections during both peak periods. The exception is the intersection of McDonough Boulevard at Gault Street. This unsignalized T-intersection has significant delays in the morning for SB vehicles attempting to enter McDonough Boulevard. There are relatively heavy volumes in both the EB and WB direction

on McDonough Boulevard. These volumes make it difficult for vehicles exiting Gault Street to find an adequate gap. The spill-back from queues from the congested conditions at the Boulevard at McDonough Boulevard intersection may also make it difficult for left-turning vehicles to exit from Gault Street. This intersection experiences lesser delays in the PM peak, with LOS C in that period.

As a whole, the morning peak period appears to be the most problematic for this subarea. These operational deficiencies, however, are limited to only a few locations.

Table 4-2. Focus Area Two - Existing Intersection Operations

INTERSECTION	AM Peak		PM Peak	
	LOS	v/c	LOS	v/c
McDonough Boulevard at Gault Street				
EB Approach (Free)	A	N/A	A	N/A
SB Left (Stop)	F	N/A	C	N/A
McDonough Boulevard at Sawtell Avenue	A		B	
McDonough Boulevard at Milton Avenue	A		A	
Milton Avenue at Hill Street				
NB Approach (Yield)	B	N/A	B	N/A
SB Approach (Stop)	B	N/A	B	N/A
SE Left (Free)	A	N/A	A	N/A
Hill Street at Englewood Avenue				
WB Left (Stop)	B	N/A	B	N/A
SB Approach (Free)	A	N/A	A	N/A
Hill Street at Ormond Street				
WB Approach (Stop)	A	N/A	A	N/A
NB Approach (Stop)	A	N/A	A	N/A
SB Approach (Stop)	A	N/A	A	N/A

5.0 Baseline Traffic Operations

Just as it is important to evaluate existing traffic operations, future traffic conditions must also be analyzed to determine how the transportation system would perform in the absence of BeltLine redevelopment. This section of the report details the findings from Baseline traffic operations analysis. This analysis was conducted by projecting existing volumes to future years and adding traffic from specific ongoing new developments, and with planned and any programmed transportation improvement projects in place.

5.1 Planned Road Improvements

There are no capacity improvement projects in the ARC's Envision6 Regional Transportation Plan and FY 2008-2013 Transportation Improvement Program in this subarea. Therefore, Baseline traffic operations were analyzed on a model of the transportation network as it exists today.

5.2 Current Trends Development

Redevelopment Projects Underway

The Baseline traffic operations analysis is based on the 15-year land use plan, and associated development projects which are being planned or are already underway. The developments incorporated in this scenario are those significant development projects which are not a part of BeltLine redevelopment. Currently there are seven significant development projects in Subarea 3 which will affect future year traffic operations. These projects are currently in the permitting or rezoning phase. Any additional development that may occur in the subarea by years 2020 and 2030, are considered to be accounted for in the background traffic growth projections. The locations of these developments are shown on Figure 5-1, and are described below:

Development 1 - Grant Park Townhomes – This development will be located on a 3.85 acre site at 1174 Avondale Avenue, and will be bordered by

Avondale Avenue on the east, Pershing Avenue on the south, and Lester Avenue on the west. It will consist of 57 three-story townhomes. There will be a total of 114 parking spaces provided.

Development 2 - Grant Park Private Greenspace - Complementing the new Grant Park Townhomes is a greenspace site to be located at 1104 Avondale Avenue. Directly adjacent to the residential development on its south border, this site will be bordered by E. Confederate Avenue on the north. The private park will occupy an area of 7.76 acres.

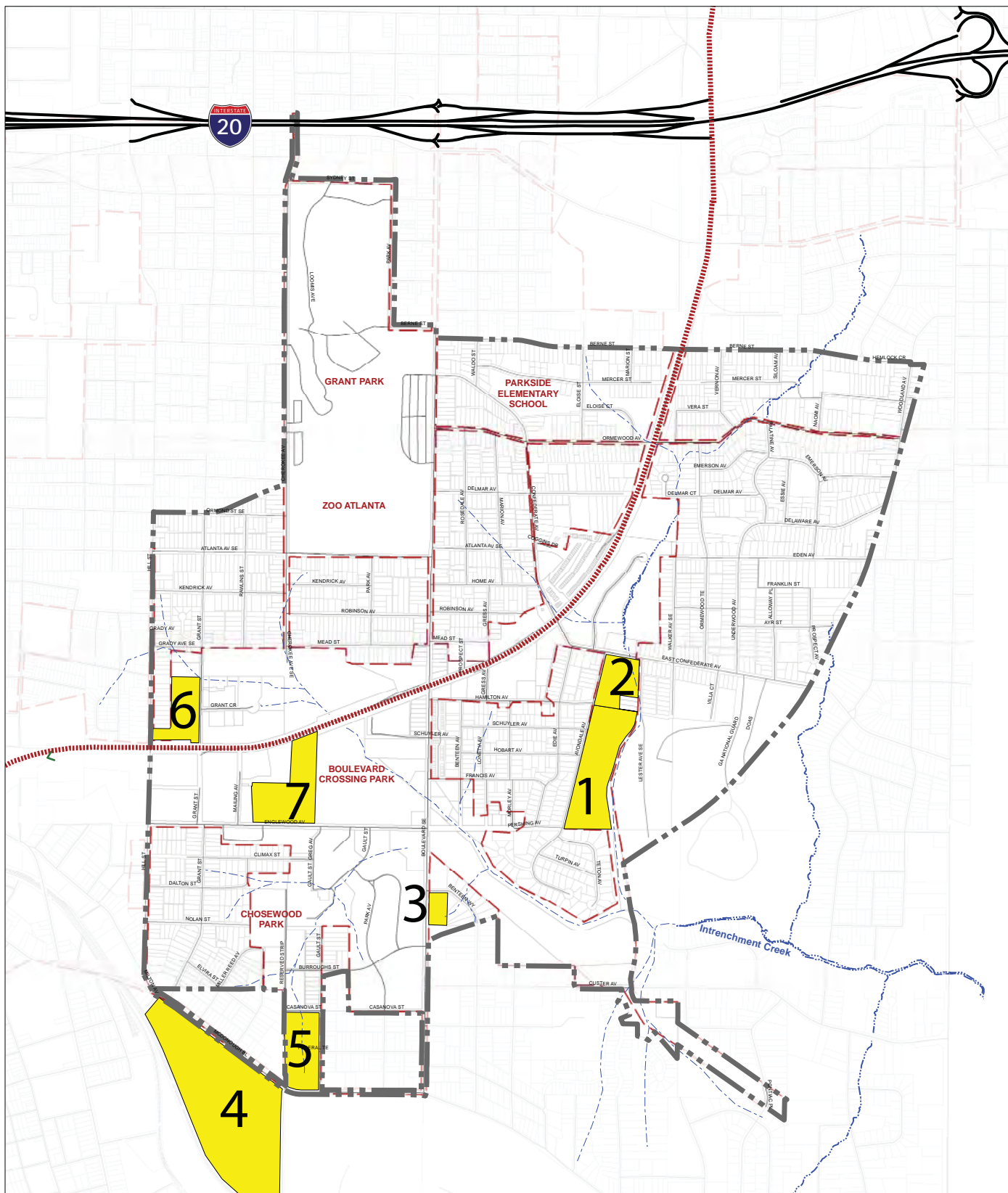
Development 3 - Bauhaus Lofts - The Bauhaus Lofts are planned to be located at 1316 Boulevard. These lofts will occupy 1.6 acres of land that is currently a vacant lot with no existing structures. They will consist of 26 three-story lofts, each approximately 2,112 sq. ft. This development is bordered by Boulevard on the west and Benteen Avenue on the north.

Development 4 - The former GM / Lakewood site – This site will be the home of a future mixed use development residing on 39.7 acres. The property is located at the southwestern boundary of the subarea, and is bordered by McDonough Boulevard to the north and Sawtell Avenue to the east. Plans for this redevelopment project include 1,131 residential units. The residences will consist of:

- 610 multi-family rental residences
- 210 multi-family residences
- 72 stacked townhomes
- 195 townhomes
- 44 "Big House" townhomes

This project will also contain 25,000 sq. ft. of commercial properties. There are a total of 970 parking spaces planned to serve both residential and commercial users.

Development 5 - 438-472 McDonough Boulevard and 459-1395 Gault Street - This redeveloped mixed use site is bordered to the north by Casanova Street, by McDonough Boulevard to the south, Gault Street to the east, and the proposed Sawtell Avenue Extension to the west. (This street configuration conforms to improvements proposed in the Chosewood Park Master Plan.) The residential



**BeltLine Subarea 3:
BOULEVARD CROSSING**

Baseline Development

LEGEND

- Boulevard Crossing
- Tax Allocation District
- Parcels
- BeltLine Centerline
- Interstate
- Roads
- Roadways
- Waterways
- Drainage Way
- Projects in Permitting Process

ECOS
GRICE

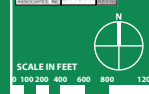


Figure 5-1 - Baseline Development

make-up of this 7.72 acre development will include 51 multi-family condominium units and 65 townhomes. There will also be 6,000 sq. ft. of commercial space located on this site. A total of 221 parking spaces will be provided for residential and commercial use.

Development 6 - 1035-1059 Grant Street - There are plans to redevelop the lots at 1035-1059 Grant Street as a new mixed-use site. Plans for this property include 395 residential units and 26,700 sq. ft. of commercial space. There will be 652 parking spaces for this development. The site is bordered by Grant Street on the east and Hill Street on the west.

Development 7 - Cityview at Englewood - This property, located on Englewood Avenue between Boulevard and Hill Street, is being planned as a mixed-use development containing 660 residential units and 30,000 sq. ft. of commercial space. Cityview at Englewood will reside on 10.32 acres.

Based on the information available on these development projects, a total of 562 residential units on sites with one to four story structures, and 1,875 residential units on sites with five to nine story structures are planned for this subarea in coming years. The residential development will be accompanied by a total of approximately 88,000 sq. ft. of commercial development.

Existing 15-Year Land Use Plan

The existing Land Use Plan for Subarea 3 is depicted on the map in Figure 5-2. The developments included in the Baseline analysis are consistent with this plan.

5.3 Year 2020 Traffic Operations

The 16 study intersections in the subarea were considered the areas of principal concern because they are the locations of highest traffic conflict and delay. Since there are no capacity improvement projects planned for this subarea, Baseline Year 2020 traffic conditions were analyzed with the same roadway and intersection geometry used for the existing conditions analysis. In this scenario, however, development-specific trips were added to the traffic

volumes resulting from normal background traffic growth. The analysis was conducted with the assumption that the projects detailed in Section 5.2 would be fully built out and occupied by year 2020. Baseline traffic volumes are thus:

$$V_{\text{Baseline f}} = V_{2020} + V_{\text{Site, Baseline Proposed}}$$

Where:

$V_{\text{Baseline f}}$ = Traffic volumes of 2020 forecasted conditions with Baseline development projects

V_{2020} = Traffic volumes of 2020 forecasted conditions without Baseline development projects

$V_{\text{Site, Baseline Proposed}}$ = Site-generated traffic volume from the proposed Baseline development projects

Thus,

$$V_{\text{Baseline 2020}} = V_{2007} \times (1+0.022)^{13} + V_{\text{Site, Baseline Proposed}}$$

Trip Generation

Determining the site generated traffic which is considered to be contributed by new development was a major element of the analysis process. Detailed trip generation procedures were used to compute traffic generated from the proposed developments. The ITE Trip Generation Manual, 7th edition, was used to develop entering and exiting trips from the planned developments during AM and PM peak periods based on anticipated land use. Since the proposed projects are primarily mixed-use development, midday trips are perceived to be minimal compared with AM and PM peak periods, and were not included for capacity analysis purposes.

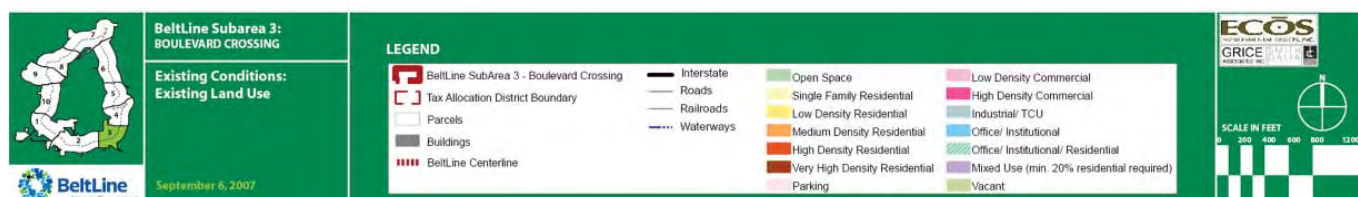
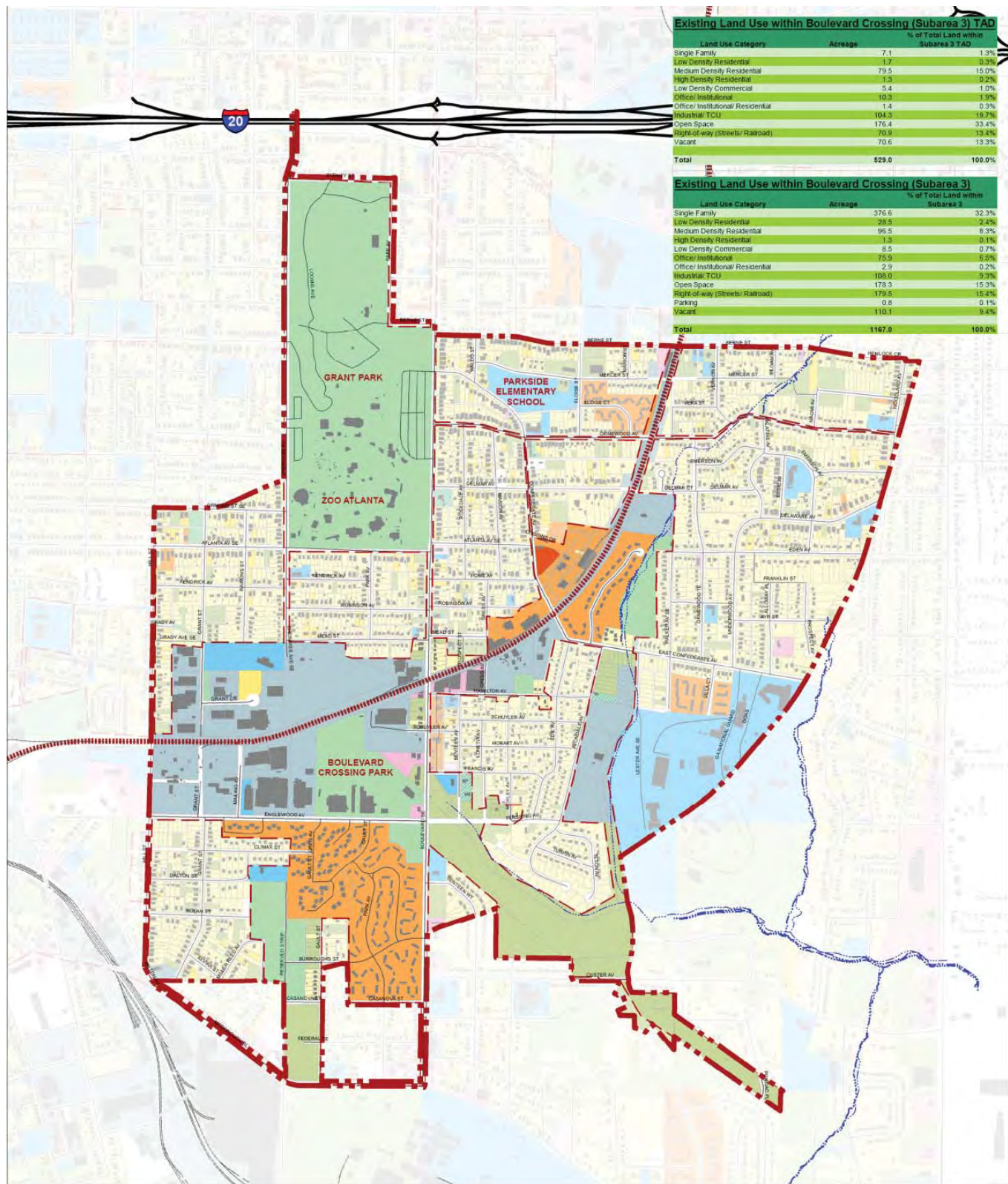


Figure 5-2 - Existing 15-year Land Use Map

The total trips generated by the seven development projects analyzed can be found in Table 5-1. During the trip generation process, scientific analysis and engineering judgment were required for derivation of the net trips generated, considering such factors as internal capture, pass-by capture, and transit trip reduction, all of which are further described below.

Internal Capture — For multi-use developments, once the total build out of proposed land use occurs, there will be interaction among the uses within the development. Internal capture is accounted for by reducing the expected number of trips by an internal capture rate, i.e., a percentage, which reflects expected multi-use trip-making among different types of land uses which are in close proximity. Internal capture rate depends on the type and quantity of land uses. The standard procedure for calculating internal capture rate established in the ITE Trip Generation Manual was followed in this study. The internal capture rate used for these calculations was a conservative 5%. Internal capture rates for the Baseline Year 2020 development land uses are described in Table 5-2.

Transit Reduction — Transit reduction accounts for the number of vehicle trips which are removed because of the use of transit as an alternative. For the purpose of the Baseline traffic operations analysis, no changes in transit service were anticipated. Therefore, no transit reduction was used in the determination of the trips generated by the planned development projects.

Pass-by Trips — Pass-by trips account for those motorists already travelling on the network adjacent to the new development sites, who choose to visit the site enroute to their final destination. These trips are deducted from the calculation of new trips generated by the site since they are already accounted for in background traffic volumes. Pass-by trips were calculated for commercial land uses. A pass-by reduction rate of 34% was used for this analysis. Table 5-3 provides a summary of net trips generated for the planned development projects given the transit reduction and pass-by capture reductions discussed previously.

Trip Distribution

Once site generated trips were determined, the next step involved distribution of those trips to appropriate geographic directions and logical connecting roadways. Trip distribution is defined as the process of estimating movement of trips between zones. This methodology was used to produce the traffic volumes on roadways, and especially at study intersections, by site-generated entering and exiting trips. Traffic counts collected for the existing conditions analysis, combined with field observations, provided the basis for the overall directional distribution of traffic approaching and departing the project sites.

The adjacent roadways that have a direct bearing on the accessibility of the Baseline development projects have been identified earlier in this section under 5.2 Current Trends Development. Baseline developments trips from these adjacent roadways were then distributed to Hill Street, Boulevard, McDonough Boulevard, and Cherokee Avenue based on an analytical evaluation of the location of the new sites, Year 2007 TMCs, and AM and PM traffic patterns. The majority of site-generated traffic is still expected to use Boulevard as its primary means of traveling into and out of the area, and between the new mixed use properties within the subarea, in spite of the increasingly congested conditions forecast. AM and PM Baseline volume distributions are shown in Figure 5-3.

Given the total site generated traffic and the directional distribution by approach, the next step in the process was to assign the traffic destined to and from the proposed developments to the most likely travel paths, especially to the study intersections as additional turning movement volumes. This step was performed by investigating a number of alternative travel patterns, as well as the proportion of different lane group volumes. These Baseline development-generated turning movement volumes are shown in Figure 5-4 for the AM peak, and Figure 5-5 for the PM peak.

These volumes were then added to the forecasted 2020 turning movement volumes as projected based on a conservative 2.2% annual growth rate. The total AM and PM peak traffic volumes at the 16

Table 5-1. Summary of Baseline Trips Generated

Land Use	Amount	Unit	AM Peak of Adjacent Street			PM Peak of Adjacent Street		
			Total Trips	Entering Trips	Exiting Trips	Total Trips	Entering Trips	Exiting Trips
Residential								
Residential 1-4 (LDR)	562	Dwelling Unit	377	94	282	438	254	184
Mixed Use 1-4 (LMU)								
Residential 5-9 (MDR)	1,875	Dwelling Unit	563	174	388	731	424	307
Mixed Use 5-9 (MMU)								
Subtotal	2,437	Dwelling Unit	939	269	671	1,170	678	491
Retail								
Office/Institutional	29	1,000 Sq Ft GLA	45	40	5	43	7	36
High Turnover Rest.	14	1,000 Sq Ft GLA	161	84	77	153	93	60
Quality Restaurant	33	1,000 Sq Ft GLA	185	152	33	300	186	114
Specialty Retail	11	1,000 Sq Ft GLA	78	37	41	57	32	25
Subtotal	88	1,000 Sq Ft GLA	470	313	157	554	319	235
Gross Total			1,409	581	827	1,723	997	726

Table 5-2. Summary of Baseline Internal Capture Reductions

Land Use	Amount	Unit	Trip Type	AM Peak of Adjacent Street			PM Peak of Adjacent Street		
				Total Trips	Entering Trips	Exiting Trips	Total Trips	Entering Trips	Exiting Trips
Residential	2,437	Dwelling Unit	Gross Trips	939	269	671	1,170	678	491
			Internal Capture	47	13	34	58	34	25
			Net Trips	892	255	637	1,111	644	467
Retail	88	1,000 Sq Ft GLA	Gross Trips	470	313	157	554	319	235
			Internal Capture	23	16	8	28	16	12
			Net Trips	446	297	149	526	303	223
			Total Net Trips	1,338	552	786	1,637	947	690

Table 5-3. Summary of Baseline Pass-by and Transit Trip Reductions

Land Use	Amount	Unit	Trip Type	AM Peak of Adjacent Street			PM Peak of Adjacent Street		
				Total Trips	Entering Trips	Exiting Trips	Total Trips	Entering Trips	Exiting Trips
Residential	2437	Dwelling Unit	External Trips	892	255	637	1,111	644	467
			Transit Trips	0	0	0	0	0	0
			Passerby Trips	0	0	0	0	0	0
			Net External Trips	892	255	637	1,111	644	467
Retail	88	1,000 Sq Ft GLA	External Trips	446	297	149	526	303	223
			Transit Trips	0	0	0	0	0	0
			Passerby Trips	152	101	51	179	103	76
			Net External Trips	294	196	98	347	200	147
Total New External Trips				1,187	451	735	1,458	844	614

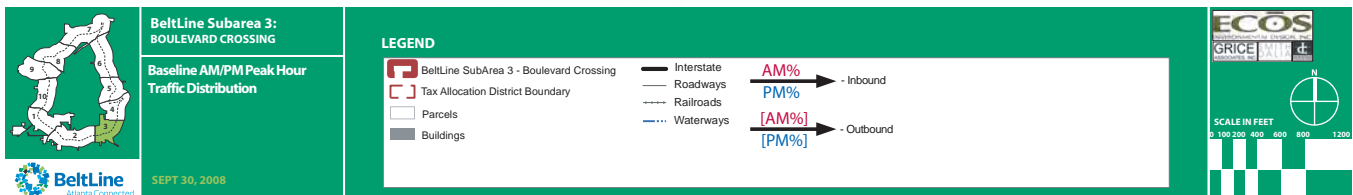
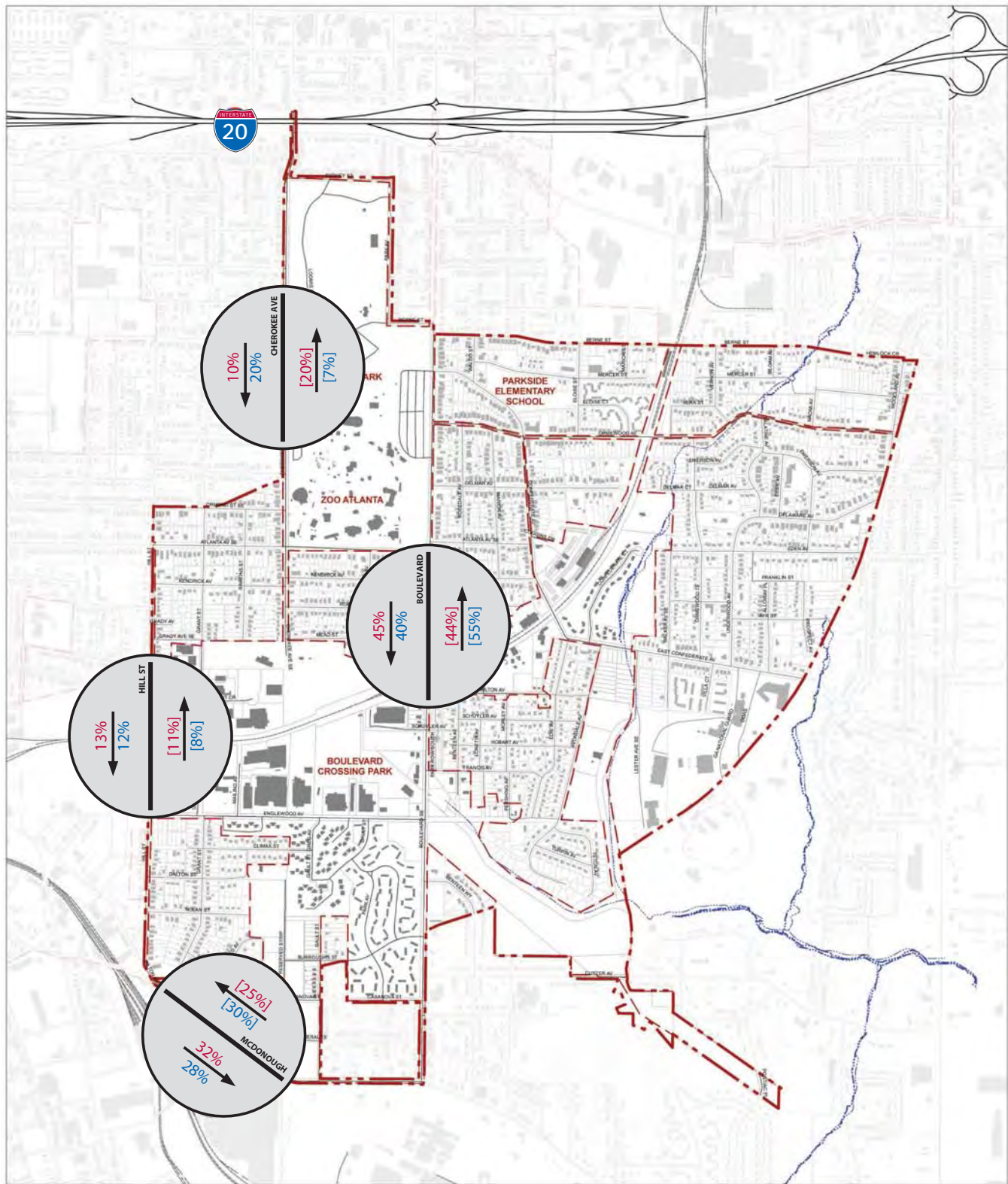
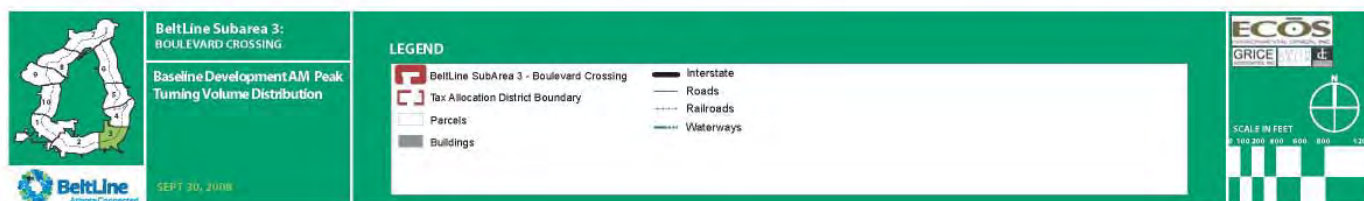
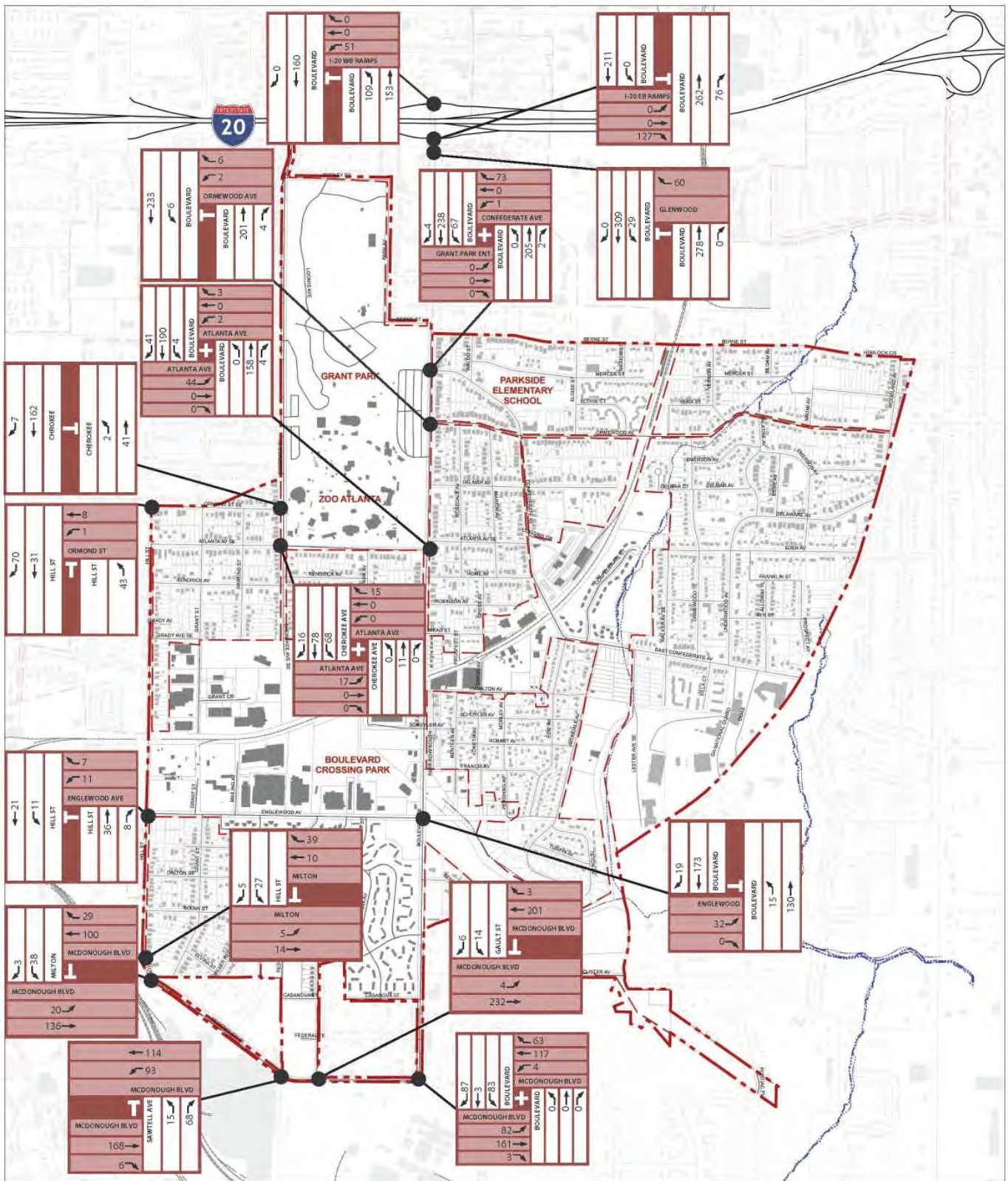


Figure 5-3 - Baseline AM / PM Trip Distribution



ATLANTA BELTLINE MASTER PLAN • March 16, 2009



**BeltLine Subarea 3:
BOULEVARD CROSSING**

**Baseline Development PM Peak
Turning Volume Distribution**

SEPT 30, 2008

LEGEND

- BeltLine SubArea 3 - Boulevard Crossing
- Tax Allocation District Boundary
- Parcels
- Buildings
- Interstate
- Roads
- Railroads
- Waterways



Figure 5-5 - Baseline Development PM Peak Turning Volume Distribution

study intersections in Subarea 3 are illustrated in Figures 5-6 and 5-7, respectively.

Level of service and capacity analyses for Baseline Year 2020 were conducted using the methodologies described in Section 3.0 for the two Subarea 3 Focus Areas. Results of these analyses by Focus Area are described below, and are summarized in Tables 5-4 for Focus Area One and Table 5-5 for Focus Area Two.

Focus Area One

Results for Focus Area One indicate that traffic conditions along Boulevard are anticipated to worsen by Year 2020 if no transportation improvements are made. EB left turners from the I-20 WB off ramp entering the subarea at Boulevard will experience the greatest delay at this intersection, although the intersection as a whole performs acceptably with LOS C. Increased traffic volumes will cause delays at the I-20 EB ramp to deteriorate to LOS F in the AM and LOS D in the PM. The intersection of Boulevard with the I-20 EB ramps will experience failing operations overall, particularly EB exiting from I-20, NB on Boulevard towards I-20, and SB left turners to I-20 EB.

Failing conditions at this location contribute to poor operations at the nearby Boulevard at Glenwood Avenue intersection, however this intersection performs at an acceptable LOS C. Due to the close proximity of this intersection with the I-20 WB ramp intersection, the minor street approach has LOS D, with increasingly fewer acceptable gaps to enter Boulevard.

Minor street approaches at the intersections of Boulevard with Confederate Avenue and with Ormewood Avenue are projected to have failing operations in Year 2020. With the increases in residential development in the subarea, it can be expected that morning commuter volumes NB on Boulevard to access I-20 and towards Downtown Atlanta would have an affect on system operations. Overall intersection operations at these locations are, however, acceptable.

The current configuration of Boulevard at Atlanta Avenue will result in the intersection having failing

operations of LOS F. With a v/c ratio of 1.70 in the morning analysis period, the intersection is highly inefficient, with significant mainline delays in addition to minor approach delays that greater than delays projected at other intersections on Boulevard. This is due to its offset configuration and split phase signal operation, which adds a greater degree of complexity at this intersection.

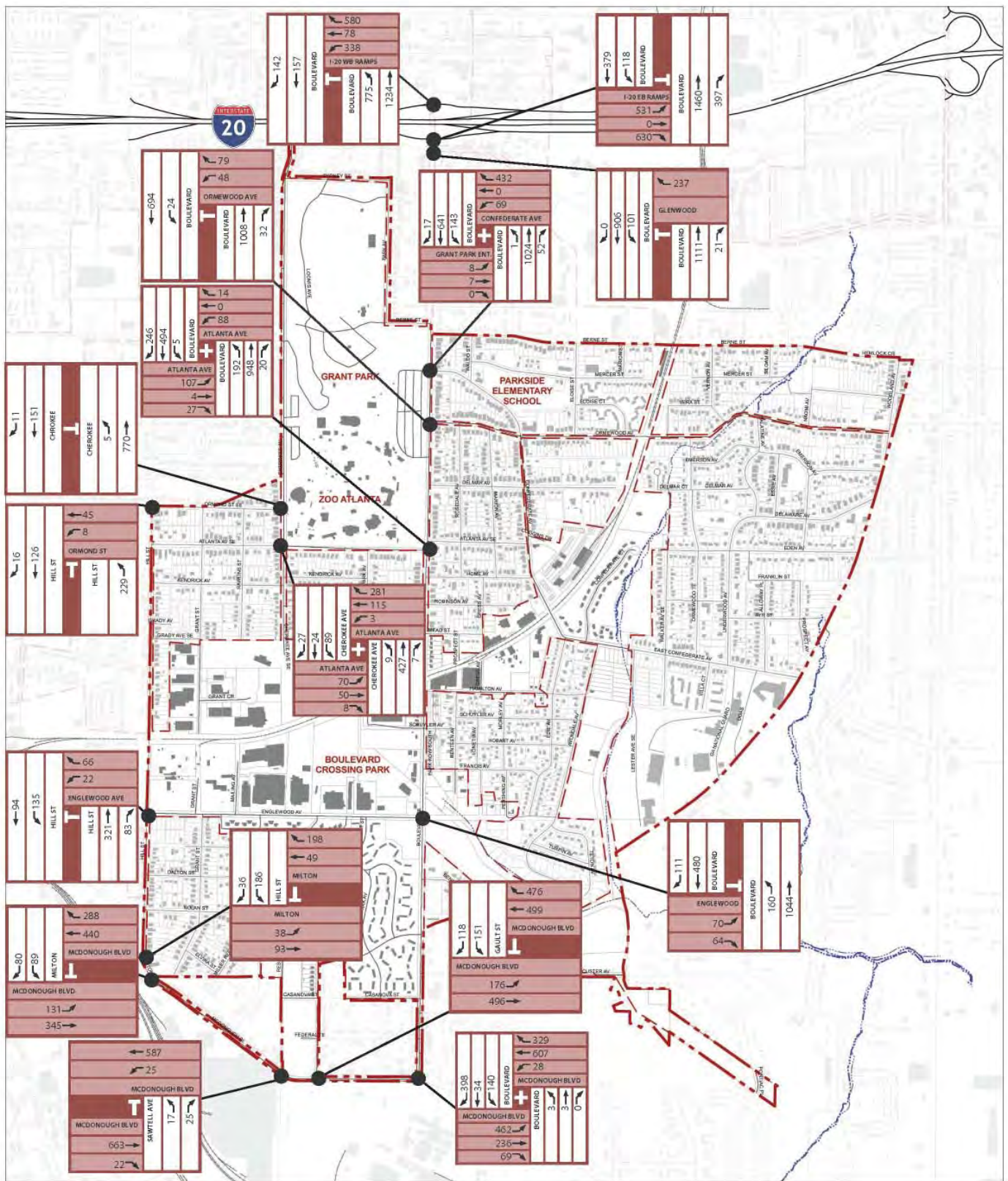
The intersection of Boulevard at Englewood Avenue operates with no operation deficiencies at LOS A. The intersection of Boulevard at McDonough Boulevard operates more efficiently under the Baseline Year 2020 scenario than it did under existing conditions. This is due to the fact that the SYNCHRO analysis was based on optimized traffic signal timing, whereas the existing conditions scenario was based on actual signal timing obtained from the City of Atlanta. It is assumed that at some point prior to Year 2020, at least one traffic signal timing improvement project will be undertaken in this area.

Even with optimized traffic signal timing, increased development near Boulevard and McDonough Boulevard contribute to poor operations for SB and EB left turners. While the intersection as a whole operates at the minimum acceptable level of service, D, congestion affects commuters seeking to access major facilities.

The Cherokee Avenue intersections studied are anticipated to continue to have excellent operations into the future year in both peak periods, even with added development. This validates that considerations to redirect some of the traffic from Boulevard to this parallel facility are warranted.

Focus Area Two

With the exception of the intersection of McDonough Boulevard at Gault Street, no operational deficiencies were noted in this Focus Area. The minor street approach SB on Gault Street continues to have failing operations caused by congestion and spillback queues from the Boulevard intersection. Most of the other Focus Area Two intersections operate at or near LOS A.



BeltLine Subarea 3:
BOULEVARD CROSSING

Baseline AM Peak
2020 Total Volume

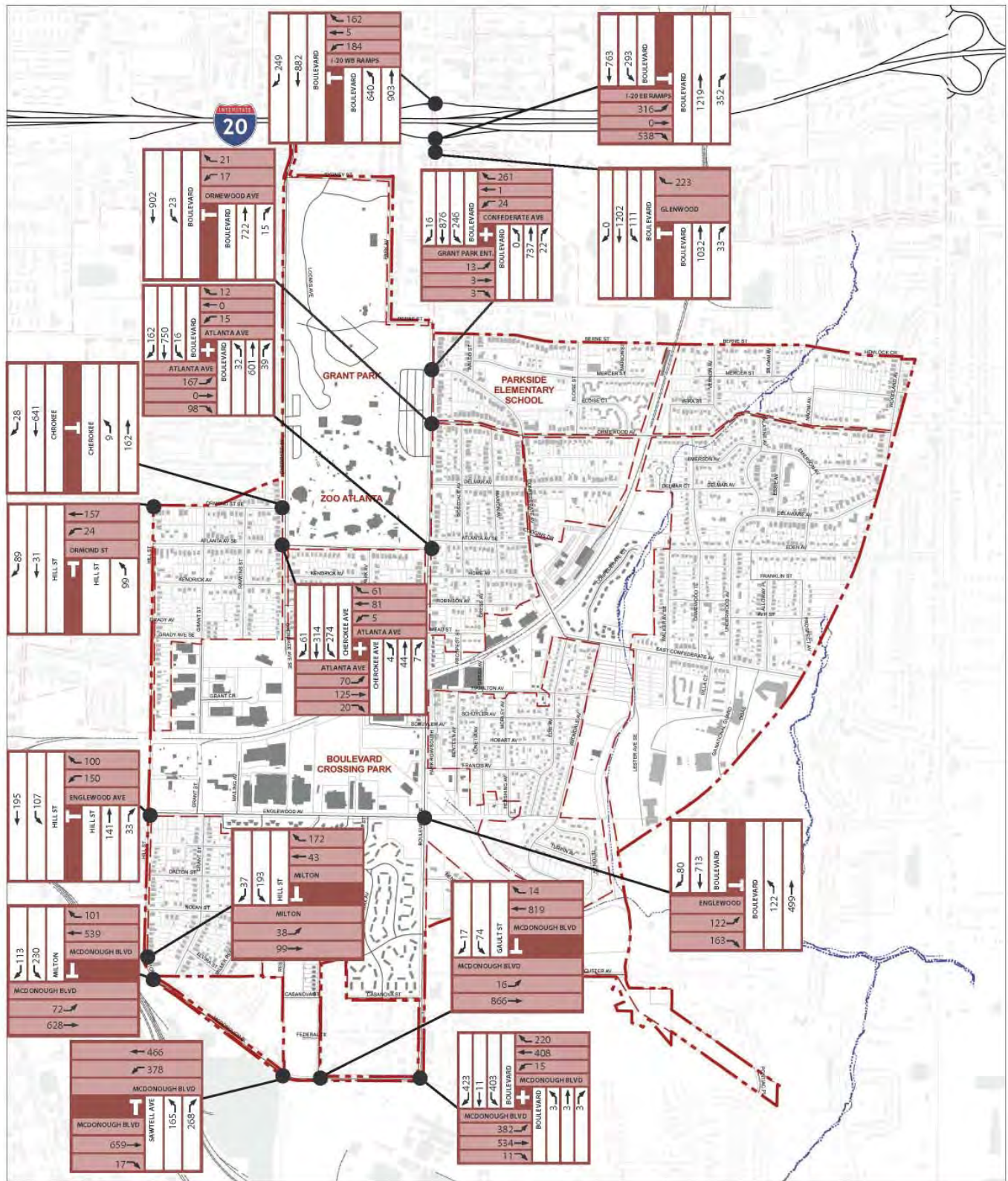
SEPT 30, 2008

LEGEND

- BeltLine Subarea 3 - Boulevard Crossing
- Tax Allocation District Boundary
- Parcels
- Buildings
- Interstate
- Roads
- Railroads
- Waterways



Figure 5-6 - 2020 Baseline AM Peak Total Volumes



**BeltLine Subarea 3:
BOULEVARD CROSSING**

**Baseline PM Peak
2020 Total Volume**

SEPT 30, 2008

LEGEND

- BeltLine SubArea 3 - Boulevard Crossing
- Tax Allocation District Boundary
- Parcels
- Buildings
- Interstate
- Roads
- Railroads
- Waterways



Figure 5-7 - 2020 Baseline PM Peak Total Volumes

5.4 Year 2020, with Transportation Improvements

Based on the results of the previous analysis, transportation improvement projects are proposed which should mitigate some of the more significant deficiencies. The new lane geometries associated with these improvements are depicted in Figure 5-8. The LOS for the system with these improvements is pictured in Figure 5-9. It should be noted that it is not cost effective or operationally feasible to improve operation for each individual lane group at every intersection. Minor street approaches cannot always be accommodated efficiently if doing so would be at the expense of mainline operations in the peak direction.

Baseline Year 2020 Improvements recommended include:

1. Boulevard @ I-20 Ramps
 - a. Allow EB right turn on red for EB ramp (if adequate sight distance can be achieved)
 - b. Allow concurrent phasing for EB and WB
2. Boulevard @ Atlanta Avenue
 - a. Add NB left turn lane

Focus Area One

Analysis results indicate that with the improvements listed above, operations at the I-20 ramps should improve. The volume to capacity ratios were reduced and the delay at the EB ramps reflected improvement to overall LOS D in the morning. Right turn on red at the EB off ramp should only be allowed with careful consideration for sight distance. There is a slight crest vertical curve at this location.

Concurrent signal phasing at the I-20 ramps are expected to improve operations. Currently, I-20 EB and WB ramps operate in a split phase pattern. That is, when EB left/through/right movements are allowed at EB ramps, NB left and NB through movements are allowed at WB ramps. Similarly, when WB left/through/right movements are allowed at WB ramps, SB left and SB through movements are allowed at EB ramps. This recommendation allows

EB left/through/right and WB left/through/right to move at the same time, while not allowing NB and SB movements at either of the ramps during that phase. SYNCHRO model results improved with this operation.

The addition of a NB left turn lane at the intersection of Boulevard and Atlanta Avenue will alleviate delays at this location for NB left turners and for the heavy NB through movement in the morning on Boulevard. Both the EB and WB minor street approaches showed reduced delay in the morning, while the intersection as a whole operates better, from LOS F to LOS D.

Table 5-4 - Focus Area One - 2020 Baseline Intersection Operations

INTERSECTION	AM Peak		PM Peak	
	LOS	v/c	LOS	v/c
Boulevard at Interstate 20 Westbound Ramp	C(C)	1.35(1.02)	C(C)	1.07(0.95)
Boulevard at Interstate 20 Eastbound Ramp	F(D)	1.35(1.02)	E(C)	1.07(0.95)
Boulevard at Glenwood				
WB Approach (Stop)	D	N/A	D	N/A
SB Approach (Free)	A	N/A	A	N/A
Boulevard at Confederate Avenue	D	1.04	B	0.93
Boulevard at Ormewood Avenue				
WB Left (Stop)	F	N/A	D	N/A
SB Approach (Free)	A	N/A	A	N/A
Boulevard at Atlanta Avenue	F(D)	1.70(1.02)	C(C)	0.87(0.80)
Boulevard at Englewood Avenue	A	0.66	A	0.48
Boulevard at McDonough Boulevard	D	1.00	D	0.97
Cherokee Avenue at Ormond Street				
NB Approach (Free)	A	N/A	A	N/A
Cherokee Avenue at Atlanta Avenue	B	0.73	B	0.77

Focus Area Two

There were no transportation improvements proposed for intersections in Focus Area Two.

Table 5-5 - Focus Area Two - 2020 Baseline Intersection Operations

INTERSECTION	AM Peak		PM Peak	
	LOS	v/c	LOS	v/c
McDonough Boulevard at Gault Street				
EB Approach (Free)	D	N/A	A	N/A
SB Left (Stop)	F	N/A	E	N/A
McDonough Boulevard at Sawtell Avenue	B	0.50	C	0.88
McDonough Boulevard at Milton Avenue	A	0.47	B	0.85
Milton Avenue at Hill Street				
NB Approach (Yield)	B	N/A	B	N/A
SB Approach (Stop)	B	N/A	B	N/A
SE Left (Free)	A	N/A	A	N/A
Hill Street at Englewood Avenue				
WB Left (Stop)	B	N/A	C	N/A
SB Approach (Free)	A	N/A	A	N/A
Hill Street at Ormond Street				
WB Approach (Stop)	A	N/A	A	N/A
NB Approach (Stop)	A	N/A	A	N/A
SB Approach (Stop)	A	N/A	A	N/A

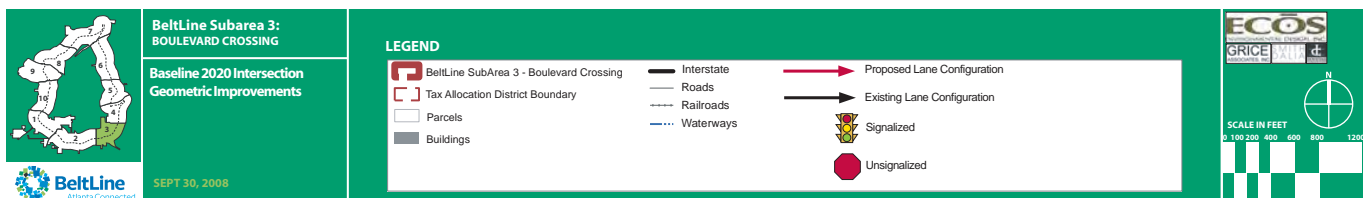
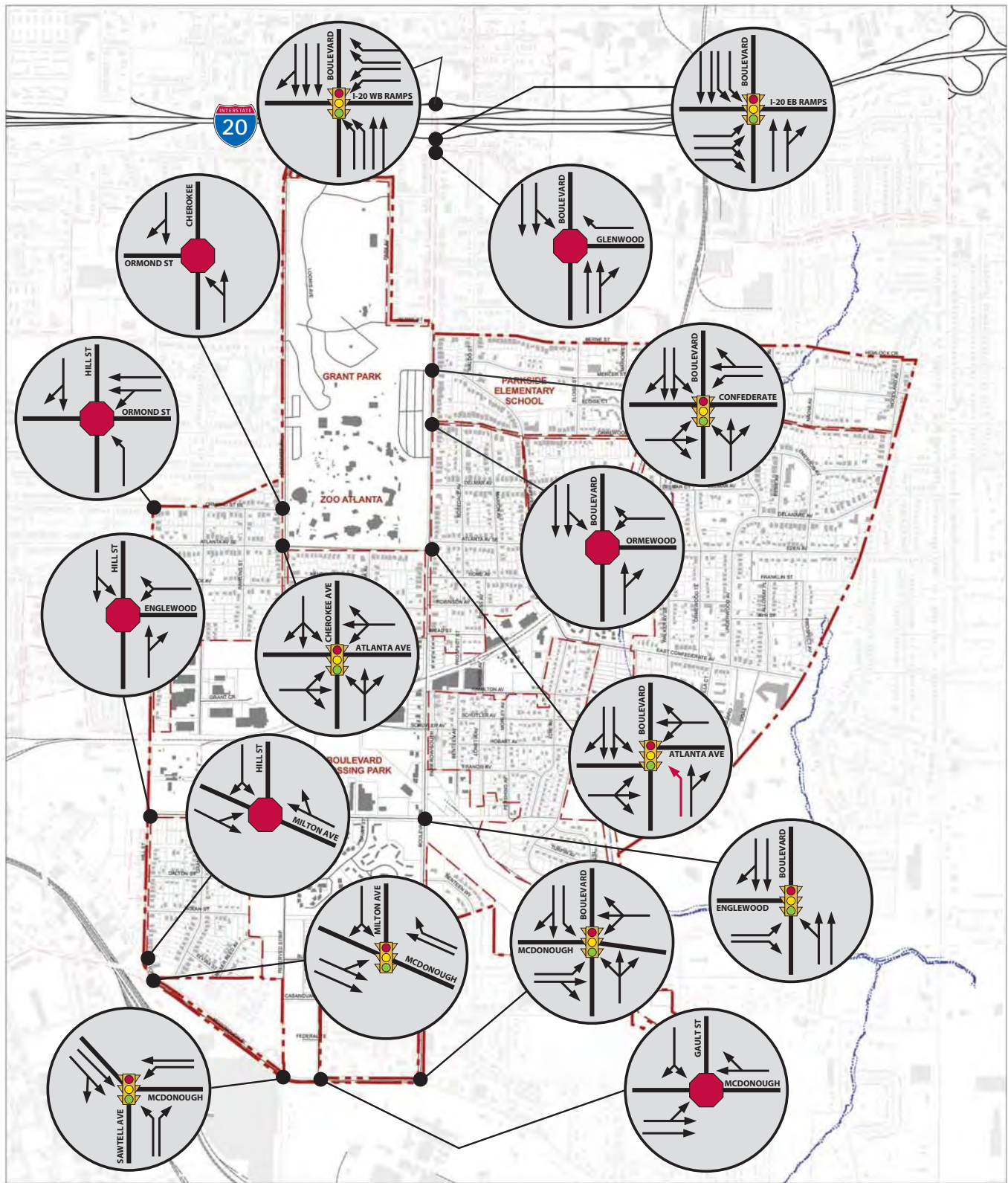
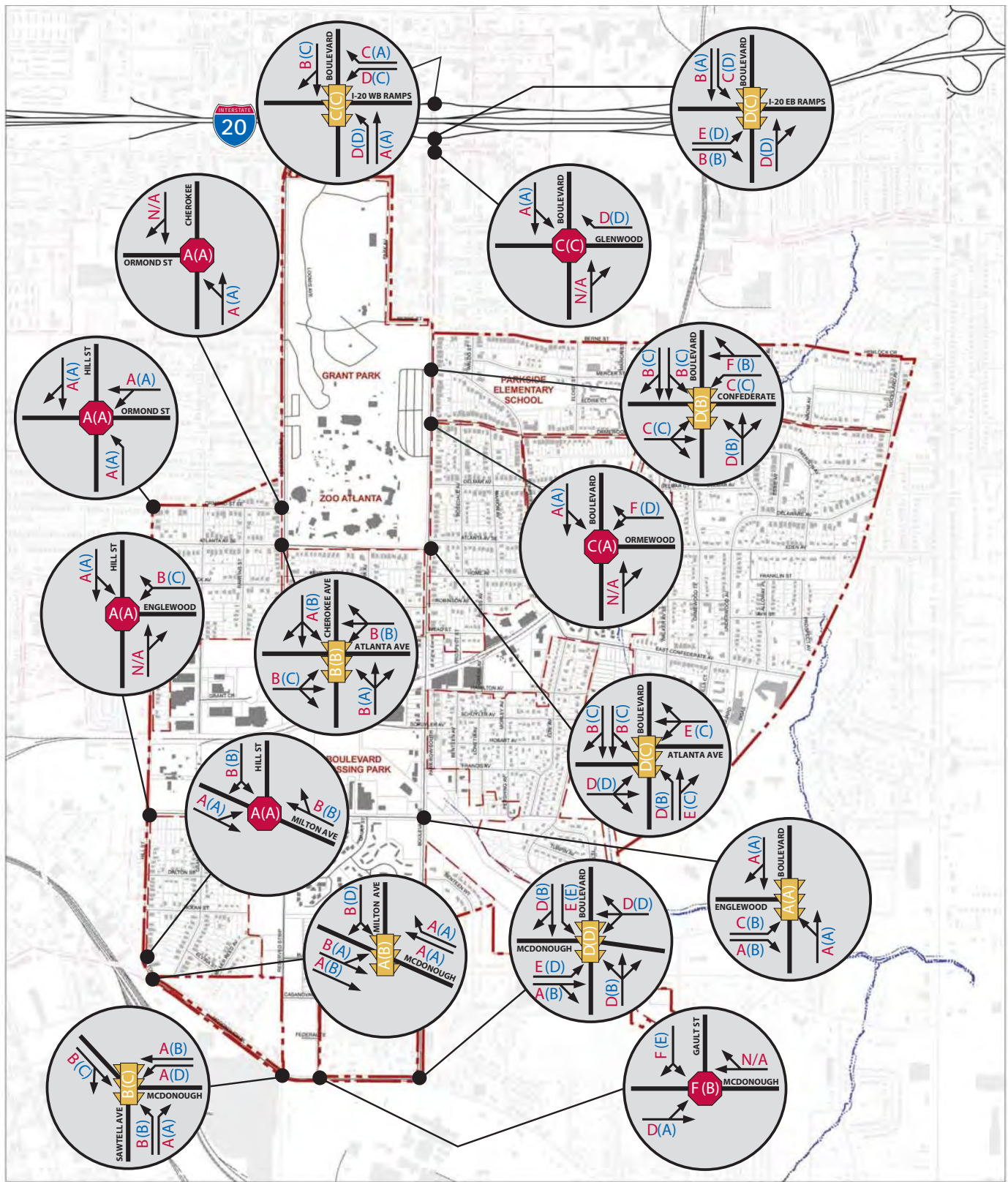


Figure 5-8 - Baseline 2020 Lane Geometries with Recommended Improvements



BeltLine Subarea 3:
BOULEVARD CROSSING

Baseline 2020 LOS
With Improvements

SEPT 30, 2008

LEGEND

- BeltLine Subarea 3 - Boulevard Crossing
- Tax Allocation District Boundary
- Parcels
- Buildings

- Interstate
- Roads
- Railroads
- Waterways

LOS: AM(PM)

- Unsignalized Intersection
- Signalized Intersection

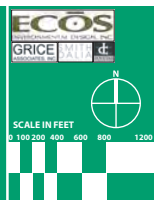


Figure 5-9- 2020 Baseline Level of Service with Recommended Improvements

5.5 Year 2030 Traffic Operations

Capacity and LOS analysis processes were repeated for Baseline Year 2030 Traffic Operations. This two-phased approach allowed operational deficiencies to be identified in a manner such that improvement projects can be planned and programmed when needed. Based on the Baseline Year 2020 analysis, some improvements may need to be prioritized to be implemented by that time, while others may not become necessary until closer to Year 2030. This also allows for phased development build-out to be taken into consideration, though this was not necessary for the Subarea 3 study.

Baseline Year 2030 traffic volumes are calculated based on the following formula:

$$V_{\text{Baseline 2030}} = V_{\text{Baseline 2020}} \times (1 + 0.022)^{10}$$

Figure 5-10 shows Year 2030 Baseline AM Peak Total Volumes and Figure 5-11 shows Baseline PM Peak Total Volumes used in the analysis.

Focus Area One

Traffic conditions at the I-20 WB ramp are expected to deteriorate further by Year 2030. Overall LOS worsens from C to E with the greatest delays experienced on Boulevard's NB approach. Afternoon volumes are also projected to become more congested with the added development and background volumes. The EB ramp intersection continues to perform poorly, with failing operations projected also for the SB direction, specifically for SB left turners to the I-20 EB on ramp.

Operations for this scenario were modeled with optimized traffic signal timing parameters, therefore slight improvements in v/c ratios and even delay for some approaches were evidenced over the Baseline Year 2020 scenario. Again, it is anticipated that signal timing will be upgraded between these periods to better accommodate the changing traffic conditions.

Delay at the Boulevard at Glenwood Avenue intersection was found to worsen to LOS F. Operations at all approaches at the Confederate Avenue intersection with Boulevard are also expected to de-

teriorate by Year 2030 if no transportation improvements are made. Delays at the WB approach from Ormewood Avenue are expected to increase in the PM peak period.

Even with the proposed NB left turn lane in place, as was recommended from the Year 2020 analysis, conditions at the Boulevard and Atlanta Avenue intersection will fail in the AM peak for all but the SB approach. While v/c ratios were improved with the addition of the NB left turn lane, delays will increase overall from its improved year 2020 conditions of LOS C to LOS E. While overall the intersection of Boulevard at Englewood Avenue continues to operate well, with LOS B, the EB minor street left turn movement approaches minimum acceptable LOS D in the morning.

Traffic conditions at the intersection of Boulevard with McDonough Boulevard worsen by Year 2030 from overall LOS D to LOS F in both the morning and afternoon peak periods. The long delays and oversaturated conditions, even with optimized traffic signal timing, indicate that significant improvement is needed to allow this intersection to operate efficiently with the new nearby development and background traffic growth.

The two Cherokee Avenue intersections studied continue to operate well into Year 2030.

Focus Area Two

The intersection of McDonough Boulevard and Gault Street is the only intersection in Focus Area Two projected to experience any operational issues. Delay for the minor street SB approach continues to be a significant issue, and the EB approach on McDonough also registers failing operations in the AM peak period. Improved operations at the Boulevard and McDonough Boulevard intersection should help to alleviate these deficiencies.

5.6 Year 2030, with Transportation Improvements

With traffic growth projections to Year 2030, more significant improvements are anticipated to be needed to allow the Subarea 3 transportation system to adequately serve the needs of its users. Re-

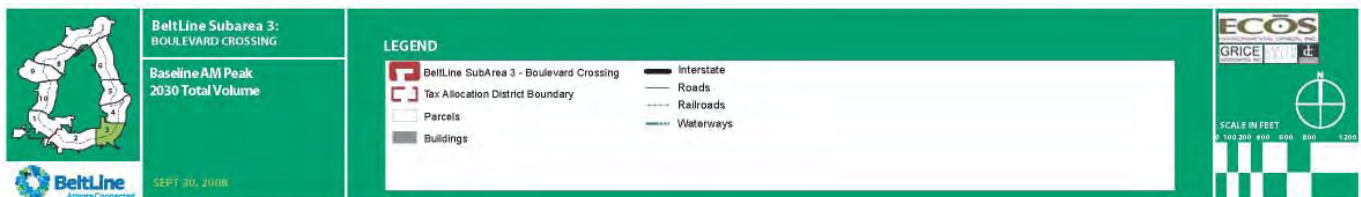
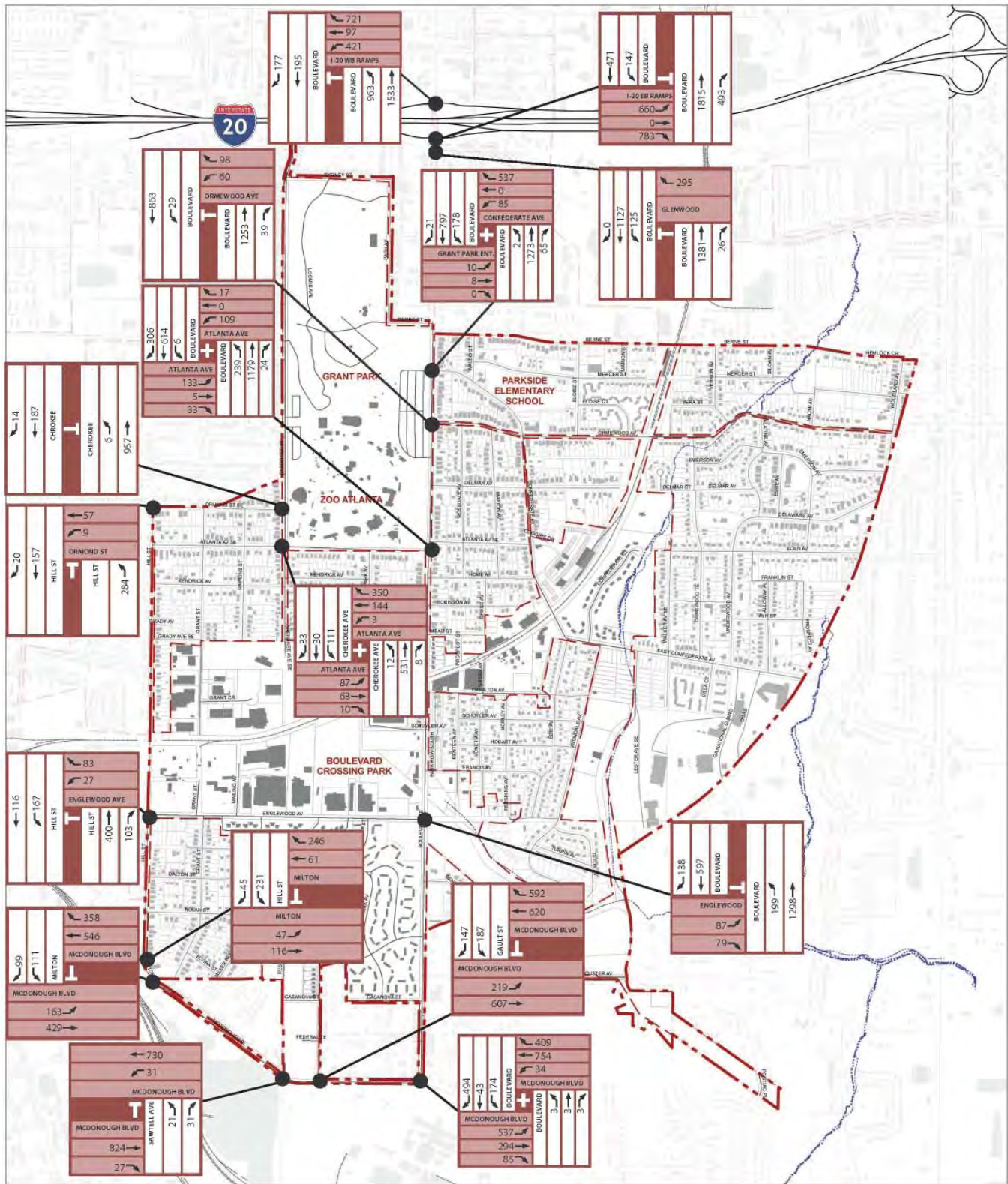


Figure 5-10- 2030 Baseline AM Peak Total Volumes

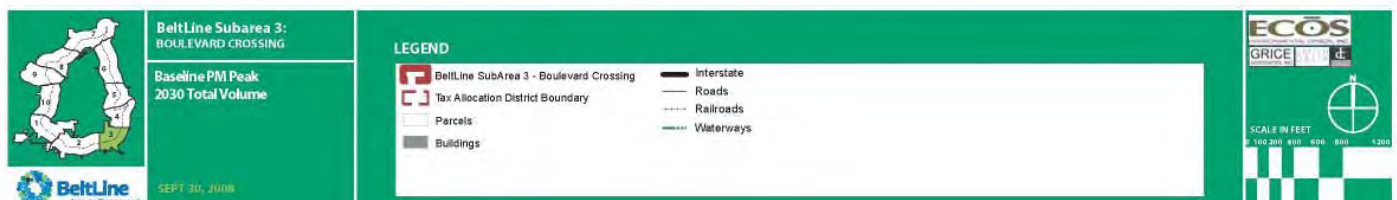
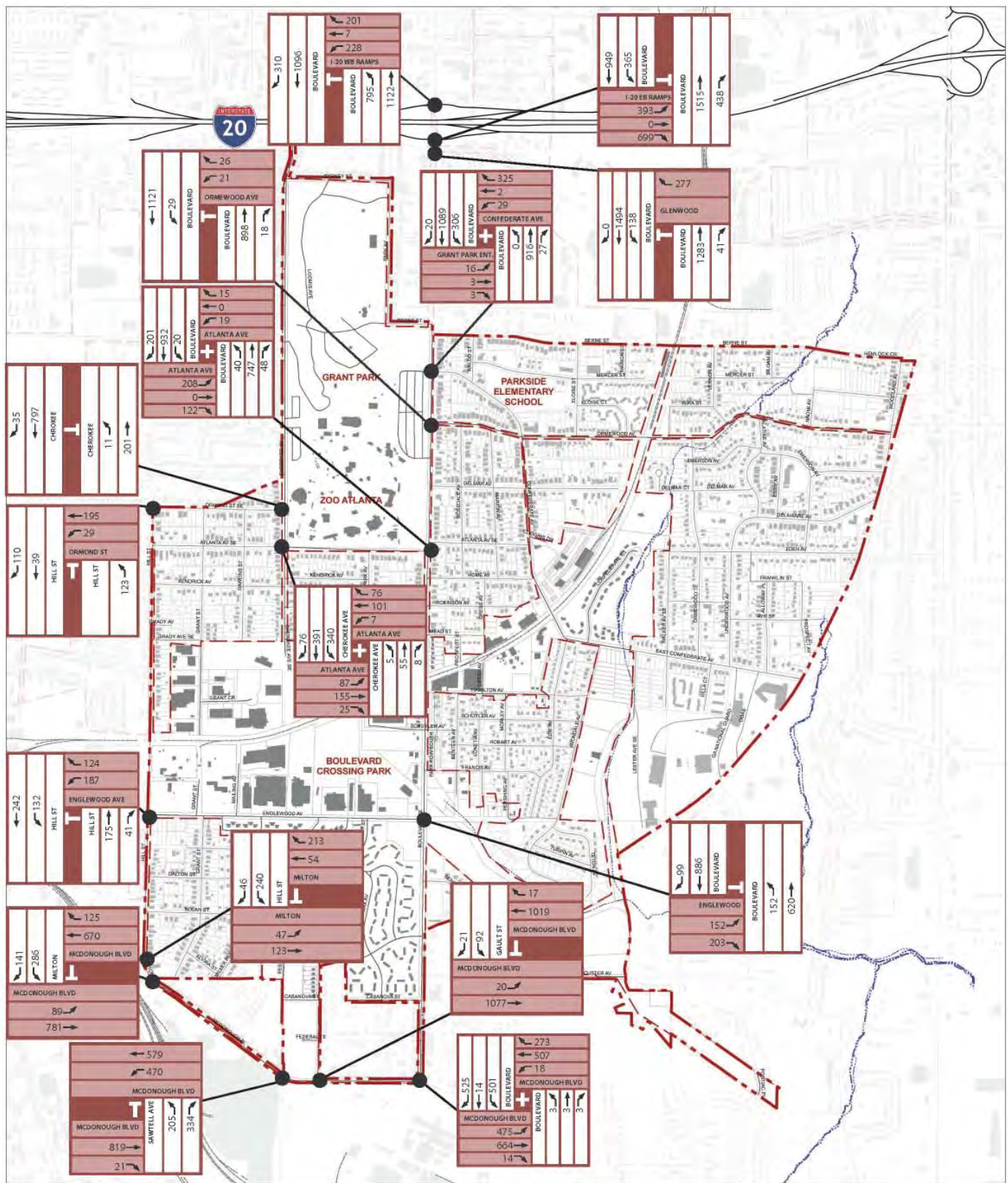


Figure 5-11- 2030 Baseline PM Peak Total Volumes

sults are summarized in Tables 5-6 and 5-7. The new lane geometries and level of service associated with these improvements are depicted in Figures 5-12 and 5-13, respectively. These improvements are all in Focus Area One; none are proposed for Focus Area Two. These improvements are in addition to those made for Year 2020.

Baseline Year 2030 Improvements recommended include:

1. Boulevard @ I-20 Ramps
 - a. Add NB right turn lane for EB ramp
2. Boulevard @ Confederate Avenue
 - a. Change WB lane configuration from WB left and WB through/right to WB left/through and WB right
 - b. Provide NB left/through and NB through/right
 - c. Provide SB left and SB through/right
 - d. Provide protected-permissive phase for SB left
 - e. Provide WB right overlap with SB left
3. Boulevard @ Atlanta Avenue
 - a. Align EB and WB to remove offset. Remove split phasing.
 - b. Provide protected-permissive phase for NB left
4. Boulevard @ McDonough Boulevard
 - a. Add one more EB left to make dual left. Provide protected phase for EB left.
 - b. Add WB left and WB right. Provide protected-permissive phase for WB left.
 - c. Add SB right
 - d. Provide protected-permissive phase for SB left
 - e. Provide WB right overlap with SB left
 - f. Provide SB right overlap with EB left

Focus Area One

These improvements are expected to significantly improve traffic conditions in Focus Area One.

The addition of the NB right turn lane at the I-20 EB ramp on Boulevard adds more capacity and separates right turning traffic from the through movement stream at this location. NB right turn volumes

during Baseline Year 2030 are approximately 490 vph and 430 vph during the AM and PM peak periods, respectively. These movements will be able to proceed on red, freeing up capacity for through movements. This allows the traffic signal splits to be adjusted to clear NB traffic more efficiently and give more green time to other conflicting movements, such as those from the EB off ramp and SB left turns. This scenario was modeled to include the Year 2020 improvements as well.

Lane configuration and signal timing improvements are recommended for the intersection of Boulevard at Confederate Avenue. While no road widening is necessary, these improvements will better serve the increased NB volumes on Boulevard and from the minor street approaches resulting from Baseline development, particularly from the Grant Townhomes. These changes result in an improvement in delay from LOS F to LOS D in the morning and from LOS C to LOS B in the afternoon, and even greater improvements in individual lane groups. Degree of saturation is also reduced by over 20% at this location.

The realignment of the offset intersection of Boulevard at Atlanta Avenue greatly improves operations overall and for all of approaches, both in the AM and PM peak periods. With realignment, split phase operation will no longer be required. The addition of the protected-permissive NB left turn phase provides added benefit for left turners, and reduces the potential for crashes at this location.

Substantial changes are required at the intersection of Boulevard with McDonough Boulevard. The proposed reconfiguration of lane uses, addition of turn lanes, and the changes in signal phasing and timing result in delay for SB and WB movements being reduced, while EB delay is also reduced, but to a lesser degree. The intersection as a whole improves from LOS F to LOS D in both peak periods.

Table 5-6 - Focus Area One - 2030 Baseline Intersection Operations

INTERSECTION	AM Peak		PM Peak	
	LOS	v/c	LOS	v/c
Boulevard at Interstate 20 Westbound Ramp	E(C)	1.13(1.02)	C(D)	1.04(1.01)
Boulevard at Interstate 20 Eastbound Ramp	F(D)	1.13(1.02)	E(C)	1.04(1.01)
Boulevard at Glenwood				
WB Approach (Stop)	F	N/A	F	N/A
SB Approach (Free)	A	N/A	B	N/A
Boulevard at Confederate Avenue	F(D)	1.31(1.01)	C(B)	1.00(0.79)
Boulevard at Ormewood Avenue				
WB Left (Stop)	F	N/A	F	N/A
SB Approach (Free)	A	N/A	A	N/A
Boulevard at Atlanta Avenue	E(C)	1.11(0.99)	D(C)	0.97(0.85)
Boulevard at Englewood Avenue	B	0.83	B	0.65
Boulevard at McDonough Boulevard	F(D)	1.32(1.00)	F(D)	1.16(0.97)
Cherokee Avenue at Ormond Street				
NB Approach (Free)	A	N/A	A	N/A
Cherokee Avenue at Atlanta Avenue	C	0.87	C	0.87

Focus Area Two

There were no transportation improvements proposed for intersections in Focus Area Two. Inefficient operations at the Gault Street intersection with McDonough Boulevard were carefully considered during this analysis. During AM and PM peak periods, the minor street approach has failing LOS. During the AM peak period, the EB approach on McDonough Boulevard has failing LOS because of left-turns. Typically, with increased volumes, minor streets and main street left-turns at unsignalized intersections experience delays. More than a capacity improvement, it is because of wait time for acceptable gaps. Even though the side street and main street left-turns experience delays during peak hours, the intersection may not warrant a signal. Turn volumes should be monitored at this intersection in the future to determine if and when a traffic signal is warranted.

Table 5-7 - Focus Area Two - 2030 Baseline Intersection Operations

INTERSECTION	AM Peak		PM Peak	
	LOS	v/c	LOS	v/c
McDonough Boulevard at Gault Street				
EB Approach (Free)	F	N/A	A	N/A
SB Left (Stop)	F	N/A	F	N/A
McDonough Boulevard at Sawtell Avenue	B	0.62	C	0.91
McDonough Boulevard at Milton Avenue	A	0.58	B	0.90
Milton Avenue at Hill Street				
NB Approach (Yield)	C	N/A	C	N/A
SB Approach (Stop)	B	N/A	B	N/A
SE Left (Free)	A	N/A	A	N/A
Hill Street at Englewood Avenue				
WB Left (Stop)	C	N/A	E	N/A
SB Approach (Free)	A	N/A	A	N/A
Hill Street at Ormond Street				
WB Approach (Stop)	A	N/A	A	N/A
NB Approach (Stop)	B	N/A	A	N/A
SB Approach (Stop)	A	N/A	A	N/A

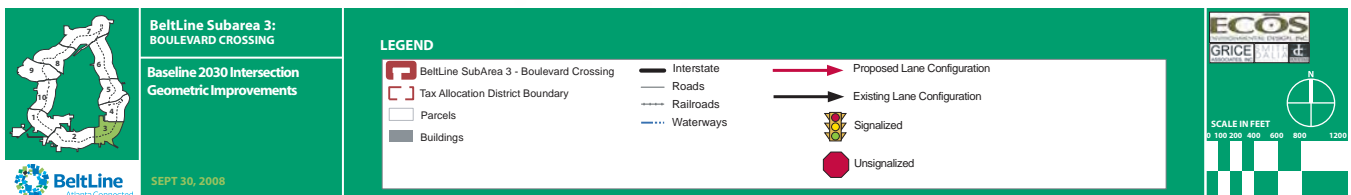
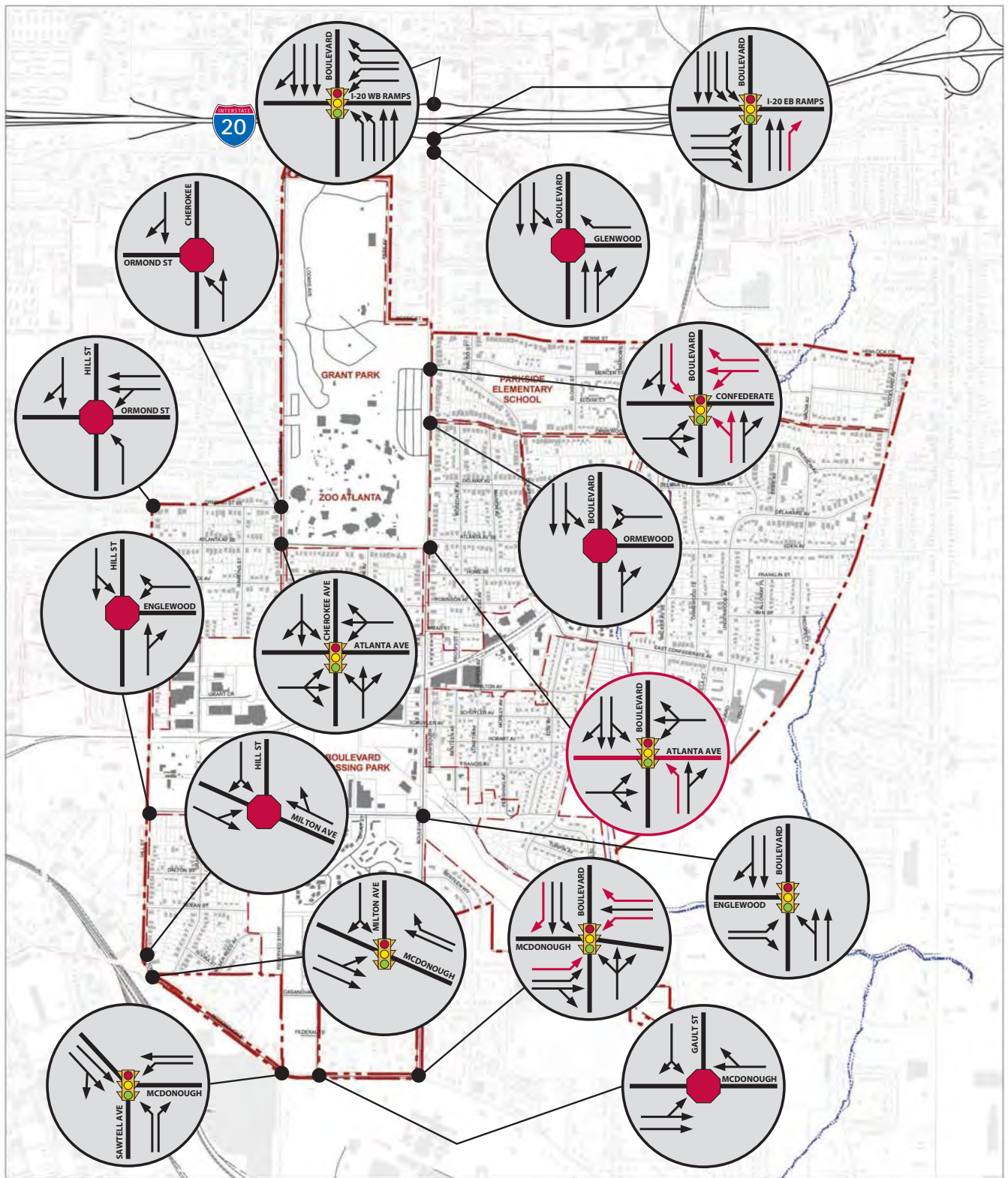


Figure 5-12 - Baseline 2030 Lane Geometries with Recommended Improvements

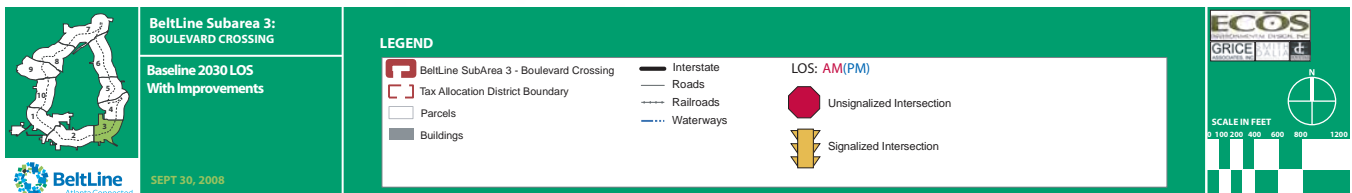
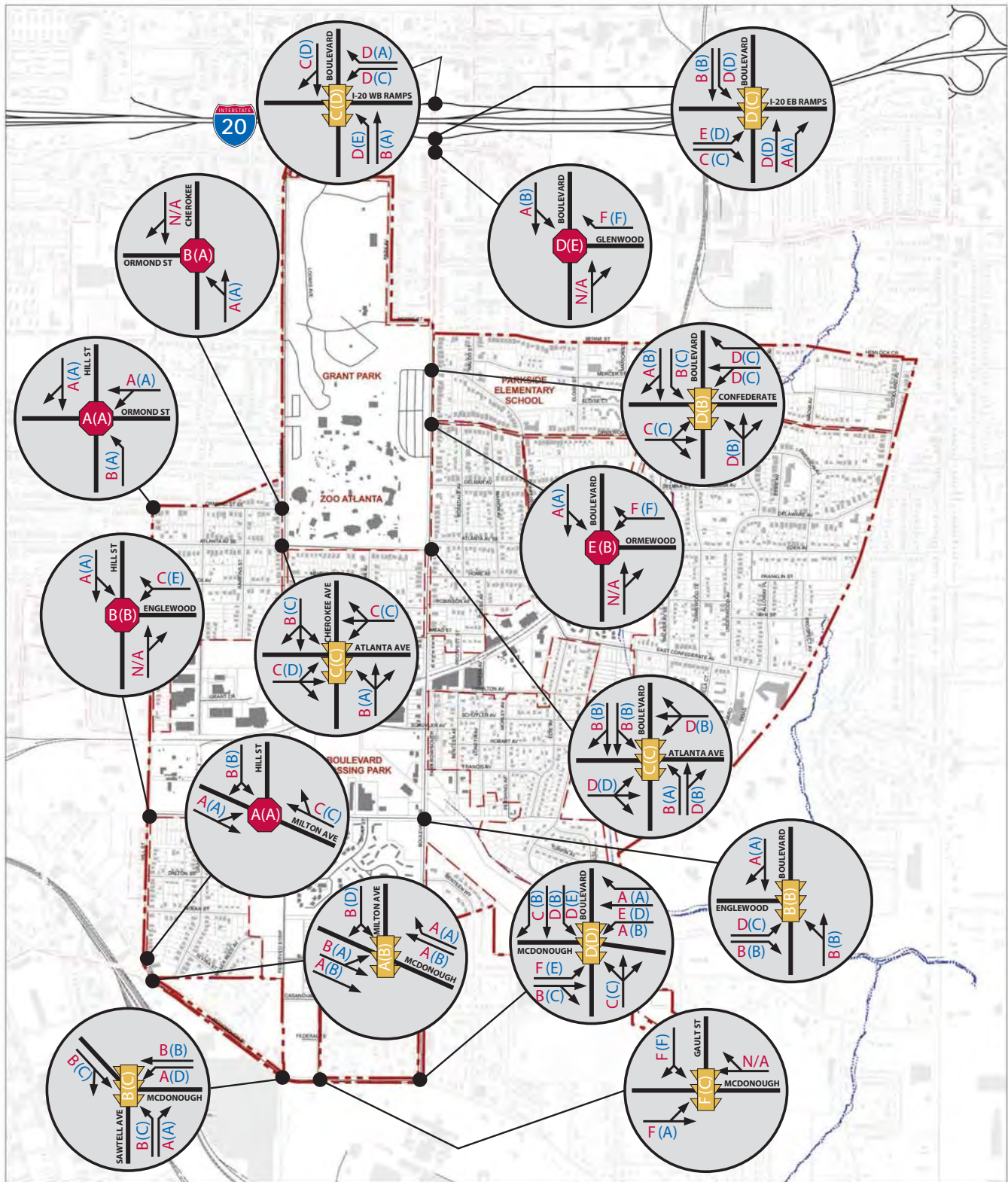


Figure 5-13 - Baseline 2030 Level of Service with Recommended Improvements

6.0 BeltLine Traffic Operations

The primary objective of this Transportation Analysis Report is to quantify the transportation impacts of BeltLine implementation and its associated redevelopment. Using the existing and Baseline traffic operations conditions described in the previous two sections as a basis for comparison, this section of the report details the results of the BeltLine traffic operations analysis.

6.1 Proposed BeltLine Development

Subarea 3 transportation analysis was based on development forecasts from the Atlanta BeltLine Market Study conducted by Robert Charles Lesser & Co. Based on this market study, the development parameters for year 2020 will consist of addition of approximately 41,000 square feet of office/institutional, 62,000 square feet of specialty retail, 34,000 square feet of quality restaurant, 41,000 square feet of high turnover sit down restaurant, and 2,858 residential units.

Future traffic conditions will be affected by the proposed BeltLine redevelopment. It is essential to capture all changes in traffic volumes that are imminent while conducting capacity analysis. In order to assess the traffic implications of the proposed BeltLine redevelopment, the same Build Year of 2020 and Design Year of 2030 used in the Baseline traffic operations analysis were evaluated.

The land use plan proposed for this subarea is shown in Figure 6-1. Major land use elements include mid- to low-rise mixed use development near the BeltLine; conversion of low-density light industrial land uses to lofts, mid-rise residential near parks, and mid-rise residential and commercial development along Englewood Avenue. The subarea will also feature existing and proposed parks and green space.

The transportation system supporting this development will be consistent with the community's

goals for circulation as detailed previously - namely, to ensure multimodal "connectivity, continuity, and redundancy". There will be a strategically designed complement of arterials, collectors and locals streets, some with medians and trails, as well as the BeltLine.

Some of the major street enhancements under consideration are the reconnection of Cherokee Avenue underneath the BeltLine south to Englewood Avenue and onto McDonough Boulevard, additional streets constructed between the new park and Hill Street, and a grid pattern of new streets to the north of the BeltLine between Cherokee Avenue and Grant Street.

6.2 Year 2020 Traffic Operations

A similar methodology used for the Baseline traffic operations analysis was performed to quantify the specific impacts of projected BeltLine development based on the proposed land uses described above. In this scenario, however, BeltLine-specific trips were added to the traffic volumes resulting from normal background traffic growth. The annual growth rate used for the BeltLine scenarios was 2.0%. The analysis was conducted with the assumption that forecasted year 2020 BeltLine land uses would be fully built out and occupied by year 2020. The seven developments previously analyzed for Baseline scenarios were considered to be accounted for in the 2.0% annual background traffic growth rate. To add these development-specific trips to BeltLine-generated trips would result in significant over-counting, since the growth rate is already higher than average for this area. BeltLine traffic volumes are thus:

$$V_{\text{BeltLine f}} = V_{2020} + V_{\text{Site, BeltLine Proposed}}$$

Where:

- $V_{\text{BeltLine f}}$ = Traffic volume of 2020 forecasted conditions with BeltLine development projects
- V_{2020} = Traffic volume of 2020 forecasted conditions without BeltLine development

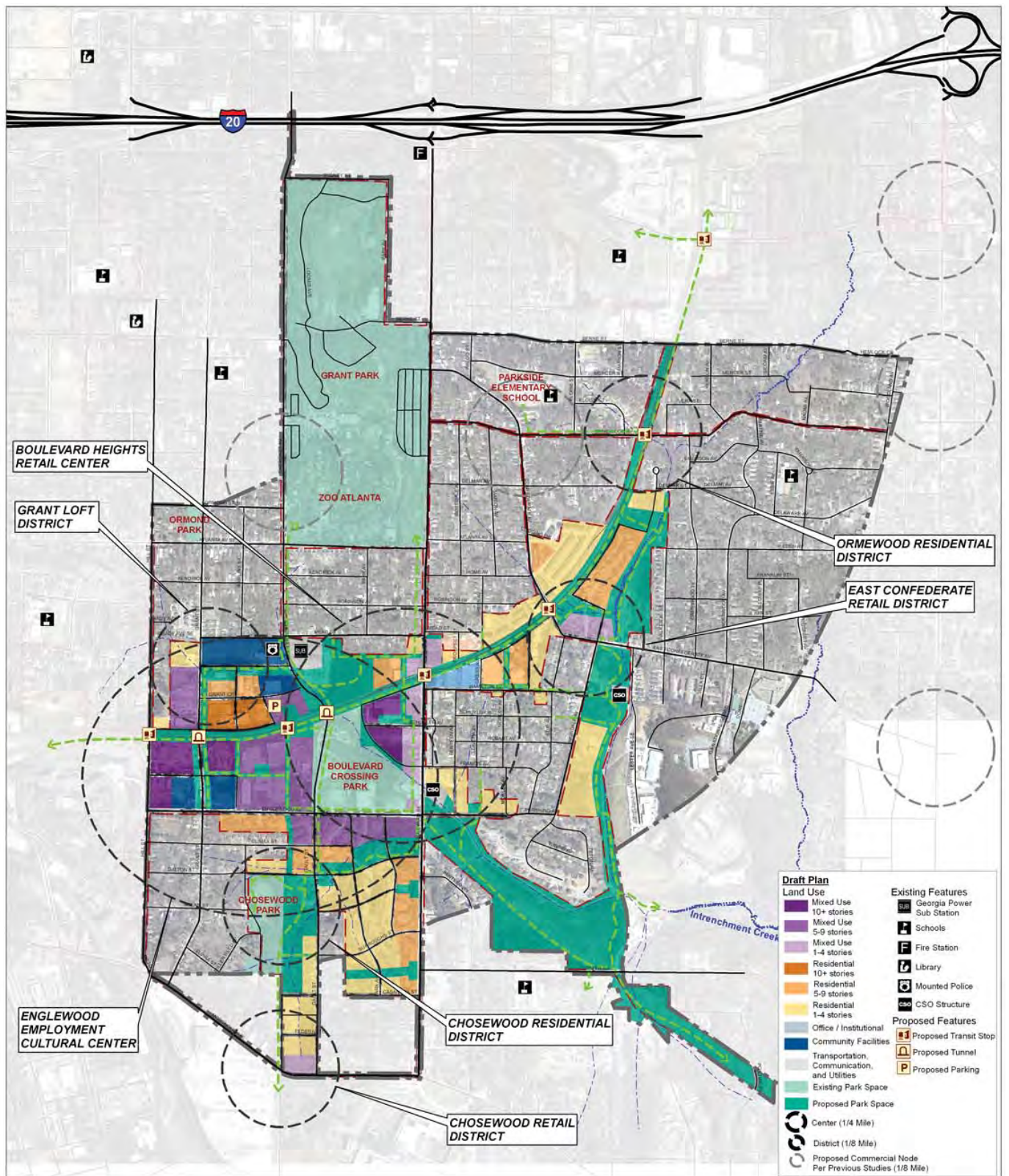


Figure 6-1 - Proposed Land Use Map

$V_{\text{Site, BeltLine Proposed}}$ = Site-generated traffic volume from the proposed BeltLine development projects

Thus,

$$V_{\text{BeltLine 2020}} = V_{2007} \times (1+0.02)^{13} + V_{\text{Site, BeltLine Proposed}}$$

Trip Generation

The same trip generation process was used for the BeltLine development scenario as was previously described for the Baseline analysis. The same internal capture rate of 5% was used; however the implementation of the BeltLine is anticipated to greatly reduce vehicle trips due to increased transit usage. In addition, the same pass-by reduction rate of 34% was used for this analysis.

For the purpose of this analysis, it was determined that the BeltLine will provide a meaningful alternative mode of travel for users within the immediate area of the redevelopment sites. The BeltLine will provide a total of five stops within the Subarea 3 redevelopment TAD. This equates to greater opportunity for transit service that is safe, convenient and accessible, and therefore more attractive as a travel alternative.

In addition, the Project Team researched other redevelopment projects near transit stops in other cities to evaluate the ridership and mode split for comparison. From this research, it was determined that the mode split varied between 25 and 38%. For the BeltLine transit reduction, it was determined that 28% would be appropriate for planning purposes. However, it is conceivable that the mode split will increase as patrons realize the value of utilizing the improved transit service.

The total trips generated by the BeltLine forecasted development analyzed can be found in Table 6-1. Internal capture rates for the BeltLine development land uses are described in Table 6-2. Table 6-3 provides a summary of net trips generated for the BeltLine development given the transit reduction and pass-by capture reductions discussed previously.

Trip Distribution

A similar trip distribution methodology was employed for the BeltLine scenarios as was used for the Baseline scenarios. The primary difference for BeltLine trip distribution is the redistribution of some of the traffic volumes from Boulevard to Cherokee Avenue.

The BeltLine scenarios are all modeled with the assumption that Cherokee Avenue will be extended south to Englewood Avenue, and will align with the extension of Gault Street north from McDonough Boulevard to Englewood Avenue. This new construction would provide an attractive north-south facility alternative which would alleviate the heavy volumes using Boulevard. Although these extensions and new intersection were not explicitly modeled, the traffic volumes on Boulevard have been reduced, and the volumes on Cherokee Avenue increased accordingly to reflect this proposed improvement. The BeltLine traffic volume distributions are shown in Figure 6-2.

BeltLine development-generated turning movement volumes are shown in Figure 6-3 for the AM peak, and Figure 6-4 for the PM peak. These volumes were then added to the forecasted 2020 turning movement volumes. The total AM and PM peak traffic volumes analyzed for the BeltLine Year 2020 scenario are illustrated in Figures 6-5 and 6-6, respectively.

A capacity analysis of the study intersections indicates that in Year 2020, with BeltLine redevelopment fully implemented, study intersections experience delays if no transportation improvements are made. In most cases intersection LOS is similar to Year 2020 Baseline conditions. In addition, most intersections delay is better when compared to Year 2020 Baseline conditions, due to the change in mode split and traffic distribution.

Analysis results, both with and without recommended transportation improvements, are summarized in Tables 6-4 and 6-5, for Focus Areas One and Two, respectively

Focus Area One

Traffic operations at the study intersections deteriorate in the future with the implementation of

Table 6-1. Summary of BeltLine Trips Generated

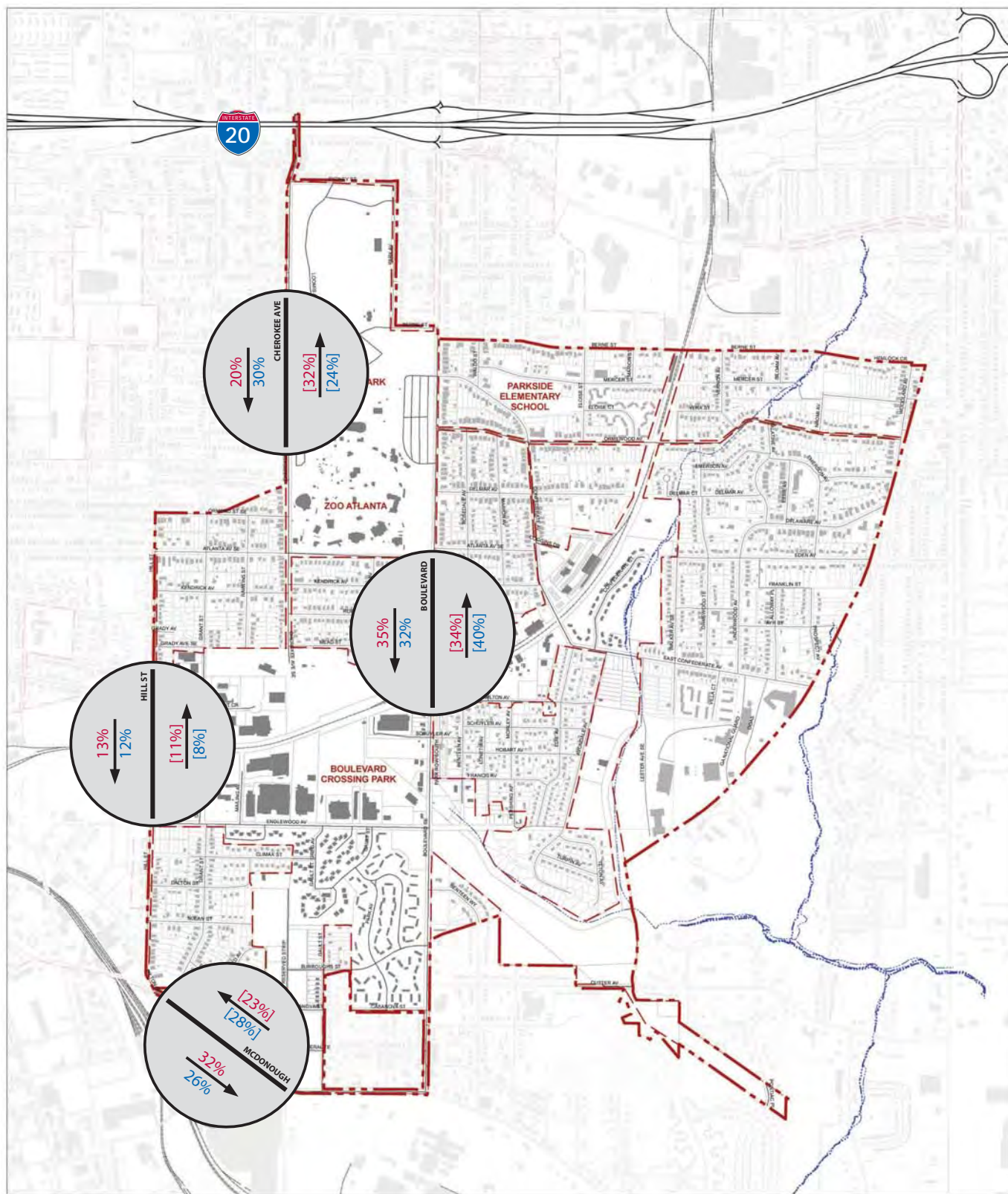
Land Use	Amount	Unit	AM Peak of Adjacent Street			PM Peak of Adjacent Street		
			Total Trips	Entering Trips	Exiting Trips	Total Trips	Entering Trips	Exiting Trips
Residential								
Residential 1-4 (LDR)	721	Dwelling Unit	483	121	363	563	326	236
Mixed Use 1-4 (LMU)								
Residential 5-9 (MDR)	1,460	Dwelling Unit	438	136	302	569	330	239
Mixed Use 5-9 (MMU)								
Residential 10+ (HDR)	677	Dwelling Unit	230	44	186	257	159	98
Mixed Use 10+ (HMU)								
Subtotal	2,858	Dwelling Unit	1,151	300	851	1,389	816	573
Retail/Office								
Office/Institutional	41	1,000 Sq Ft GLA	64	56	8	62	10	51
High Turnover Rest.	41	1,000 Sq Ft GLA	476	247	228	451	275	176
Quality Restaurant	34	1,000 Sq Ft GLA	192	157	34	310	192	118
Specialty Retail	62	1,000 Sq Ft GLA	424	203	220	311	174	137
Subtotal	179	1,000 Sq Ft GLA	1,155	664	491	1,134	652	482
Gross Total			2,306	964	1,342	2,523	1,468	1,055

Table 6-2. Summary of BeltLine Internal Capture Reductions

Land Use	Amount	Unit	Trip Type	AM Peak of Adjacent Street			PM Peak of Adjacent Street		
				Total Trips	Entering Trips	Exiting Trips	Total Trips	Entering Trips	Exiting Trips
Residential	2,858	Dwelling Unit	Gross Trips	1,151	300	851	1,389	816	573
			Internal Capture	58	15	43	69	41	29
			Net Trips	1,094	285	809	1,320	775	545
Retail/Office	179	1,000 Sq Ft GLA	Gross Trips	1,155	664	491	1,134	652	482
			Internal Capture	58	33	25	57	33	24
			Net Trips	1,097	631	466	1,077	619	458
			Total Net Trips	2,191	916	1,275	2,397	1,395	1,002

Table 6-3. Summary of BeltLine Pass-by and Transit Trip Reductions

Land Use	Amount	Unit	Trip Type	AM Peak of Adjacent Street			PM Peak of Adjacent Street		
				Total Trips	Entering Trips	Exiting Trips	Total Trips	Entering Trips	Exiting Trips
Residential	2858	Dwelling Unit	External Trips	1,094	285	809	1,320	775	545
			Transit Trips	306	80	226	370	217	152
			Passerby Trips	0	0	0	0	0	0
			Net External Trips	788	205	582	950	558	392
Retail/Office	179	1,000 Sq Ft GLA	External Trips	1,097	631	466	1,077	619	458
			Transit Trips	307	177	131	302	173	128
			Passerby Trips	373	214	159	366	211	156
			Net External Trips	417	240	177	409	235	174
			Total New External Trips	1,204	445	759	1,359	794	566



BeltLine Subarea 3:
BOULEVARD CROSSING

BeltLine AM/PM Peak Hour
Traffic Distribution

SEPT 30, 2008

LEGEND

- BeltLine SubArea 3 - Boulevard Crossing
- Tax Allocation District Boundary
- Parcels
- Buildings

- Interstate
- Roads
- Railroads
- Waterways

- % - Inbound
- [%] - Outbound
- AM PM**

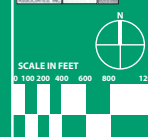


Figure 6-2 - Baseline AM / PM Trip Distribution

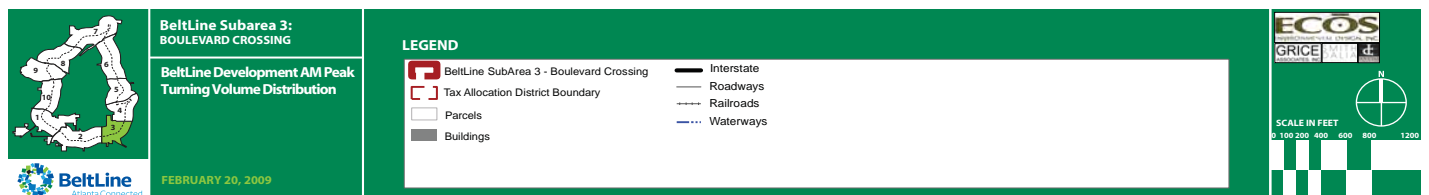
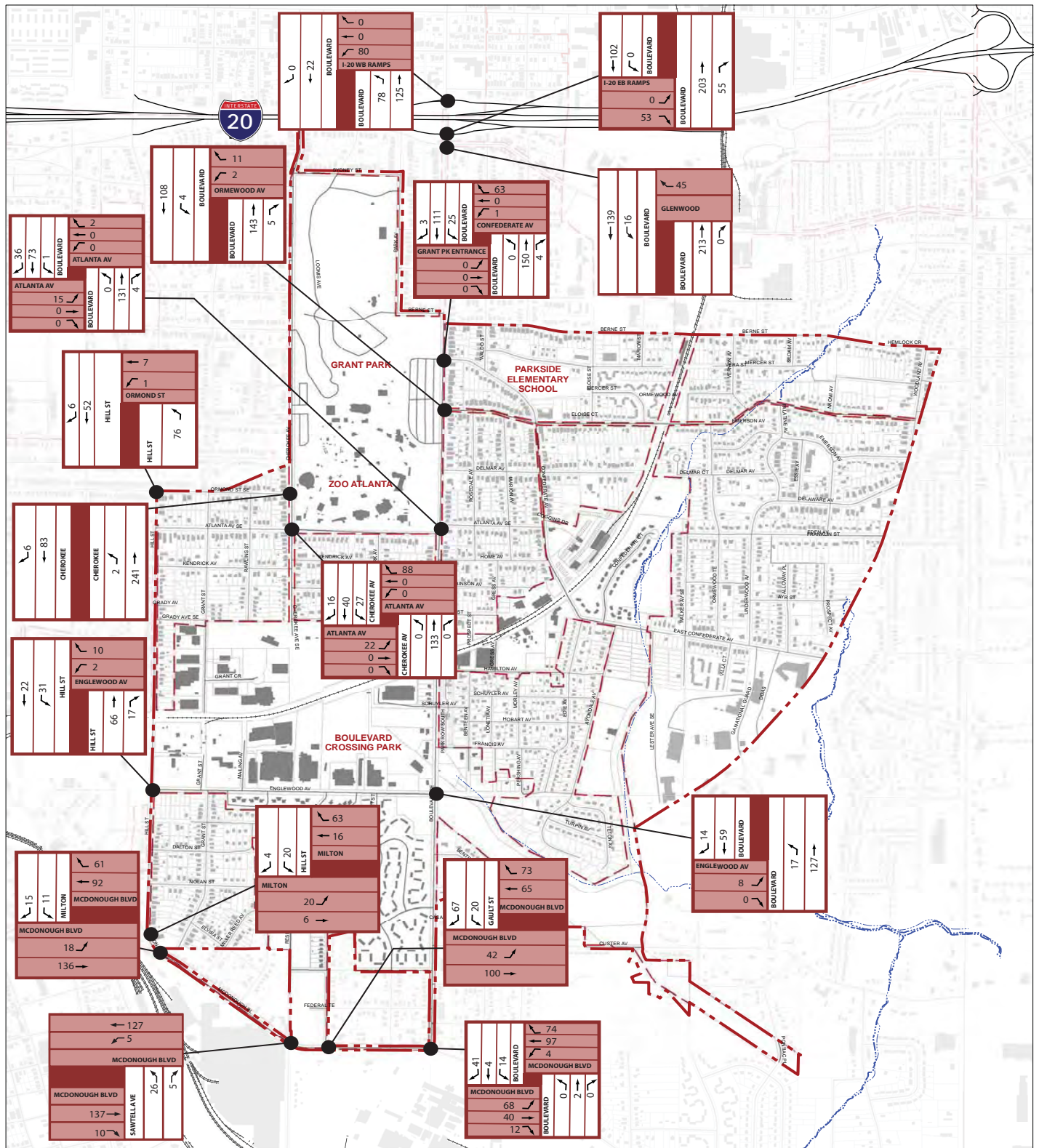
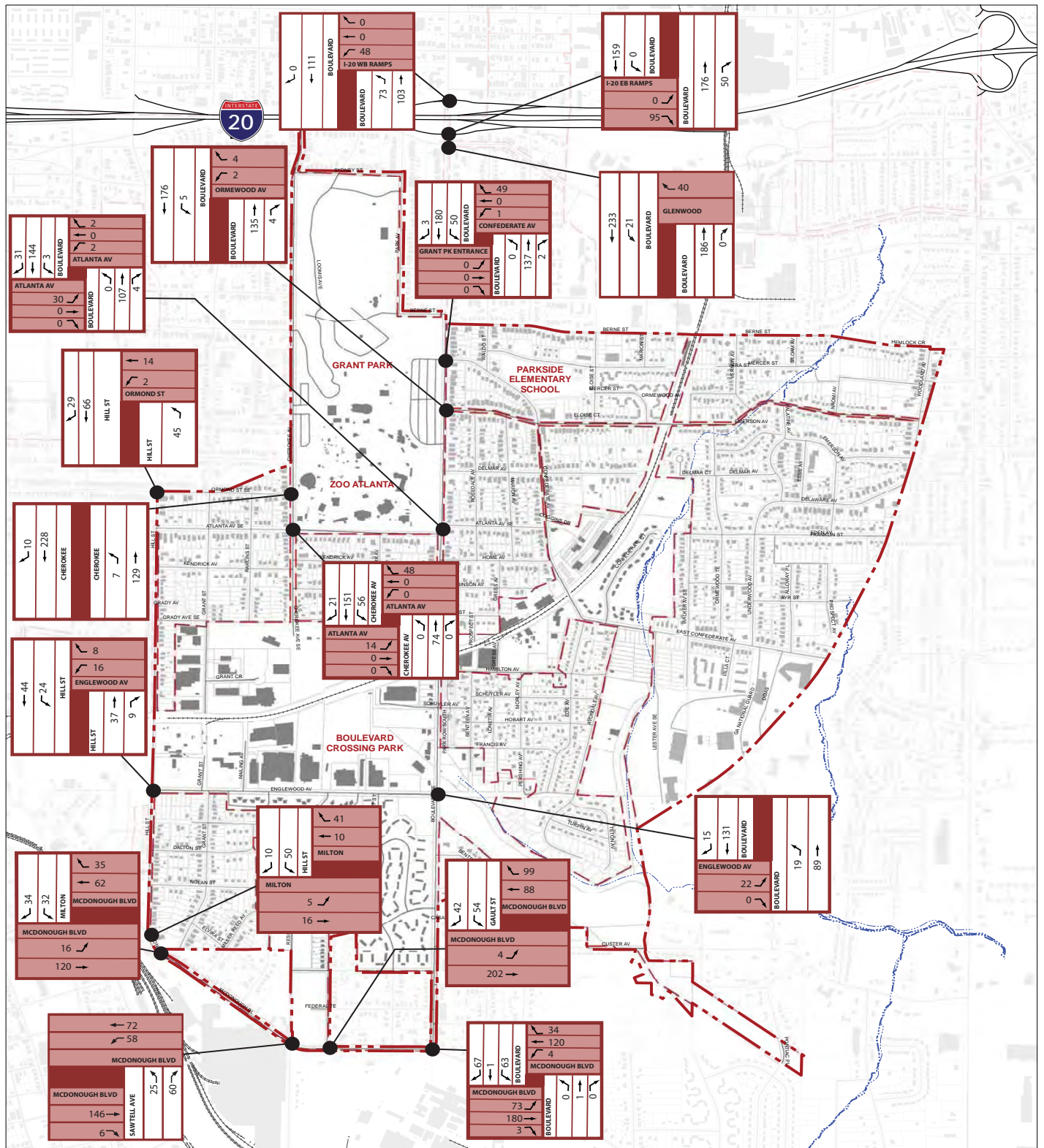



Figure 6-3 -BeltLine Development AM Peak Turning Volume Distribution






BeltLine Subarea 3: BOULEVARD CROSSING

BeltLine Development PM Peak Turning Volume Distribution

FEBRUARY 20, 2009

LEGEND

- BeltLine SubArea 3 - Boulevard Crossing
- Tax Allocation District Boundary
- Parcels
- Buildings
- Interstate
- Roadways
- Railroads
- Waterways



SCALE IN FEET

0 100 200 400 600 800 1200

Figure 6-4 -BeltLine Development PM Peak Turning Volume Distribution

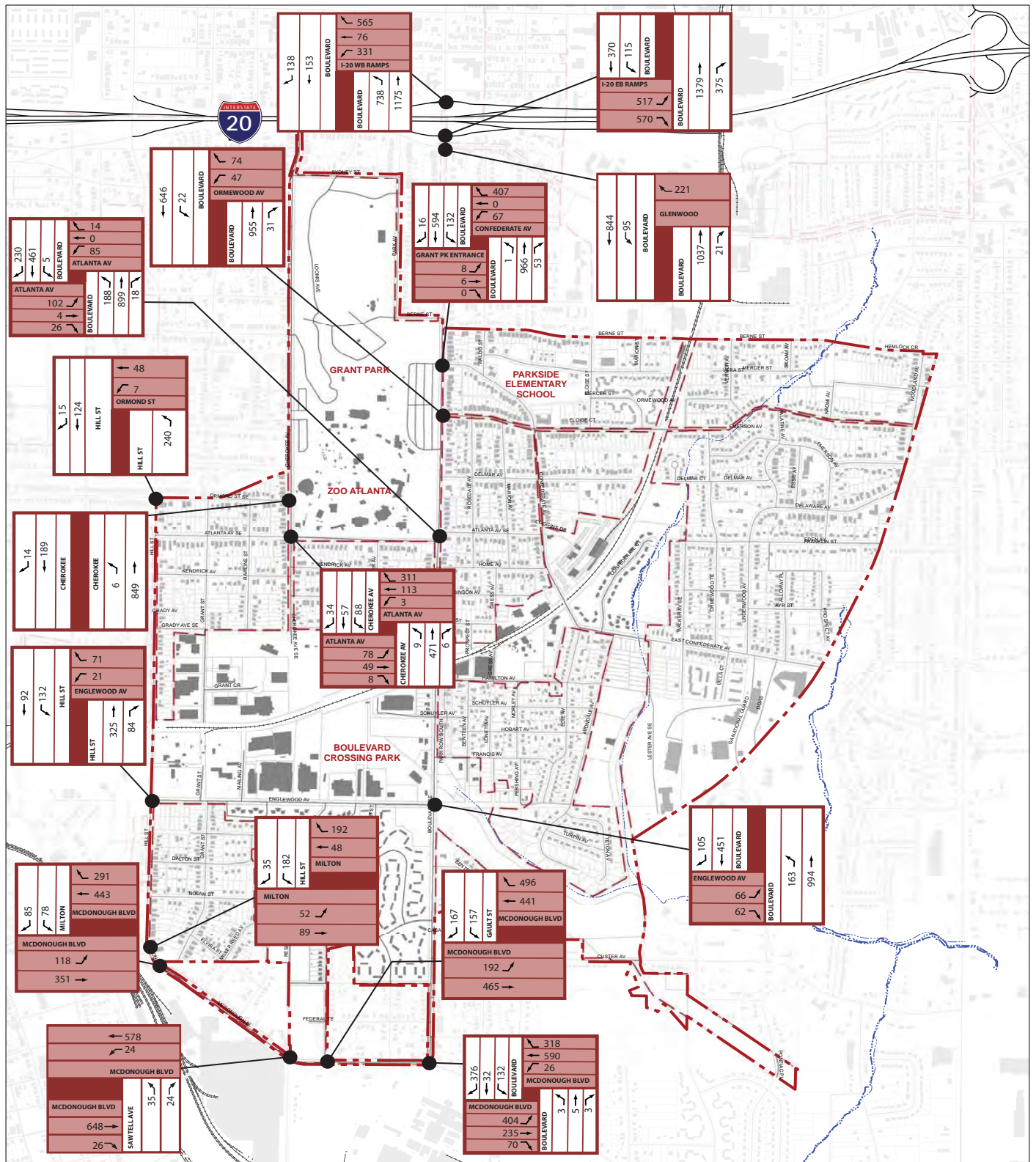
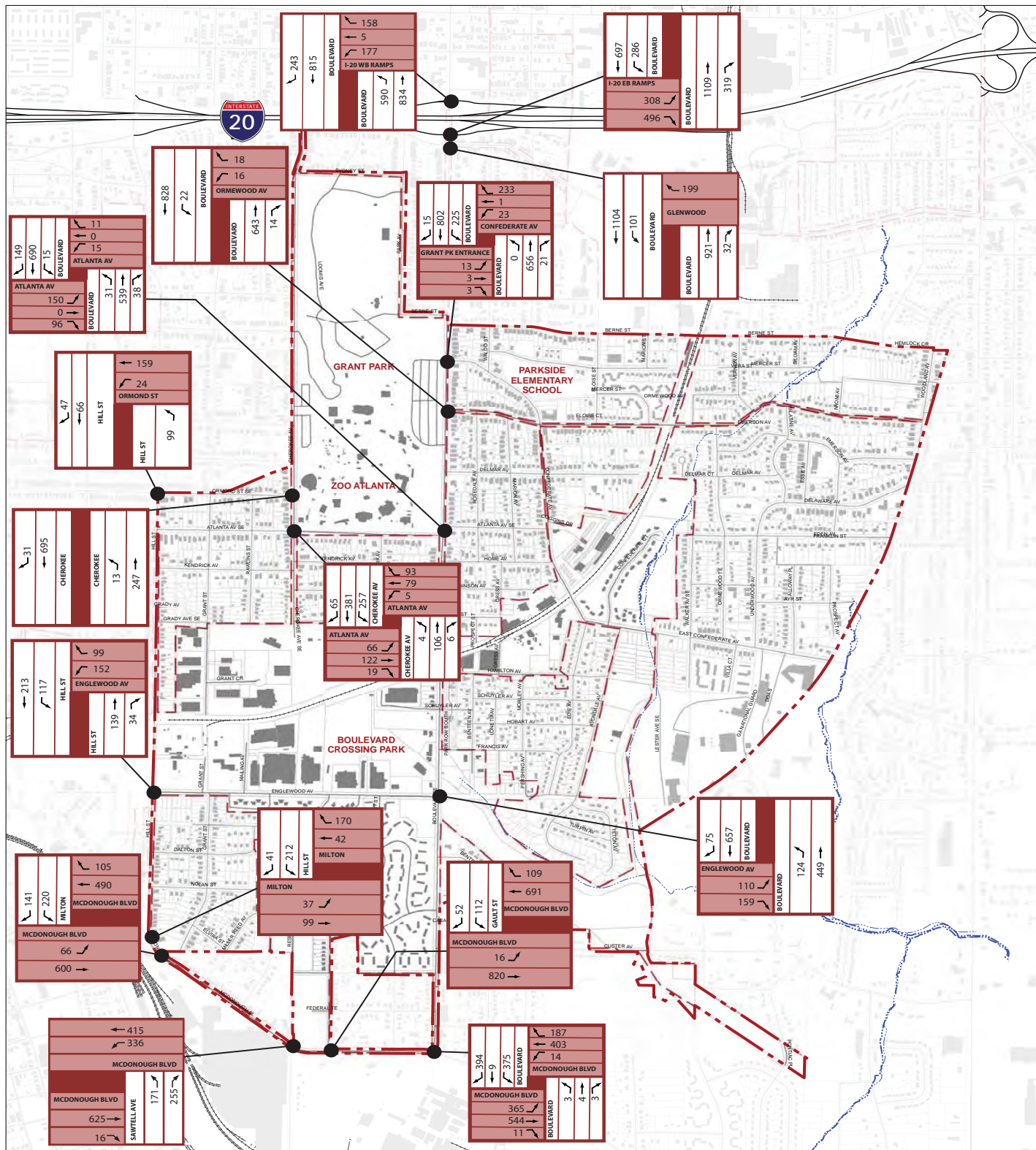



Figure 6-5 - BeltLine AM Peak 2020 Total Volume






BeltLine Subarea 3: BOULEVARD CROSSING

BeltLine PM Peak 2020 Total Volume

FEBRUARY 20, 2009

LEGEND

- BeltLine SubArea 3 - Boulevard Crossing
- Tax Allocation District Boundary
- Parcels
- Buildings
- Interstate
- Roadways
- Railroads
- Waterways



SCALE IN FEET

0 100 200 400 600 800 1200

Figure 6-6 - BeltLine PM Peak 2020 Total Volume

BeltLine development. However, the mode split choice (transit) and diversion of traffic volumes from Boulevard to Cherokee Avenue will help improve traffic operations on Boulevard when compared to Year 2020 Baseline conditions. All of the Focus Area One intersections operate at similar or better LOS and delay than Year 2020 Baseline conditions, except for the intersection of Cherokee Avenue and Atlanta Avenue.

Operations at Boulevard at the I-20 ramps are similar to Year 2020 Baseline conditions, except at I-20 EB ramp during the PM peak period. During the PM peak period, the I-20 EB ramp operates at a better LOS D, as contrasted to LOS E in the Year 2020 Baseline conditions. Similar to Year 2020 Baseline conditions, the I-20 EB ramp will experience failing operations and the ramp as a whole will have oversaturated conditions, with a v/c ratio of 1.25 in the AM peak period. The intersection at Glenwood Avenue will operate at acceptable LOS.

The intersection of Boulevard at Confederate Avenue will operate at acceptable LOS. Minor street traffic at the intersection of Boulevard at Orme-wood Avenue experience delays during the AM peak period. The intersection of Boulevard and Atlanta Avenue fails during the AM peak period. The intersections of Boulevard at Englewood Avenue and McDonough Boulevard, and the intersection of Cherokee Avenue at Ormond Street operate at acceptable LOS.

The intersection of Cherokee Avenue and Atlanta Avenue operates at LOS B during both the AM and PM peak periods, but with a slightly increased delay than Year 2020 Baseline conditions due to the traffic diversions from Boulevard to Cherokee Avenue.

Focus Area Two

Similar to Focus Area One, all of the Focus Area Two intersections operate similar or better when compared to Year 2020 Baseline conditions, except for the intersection of McDonough Boulevard and Gault Street.

The southbound approach of the intersection of McDonough Boulevard and Gault Street fails during both the AM and PM peak periods. This is be-

cause of the traffic diversions from Boulevard to Cherokee Avenue and the Cherokee Avenue Extension to Gault Street. All the other Focus Area Two intersections operate at acceptable LOS.

6.3 Year 2020 Traffic Operations with Transportation Improvements

Based on the results from capacity and level of service analyses, improvements were recommended for the BeltLine year 2020 scenario.

BeltLine Year 2020 Improvements recommended include:

1. Boulevard @ I-20 ramps
 - a. Allow concurrent phasing for EB and WB
2. Boulevard @ Confederate Avenue
 - a. Change WB lane configuration from WB left and WB through/right to WB left/through and WB right
 - b. Road-Diet along Boulevard
 - c. Provide NB left and NB through right
 - d. Provide SB left and SB through right
 - e. Provide protected-permissive phase for SB left
 - f. Provide WB right overlap with SB left
3. Boulevard @ Atlanta Avenue
 - a. Align EB and WB to remove offset. Remove split phasing.
 - b. Add EB left turn lane
 - c. Add WB left turn lane
 - d. Road-diet along Boulevard
 - e. Provide NB left and NB through/right
 - f. Provide SB left and SB through/right
4. Boulevard @ Englewood Avenue
 - a. Road-diet along Boulevard
 - b. Provide NB left and NB through
 - c. Provide SB through/right
7. Boulevard @ Orme-wood Avenue
 - a. Road-diet along Boulevard
 - b. Provide NB through/right
 - c. Provide SB left and SB through
8. McDonough Boulevard @ Gault Street
 - a. Install traffic signal
 - b. Change from EB left/through and EB through to EB left and EB through

- c. Add WB right-turn lane
- d. Add SB right-turn lane

Focus Area One

With the recommended improvement at the intersection of Boulevard and I-20 ramps, the EB ramp LOS improves from F to D during the AM peak period and from D to C during the PM peak period. The degree of saturation at EB and WB ramps is also greatly reduced during both the peak periods.

Transportation improvements under BeltLine Year 2020 conditions at the intersections of Boulevard with Confederate Avenue, Ormewood Avenue, Atlanta Avenue, and Englewood Avenue were based on community input received during the public meetings. The improvements include road-diet along Boulevard and turn lanes along some of the side-streets. A road diet would involve the conversion of the four lane facility to two through lanes, center median, and bicycle lanes or on-street parking. Since left-turning traffic volumes are accommodated by turn lanes in the center median, it is expected not to have adverse impact on the overall capacity. The road diet concept was modeled on Boulevard from Englewood Avenue to Confederate Avenue, assuming that Boulevard will transition from two lanes to four lanes south of Englewood as it approaches McDonough Boulevard and north of Confederate Avenue as it approaches I-20 ramps.

With road diet along Boulevard and turn lane improvements on the side-streets, LOS improves and degree of saturation decreases at the intersections of Boulevard with Confederate Avenue and Atlanta Avenue. At the intersection of Boulevard and Englewood Avenue, LOS drops from A to B during the PM peak period and v/c ratio increases slightly during both the peak periods because of the road diet on Boulevard.

The result of the road diet at the intersection of Boulevard and Ormewood Avenue caused an increase in delay in the PM peak period from LOS C to F for the WB minor street approach. Conditions on Boulevard were slightly affected, dropping the LOS from A to B for the free SB movement in the AM peak period.

Table 6-4. Focus Area One - 2020 BeltLine Intersection Operations

INTERSECTION	AM Peak		PM Peak	
	LOS	v/c	LOS	v/c
Boulevard at Interstate 20 WB Ramp	C[C]	1.25 [0.99]	C[C]	1.04 [0.89]
Boulevard at Interstate 20 Eastbound Ramp	F[D]	1.25 [0.99]	D[C]	1.04 [0.89]
Boulevard at Glenwood				
WB Approach (Stop)	C	N/A	C	N/A
SB Approach (Free)	A	N/A	A	N/A
Boulevard at Confederate Avenue	D[D]	1.03 [0.99]	B[B]	0.89 [0.64]
Boulevard at Ormewood Avenue				
WB Left (Stop)	F[F]	N/A	C[F]	N/A
SB Approach (Free)	A[B]	N/A	A[A]	N/A
Boulevard at Atlanta Avenue	F[B]	1.57 [0.75]	C[B]	0.80 [0.69]
Boulevard at Englewood Avenue	A[A]	0.63 [0.73]	A[B]	0.48 [0.66]
Boulevard at McDonough Boulevard	D	0.99	C	0.93
Cherokee Avenue at Ormond Street				
NB Approach (Free)	A	N/A	A	N/A
Cherokee Avenue at Atlanta Avenue	B	0.76	B	0.80

Focus Area Two

Eastbound lane configuration changes, turn lanes, and a traffic signal are recommended at the intersection of McDonough Boulevard and Gault Street due to the increase in traffic volumes as a result of diversion of traffic volumes from Boulevard to Cherokee Avenue and its extension to Gault Street. EB left-turn volume in the AM at this intersection is approximately 230 vph. Because of the vehicles waiting to make a left-turn in the EB left/through lane, through movements are effected. EB left and EB through operation is safer as it avoids the sudden merge of through traffic from EB left/through lane to EB through lane, and operates more smoothly than EB left/through and EB through. This actually improves the EB through movement.

Also, the eastbound approach drops to a EB left and EB through at Boulevard. With the recommended

reconfiguration, both Gault Street and Boulevard intersections will be consistent. In addition, EB left volume at McDonough Boulevard and Boulevard is high. Converting EB left/through and EB through to EB left and EB through at Gault Street not only allows smooth operation at Gault Street but also allows left-turns at Boulevard to operate more efficiently without merge conflicts. With the recommended improvements the intersection of McDonough Boulevard and Gault Street Operates at an LOS A during both the AM and PM peak periods.

The new lane geometries for the BeltLine Year 2020 recommended improvements are shown on Figure 6-7. The level of service achieved with these improvements is shown on Figure 6-8.

Table 6-5. Focus Area Two - 2020 BeltLine Intersection Operations

INTERSECTION	AM Peak		PM Peak	
	LOS	v/c	LOS	v/c
McDonough Boulevard at Gault Street*	[A]*	[0.49]*	[A]*	[0.62]*
EB Approach (Free)	C	N/A	A	N/A
SB Left (Stop)	F	N/A	F	N/A
McDonough Boulevard at Sawtell Avenue	B	0.49	B	0.80
McDonough Boulevard at Milton Avenue	A	0.47	B	0.89
Milton Avenue at Hill Street				
NB Approach (Yield)	B	N/A	B	N/A
SB Approach (Stop)	B	N/A	B	N/A
SE Left (Free)	A	N/A	A	N/A
Hill Street at Englewood Avenue				
WB Left (Stop)	B	N/A	C	N/A
SB Approach (Free)	A	N/A	A	N/A
Hill Street at Ormond Street				
WB Approach (Stop)	A	N/A	A	N/A
NB Approach (Stop)	A	N/A	A	N/A
SB Approach (Stop)	A	N/A	A	N/A

* Intersection Signalized.

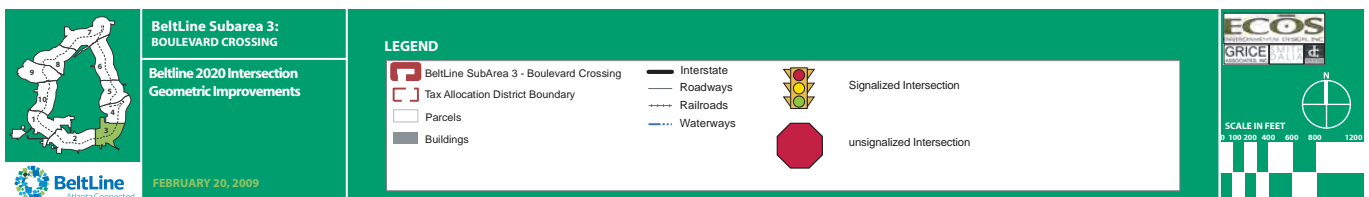
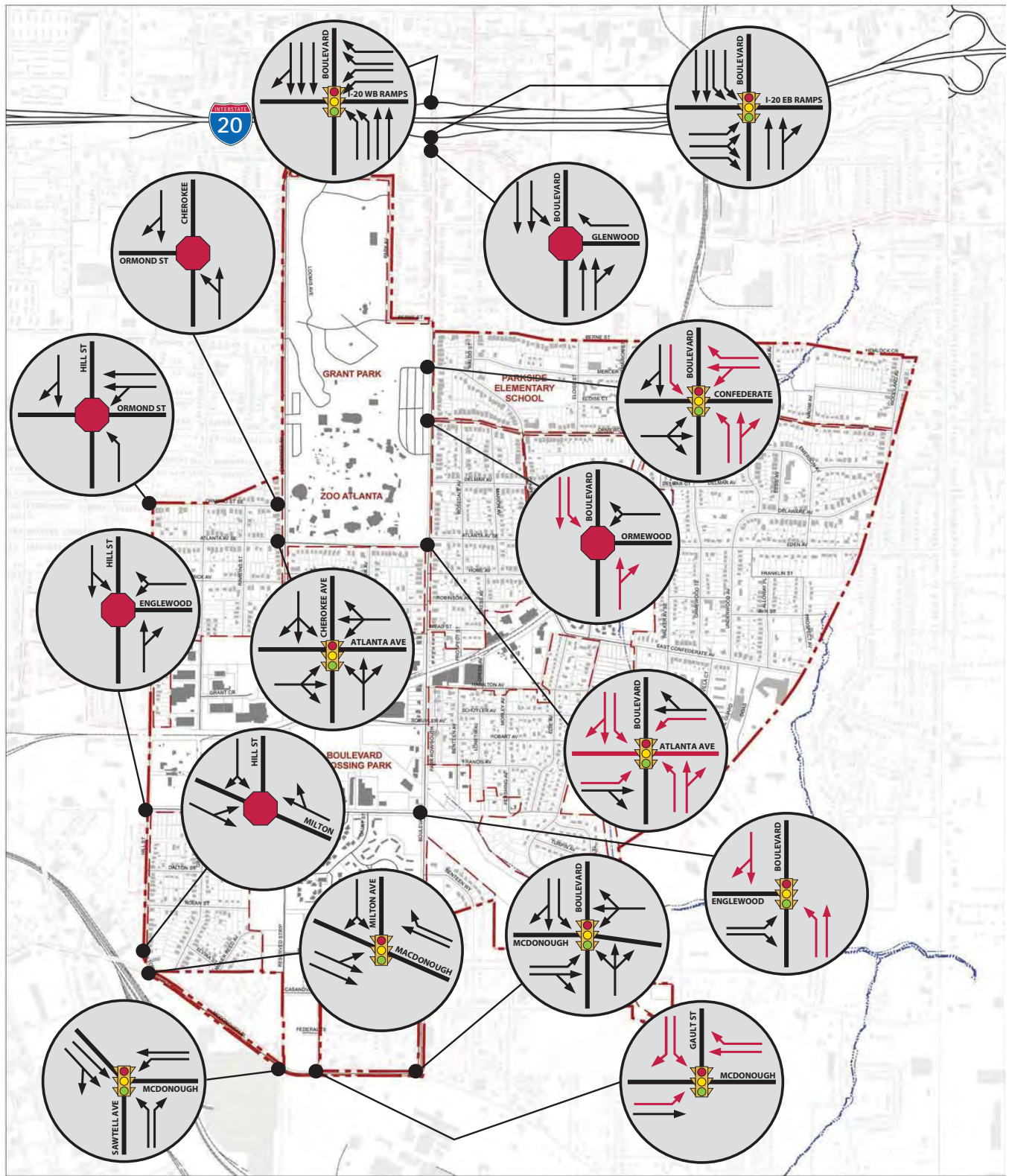
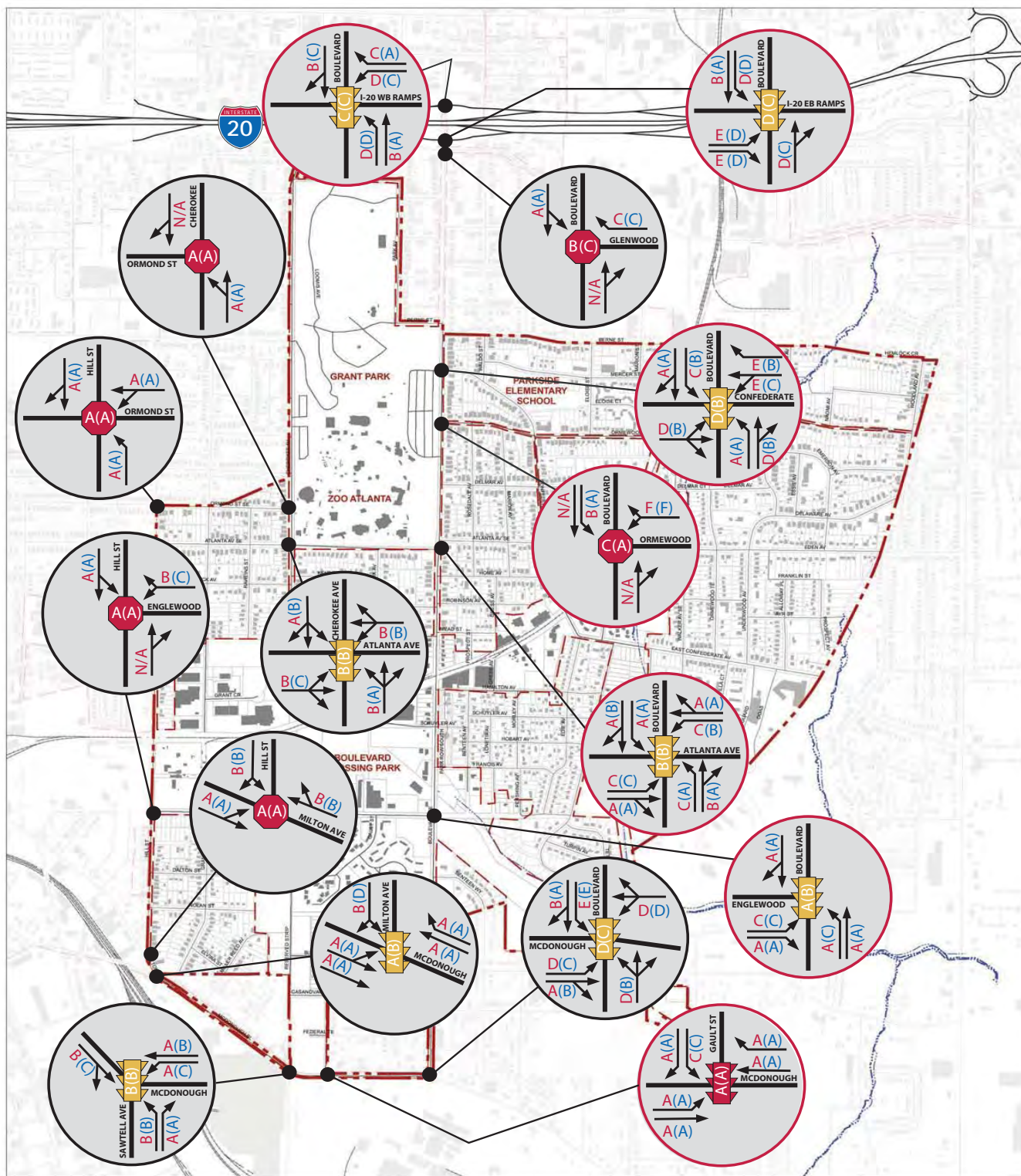


Figure 6-7 - BeltLine 2020 Lane Geometries for Recommended Improvements



BeltLine Subarea 3:
BOULEVARD CROSSING

BeltLine 2020 LOS
With Improvements

FEBRUARY 20, 2009

LEGEND

- BeltLine SubArea 3 - Boulevard Crossing
- Tax Allocation District Boundary
- Parcels
- Buildings

- Interstate
- Roadways
- Railroads
- Waterways

LOS: AM(PM)

- Unsignalized Intersection
- Signalized Intersection

ECOS
GRICE

SCALE IN FEET
0 100 200 400 600 800 1000 1200

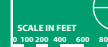


Figure 6-8 - BeltLine 2020 Level of Service with Recommended Improvements

6.4 Year 2030 Traffic Operations

The traffic operations for BeltLine Year 2030 were analyzed in the same manner as BeltLine Year 2020.

BeltLine Year 2020 total volumes were projected to Year 2030 using the 2.0% per year growth rate and based on the following formula.

$$V_{\text{BeltLine 2030}} = V_{\text{BeltLine 2020}} \times (1+0.02)^{10}$$

The total AM and PM peak traffic volumes analyzed for this scenario are illustrated in Figures 6-9 and 6-10, respectively.

The results of this analysis for the study intersections, both with and without recommended improvements, are summarized in Table 6-6 for Focus Area One and Table 6-7 for Focus Area Two.

Focus Area One

Traffic operations continue to deteriorate at the intersection of Boulevard and I-20 ramps. Northbound left-turn movement at the WB ramp and eastbound and northbound approaches at the EB ramp fails during the AM peak period. Southbound left-turn movement fails at the EB ramp during the PM peak period. The overall intersection operations will worsen from LOS C to LOS D at the WB ramp during the AM period, from LOS D to LOS F during the AM peak period and from C to D during the PM peak period at the EB ramp. There will continue to be difficulty for motorists from Glenwood Avenue to find acceptable gaps to turn onto Boulevard.

Delay increases at the intersection of Boulevard and Confederate Avenue and LOS worsened from D to E during the AM peak period. The NB approach fails during the AM peak period. The intersections of Boulevard with Atlanta Avenue and Englewood Avenue operate with a LOS C or better during both the peak periods.

Conditions at Boulevard and McDonough Boulevard worsen from improved 2020 operations. The intersection fails during the AM peak hour and operates at an LOS E during the PM peak hour. Minor-street traffic at the intersection of Boulevard and Ormewood Avenue continue to experience delays. Both the Cherokee Avenue intersections operate at acceptable LOS

Focus Area Two

All the Focus Area Two intersections operate at acceptable LOS. With the recommended improvements in the year 2020, the intersection of McDonough Boulevard and Gault Street operate at LOB B or better. The only notable delays in Focus Area Two are on minor-street approach at the intersection of Hill Street and Englewood Avenue. The two-way stop control intersection operates at LOS C in the AM and LOS E in the PM for the minor street approach. The mainline flow on Hill Street operates at LOS A.

6.5 Year 2030 with Transportation Improvements

Transportation improvements were recommended to improve operations at the study intersections under BeltLine Year 2030 conditions. These improvements are in addition to those made for Year 2020.

BeltLine Year 2030 Improvements recommended include:

1. Boulevard @ I-20 EB ramps
 - a. Allow EB right on red (if adequate sight distance can be achieved)
2. McDonough Boulevard @ Boulevard
 - a. Add WB right
 - b. Add SB right

Focus Area One

With the recommended improvement at the intersection of Boulevard and I-20 ramps, overall LOS at the EB ramps improves from F to E during the AM peak period. This additional capacity will improve overall intersection operations at both ramps. The v/c ratios improve at both ramps during the AM peak period, yet are still oversaturated. It is recommended to monitor traffic volumes at this intersection in the future and consider geometric improvements if traffic operations worsen than what was projected in this analysis. However, it is anticipated that increased use of transit facilities and diversion of traffic from Boulevard to Cherokee Avenue may improve traffic operations at this intersection.

The northbound approach at the intersection of Boulevard and Confederate Avenue operates at LOS F and the overall intersection operates at LOS E during the AM peak period due to the heavy

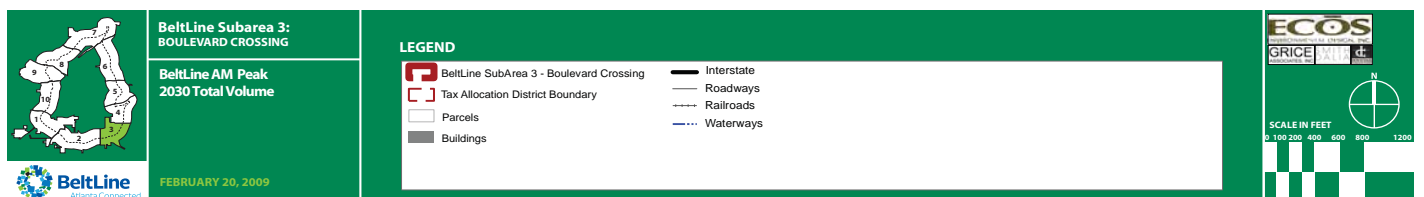
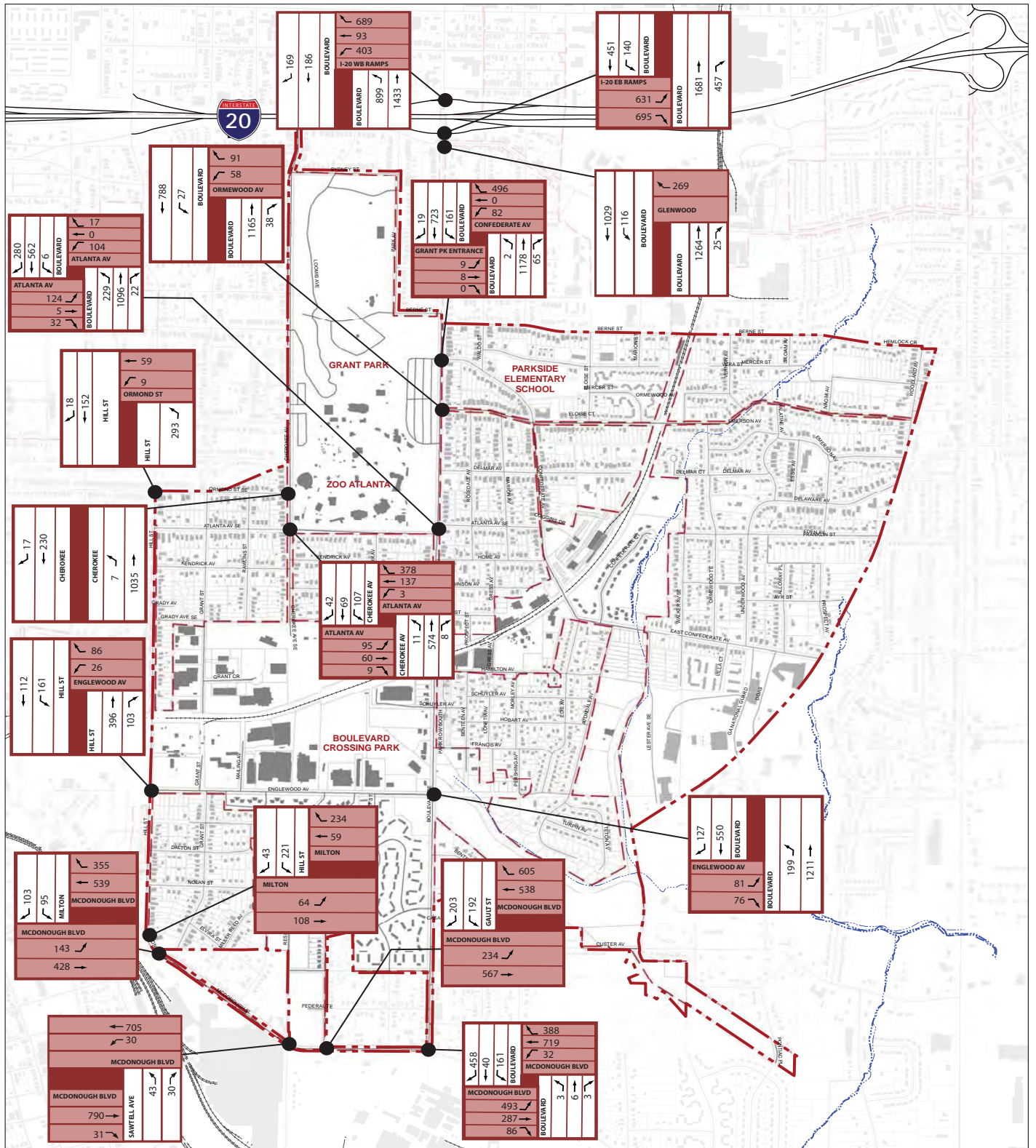


Figure 6-9 - BeltLine AM Peak 2030 Total Volume

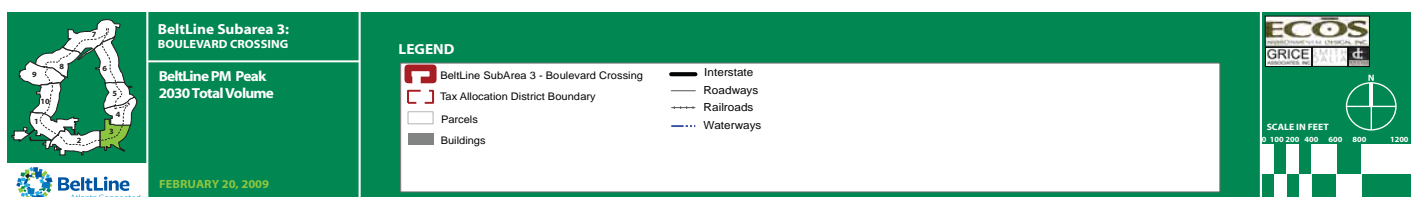
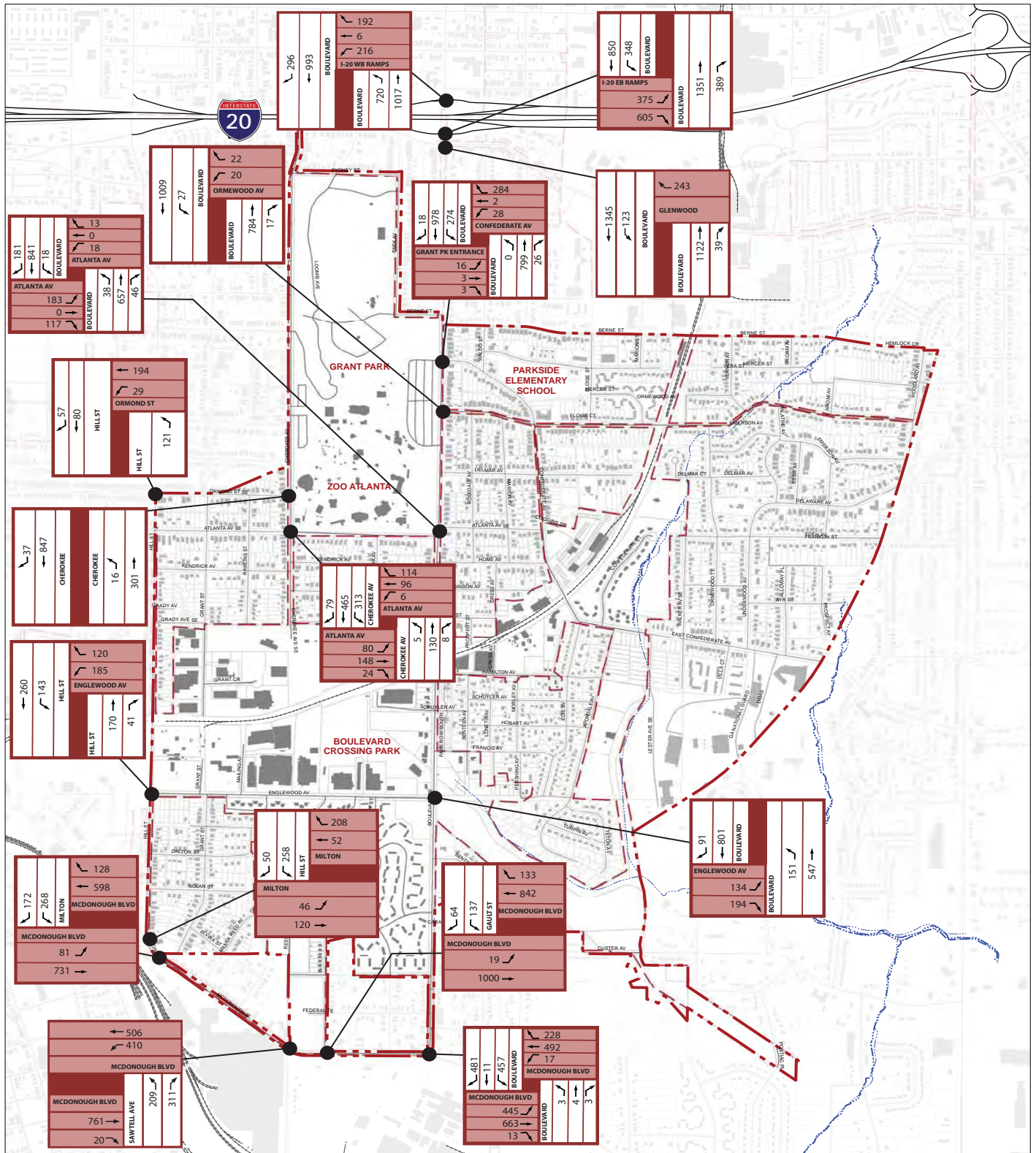


Figure 6-10 - BeltLine PM Peak 2030 Total Volume

northbound through volumes. Because of the proposed road diet and community requirement of on-street parking along Boulevard, no further improvements than what was recommended for Year 2020 conditions can be recommended at this intersection. However, it is anticipated that increased use of transit facilities and diversion of traffic from Boulevard to Cherokee Avenue may improve traffic operations at this intersection than what was projected in this analysis. This intersection operates at LOS B during the PM peak period.

The turn-lane recommendations at the intersection of Boulevard and McDonough Boulevard improve the traffic operations from LOS F to D in the AM peak period and LOS E to D in the PM peak period.

Table 6-6. Focus Area One - 2030 BeltLine Intersection Operations

INTERSECTION	AM Peak		PM Peak	
	LOS	v/c	LOS	v/c
Boulevard at Interstate 20 WB Ramp	D[D]	1.13 [1.03]	C[C]	1.03 [1.03]
Boulevard at Interstate 20 Eastbound Ramp	F[E]	1.13 [1.03]	D[D]	1.03 [1.03]
Boulevard at Glenwood				
WB Approach (Stop)	E	N/A	E	N/A
SB Approach (Free)	A	N/A	A	N/A
Boulevard at Confederate Avenue	E	1.18	B	0.76
Boulevard at Ormewood Avenue				
WB Left (Stop)	F	N/A	F	N/A
SB Approach (Free)	B	N/A	A	N/A
Boulevard at Atlanta Avenue	C	1.00	B	0.89
Boulevard at Englewood Avenue	B	0.85	B	0.81
Boulevard at McDonough Boulevard	F[D]	1.19 [0.99]	E[D]	1.06 [1.02]
Cherokee Avenue at Ormond Street				
NB Approach (Free)	A	N/A	A	N/A
Cherokee Avenue at Atlanta Avenue	C	0.91	C	0.90

Focus Area Two

No improvements are recommended for the study intersections in Focus Area Two.

The new lane geometries for the BeltLine Year 2030 recommended improvements are shown on Figure 6-11. The level of service achieved with these improvements is shown on Figure 6-12.

Table 6-7 - Focus Area Two - 2030 BeltLine Intersection Operations

INTERSECTION	AM Peak		PM Peak	
	LOS	v/c	LOS	v/c
McDonough Boulevard at Gault Street	A	0.69	B	0.76
McDonough Boulevard at Sawtell Avenue	B	0.59	C	0.88
McDonough Boulevard at Milton Avenue	A	0.58	B	0.92
Milton Avenue at Hill Street				
NB Approach (Yield)	C	N/A	C	N/A
SB Approach (Stop)	B	N/A	B	N/A
SE Left (Free)	A	N/A	A	N/A
Hill Street at Englewood Avenue				
WB Left (Stop)	C	N/A	E	N/A
SB Approach (Free)	A	N/A	A	N/A
Hill Street at Ormond Street				
WB Approach (Stop)	A	N/A	A	N/A
NB Approach (Stop)	B	N/A	A	N/A
SB Approach (Stop)	A	N/A	A	N/A

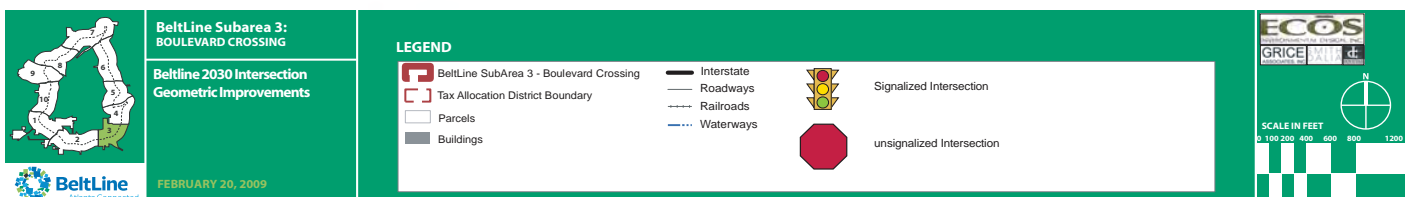
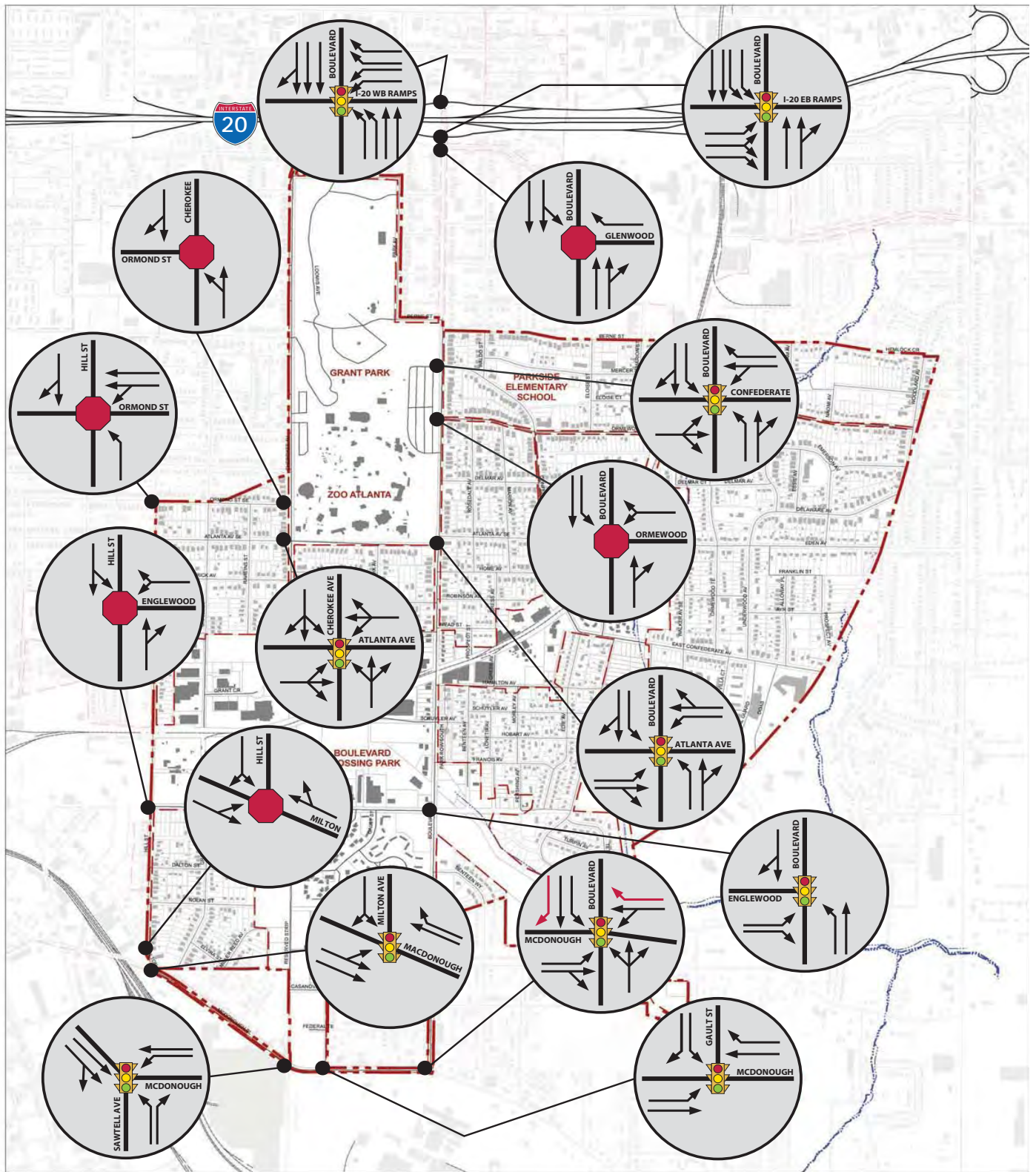


Figure 6-11 - BeltLine 2030 Lane Geometries with Recommended Improvements

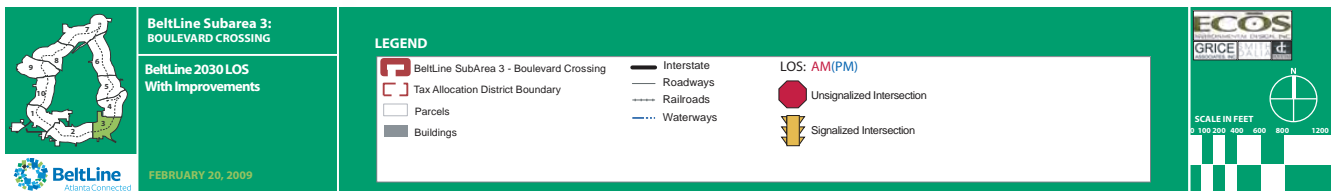
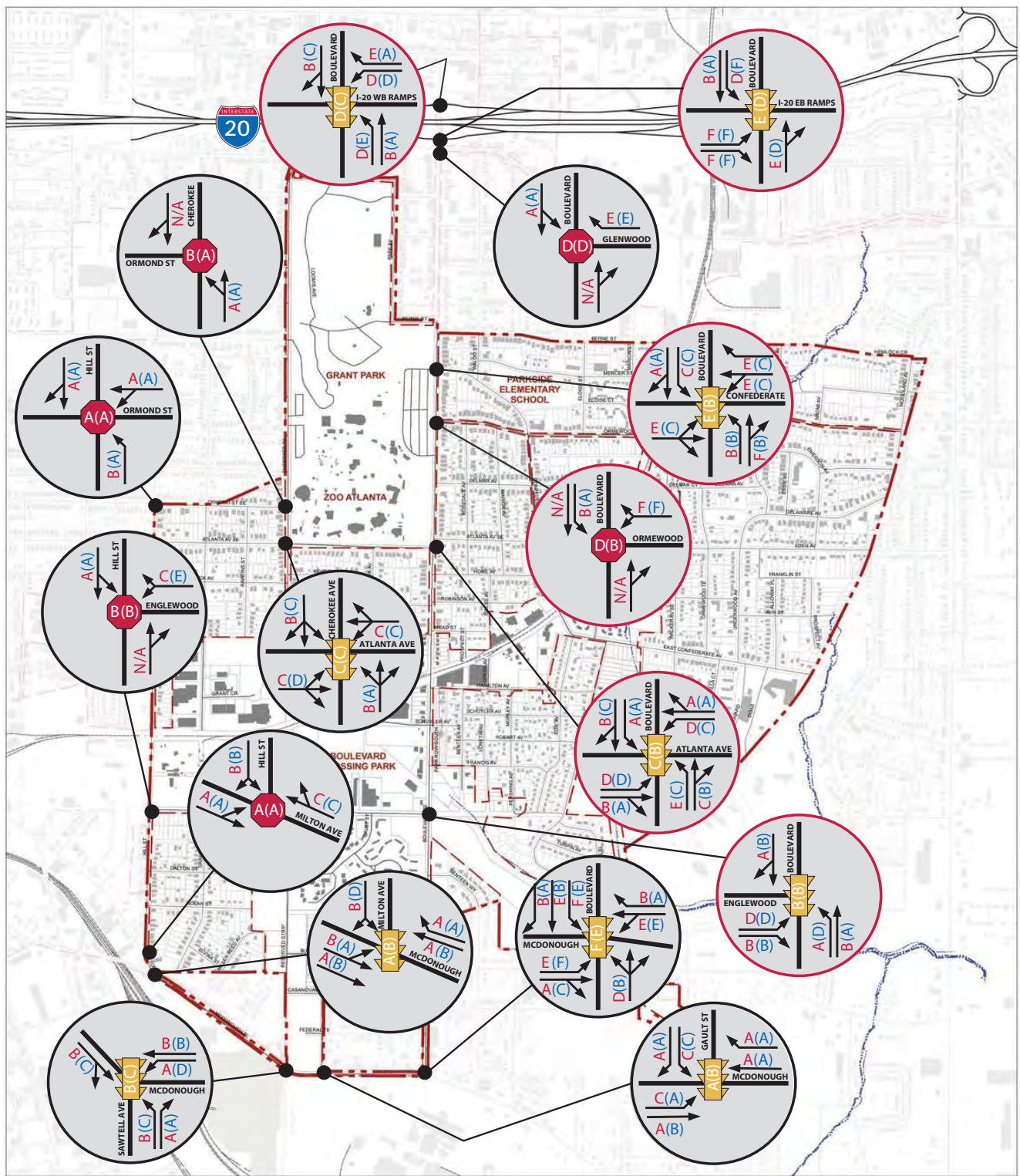


Figure 6-12 - BeltLine 2030 Level of Service with Recommended Improvements

6.6 Other Recommended System Improvements

Several transportation improvements were evaluated for Subarea 3 to determine the most appropriate and cost effective solutions for mitigating traffic impacts in future years. In addition to engineering judgment, public input was also used to ascertain the community's vision for their transportation system. Although many of the improvements were explicitly modeled, some were evaluated qualitatively. These include the installation of a roundabout at the intersection of Boulevard and Englewood Avenue, and the addition of improved pedestrian and bicycle facilities throughout the subarea.

Roundabout at Boulevard and Englewood Avenue

Among the transportation improvement strategies explored was the installation of a roundabout at the intersection of Boulevard and Englewood Avenue, pictured from various views in Figures 6-13, 6-14, and 6-15.

The lane configuration of a single-lane roundabout is depicted in Figure 6-16, while Figures 6-17, 6-18, and 6-19 show examples of roundabouts in operation in Oregon, Colorado, and Vermont.

The Federal Highway Administration (FHWA) cites the following additional benefits of modern roundabouts:

Safety - Modern roundabouts are recognized for reducing the frequency and severity of crashes at intersections. Safety benefits are achieved because the number of potential vehicle conflict points of traditional intersection are reduced from 32 to only 8 with a roundabout. The severity of crashes is reduced because the more serious head-on, left turning across oncoming traffic, and right angle crashes are significantly reduced or eliminated. The design of modern roundabouts also encourages motorists to reduce travel speed, further increasing their safety benefits. According to Roundabouts: An Informational Guide, published by the Federal Highway Administration, US and international statistics

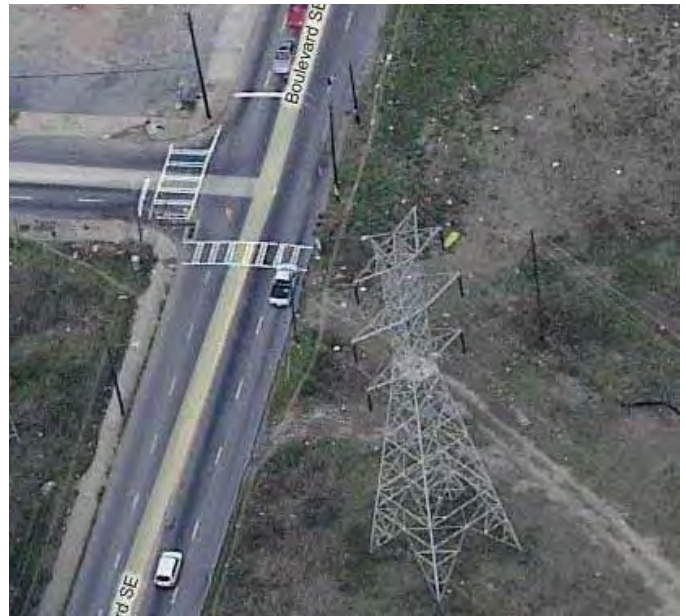


Figure 6-13 - Aerial view of Boulevard at Englewood Avenue



Figure 6-14 - Boulevard at Englewood Avenue looking north

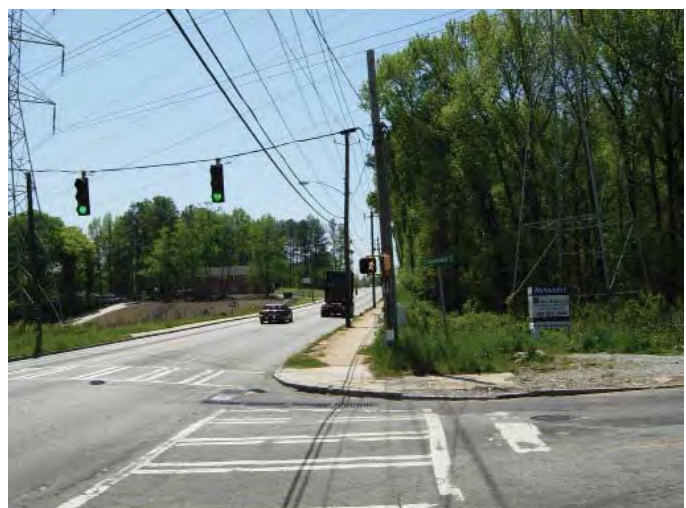


Figure 6-15 - Boulevard at Englewood Avenue looking south

indicate that reductions in overall crashes from 36% to 61%, and injury crash reductions from 25% to 87% have been realized with the use of single-lane roundabouts.

Special consideration has been given to pedestrian and bicyclists accommodations at roundabouts. Research has been conducted to determine the design, signing and pavement markings to make roundabouts as safe as possible for all users, including those with disabilities. The lower speeds of roundabouts prove to be beneficial in reducing the frequency and severity of pedestrian and bicycle crashes that do occur.

Capacity – Although sometimes lauded more for their safety benefits, roundabouts have notable operational benefits as well. Since entering vehicles only have to stop or yield to circulating traffic until an acceptable gap is available, unnecessary delay is eliminated over traffic signals. Roundabouts can carry about 30% more vehicles than similarly sized signalized intersections during peak periods.

Cost – With the elimination of the cost of maintaining and operating a traffic signal, a roundabout can have significant savings – reported as \$3,000-\$5,000 annually. Motorists can also save money in terms of fuel consumption and lost time associated with the reduced stops and delays experienced at traffic signals. The societal costs savings can be realized with the use of roundabouts since there are fewer



Figure 6-16 - Single Lane Roundabout



Figure 6-17 - Single lane roundabout in Colorado



Figure 6-18 - Single lane roundabout in Montpelier, Vermont



Figure 6-19 - Single lane roundabout in Springfield, Oregon
58th Street / Thurston Road)

and less severe property damage and injury crashes resulting from their use. However, construction of a roundabout may require the purchase of additional right-of-way, which could be costly.

Aesthetics - Roundabouts afford opportunities for urban design treatments, and can be used to demarcate between changes in land use, such as between residential and commercial. Roundabouts also offer a visual reminder of the change in character of the adjacent land use. Landscaping, sculptures, and other artistic treatments can be used to establish a sense of place for the community that is often preferable to the controller cabinets, poles, heads and span wire of traditional traffic signal installations.

Recommended Pedestrian Facility Improvements

System-wide sidewalk improvements are recommended for Subarea 3. Within the subarea, there are locations with partial and no sidewalk coverage, especially along Englewood Avenue and some parts of Berne Street. The lack of sidewalks and proper walkways has major impacts on pedestrian safety and the pedestrian level of service.

According to the Federal Highway Administration's *Evaluation of Safety, Design and Operation of Shared-Use Paths*, as with vehicular LOS, pedestrian LOS is also designated with letters A through F. Pedestrian LOS is based on available space, flow rate, ability to maintain desired speed, and degree of saturation. An increase in the number of pedestrians per area at any given time will reduce the pedestrian walkway LOS. As the walking space gets smaller, the LOS declines; and as the flow rate increases, the LOS approaches F. The introduction of the BeltLine and its associated mixed-use development will generate additional pedestrian trips, hence, increasing the flow rate and reducing the LOS.

The average pedestrian walking speed is about 4 feet per second. Travelers with mobility impairments all move slower (about 3.5 feet per second) than the average pedestrian. The different types of impaired users, described in the FHWA report by Kirschbaum, include the following:

- o Stroller users
- o Wheelchair users
- o Individuals with limited balance
- o Individuals with a vision impairment
- o Older adults
- o Children
- o Individuals who are obese
- o Crutch or support cane users
- o Individuals with low fitness levels
- o Individuals with cognitive impairments
- o Individuals with emotional impairments

The lack of adequate walkway or paved pedestrian paths can increase the time it takes a traveler to move from one point to another. If there is little or no sidewalk, the level of service will be F in these areas. Englewood Avenue is one of the facilities within the subarea with a LOS of F. The walkway LOS for other areas varies from A to E.

One of the main goals for many pedestrians is to reduce travel time and distance by selecting the most direct route. However, pedestrians will sometimes select other longer courses to get to their destination if the shortest route does not provide a sidewalk. Pedestrians may also select longer routes if the desired path is not convenient or desirable. This can be disadvantageous because an increase in travel time may deter walking.

If the sidewalks are partially blocked (encroachment of overgrown trees, shrubs, utility poles, hydrants, etc.) or too narrow, there will be a reduction in pedestrian walking time when slowing down to maneuver around an obstacle (including stopping to check for oncoming vehicles). If the sidewalk is completely blocked, forcing pedestrians to walk in the roadway, conflicts between motorists, cyclists and pedestrians may occur. This not only raises safety concerns but also reduces travel time for all parties. Uneven surfaces can also reduce the travel time of pedestrians, particularly those with mobility issues and those who have limited visibility. Sidewalk widths may also be insufficient in accommodating pedestrians walking in opposite directions. This can cause conflicts between pedestrians, further increasing delay.

In addition to LOS, there is an additional measure of pedestrian accommodation performance, called the Quality of Service (QOS), that should be con-

sidered in providing attractive pedestrian facilities. QOS of pedestrian flow, as defined by Milazzo, includes the following measures:

- o Freedom to choose desired speeds
- o Freedom to pass slower pedestrians
- o Ability to cross a stream of pedestrians
- o Ability to walk in the reverse direction of a stream of pedestrians
- o Ability to maneuver without conflicts
- o Delay at signalized intersections
- o Delay at unsignalized intersections

To reduce pedestrian travel time and improve the overall walking experience, sidewalks that are wide enough to accommodate travel in both directions without conflicts, that provide proper connectivity and continuity, and that are well maintained is recommended. Provision of acceptable LOS and QOS should be considered for all Subarea 3 sidewalk improvement projects. The improvement of sidewalks will encourage walking and transit use, which will reduce traffic congestion overall.

Recommended Bicycle Facility Improvements

Bicycling is a form of transportation that provides many travel advantages. In most instances a traveler can get to their destination considerably faster by cycling than walking. In some congested areas, a cyclist can cover ground much faster than automobiles by maneuvering around gridlocks. With the proper bicycle facilities in place, travelers may choose to commute to BeltLine stations by cycling. This will encourage ridership from people who live a little further away from the BeltLine. It takes a bicyclist about 6 minutes to travel one mile.

Although the benefits of cycling are numerous, without the proper infrastructure and level of service (LOS), there may be safety issues as well as poor mobility. Below are some of the factors which influence decisions to choose bicycling as a travel alternative.

- o Safe bicycle area
- o Ease of biking
- o Driver behavior
- o Roadway share issues with motor vehicles

- o Street intersection conditions (such as delays due to traffic signal or pedestrian crossing)
- o Conflict with pedestrians and other bicyclists
- o Steep slope/grade
- o Poor lighting
- o Proper bike parking facilities
- o Transit accommodation
- o Improper or missing signing and marking
- o Speeds impediments
- o Ability to maneuver without conflicts with objects (such as overgrown trees, poorly located poles, mail boxes, trash and debris)
- o Surface quality / conditions (potholes, drain grates, pullbox covers, uneven surfaces, railroad tracks, debris and encroachment of overgrown vegetation)

Some of the factors that influence bicycle LOS include:

- o Roadway width and number of through lanes
- o Bike lane widths and striping combinations
- o Traffic volumes
- o Pavement surface condition
- o Motor vehicle speed
- o Type of motor vehicle
- o Percentage of heavy vehicles
- o On-street parking

With the introduction of the Beltline project, the type of bicycle facility will be dependent on the available space and proposed development. There are three major classes of bicycle facilities identified by AASHTO:

- o Shared Use Path - a separate multi-use bike trail (typically 12 feet wide or more) that is located separate from automobile traffic.
- o Bike Lane Facility - a striped bike lane on a street, typically 4 feet wide
- o Signed Shared Roadway Facility - an on-street bike route that is designated by signage alone.

There is a lack of dedicated bicycle facilities within the subarea. Confederate Avenue (NB side) through East Confederate Avenue (both directions) is the only roadway with designated bike lane facilities.

As shown in Figure 6-20, the bike lane on Confederate Avenue runs northbound from Edie Ave to Ormewood Avenue, which is east of Boulevard. The circled region in the aerial view above shows the end of the existing bike lane along Confederate Avenue.



Figure 6-20 - Bike lanes on Confederate Avenue

As described in the AASHTO manual, appropriate treatment of railroad crossings in the subarea will be required to ensure smooth and safe passage for bicyclists and pedestrians. In addition, on-street bicycle facilities should include curb inlet grates. Proper signage, pavement markings and adequate furniture for parking bikes, should be provided.

The improvement of Subarea 3 bicycling facilities will benefit overall traffic operations for bicyclists and motorists.

7.0 Conclusions and Recommendations

The following conclusions are based on the collected data, intersection capacity analyses, field observations, and the community's goals as expressed during the extensive public involvement process employed for this project:

7.1 Baseline Recommended Improvements

Even without the added traffic volumes that are forecast to be generated by BeltLine redevelopment, certain key intersections will need to be improved for efficient operations and improved safety. Baseline recommendations are all in Focus Area One.

Focus Area One

Recommended intersection improvements include:

Boulevard at the I-20 ramps

- o Allow EB right turn on red for EB ramp (if adequate sight distance can be achieved)
- o Allow concurrent phasing for EB and WB
- o Add NB right turn lane for EB ramp

Boulevard @ Confederate Avenue

- o Change WB lane configuration from WB left and WB through/right to WB left/through and WB right
- o Provide NB left through and NB through right
- o Provide SB left and SB through right
- o Provide protected-permissive phase for SB left
- o Provide WB right overlap with SB left

Boulevard @ Atlanta Avenue

- o Add NB left-turn lane
- o Align EB and WB to remove offset
- o Remove split phasing.
- o Provide protected-permissive phase for NB left

Boulevard @ McDonough Boulevard

- o Add one more EB left turn lane to make dual

left turn lanes. Provide protected phase for EB left.

- o Add WB left turn lane and WB right turn lane. Provide protected-permissive phase for WB left turn.
- o Add SB right turn lane
- o Provide protected-permissive phase for SB left turn lane
- o Provide WB right overlap with SB left
- o Provide SB right overlap with EB left

Traffic Signal Upgrade / Timing:

Traffic signals throughout the focus area should be optimized under Baseline conditions to allow intersections to operate more efficiently under future traffic demands.

Focus Area Two

Traffic Signal Upgrade / Timing:

Traffic signals throughout the focus area should be optimized under Baseline conditions to allow intersections to operate more efficiently under future traffic demands. No other Baseline improvement needs have been identified for Focus Area Two.

7.2 BeltLine Recommended Improvements

With BeltLine redevelopment in place, transportation enhancements are essential in the future years. Failing operations at key intersections would be detrimental to the area as a whole. The following recommendations are a combination of those achieved by modeling of key intersections, and those deemed to be appropriate through engineering judgment, field observation, and from discussion with the Project Team, area citizens and stakeholders throughout the study process.

The recommended BeltLine improvements are based on the Circulation Plan for the subarea, which details the street network reconfigurations needed to better serve the new traffic demands when the BeltLine is in place. The Circulation Plan can be found in Figure 7-1 on the following page.

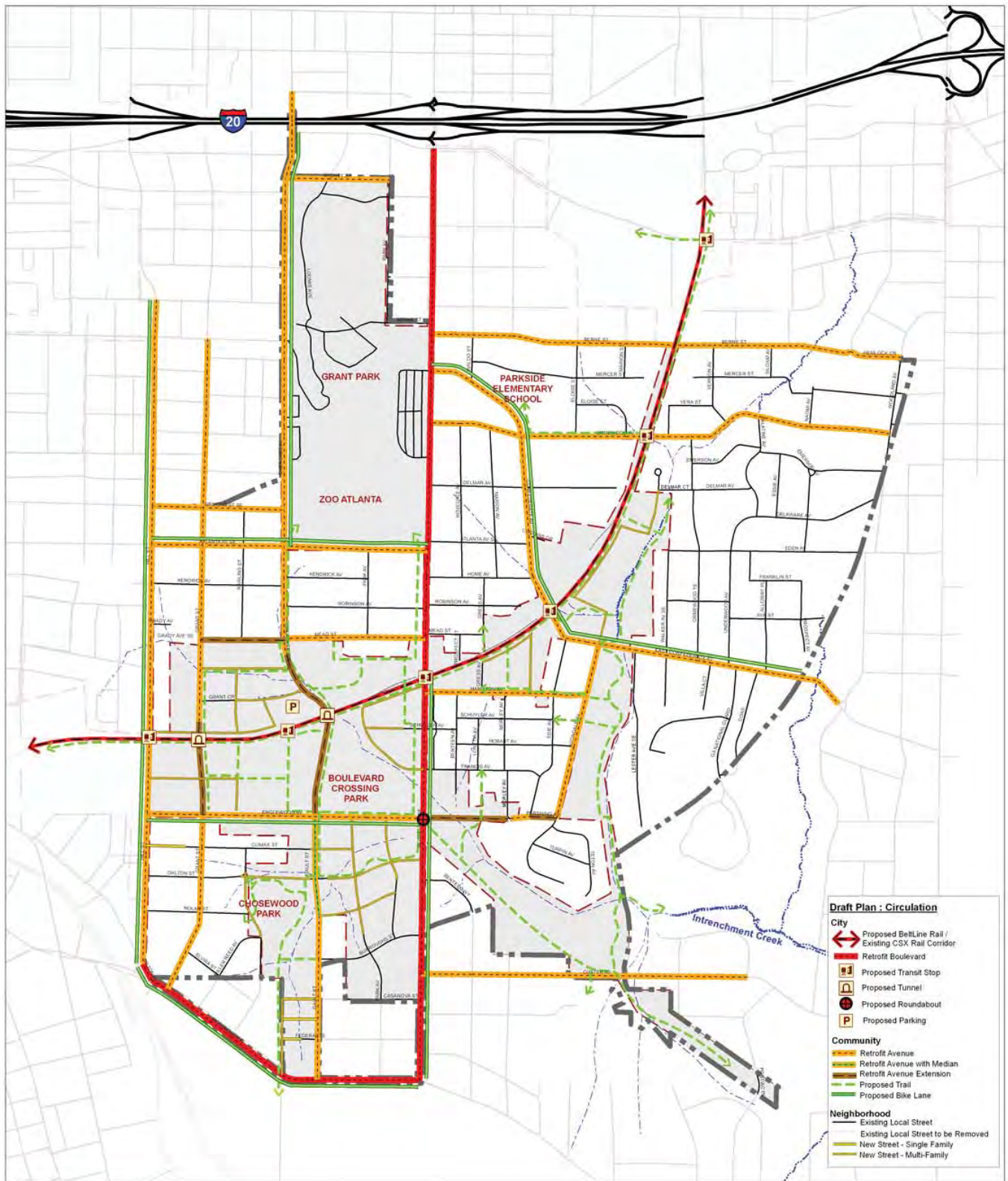


Figure 7-1 - Circulation Plan

Focus Area One

Many of the BeltLine recommendations proposed for Focus Area One are based on the premise that a “Road Diet” will be implemented on Boulevard. The Road Diet will involve reducing the number of lanes from four to three, with the addition of bike lanes and on-street parking. An illustration of the Boulevard Road Diet, along with the recommended intersection configurations from the following section, can be found in Figure 7-2.

Recommended intersection improvements include:

Boulevard at the I-20 EB ramp

- o Allow EB right turn on red (if adequate sight distance can be achieved)
- o Allow concurrent phasing for EB and WB

Boulevard at Confederate Avenue

- o Modify intersection to accommodate “Road Diet” plan along Boulevard to include one travel lane in each direction.
- o Install bulb-outs along the east side of Boulevard at the intersection.
- o Change WB lane configuration from WB left and WB through / right to WB left / through and WB right
- o Provide NB left and NB through / right
- o Provide SB left and SB through / right
- o Provide protected-permissive phase for SB left
- o Provide WB right overlap with SB left

Boulevard at Ormewood Avenue

- o Modify intersection to accommodate “Road Diet” plan along Boulevard to include one travel lane in each direction.
- o Install bulbouts along the east side of Boulevard at the intersection.
- o Consider the installation of a new traffic signal if and when warranted, based on a traffic study
- o Provide NB through / right
- o Provide SB left and SB through

Boulevard at Atlanta Avenue

- o Modify intersection to accommodate “Road Diet” plan along Boulevard to include one travel lane in each direction.

- o Install bulbouts along the east and west sides of Boulevard at the intersection.
- o Realign EB and WB to eliminate offset.
- o Remove split phasing.
- o Add EB left turn lane
- o Add WB left turn lane
- o Provide NB left and NB through / right
- o Provide SB left and SB through / right

Boulevard at Englewood Avenue

- o Modify intersection to accommodate “Road Diet” plan along Boulevard to include one travel lane in each direction.
- o Provide NB left and NB through*
- o Provide SB through / right*
- o Install a roundabout if warranted based upon the results of a feasibility study

*These would be the required lane reconfigurations if a roundabout were not installed.

Boulevard at McDonough Boulevard

- o Add WB right turn lane
- o Add SB right turn lane

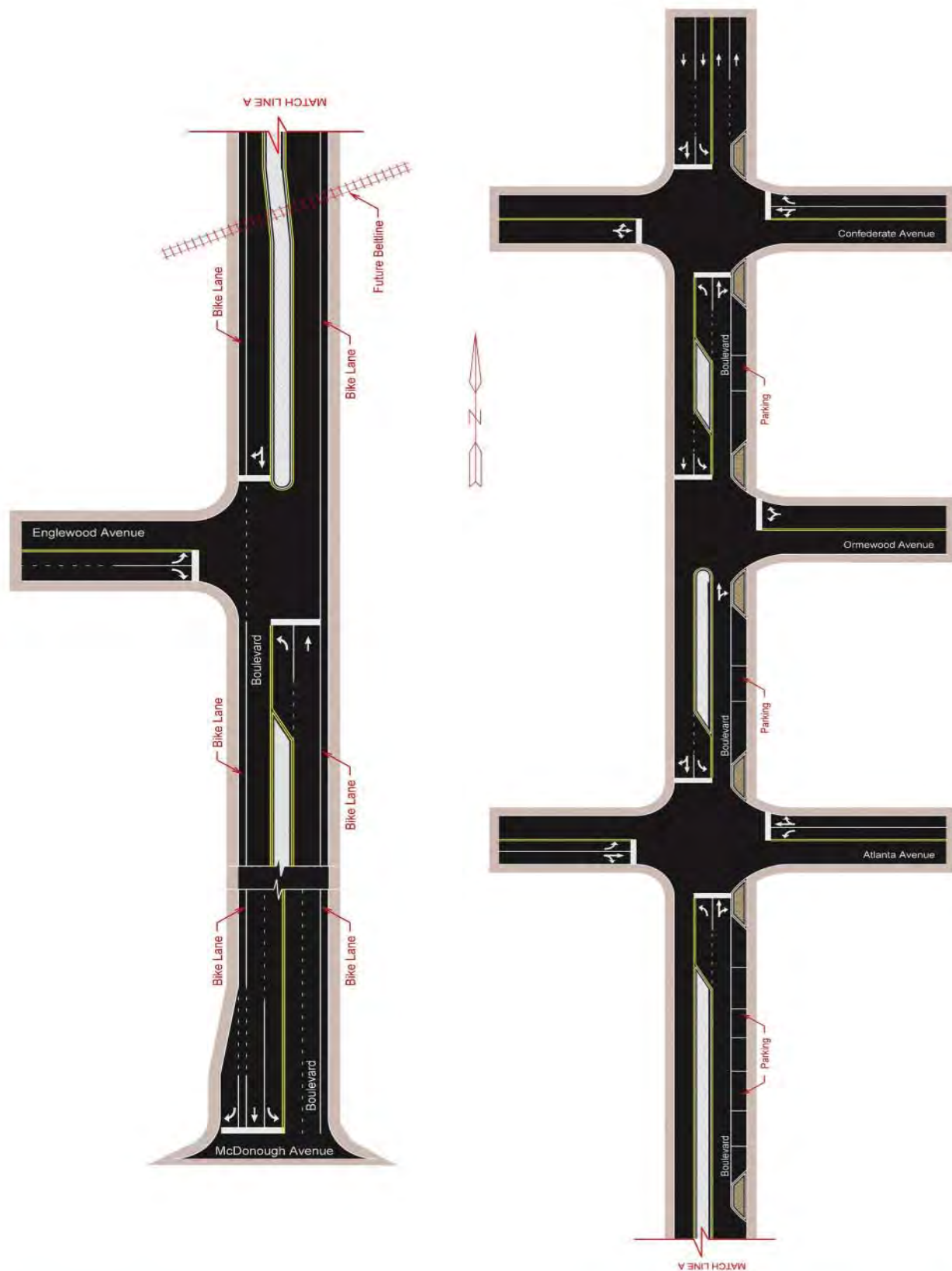
Recommended street framework improvements include:

New roadways and extension of existing roadways based on the Street Framework Plan as shown on the Subarea 3 Circulation Map. These roadways will be implemented as redevelopment takes place, primarily using private funding:

- o New street network within the redevelopment area east of Boulevard and just south of the Beltline.
- o New street network within the redevelopment area east of Boulevard, south of the Beltline and north of Hamilton Avenue.

Recommended roadway extensions include:

Several existing streets have been identified as needing to be extended in order to increase arterial lane capacity, relieve congestion on existing arterials, serve developing areas of Boulevard Crossing. These street extensions will have a posi-



BeltLine Subarea 3:
BOULEVARD CROSSING

December 2009

1. Figure not to scale.
2. For illustration purposes only.
3. Subject to change based on future Traffic study and engineering design.

Figure 7-2 - Proposed Boulevard Recommendations

tive effect on area-wide traffic circulation and operations. The streets to be extended in Focus Area One include:

- o Cherokee Avenue Extension - Extend Cherokee Avenue to connect to Englewood Avenue to provide continuous north-south connection.

Traffic Calming Measure Program:

Traffic calming measures should be implemented throughout the focus area as deemed appropriate based on approved criteria to slow vehicular speeds and make the area a more pedestrian and bicycle-friendly environment.

Traffic Signal Upgrade / Timing:

Traffic signals throughout the focus area should be optimized under BeltLine conditions to allow intersections to operate more efficiently under future traffic demands.

Recommended pedestrian facility improvements include:

- o Boulevard - Install sidewalk on Boulevard from Berne Street to McDonough Boulevard
- o Cherokee Avenue - Install sidewalk on Cherokee Avenue from I-20 to Mead Street

Recommended streetscape improvements include:

- o Boulevard - Install street trees, transit amenities, pedestrian lighting and lighted street name signs

Recommended bicycle facility improvements include:

- o Cherokee Avenue - Restripe Cherokee Avenue to provide bike lanes from I-20 to Atlanta Avenue
- o Boulevard - Restripe Boulevard to provide bike lanes from Beltline (Near Hamilton Av-

enue) to McDonough Boulevard

Focus Area Two

The following are recommendations for Focus Area Two under BeltLine conditions.

Recommended intersection improvements include:

McDonough Boulevard at Gault Street

- o Change from EB left / through and EB through to EB left and EB through
- o Consider the installation of a new traffic signal if and when warranted, based on a traffic study
- o Add WB right turn lane
- o Add SB right turn lane

McDonough Boulevard at Hill Street*

- o Add SB right-turn lane.
- o Realign/reconfigure Hill Street to intersect with McDonough Boulevard.

Hill Street at Milton Avenue*

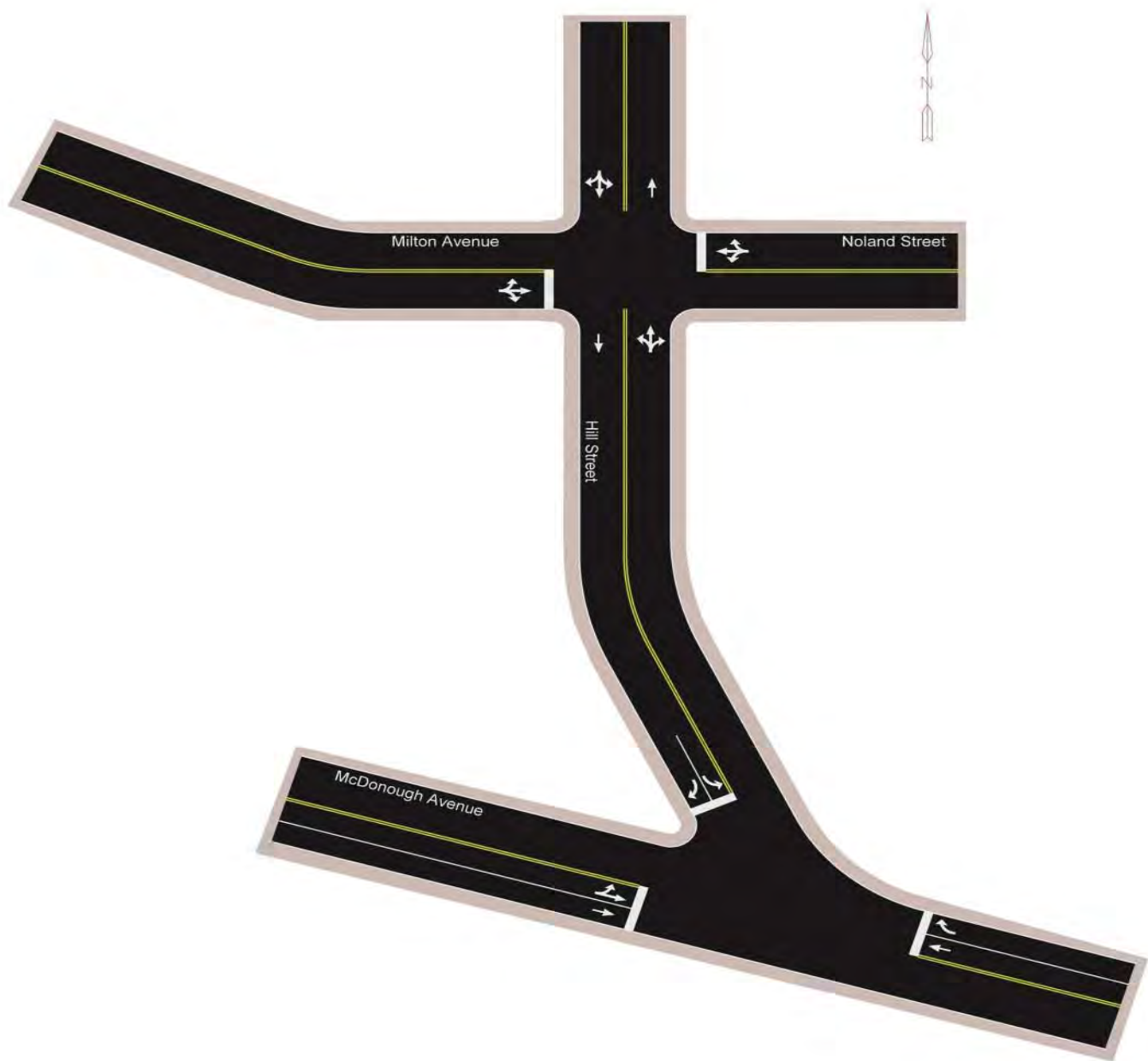
- o Realign/reconfigure Milton Avenue to intersect with Hill Street at the existing intersection of Nolan to form a four way approach intersection.

*Recommended for operational efficiency. An illustration of the recommended reconfiguration of these intersections is shown in Figure 7-3.

Recommended street framework improvements include:

New roadways and extension of existing roadways based on the Street Framework Plan as shown on the Subarea 3 Circulation Map. These roadways will be implemented as redevelopment takes place, primarily using private funding:

- o New street network within the development area north of the Beltline and just south of Mead Street.
- o New street network within the development area south of the Beltline and north of Englewood Avenue.



1. Figure not to scale.
2. For illustration purposes only.
3. Subject to change based on future traffic study and engineering design.

Proposed Lane Configuration -
McDonough Avenue/
Hill Street/Milton Avenue

BeltLine Subarea 3:
BOULEVARD CROSSING



BeltLine
ATLANTA

Figure 7-3 - Proposed Reconfiguration of McDonough Boulevard/Hill Street/Milton Avenue

- o New street network within the redevelopment area south of Englewood Avenue.
- o New street network within the redevelopment area west of Gault Street and just north of McDonough Boulevard.
- o New street network within the redevelopment area east of the Beltline and north of Confederate Avenue.

Recommended roadway extensions include:

The streets to be extended in Focus Area Two include:

- o Mead Street Extension - Extend Mead Street to provide east-west connection between Cherokee Avenue and Grant Street.
- o Grant Street Extension - Extend Grant Street to provide north-south connection between the Beltline and Englewood Avenue.
- o Englewood / Pershing Extension - Extend Englewood Avenue / Pershing Avenue to provide east-west connection between Boulevard and Avondale Avenue.
- o Gault Street Extension - Extend Gault Street to connect to Englewood Avenue.

Recommended one-way to two-way conversions include:

To improve connectivity and mobility in the sub-area, three streets are recommended for conversion from one-way to two-way operation. These include:

- o Hill Street
- o Ormond Street
- o Atlanta Avenue

Traffic Calming Measure Program:

Traffic calming measures should be implemented throughout the focus area as deemed appropriate based on approved criteria to slow vehicular speeds and make the area a more pedestrian and

bicycle-friendly environment.

Traffic Signal Upgrade / Timing:

Traffic signals throughout the focus area should be optimized under BeltLine conditions to allow intersections to operate more efficiently under future traffic demands.

Recommended pedestrian facility improvements include:

- o Berne Street - Install sidewalk on Berne Street from Park Avenue to Woodland Avenue
- o Ormewood Avenue - Install sidewalk on Ormewood Avenue from Boulevard to Woodland Avenue
- o East Confederate - Install sidewalk on East Confederate Avenue from Edie Avenue to past Alloway Place
- o Atlanta Avenue - Install sidewalk on Atlanta Avenue from Hill Street to Confederate Avenue
- o Englewood Avenue - Install sidewalk on Englewood Avenue from Hill Street to Boulevard
- o Hill Street - Install sidewalk on Hill Street from Ormond Street to Milton Avenue
- o Edie Avenue - Install sidewalk on Edie Avenue from Pershing Avenue to East Confederate Avenue

Recommended streetscape improvements include:

- o McDonough Boulevard - Install street trees, transit amenities, pedestrian lighting and lighted street name signs
- o Hill Street - Install street trees, transit amenities, pedestrian lighting and lighted street name signs

Recommended bicycle facility improvements include:

- o Hill Street - Restripe Hill Street to provide bike lanes from Ormond Street to Milton Avenue
- o Confederate Avenue - Improve/Restripe Confederate Avenue to provide bike lanes from Boulevard to Edie Avenue
- o Atlanta Avenue - Restripe Atlanta Avenue to provide bike lanes from Hill Street to Confederate Avenue
- o Englewood Avenue - Restripe Englewood Avenue to provide bike lanes from Hill Street to Boulevard
- o McDonough Boulevard - Improve/Restripe McDonough Boulevard to provide bike lanes from Hill Street to Boulevard

Conclusion

It is expected that with these transportation improvements in place supporting the greenspace, residential, and commercial development, enhanced transit services and overall pedestrian-friendly transit-oriented environment, the Boulevard Crossing Subarea of the BeltLine Redevelopment Project will fully realize its potential of becoming a successful live, work, and play destination for southeast Atlanta.

Appendix A - Definitions of Terms: Access, Mobility, Connectivity

Appendix B - Trip Distribution Worksheets

**Boulevard Crossing Subarea
Baseline Land Use and Trip Generation**

Land Use	ITE Code	Amount	Unit	Daily					AM Peak of Adjacent Street					PM Peak of Adjacent Street				
				Average Rate Per Unit	Total Trips	Entering/Exiting Splits	Entering Trips	Exiting Trips	Average Rate Per Unit	Total Trips	Entering/Exiting Splits	Entering Trips	Exiting Trips	Average Rate Per Unit	Total Trips	Entering/Exiting Splits	Entering Trips	Exiting Trips
Residential																		
Residential 1-4 (LDR)	230	562	Dwelling Unit	3.34	1,877	50/50	939	939	0.67	377	25/75	94	282	0.78	438	58/42	254	184
Mixed Use 1-4 (LMU)																		
Residential 5-9 (MDR)	223	1,875	Dwelling Unit	3.35	6,281	50/50	3,141	3,141	0.30	563	31/69	174	388	0.39	731	58/42	424	307
Mixed Use 5-9 (MMU)																		
Subtotal		2,437	Dwelling Unit		8,158		4,079	4,079		939		269	671		1,170		678	491
Retail																		
Office/Institutional	710	29	1,000 Sq Ft GLA	11.01	319	50/50	160	160	1.55	45	88/12	40	5	1.49	43	17/83	7	36
High Turnover Rest.	932	14	1,000 Sq Ft GLA	127.15	1,780	50/50	890	890	11.52	161	52/48	84	77	10.92	153	61/39	93	60
Quality Restaurant	931	33	1,000 Sq Ft GLA	89.95	2,995	50/50	1,498	1,498	5.57	185	82/18	152	33	9.02	300	62/38	186	114
Specialty Retail	814	11	1,000 Sq Ft GLA	44.32	505	50/50	253	253	6.84	78	48/52	37	41	5.02	57	56/44	32	25
Subtotal		88	1,000 Sq Ft GLA		5,600		2,800	2,800		470		313	157		554		319	235
Gross Total					13,758		6,879	6,879		1,409		581	827		1,723		997	726

Boulevard Crossing Subarea Baseline Internal Capture

Land Use	Amount	Unit	Trip Type	Daily			AM Peak of Adjacent Street			PM Peak of Adjacent Street		
				Total Trips	Entering Trips	Exiting Trips	Total Trips	Entering Trips	Exiting Trips	Total Trips	Entering Trips	Exiting Trips
Residential	2,437	Dwelling Unit	Gross Trips	8,158	4,079	4,079	939	269	671	1,170	678	491
			Internal Capture	408	204	204	47	13	34	58	34	25
			Net Trips	7,750	3,875	3,875	892	255	637	1,111	644	467
Retail	88	1,000 Sq Ft GLA	Gross Trips	5,600	2,800	2,800	470	313	157	554	319	235
			Internal Capture	280	140	140	23	16	8	28	16	12
			Net Trips	5,320	2,660	2,660	446	297	149	526	303	223
Total Net Trips				13,070	6,535	6,535	1,338	552	786	1,637	947	690

Boulevard Crossing Subarea Baseline External Trip Table Summary

Land Use	Amount	Unit	Trip Type	Daily			AM Peak of Adjacent Street			PM Peak of Adjacent Street		
				Total Trips	Entering Trips	Exiting Trips	Total Trips	Entering Trips	Exiting Trips	Total Trips	Entering Trips	Exiting Trips
Residential	2437	Dwelling Unit	External Trips	7,750	3,875	3,875	892	255	637	1,111	644	467
			Transit Trips	0	0	0	0	0	0	0	0	0
			Passerby Trips	0	0	0	0	0	0	0	0	0
			Net External Trips	7,750	3,875	3,875	892	255	637	1,111	644	467
Retail	88	1,000 Sq Ft GLA	External Trips	5,320	2,660	2,660	446	297	149	526	303	223
			Transit Trips	0	0	0	0	0	0	0	0	0
			Passerby Trips	1,809	904	904	152	101	51	179	103	76
			Net External Trips	3,511	1,756	1,756	294	196	98	347	200	147
Total New External Trips				11,262	5,631	5,631	1,187	451	735	1,458	844	614

Boulevard Crossing Subarea
BeltLine Forecasted Additional Land Use and Trip Generation Between Existing Year and Year 2020

Land Use	ITE Code	Amount	Unit	Daily					AM Peak of Adjacent Street					PM Peak of Adjacent Street				
				Average Rate Per Unit	Total Trips	Entering/Exiting Splits	Entering Trips	Exiting Trips	Average Rate Per Unit	Total Trips	Entering/Exiting Splits	Entering Trips	Exiting Trips	Average Rate Per Unit	Total Trips	Entering/Exiting Splits	Entering Trips	Exiting Trips
Residential																		
Residential 1-4 (LDR)	230	721	Dwelling Unit	3.34	2,410	50/50	1,205	1,205	0.67	483	25/75	121	363	0.78	563	58/42	326	236
Mixed Use 1-4 (LMU)																		
Residential 5-9 (MDR)	223	1,460	Dwelling Unit	3.35	4,890	50/50	2,445	2,445	0.30	438	31/69	136	302	0.39	569	58/42	330	239
Mixed Use 5-9 (MMU)																		
Residential 10+ (HDR)	232	677	Dwelling Unit	4.18	2,830	50/50	1,415	1,415	0.34	230	19/81	44	186	0.38	257	62/38	159	98
Mixed Use 10+ (HMU)																		
Subtotal		2,858	Dwelling Unit		10,129		5,064	5,064		1,151		300	851		1,389		816	573
Retail/Office																		
Office/Institutional	710	41	1,000 Sq Ft GLA	11.01	455	50/50	227	227	1.55	64	88/12	56	8	1.49	62	17/83	10	51
High Turnover Rest.	932	41	1,000 Sq Ft GLA	127.15	5,249	50/50	2,625	2,625	11.52	476	52/48	247	228	10.92	451	61/39	275	176
Quality Restaurant	931	34	1,000 Sq Ft GLA	89.95	3,095	50/50	1,547	1,547	5.57	192	82/18	157	34	9.02	310	62/38	192	118
Specialty Retail	814	62	1,000 Sq Ft GLA	44.32	2,745	50/50	1,372	1,372	6.84	424	48/52	203	220	5.02	311	56/44	174	137
Subtotal		179	1,000 Sq Ft GLA		11,543		5,771	5,771		1,155		664	491		1,134		652	482
Gross Total					21,672		10,836	10,836		2,306		964	1,342		2,523		1,468	1,055

Boulevard Crossing Subarea
BeltLine Forecasted Additional Internal Capture Between Existing Year and Year 2020

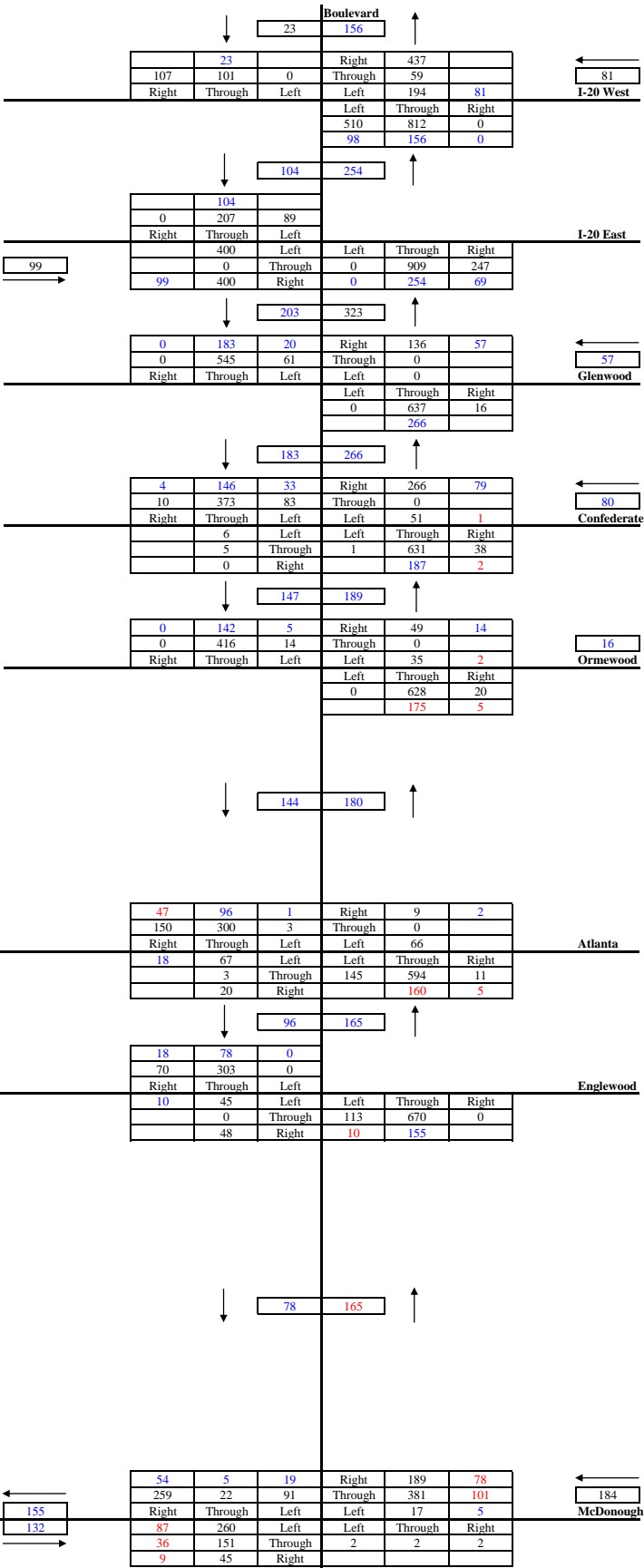
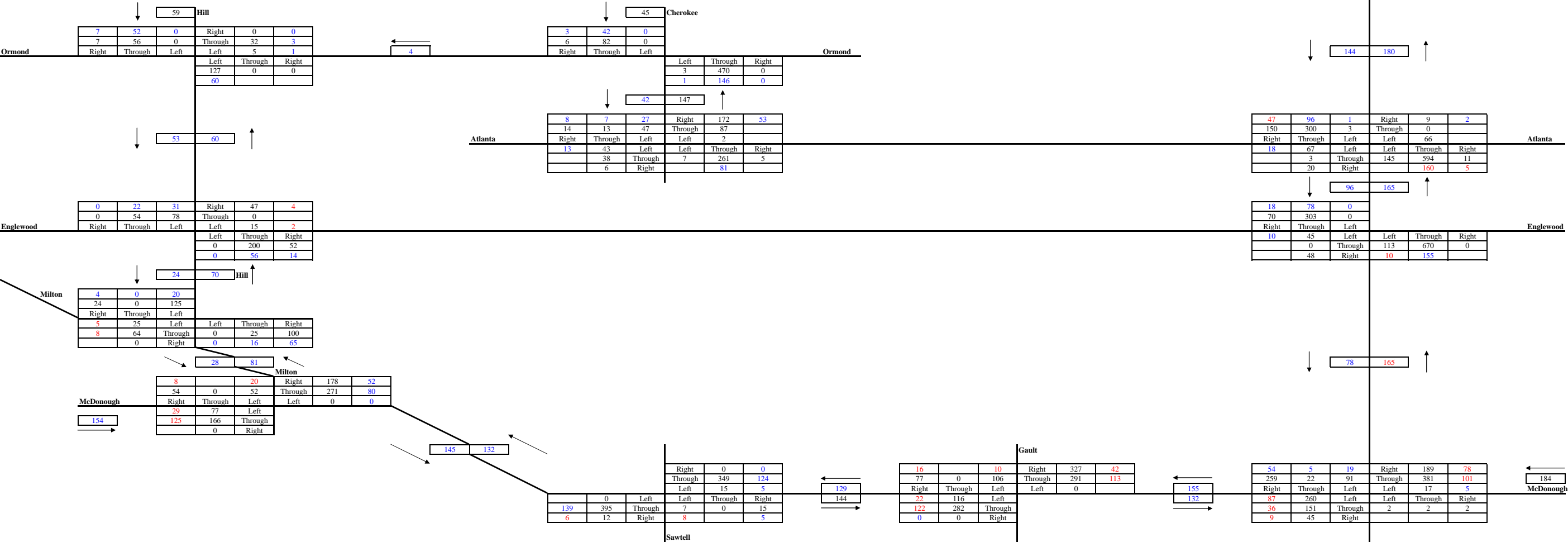
Land Use	Amount	Unit	Trip Type	Daily			AM Peak of Adjacent Street			PM Peak of Adjacent Street		
				Total Trips	Entering Trips	Exiting Trips	Total Trips	Entering Trips	Exiting Trips	Total Trips	Entering Trips	Exiting Trips
Residential	2,858	Dwelling Unit	Gross Trips	10,129	5,064	5,064	1,151	300	851	1,389	816	573
			Internal Capture	506	253	253	58	15	43	69	41	29
			Net Trips	9,622	4,811	4,811	1,094	285	809	1,320	775	545
Retail/Office	179	1,000 Sq Ft GLA	Gross Trips	11,543	5,771	5,771	1,155	664	491	1,134	652	482
			Internal Capture	577	289	289	58	33	25	57	33	24
			Net Trips	10,966	5,483	5,483	1,097	631	466	1,077	619	458
Total Net Trips				20,588	10,294	10,294	2,191	916	1,275	2,397	1,395	1,002

Boulevard Crossing Subarea
BeltLine Forecasted Additional External Trips Between Existing Year and Year 2020

Land Use	Amount	Unit	Trip Type	Daily			AM Peak of Adjacent Street			PM Peak of Adjacent Street		
				Total Trips	Entering Trips	Exiting Trips	Total Trips	Entering Trips	Exiting Trips	Total Trips	Entering Trips	Exiting Trips
Residential	2858	Dwelling Unit	External Trips	9,622	4,811	4,811	1,094	285	809	1,320	775	545
			Transit Trips	2,694	1,347	1,347	306	80	226	370	217	152
			Passerby Trips	0	0	0	0	0	0	0	0	0
			Net External Trips	6,928	3,464	3,464	788	205	582	950	558	392
Retail/Office	179	1,000 Sq Ft GLA	External Trips	10,966	5,483	5,483	1,097	631	466	1,077	619	458
			Transit Trips	3,070	1,535	1,535	307	177	131	302	173	128
			Passerby Trips	3,728	1,864	1,864	373	214	159	366	211	156
			Net External Trips	4,167	2,084	2,084	417	240	177	409	235	174
Total New External Trips				11,095	5,548	5,548	1,204	445	759	1,359	794	566

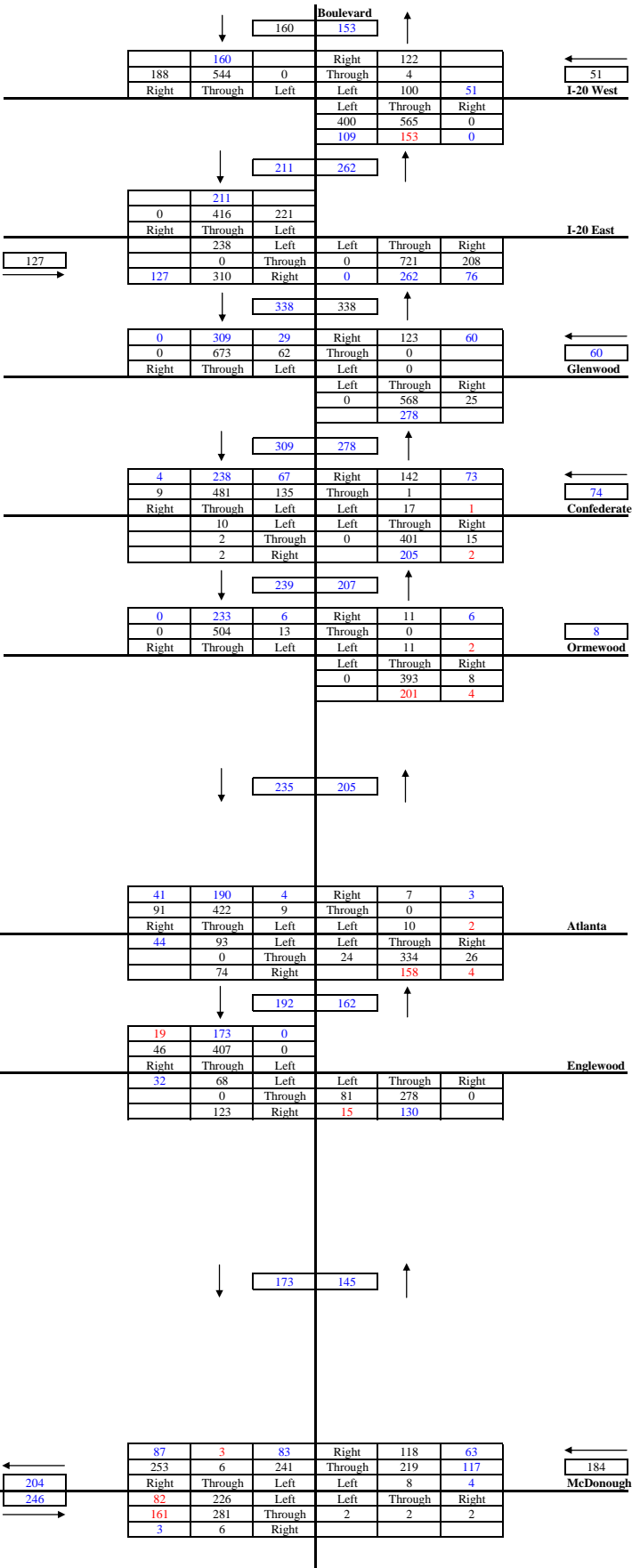
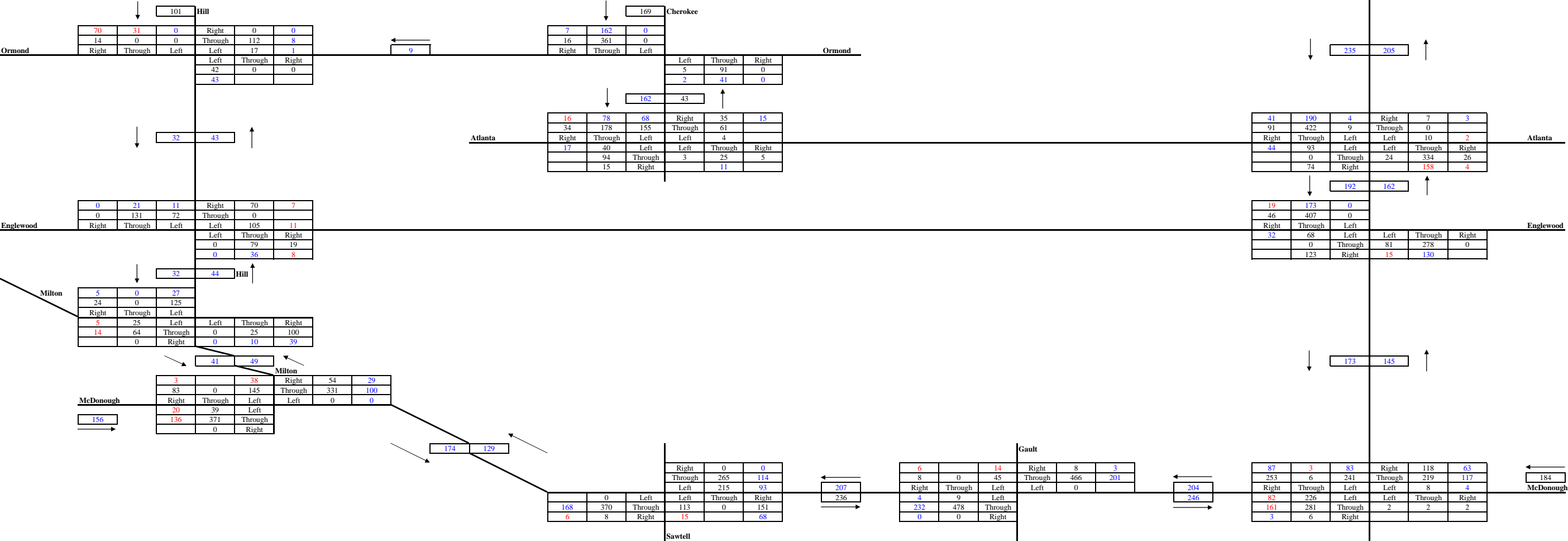
Scenario: Baseline AM Peak

Subarea 3 Development Trips Calculations

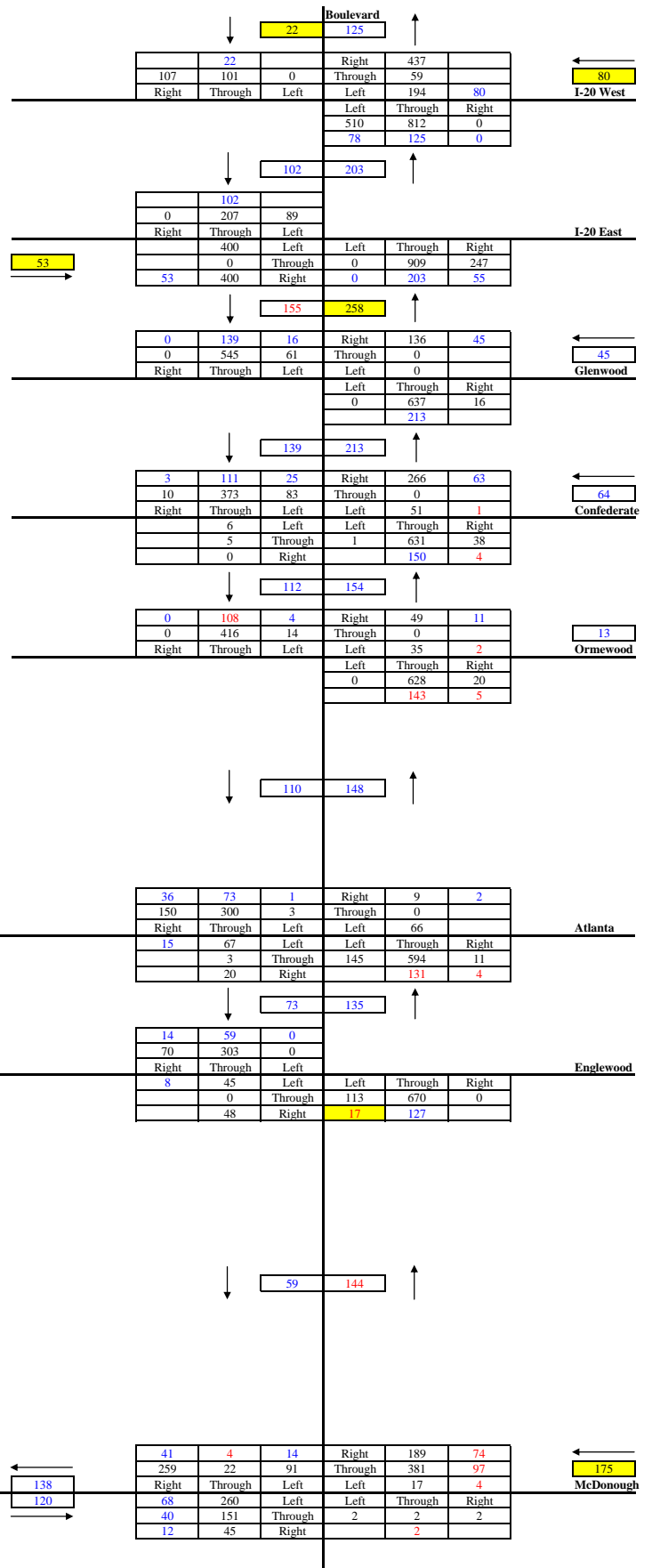


Scenario: Baseline PM Peak

Subarea 3 Development Trips Calculations

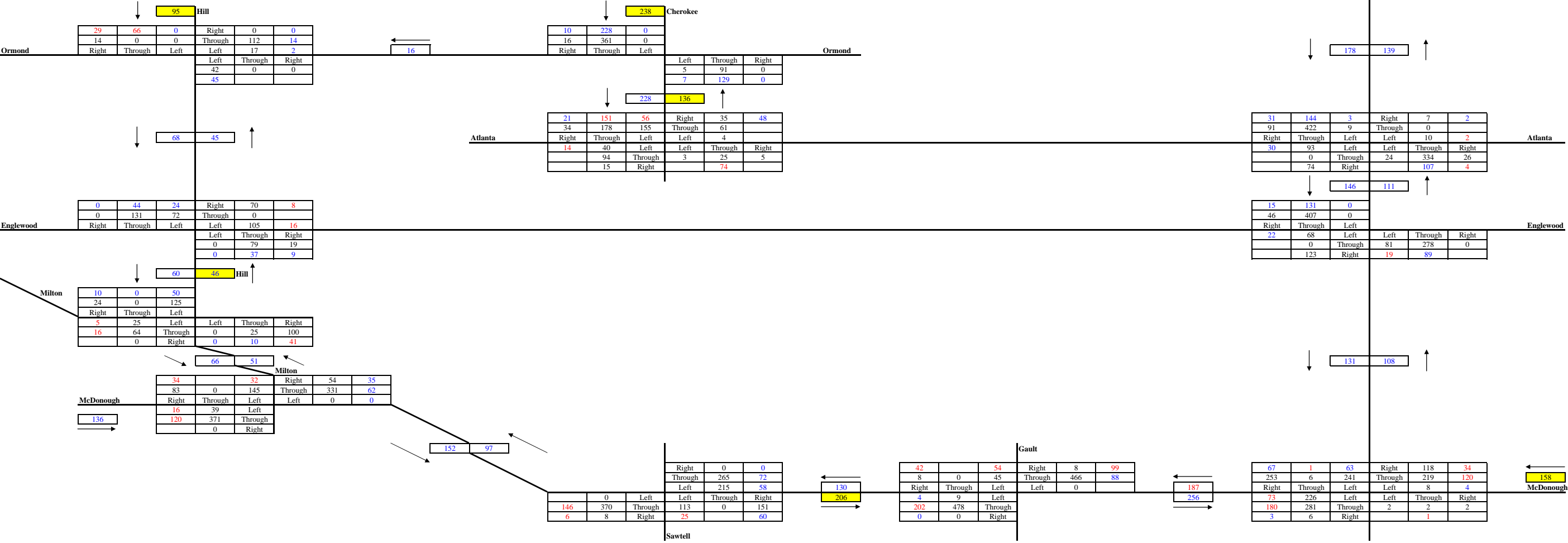


Subarea 3 Development Trips Calculations



Scenario: BeltLine PM Peak

Subarea 3 Development Trips Calculations



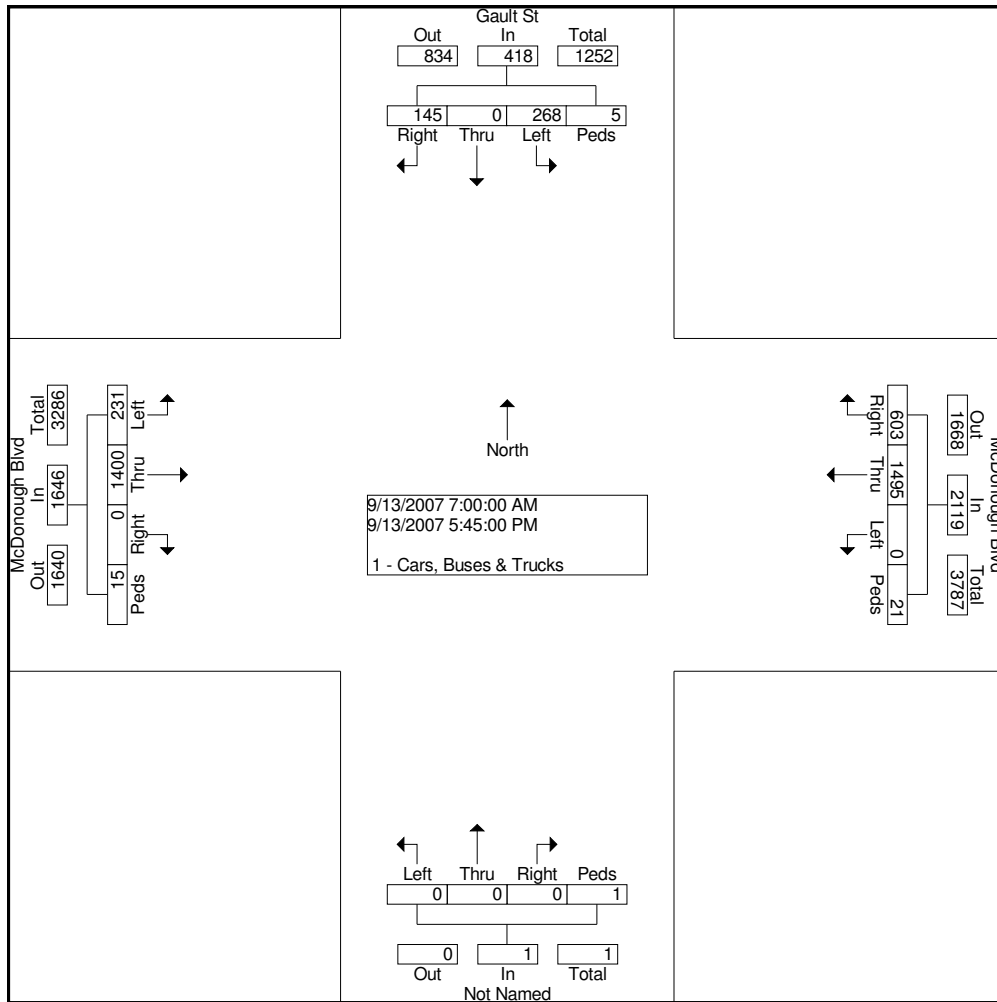
Appendix C. Traffic Counts

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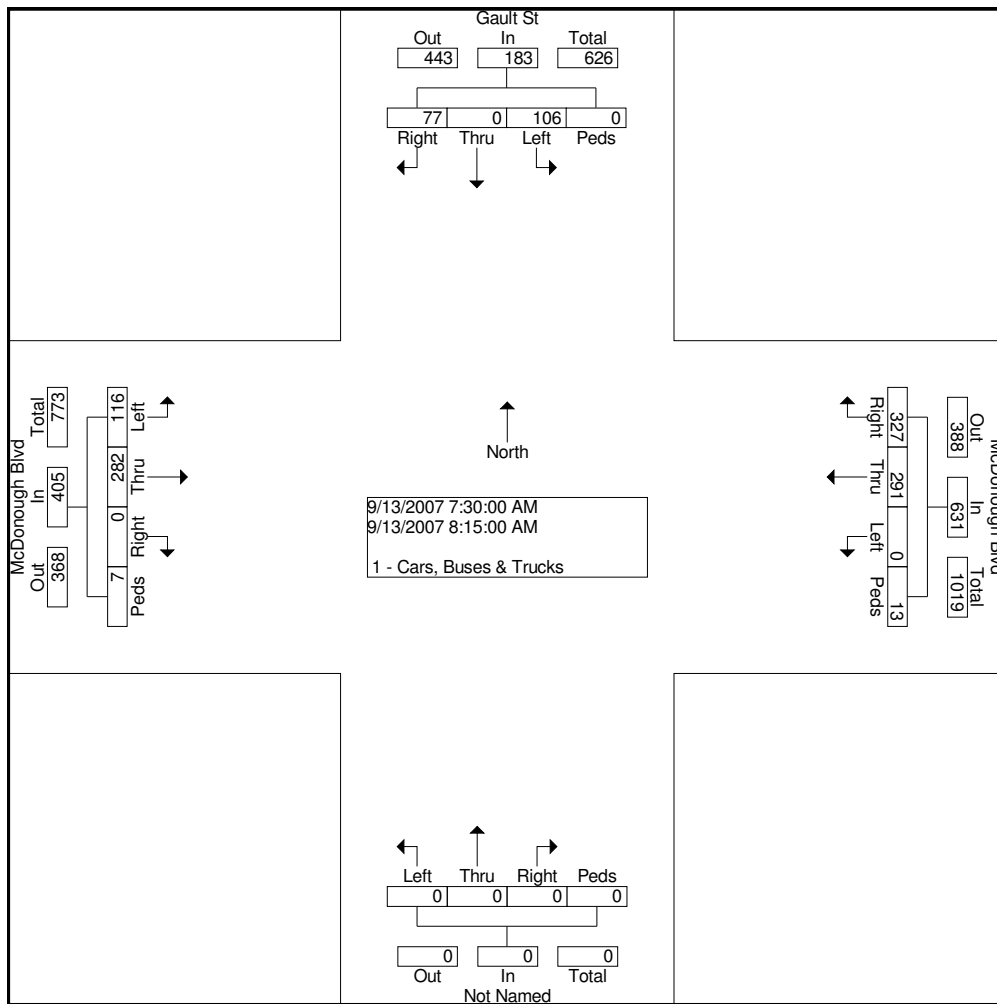
File Name : 25120018-AP
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Groups Printed- 1 - Cars, Buses & Trucks

	Northbound					Gault St Southbound					McDonough Blvd Eastbound					McDonough Blvd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	0	0	0	0	0	11	0	15	0	26	22	55	0	1	78	0	41	64	2	107	211
07:15 AM	0	0	0	0	0	14	0	11	0	25	27	72	0	2	101	0	66	71	1	138	264
07:30 AM	0	0	0	0	0	17	0	17	0	34	29	87	0	1	117	0	73	85	3	161	312
07:45 AM	0	0	0	0	0	27	0	22	0	49	35	75	0	3	113	0	81	92	4	177	339
Total	0	0	0	0	0	69	0	65	0	134	113	289	0	7	409	0	261	312	10	583	1126
08:00 AM	0	0	0	0	0	34	0	17	0	51	23	64	0	2	89	0	71	73	2	146	286
08:15 AM	0	0	0	0	0	28	0	21	0	49	29	56	0	1	86	0	66	77	4	147	282
08:30 AM	0	0	0	1	1	24	0	13	0	37	24	47	0	1	72	0	79	63	1	143	253
08:45 AM	0	0	0	0	0	29	0	16	0	45	25	42	0	1	68	0	77	67	2	146	259
Total	0	0	0	1	1	115	0	67	0	182	101	209	0	5	315	0	293	280	9	582	1080
04:00 PM	0	0	0	0	0	7	0	2	1	10	3	115	0	0	118	0	117	2	0	119	247
04:15 PM	0	0	0	0	0	8	0	3	0	11	3	123	0	0	126	0	121	1	0	122	259
04:30 PM	0	0	0	0	0	11	0	1	1	13	1	125	0	0	126	0	111	3	0	114	253
04:45 PM	0	0	0	0	0	12	0	2	0	14	4	123	0	0	127	0	115	2	0	117	258
Total	0	0	0	0	0	38	0	8	2	48	11	486	0	0	497	0	464	8	0	472	1017
05:00 PM	0	0	0	0	0	14	0	2	2	18	1	107	0	3	111	0	119	2	2	123	252
05:15 PM	0	0	0	0	0	11	0	1	0	12	2	103	0	0	105	0	112	1	0	113	230
05:30 PM	0	0	0	0	0	9	0	2	1	12	0	97	0	0	97	0	125	0	0	125	234
05:45 PM	0	0	0	0	0	12	0	0	0	12	3	109	0	0	112	0	121	0	0	121	245
Total	0	0	0	0	0	46	0	5	3	54	6	416	0	3	425	0	477	3	2	482	961
Grand Total	0	0	0	1	1	268	0	145	5	418	231	1400	0	15	1646	0	1495	603	21	2119	4184
Apprch %	0.0	0.0	0.0	100.0		64.1	0.0	34.7	1.2		14.0	85.1	0.0	0.9		0.0	70.6	28.5	1.0		
Total %	0.0	0.0	0.0	0.0	0.0	6.4	0.0	3.5	0.1	10.0	5.5	33.5	0.0	0.4	39.3	0.0	35.7	14.4	0.5	50.6	



	Northbound					Gault St Southbound					McDonough Blvd Eastbound					McDonough Blvd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	0	0	0	0	0	106	0	77	0	183	116	282	0	7	405	0	291	327	13	631	1219
Percent	0.0	0.0	0.0	0.0		57.9	0.0	42.1	0.0		28.6	69.6	0.0	1.7		0.0	46.1	51.8	2.1		
07:45 Volume	0	0	0	0	0	27	0	22	0	49	35	75	0	3	113	0	81	92	4	177	339
Peak Factor																					0.899
High Int.	6:45:00 AM					08:00 AM					07:30 AM					07:45 AM					
Volume	0	0	0	0	0	34	0	17	0	51	29	87	0	1	117	0	81	92	4	177	
Peak Factor										0.897					0.865					0.891	



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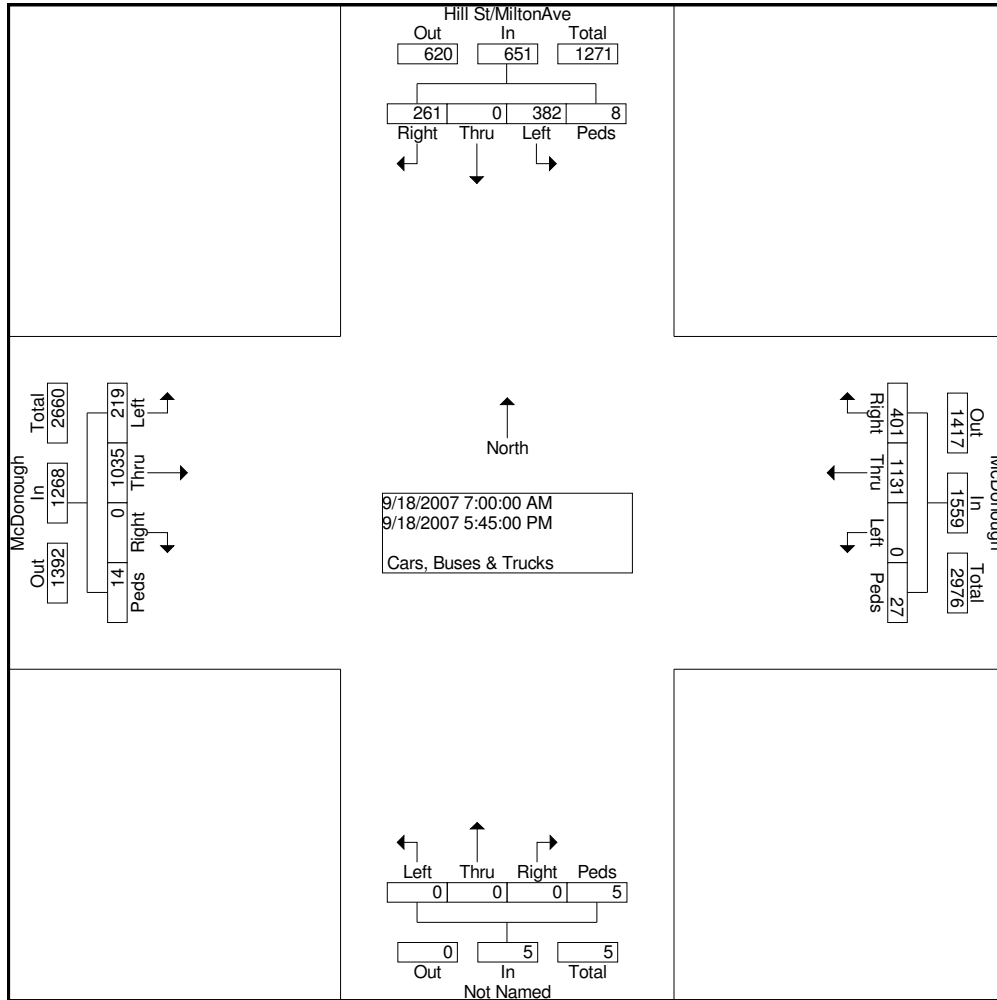
	Northbound					Gault St Southbound					McDonough Blvd Eastbound					McDonough Blvd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:15 PM																				
Volume	0	0	0	0	0	45	0	8	3	56	9	478	0	3	490	0	466	8	2	476	1022
Percent	0.0	0.0	0.0	0.0		80.4	0.0	14.3	5.4		1.8	97.6	0.0	0.6		0.0	97.9	1.7	0.4		
04:15 Volume	0	0	0	0	0	8	0	3	0	11	3	123	0	0	126	0	121	1	0	122	259
Peak Factor																					0.986
High Int.						05:00 PM					04:45 PM					05:00 PM					
Volume	0	0	0	0	0	14	0	2	2	18	4	123	0	0	127	0	119	2	2	123	
Peak Factor																					

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Groups Printed- Cars, Buses & Trucks

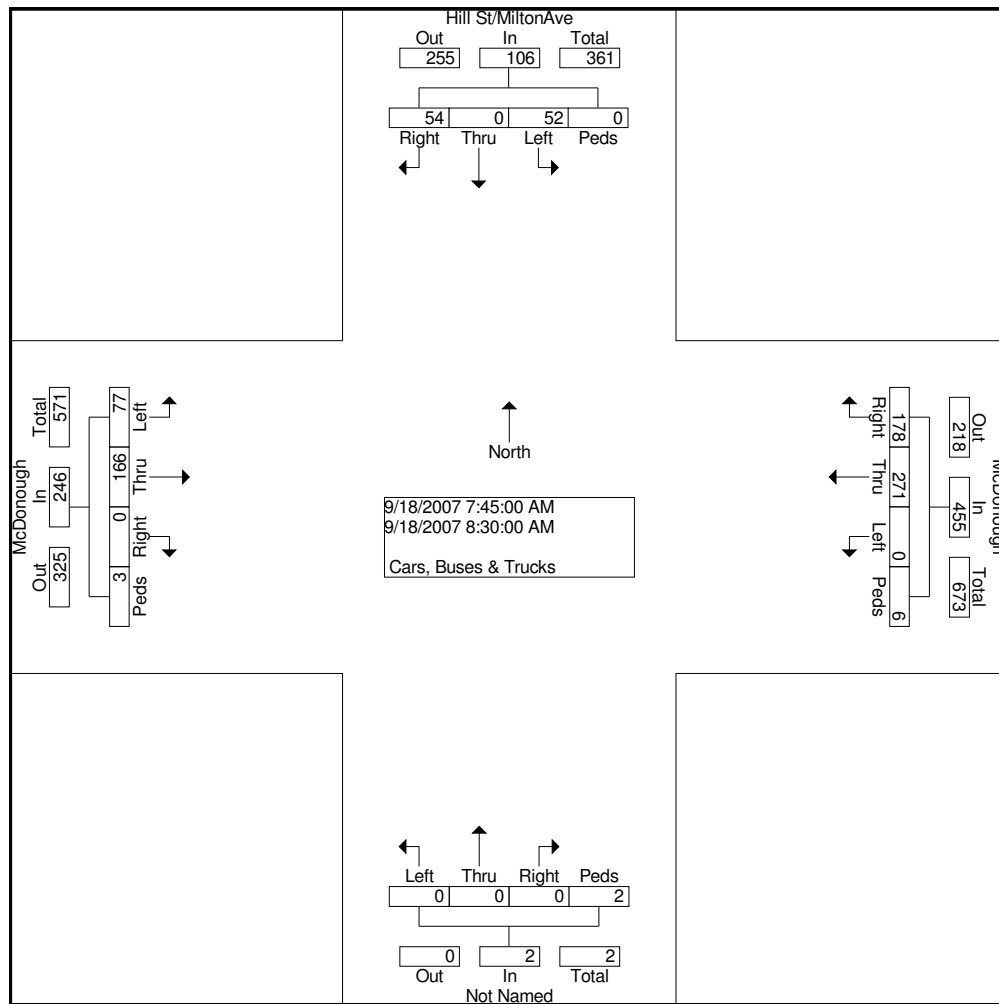
	Northbound					Hill St/Milton Ave Southbound					McDonough Eastbound					McDonough Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	0	0	0	0	0	8	0	11	0	19	13	48	0	1	62	0	66	23	2	91	172
07:15 AM	0	0	0	1	1	11	0	13	0	24	19	49	0	1	69	0	79	25	3	107	201
07:30 AM	0	0	0	0	0	12	0	15	0	27	21	58	0	0	79	0	66	37	4	107	213
07:45 AM	0	0	0	1	1	14	0	13	0	27	19	38	0	1	58	0	79	43	0	122	208
Total	0	0	0	2	2	45	0	52	0	97	72	193	0	3	268	0	290	128	9	427	794
08:00 AM	0	0	0	0	0	11	0	16	0	27	17	32	0	1	50	0	47	38	2	87	164
08:15 AM	0	0	0	0	0	13	0	12	0	25	22	58	0	0	80	0	66	44	4	114	219
08:30 AM	0	0	0	1	1	14	0	13	0	27	19	38	0	1	58	0	79	53	0	132	218
08:45 AM	0	0	0	0	0	14	0	16	0	30	11	32	0	1	44	0	47	27	2	76	150
Total	0	0	0	1	1	52	0	57	0	109	69	160	0	3	232	0	239	162	8	409	751
04:00 PM	0	0	0	0	0	20	0	17	1	38	11	61	0	1	73	0	42	8	1	51	162
04:15 PM	0	0	0	1	1	41	0	18	2	61	10	84	0	0	94	0	76	18	2	96	252
04:30 PM	0	0	0	0	0	33	0	15	1	49	9	87	0	1	97	0	90	13	1	104	250
04:45 PM	0	0	0	0	0	46	0	19	1	66	9	79	0	1	89	0	63	18	1	82	237
Total	0	0	0	1	1	140	0	69	5	214	39	311	0	3	353	0	271	57	5	333	901
05:00 PM	0	0	0	0	0	31	0	22	1	54	11	91	0	1	103	0	72	11	1	84	241
05:15 PM	0	0	0	1	1	49	0	18	0	67	10	84	0	2	96	0	76	12	2	90	254
05:30 PM	0	0	0	0	0	39	0	19	1	59	9	87	0	1	97	0	90	13	2	105	261
05:45 PM	0	0	0	0	0	26	0	24	1	51	9	109	0	1	119	0	93	18	0	111	281
Total	0	0	0	1	1	145	0	83	3	231	39	371	0	5	415	0	331	54	5	390	1037
Grand Total	0	0	0	5	5	382	0	261	8	651	219	1035	0	14	1268	0	1131	401	27	1559	3483
Apprch %	0.0	0.0	0.0	100.0		58.7	0.0	40.1	1.2		17.3	81.6	0.0	1.1		0.0	72.5	25.7	1.7		
Total %	0.0	0.0	0.0	0.1	0.1	11.0	0.0	7.5	0.2	18.7	6.3	29.7	0.0	0.4	36.4	0.0	32.5	11.5	0.8	44.8	



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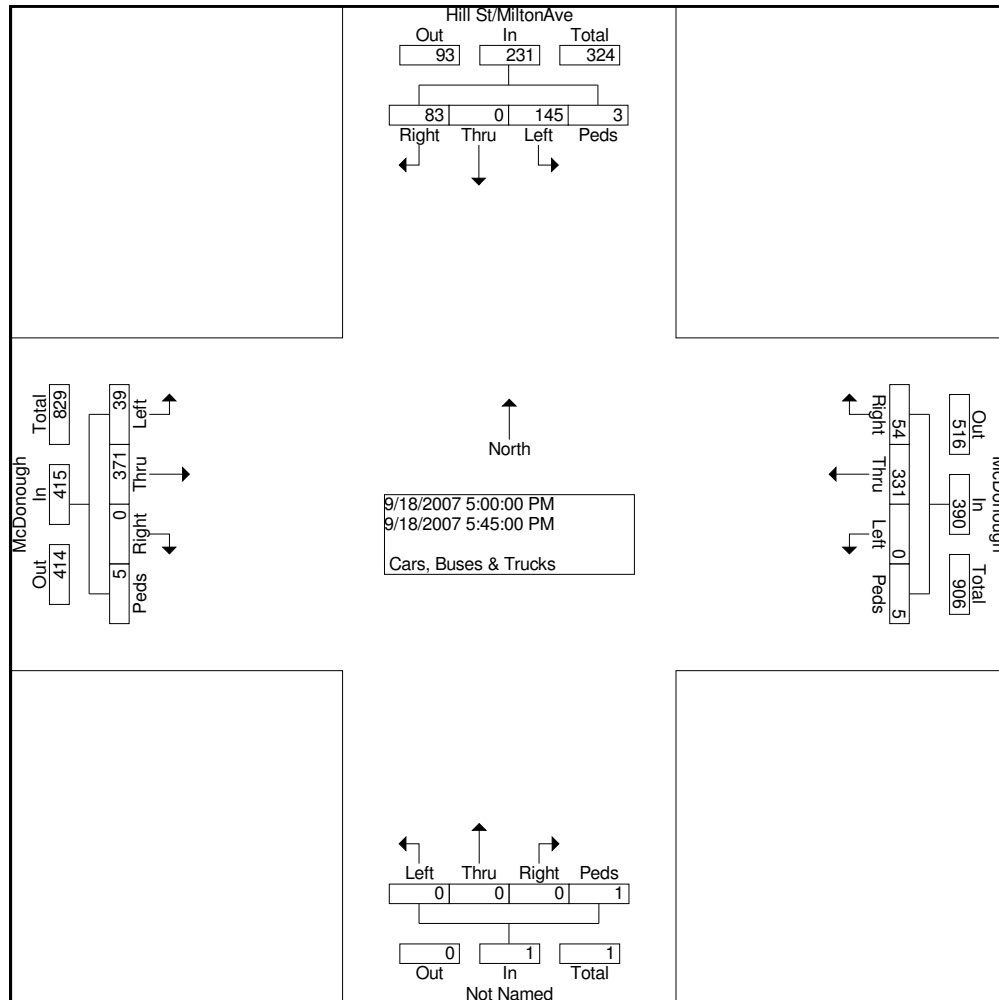
	Northbound					Hill St/MiltonAve Southbound					McDonough Eastbound					McDonough Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Interse ction	07:45 AM																				
Volume	0	0	0	2	2	52	0	54	0	106	77	166	0	3	246	0	271	178	6	455	809
Percent	0.0	0.0	0.0	100		49.	0.0	50.	0.0		31.	67.	0.0	1.2		0.0	59.	39.	1.3		
				.0		1		9			3	5					6	1			
08:15 Volume	0	0	0	0	0	13	0	12	0	25	22	58	0	0	80	0	66	44	4	114	219
Peak Factor																					0.924
High Int.	07:45 AM					07:45 AM					08:15 AM					08:30 AM					
Volume	0	0	0	1	1	14	0	13	0	27	22	58	0	0	80	0	79	53	0	132	
Peak Factor				0.50					0.98				0.76						0.86		2
				0					1				9								



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	Northbound					Hill St/Milton Ave Southbound					McDonough Eastbound					McDonough Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	05:00 PM																				
Volume	0	0	0	1	1	145	0	83	3	231	39	371	0	5	415	0	331	54	5	390	1037
Percent	0.0	0.0	0.0	100.0		62.8	0.0	35.9	1.3		9.4	89.4	0.0	1.2		0.0	84.9	13.8	1.3		
05:45 Volume	0	0	0	0	0	26	0	24	1	51	9	109	0	1	119	0	93	18	0	111	281
Peak Factor																					0.923
High Int.	05:15 PM					05:15 PM					05:45 PM					05:45 PM					
Volume	0	0	0	1	1	49	0	18	0	67	9	109	0	1	119	0	93	18	0	111	
Peak Factor	0.25					0.86					0.87					0.87					8
	0					2					2					8					

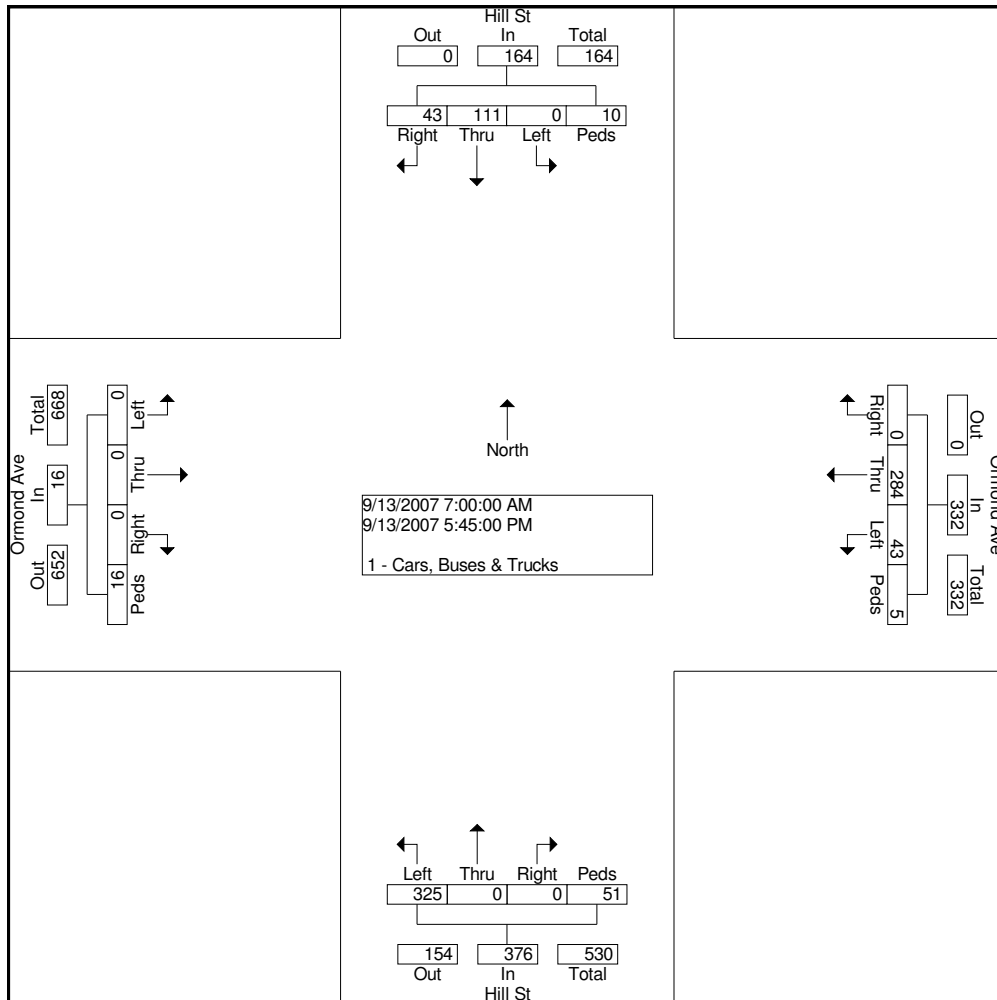


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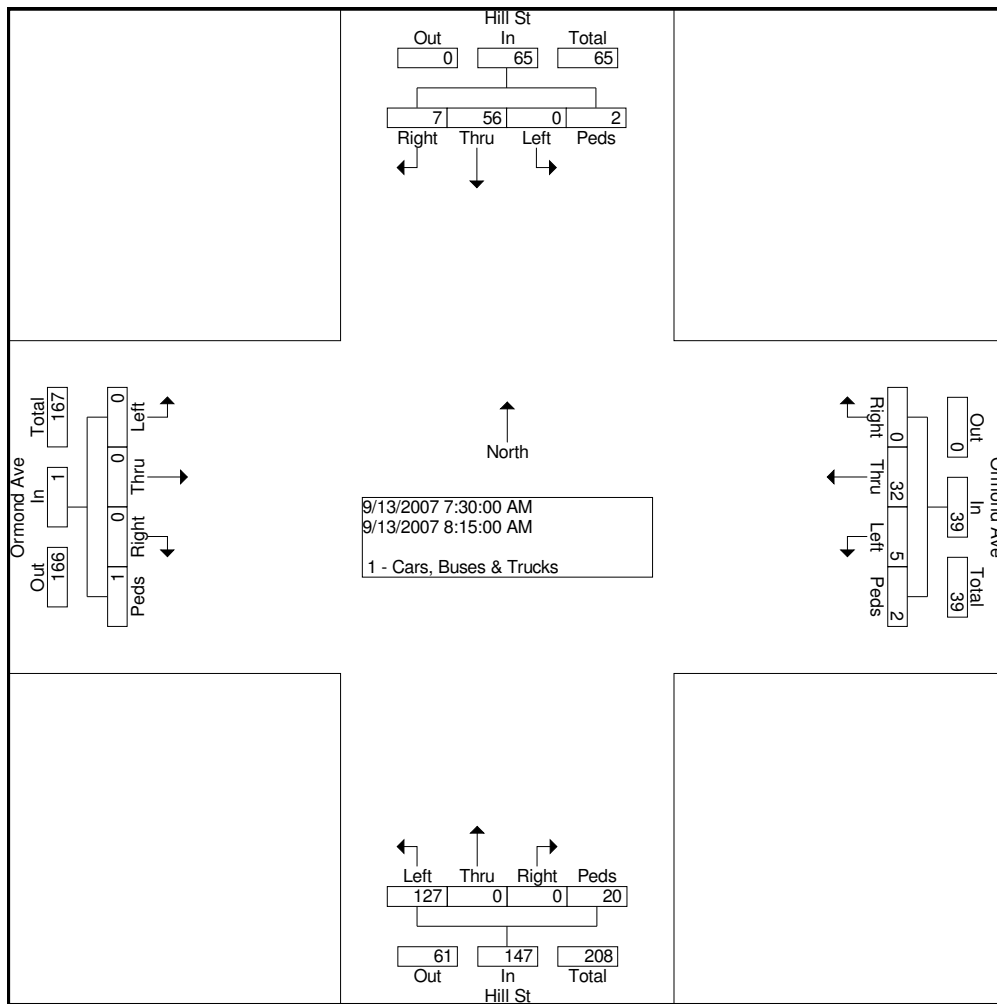
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Groups Printed- 1 - Cars, Buses & Trucks

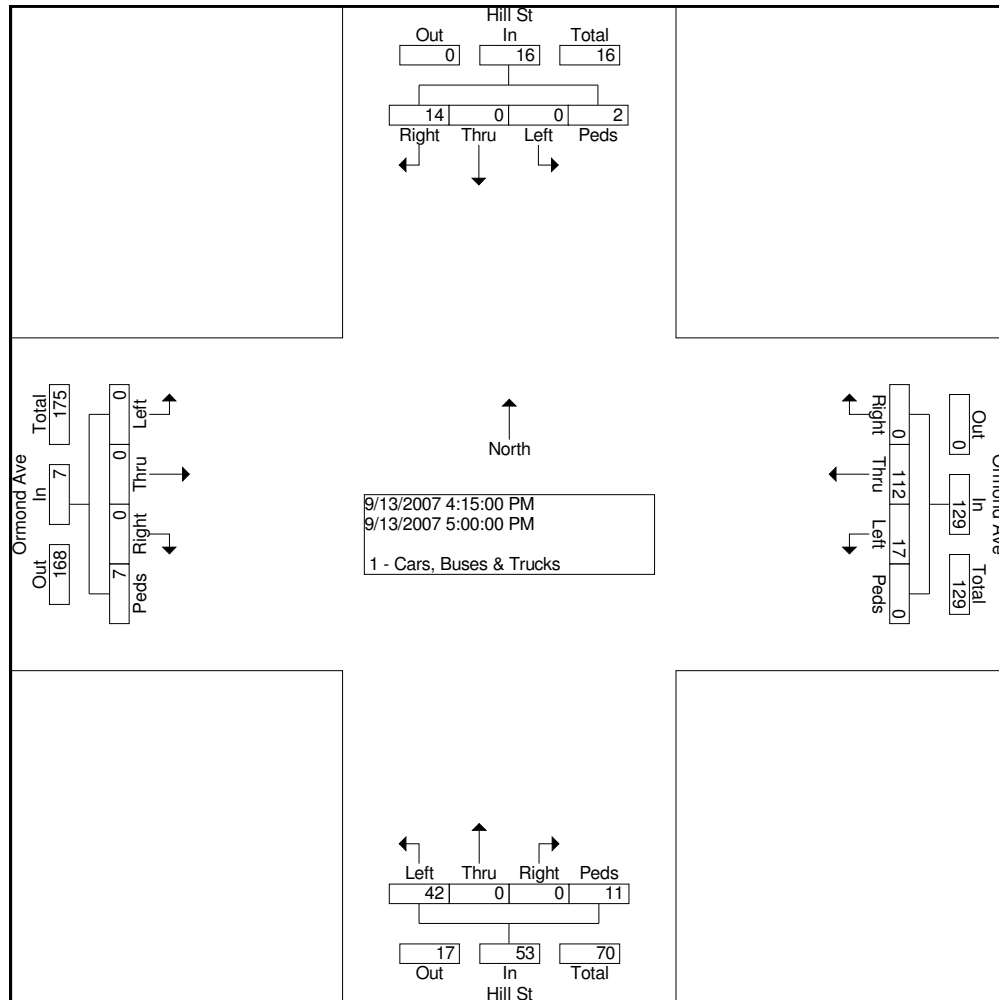
	Hill St Northbound					Hill St Southbound					Ormond Ave Eastbound					Ormond Ave Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	24	0	0	4	28	0	11	1	1	13	0	0	0	0	0	1	4	0	1	6	47
07:15 AM	25	0	0	5	30	0	10	2	0	12	0	0	0	1	1	2	6	0	0	8	51
07:30 AM	31	0	0	4	35	0	13	1	1	15	0	0	0	1	1	1	7	0	1	9	60
07:45 AM	28	0	0	6	34	0	15	2	0	17	0	0	0	0	0	3	10	0	0	13	64
Total	108	0	0	19	127	0	49	6	2	57	0	0	0	2	2	7	27	0	2	36	222
08:00 AM	34	0	0	5	39	0	14	2	1	17	0	0	0	0	0	1	7	0	1	9	65
08:15 AM	34	0	0	5	39	0	14	2	0	16	0	0	0	0	0	0	8	0	0	8	63
08:30 AM	25	0	0	1	26	0	15	2	0	17	0	0	0	1	1	1	8	0	0	9	53
08:45 AM	24	0	0	2	26	0	11	2	1	14	0	0	0	1	1	0	6	0	1	7	48
Total	117	0	0	13	130	0	54	8	2	64	0	0	0	2	2	2	29	0	2	33	229
09:00 AM	26	0	0	1	27	0	8	2	1	11	0	0	0	0	0	1	4	0	1	6	44
Total	26	0	0	1	27	0	8	2	1	11	0	0	0	0	0	1	4	0	1	6	44
04:00 PM	7	0	0	1	8	0	0	4	1	5	0	0	0	1	1	3	25	0	0	28	42
04:15 PM	9	0	0	3	12	0	0	2	1	3	0	0	0	2	2	4	28	0	0	32	49
04:30 PM	12	0	0	4	16	0	0	3	0	3	0	0	0	0	0	5	31	0	0	36	55
04:45 PM	11	0	0	1	12	0	0	4	1	5	0	0	0	2	2	4	26	0	0	30	49
Total	39	0	0	9	48	0	0	13	3	16	0	0	0	5	5	16	110	0	0	126	195
05:00 PM	10	0	0	3	13	0	0	5	0	5	0	0	0	3	3	4	27	0	0	31	52
05:15 PM	9	0	0	3	12	0	0	2	1	3	0	0	0	2	2	4	28	0	0	32	49
05:30 PM	7	0	0	0	7	0	0	3	0	3	0	0	0	0	0	5	31	0	0	36	46
05:45 PM	9	0	0	3	12	0	0	4	1	5	0	0	0	2	2	4	28	0	0	32	51
Total	35	0	0	9	44	0	0	14	2	16	0	0	0	7	7	17	114	0	0	131	198
Grand Total	325	0	0	51	376	0	111	43	10	164	0	0	0	16	16	43	284	0	5	332	888
Apprch %	86.4	0.0	0.0	13.6		0.0	67.7	26.2	6.1		0.0	0.0	0.0	100.0		13.0	85.5	0.0	1.5		
Total %	36.6	0.0	0.0	5.7	42.3	0.0	12.5	4.8	1.1	18.5	0.0	0.0	0.0	1.8	1.8	4.8	32.0	0.0	0.6	37.4	



	Hill St Northbound					Hill St Southbound					Ormond Ave Eastbound					Ormond Ave Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	127	0	0	20	147	0	56	7	2	65	0	0	0	1	1	5	32	0	2	39	252
Percent	86.4	0.0	0.0	13.6		0.0	86.2	10.8	3.1		0.0	0.0	0.0	100.0		12.8	82.1	0.0	5.1		
08:00 Volume	34	0	0	5	39	0	14	2	1	17	0	0	0	0	0	1	7	0	1	9	65
Peak Factor	08:00 AM					07:45 AM					07:30 AM					07:45 AM					
High Int. Volume	34	0	0	5	39	0	15	2	0	17	0	0	0	1	1	3	10	0	0	13	65
Peak Factor	0.94					0.95					0.25					0.75					0.969
	2					6					0					0					



	Hill St Northbound					Hill St Southbound					Ormond Ave Eastbound					Ormond Ave Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:15 PM																				
Volume	42	0	0	11	53	0	0	14	2	16	0	0	0	7	7	17	112	0	0	129	205
Percent	79.2	0.0	0.0	20.8		0.0	0.0	87.5	12.5		0.0	0.0	0.0	100.0		13.2	86.8	0.0	0.0		
04:30 Volume	12	0	0	4	16	0	0	3	0	3	0	0	0	0	0	5	31	0	0	36	55
Peak Factor																					0.932
High Int.	04:30 PM					04:45 PM					05:00 PM					04:30 PM					
Volume	12	0	0	4	16	0	0	4	1	5	0	0	0	3	3	5	31	0	0	36	
Peak Factor	0.82					0.80					0.58					0.89					6

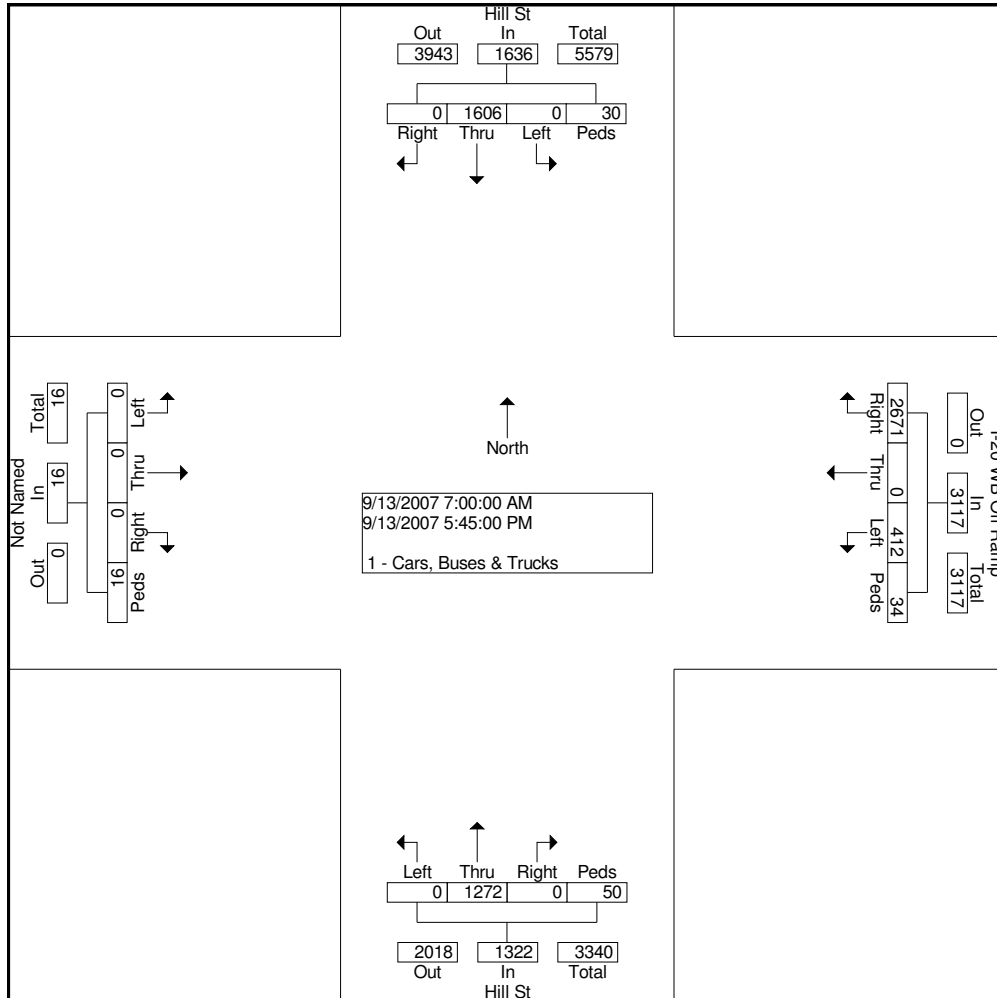


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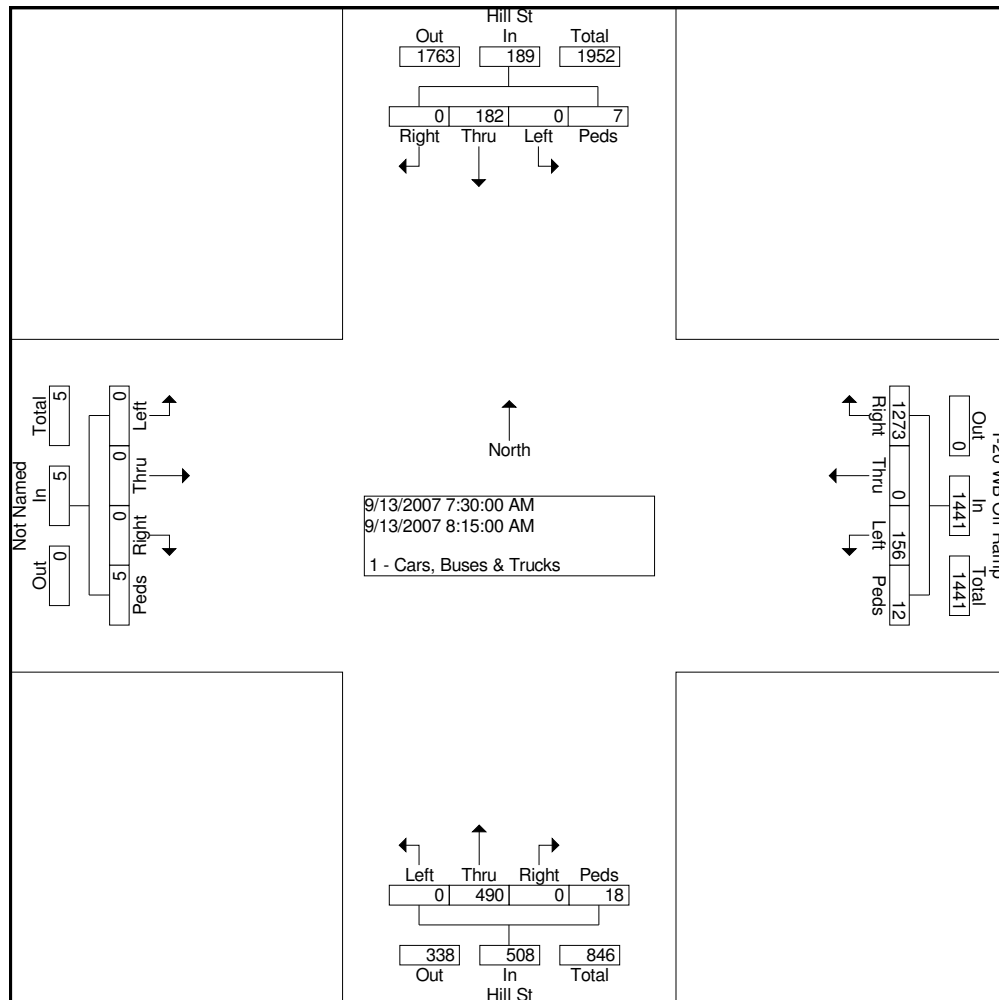
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Groups Printed- 1 - Cars, Buses & Trucks

	Hill St Northbound					Hill St Southbound					Eastbound					I-20 WB Off Ramp Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	0	71	0	0	71	0	34	0	0	34	0	0	0	0	0	33	0	229	0	262	367
07:15 AM	0	85	0	1	86	0	35	0	2	37	0	0	0	0	0	46	0	284	0	330	453
07:30 AM	0	118	0	14	132	0	41	0	3	44	0	0	0	4	4	39	0	323	9	371	551
07:45 AM	0	136	0	3	139	0	45	0	2	47	0	0	0	1	1	40	0	296	3	339	526
Total	0	410	0	18	428	0	155	0	7	162	0	0	0	5	5	158	0	113 2	12	1302	1897
08:00 AM	0	121	0	0	121	0	54	0	0	54	0	0	0	0	0	35	0	312	0	347	522
08:15 AM	0	115	0	1	116	0	42	0	2	44	0	0	0	0	0	42	0	342	0	384	544
08:30 AM	0	105	0	14	119	0	37	0	3	40	0	0	0	4	4	35	0	315	9	359	522
08:45 AM	0	96	0	3	99	0	39	0	2	41	0	0	0	1	1	31	0	295	3	329	470
Total	0	437	0	18	455	0	172	0	7	179	0	0	0	5	5	143	0	126 4	12	1419	2058
04:00 PM	0	45	0	1	46	0	142	0	3	145	0	0	0	0	0	11	0	33	2	46	237
04:15 PM	0	47	0	3	50	0	157	0	2	159	0	0	0	1	1	16	0	33	1	50	260
04:30 PM	0	58	0	2	60	0	179	0	2	181	0	0	0	1	1	11	0	31	2	44	286
04:45 PM	0	59	0	1	60	0	173	0	1	174	0	0	0	1	1	14	0	37	0	51	286
Total	0	209	0	7	216	0	651	0	8	659	0	0	0	3	3	52	0	134	5	191	1069
05:00 PM	0	65	0	1	66	0	167	0	3	170	0	0	0	0	0	15	0	35	2	52	288
05:15 PM	0	48	0	3	51	0	158	0	2	160	0	0	0	1	1	16	0	33	1	50	262
05:30 PM	0	58	0	2	60	0	149	0	2	151	0	0	0	1	1	16	0	38	2	56	268
05:45 PM	0	45	0	1	46	0	154	0	1	155	0	0	0	1	1	12	0	35	0	47	249
Total	0	216	0	7	223	0	628	0	8	636	0	0	0	3	3	59	0	141	5	205	1067
Grand Total	0	127 2	0	50	1322	0	160 6	0	30	1636	0	0	0	16	16	412	0	267 1	34	3117	6091
Apprch %	0.0	96. 2	0.0	3.8		0.0	98. 2	0.0	1.8		0.0	0.0	0.0	100 .0		13. 2	0.0	85. 7	1.1		
Total %	0.0	20. 9	0.0	0.8	21.7	0.0	26. 4	0.0	0.5	26.9	0.0	0.0	0.0	0.3	0.3	6.8	0.0	43. 9	0.6	51.2	



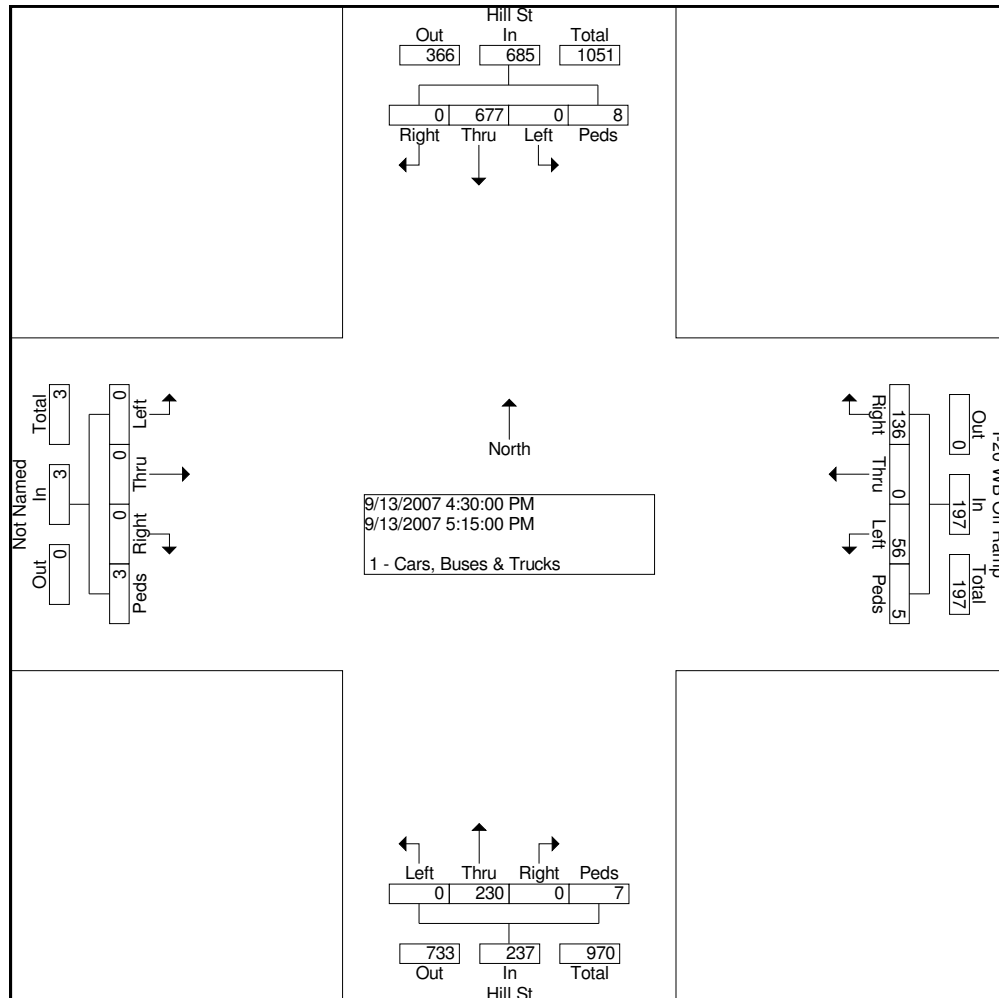
	Hill St Northbound					Hill St Southbound					Eastbound					I-20 WB Off Ramp Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	0	490	0	18	508	0	182	0	7	189	0	0	0	5	5	156	0	127	12	1441	2143
Percent	0.0	96.5	0.0	3.5		0.0	96.3	0.0	3.7		0.0	0.0	0.0	100.0		10.8	0.0	88.3	0.8		
07:30 Volume	0	118	0	14	132	0	41	0	3	44	0	0	0	4	4	39	0	323	9	371	551
Peak Factor																					0.972
High Int.	07:45 AM					08:00 AM					07:30 AM					08:15 AM					
Volume	0	136	0	3	139	0	54	0	0	54	0	0	0	4	4	42	0	342	0	384	
Peak Factor					0.914					0.875					0.313					0.938	



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	Hill St Northbound					Hill St Southbound					Eastbound					I-20 WB Off Ramp Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:30 PM																				
Volume	0	230	0	7	237	0	677	0	8	685	0	0	0	3	3	56	0	136	5	197	1122
Percent	0.0	97.0	0.0	3.0		0.0	98.8	0.0	1.2		0.0	0.0	0.0	100.0		28.4	0.0	69.0	2.5		
05:00 Volume	0	65	0	1	66	0	167	0	3	170	0	0	0	0	0	15	0	35	2	52	288
Peak Factor																					0.974
High Int.	05:00 PM					04:30 PM					04:30 PM					05:00 PM					
Volume	0	65	0	1	66	0	179	0	2	181	0	0	0	1	1	15	0	35	2	52	
Peak Factor	0.898					0.946					0.750					0.947					

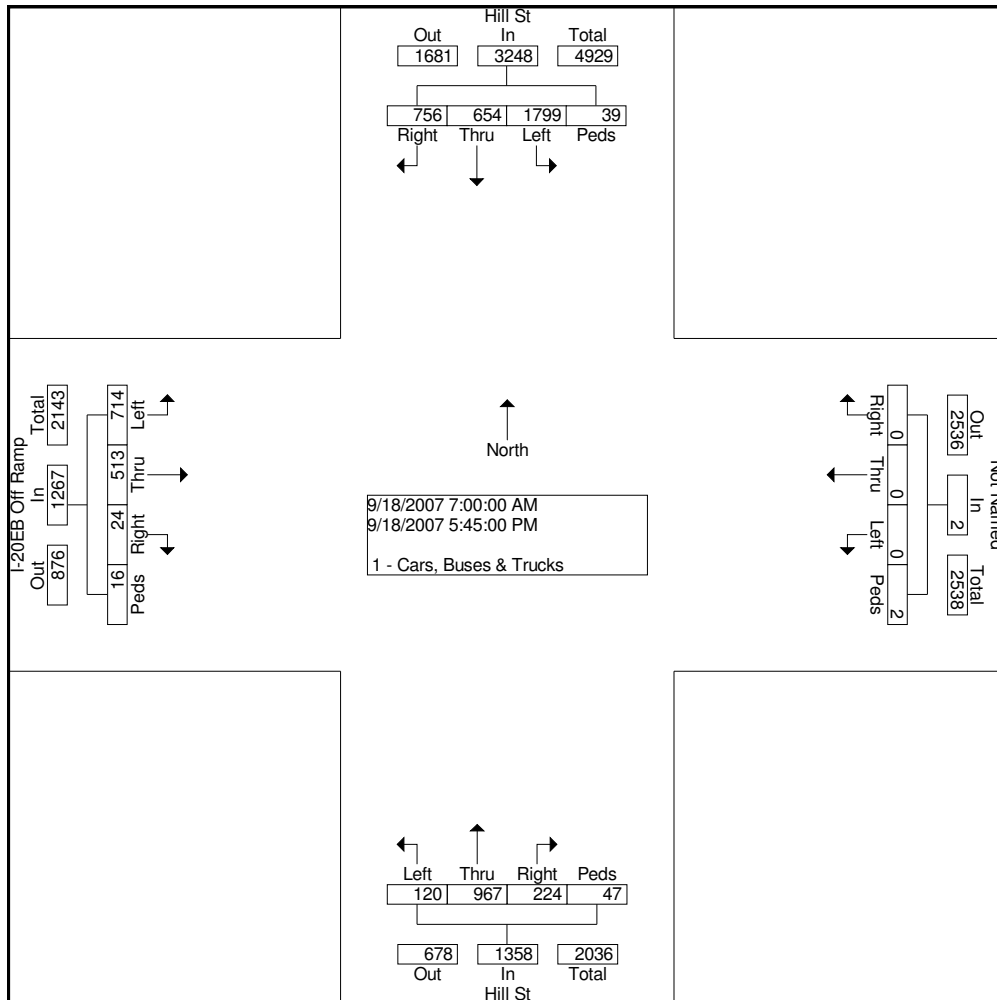


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Groups Printed- 1 - Cars, Buses & Trucks

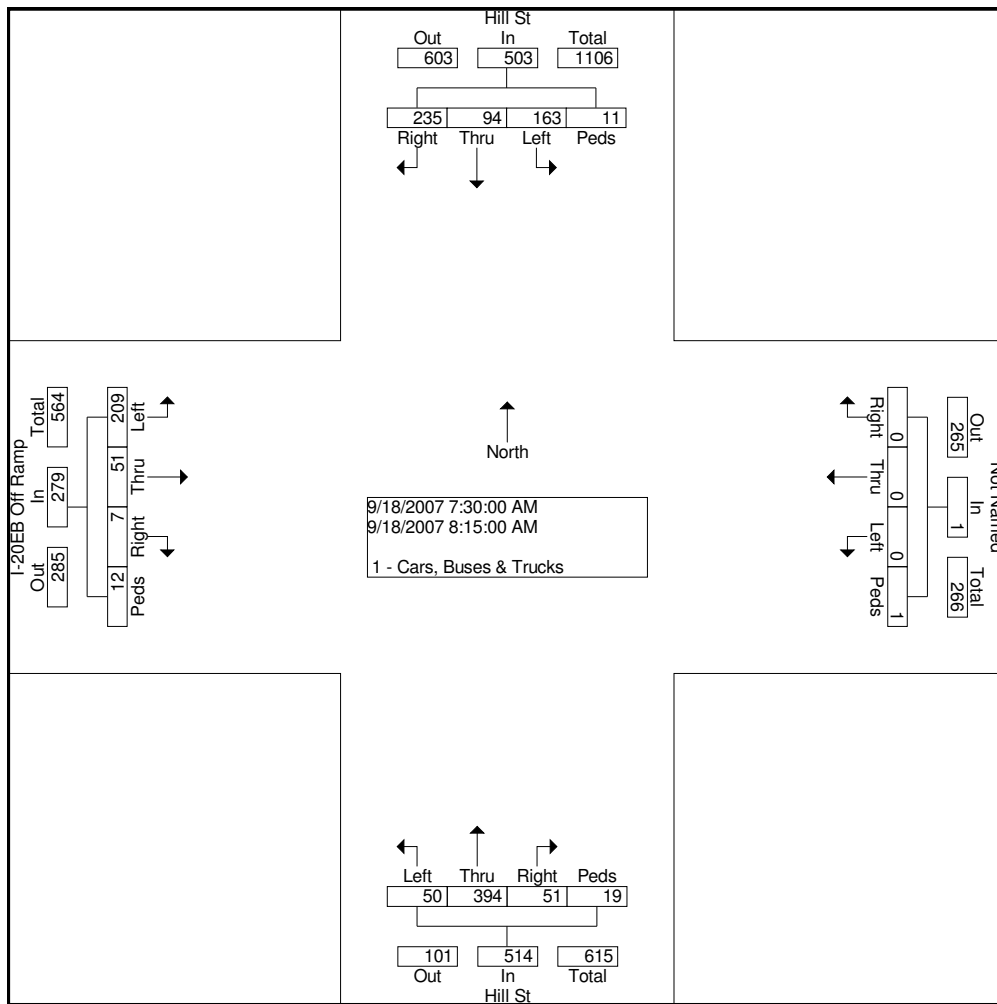
	Hill St Northbound					Hill St Southbound					I-20EB Off Ramp Eastbound					Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	5	73	7	6	91	43	16	43	1	103	35	5	1	0	41	0	0	0	0	0	235
07:15 AM	9	85	11	3	108	50	22	49	2	123	45	10	2	1	58	0	0	0	0	0	289
07:30 AM	16	80	12	6	114	38	15	61	7	121	67	17	1	2	87	0	0	0	1	1	323
07:45 AM	13	111	16	4	144	34	31	72	1	138	53	13	2	3	71	0	0	0	0	0	353
Total	43	349	46	19	457	165	84	225	11	485	200	45	6	6	257	0	0	0	1	1	1200
08:00 AM	11	108	13	5	137	41	26	53	1	121	44	11	1	3	59	0	0	0	0	0	317
08:15 AM	10	95	10	4	119	50	22	49	2	123	45	10	3	4	62	0	0	0	0	0	304
08:30 AM	16	87	12	6	121	38	29	51	7	125	47	12	1	2	62	0	0	0	1	1	309
08:45 AM	14	82	11	5	112	37	35	46	1	119	39	11	1	1	52	0	0	0	0	0	283
Total	51	372	46	20	489	166	112	199	11	488	175	44	6	10	235	0	0	0	1	1	1213
04:00 PM	4	24	14	1	43	148	55	29	3	235	38	39	2	0	79	0	0	0	0	0	357
04:15 PM	2	27	17	2	48	167	64	32	2	265	42	41	3	0	86	0	0	0	0	0	399
04:30 PM	6	31	15	1	53	188	70	45	3	306	51	43	2	0	96	0	0	0	0	0	455
04:45 PM	2	26	14	1	43	174	64	42	1	281	42	46	1	0	89	0	0	0	0	0	413
Total	14	108	60	5	187	677	253	148	9	1087	173	169	8	0	350	0	0	0	0	0	1624
05:00 PM	4	33	14	1	52	196	53	57	4	310	45	68	1	0	114	0	0	0	0	0	476
05:15 PM	3	31	19	1	54	188	51	45	1	285	39	65	2	0	106	0	0	0	0	0	445
05:30 PM	2	35	21	0	58	201	49	44	1	295	42	58	0	0	100	0	0	0	0	0	453
05:45 PM	3	39	18	1	61	206	52	38	2	298	40	64	1	0	105	0	0	0	0	0	464
Total	12	138	72	3	225	791	205	184	8	1188	166	255	4	0	425	0	0	0	0	0	1838
Grand Total	120	967	224	47	1358	1799	654	756	39	3248	714	513	24	16	1267	0	0	0	2	2	5875
Apprch %	8.8	71.2	16.5	3.5		55.4	20.1	23.3	1.2		56.4	40.5	1.9	1.3		0.0	0.0	0.0	100.0		
Total %	2.0	16.5	3.8	0.8	23.1	30.6	11.1	12.9	0.7	55.3	12.2	8.7	0.4	0.3	21.6	0.0	0.0	0.0	0.0	0.0	



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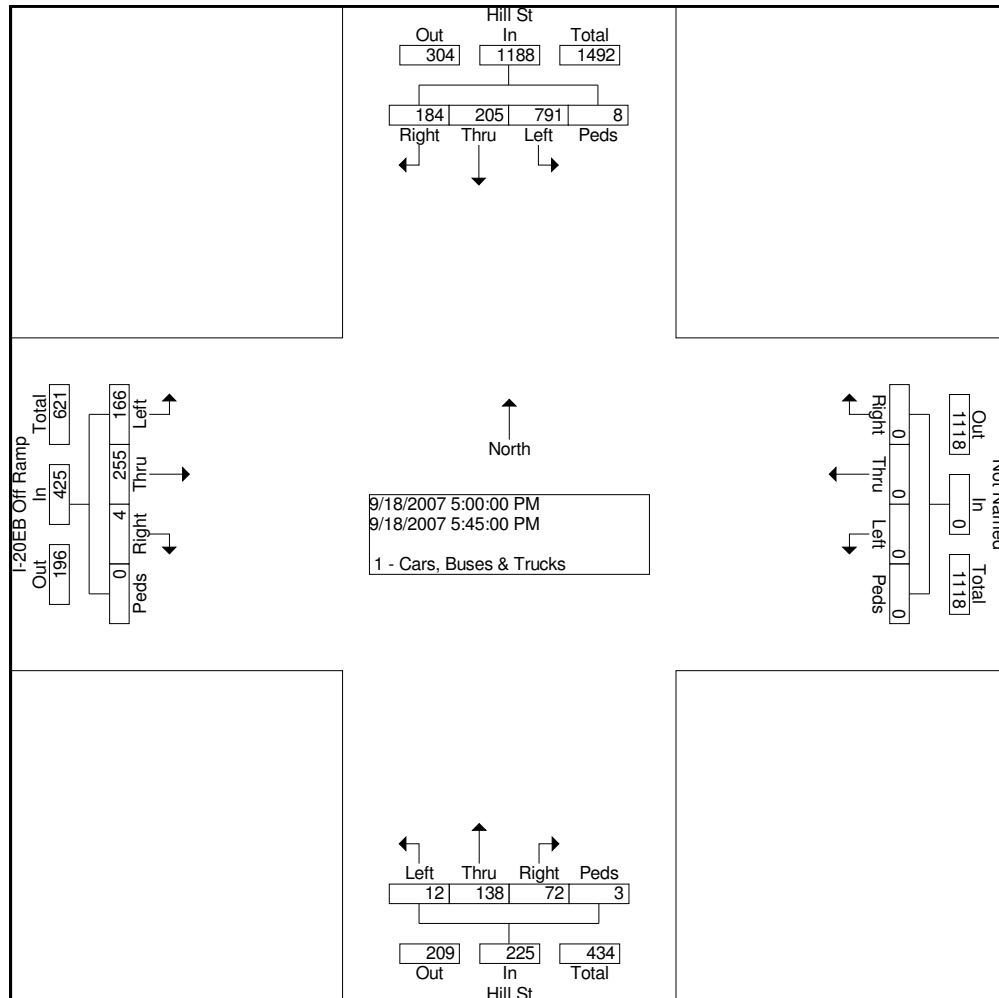
	Hill St Northbound					Hill St Southbound					I-20EB Off Ramp Eastbound					Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	50	394	51	19	514	163	94	235	11	503	209	51	7	12	279	0	0	0	1	1	1297
Percent	9.7	76.7	9.9	3.7		32.4	18.7	46.7	2.2		74.9	18.3	2.5	4.3		0.0	0.0	0.0	100.0		
07:45 Volume	13	111	16	4	144	34	31	72	1	138	53	13	2	3	71	0	0	0	0	0	353
Peak Factor	07:45 AM					07:45 AM					07:30 AM					07:30 AM					
High Int. Volume	13	111	16	4	144	34	31	72	1	138	67	17	1	2	87	0	0	0	1	1	0.919
Peak Factor	0.89					0.91					0.80					0.25					
	2					1					2					0					



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	Hill St Northbound					Hill St Southbound					I-20EB Off Ramp Eastbound					Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	05:00 PM																				
Volume	12	138	72	3	225	791	205	184	8	1188	166	255	4	0	425	0	0	0	0	0	1838
Percent	5.3	61.3	32.0	1.3		66.6	17.3	15.5	0.7		39.1	60.0	0.9	0.0		0.0	0.0	0.0	0.0		
05:00 Volume	4	33	14	1	52	196	53	57	4	310	45	68	1	0	114	0	0	0	0	0	476
Peak Factor																					0.965
High Int.	05:45 PM					05:00 PM					05:00 PM										
Volume	3	39	18	1	61	196	53	57	4	310	45	68	1	0	114						
Peak Factor	0.92					0.95					0.93					2					

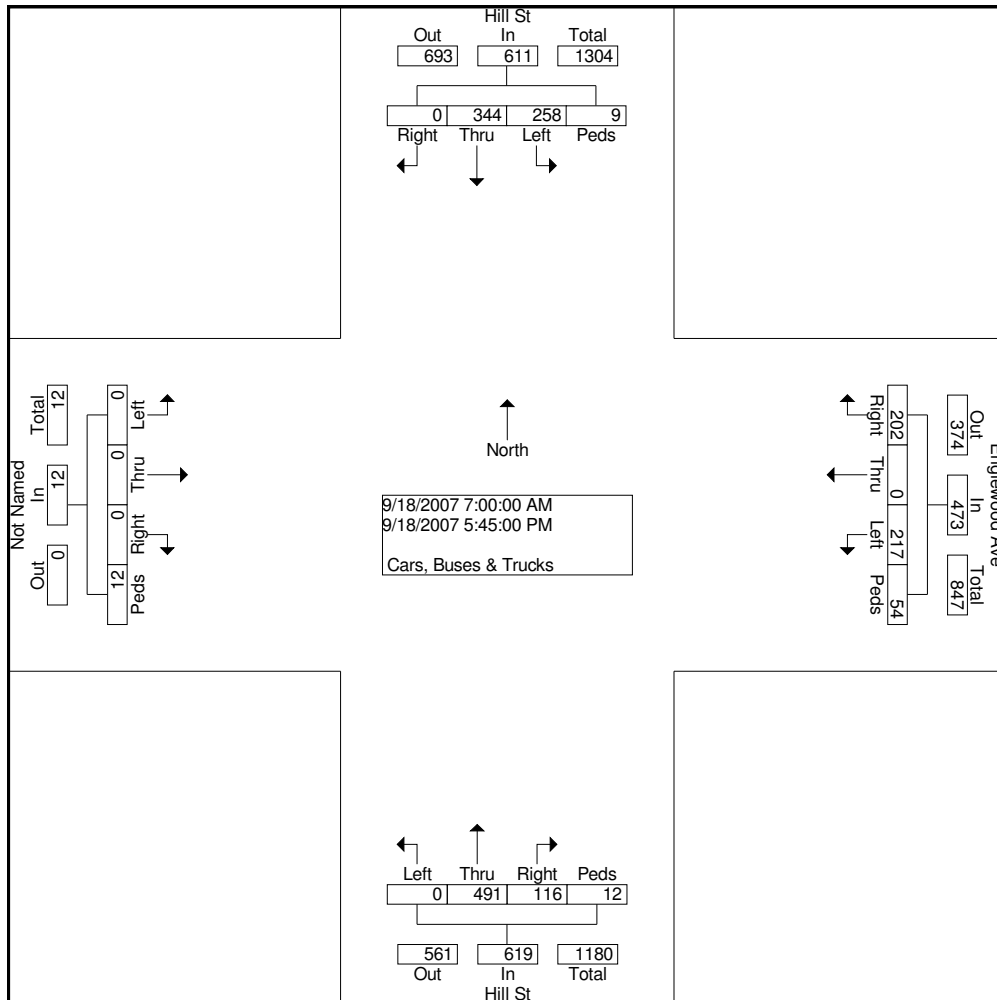


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Groups Printed- Cars, Buses & Trucks

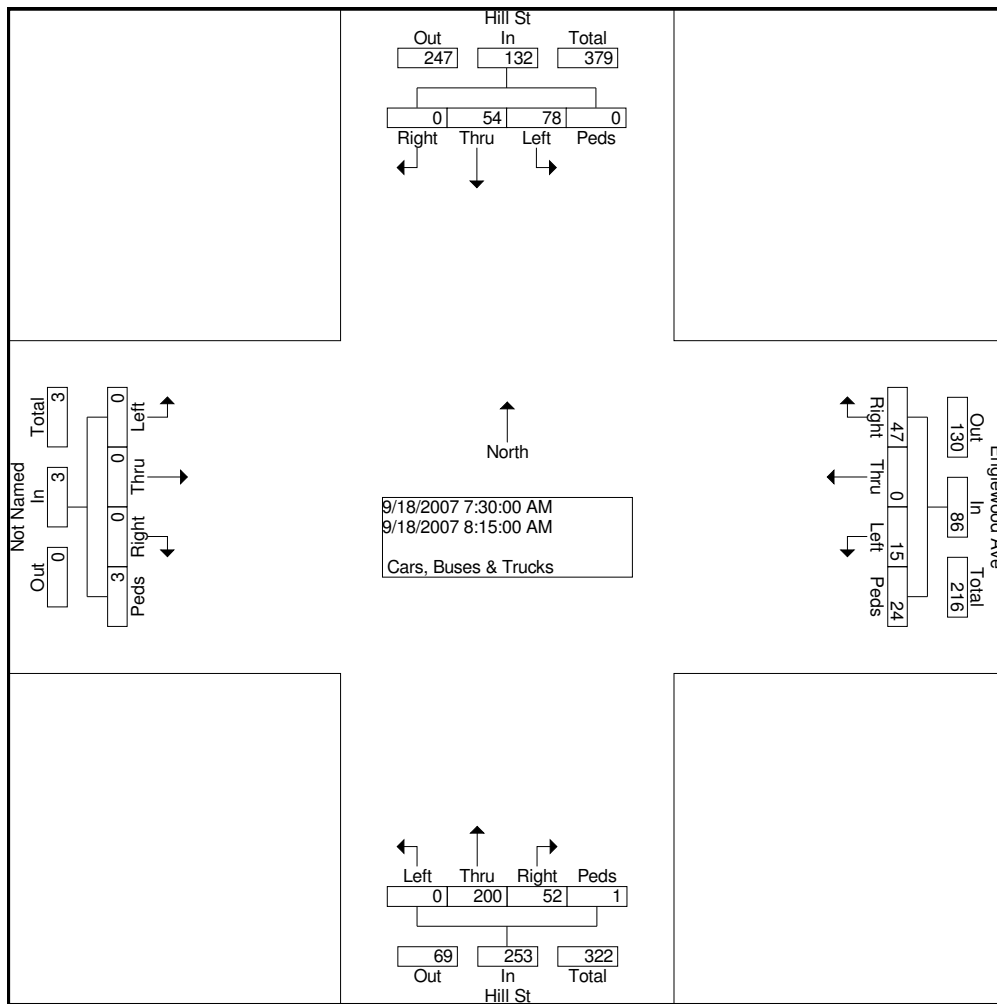
	Hill St Northbound					Hill St Southbound					Eastbound					Englewood Ave Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	0	32	4	0	36	7	11	0	0	18	0	0	0	0	0	2	0	10	5	17	71
07:15 AM	0	35	6	0	41	12	12	0	0	24	0	0	0	2	2	5	0	9	6	20	87
07:30 AM	0	46	9	0	55	17	13	0	0	30	0	0	0	1	1	3	0	11	5	19	105
07:45 AM	0	52	17	1	70	25	12	0	0	37	0	0	0	0	0	7	0	15	7	29	136
Total	0	165	36	1	202	61	48	0	0	109	0	0	0	3	3	17	0	45	23	85	399
08:00 AM	0	55	15	0	70	21	14	0	0	35	0	0	0	0	0	3	0	12	7	22	127
08:15 AM	0	47	11	0	58	15	15	0	0	30	0	0	0	2	2	2	0	9	5	16	106
08:30 AM	0	45	9	0	54	11	12	0	0	23	0	0	0	1	1	5	0	12	8	25	103
08:45 AM	0	38	10	1	49	13	13	0	0	26	0	0	0	0	0	7	0	10	0	17	92
Total	0	185	45	1	231	60	54	0	0	114	0	0	0	3	3	17	0	43	20	80	428
04:00 PM	0	11	5	2	18	17	24	0	1	42	0	0	0	1	1	12	0	4	1	17	78
04:15 PM	0	16	4	0	20	19	27	0	2	48	0	0	0	2	2	19	0	11	2	32	102
04:30 PM	0	17	3	0	20	15	32	0	0	47	0	0	0	0	0	21	0	15	3	39	106
04:45 PM	0	23	8	2	33	18	35	0	1	54	0	0	0	0	0	24	0	17	0	41	128
Total	0	67	20	4	91	69	118	0	4	191	0	0	0	3	3	76	0	47	6	129	414
05:00 PM	0	22	4	2	28	24	29	0	1	54	0	0	0	0	0	23	0	16	1	40	122
05:15 PM	0	19	4	1	24	17	37	0	2	56	0	0	0	2	2	27	0	19	3	49	131
05:30 PM	0	15	3	1	19	13	30	0	1	44	0	0	0	0	0	31	0	18	1	50	113
05:45 PM	0	18	4	2	24	14	28	0	1	43	0	0	0	1	1	26	0	14	0	40	108
Total	0	74	15	6	95	68	124	0	5	197	0	0	0	3	3	107	0	67	5	179	474
Grand Total	0	491	116	12	619	258	344	0	9	611	0	0	0	12	12	217	0	202	54	473	1715
Apprch %	0.0	79.3	18.7	1.9		42.2	56.3	0.0	1.5		0.0	0.0	0.0	100.0		45.9	0.0	42.7	11.4		
Total %	0.0	28.6	6.8	0.7	36.1	15.0	20.1	0.0	0.5	35.6	0.0	0.0	0.0	0.7	0.7	12.7	0.0	11.8	3.1	27.6	



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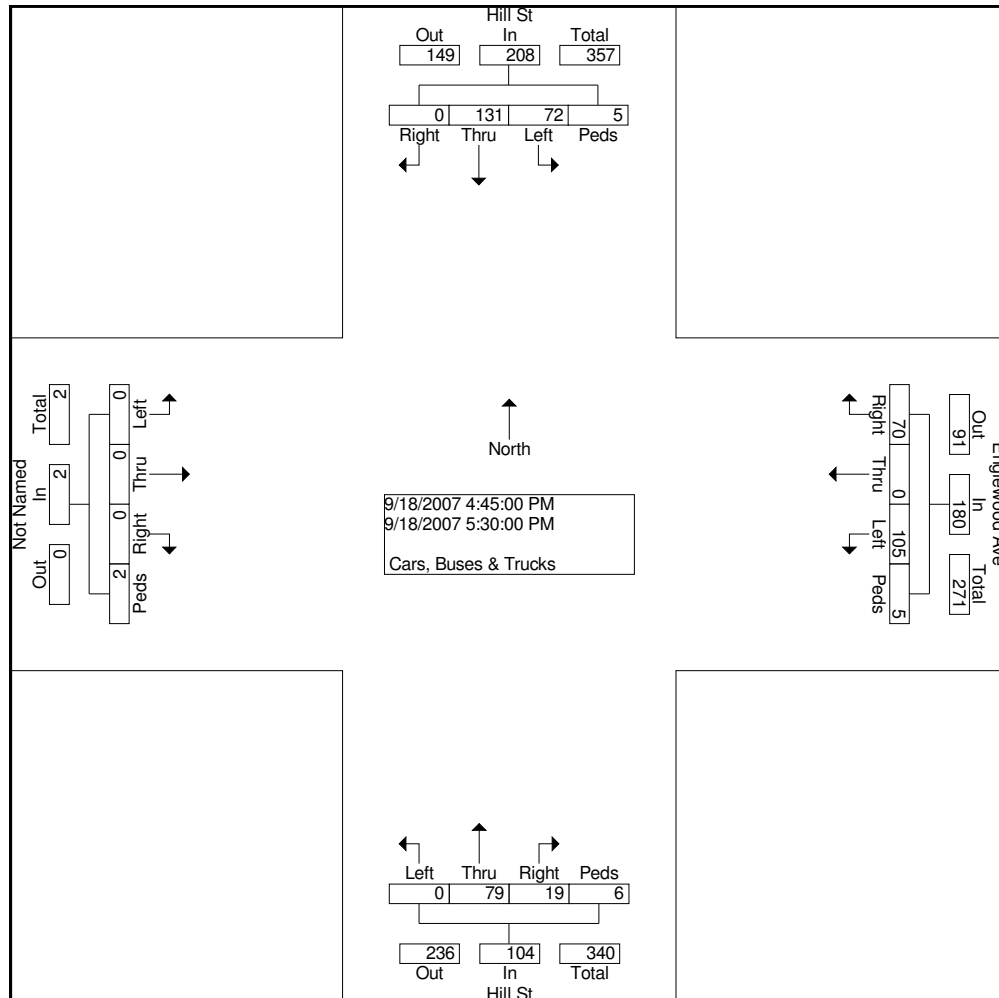
	Hill St Northbound					Hill St Southbound					Eastbound					Englewood Ave Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	0	200	52	1	253	78	54	0	0	132	0	0	0	3	3	15	0	47	24	86	474
Percent	0.0	79.1	20.6	0.4		59.1	40.9	0.0	0.0		0.0	0.0	0.0	100.0		17.4	0.0	54.7	27.9		
07:45																					
Volume	0	52	17	1	70	25	12	0	0	37	0	0	0	0	0	7	0	15	7	29	136
Peak						07:45 AM					08:15 AM					07:45 AM					
Factor																					0.871
High	07:45 AM																				
Int.																					
Volume	0	52	17	1	70	25	12	0	0	37	0	0	0	2	2	7	0	15	7	29	
Peak																					
Factor	0.90					0.89					0.37					0.74					1
	4					2					5					1					



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	Hill St Northbound					Hill St Southbound					Eastbound					Englewood Ave Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:45 PM																				
Volume	0	79	19	6	104	72	131	0	5	208	0	0	0	2	2	105	0	70	5	180	494
Percent	0.0	76.0	18.3	5.8		34.6	63.0	0.0	2.4		0.0	0.0	0.0	100.0		58.3	0.0	38.9	2.8		
05:15 Volume	0	19	4	1	24	17	37	0	2	56	0	0	0	2	2	27	0	19	3	49	131
Peak Factor																					0.943
High Int.	04:45 PM					05:15 PM					05:15 PM					05:30 PM					
Volume	0	23	8	2	33	17	37	0	2	56	0	0	0	2	2	31	0	18	1	50	
Peak Factor	0.788					0.929					0.250					0.900					

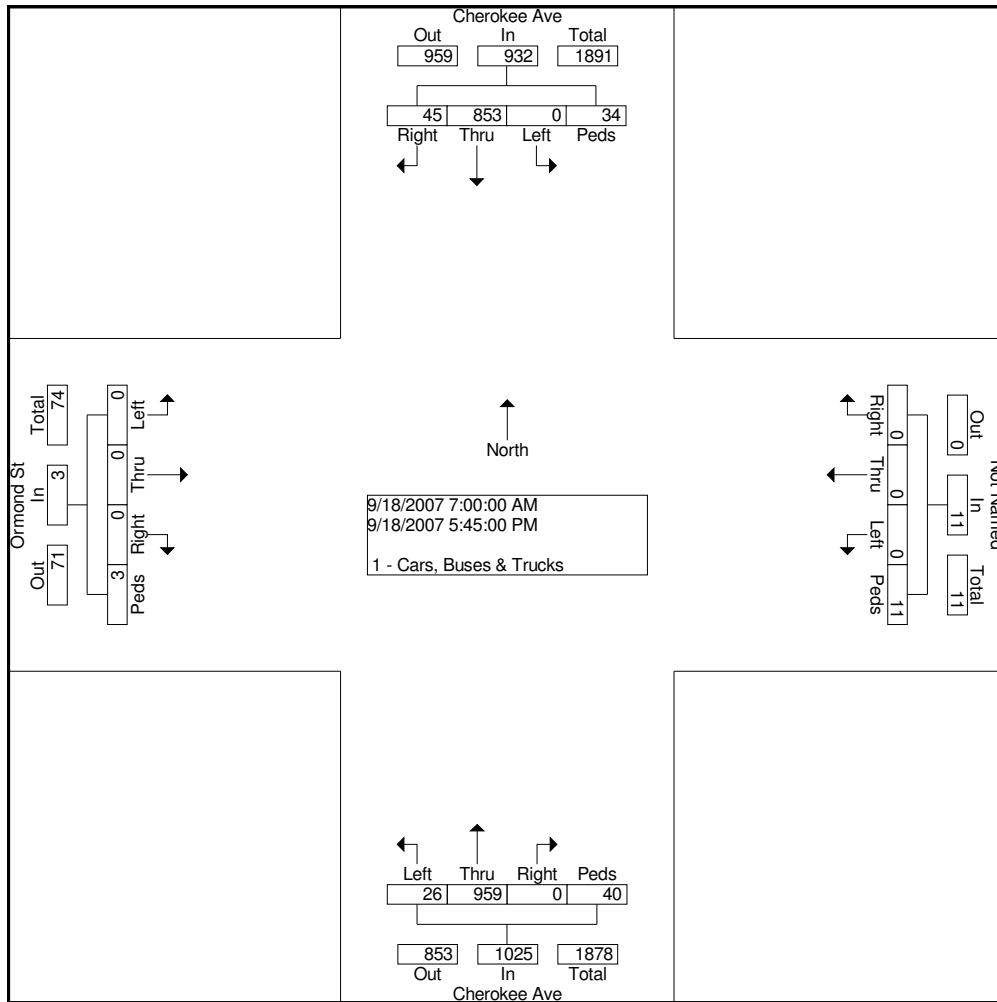


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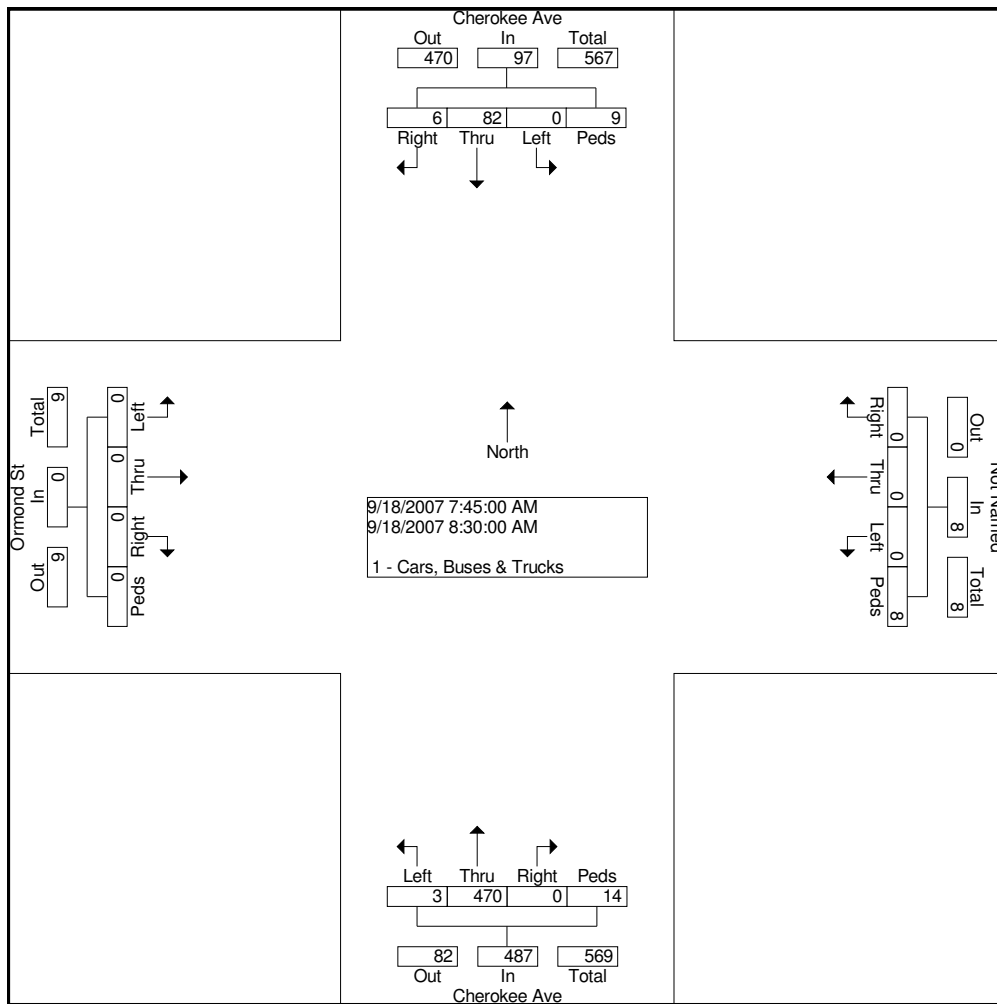
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Groups Printed- 1 - Cars, Buses & Trucks

	Cherokee Ave Northbound					Cherokee Ave Southbound					Ormond St Eastbound					Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	1	71	0	8	80	0	17	2	5	24	0	0	0	0	0	0	0	0	2	2	106
07:15 AM	4	80	0	4	88	0	18	2	5	25	0	0	0	0	0	0	0	0	0	0	113
07:30 AM	4	102	0	2	108	0	19	1	0	20	0	0	0	1	1	0	0	0	1	1	130
07:45 AM	1	104	0	3	108	0	24	2	2	28	0	0	0	0	0	0	0	0	3	3	139
Total	10	357	0	17	384	0	78	7	12	97	0	0	0	1	1	0	0	0	6	6	488
08:00 AM	1	121	0	3	125	0	14	2	2	18	0	0	0	0	0	0	0	0	3	3	146
08:15 AM	0	138	0	0	138	0	22	0	0	22	0	0	0	0	0	0	0	0	0	0	160
08:30 AM	1	107	0	8	116	0	22	2	5	29	0	0	0	0	0	0	0	0	2	2	147
08:45 AM	4	65	0	4	73	0	25	2	5	32	0	0	0	0	0	0	0	0	0	0	105
Total	6	431	0	15	452	0	83	6	12	101	0	0	0	0	0	0	0	0	5	5	558
04:00 PM	0	19	0	0	19	0	75	1	0	76	0	0	0	0	0	0	0	0	0	0	95
04:15 PM	0	24	0	1	25	0	84	8	0	92	0	0	0	0	0	0	0	0	0	0	117
04:30 PM	2	19	0	0	21	0	87	3	3	93	0	0	0	0	0	0	0	0	0	0	114
04:45 PM	3	23	0	3	29	0	93	4	2	99	0	0	0	1	1	0	0	0	0	0	129
Total	5	85	0	4	94	0	339	16	5	360	0	0	0	1	1	0	0	0	0	0	455
05:00 PM	0	25	0	0	25	0	87	1	0	88	0	0	0	0	0	0	0	0	0	0	113
05:15 PM	0	24	0	1	25	0	94	8	0	102	0	0	0	0	0	0	0	0	0	0	127
05:30 PM	2	18	0	0	20	0	87	3	3	93	0	0	0	0	0	0	0	0	0	0	113
05:45 PM	3	19	0	3	25	0	85	4	2	91	0	0	0	1	1	0	0	0	0	0	117
Total	5	86	0	4	95	0	353	16	5	374	0	0	0	1	1	0	0	0	0	0	470
Grand Total	26	959	0	40	1025	0	853	45	34	932	0	0	0	3	3	0	0	0	11	11	1971
Apprch %	2.5	93.6	0.0	3.9		0.0	91.5	4.8	3.6		0.0	0.0	0.0	100.0		0.0	0.0	0.0	100.0		
Total %	1.3	48.7	0.0	2.0	52.0	0.0	43.3	2.3	1.7	47.3	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.6	0.6	



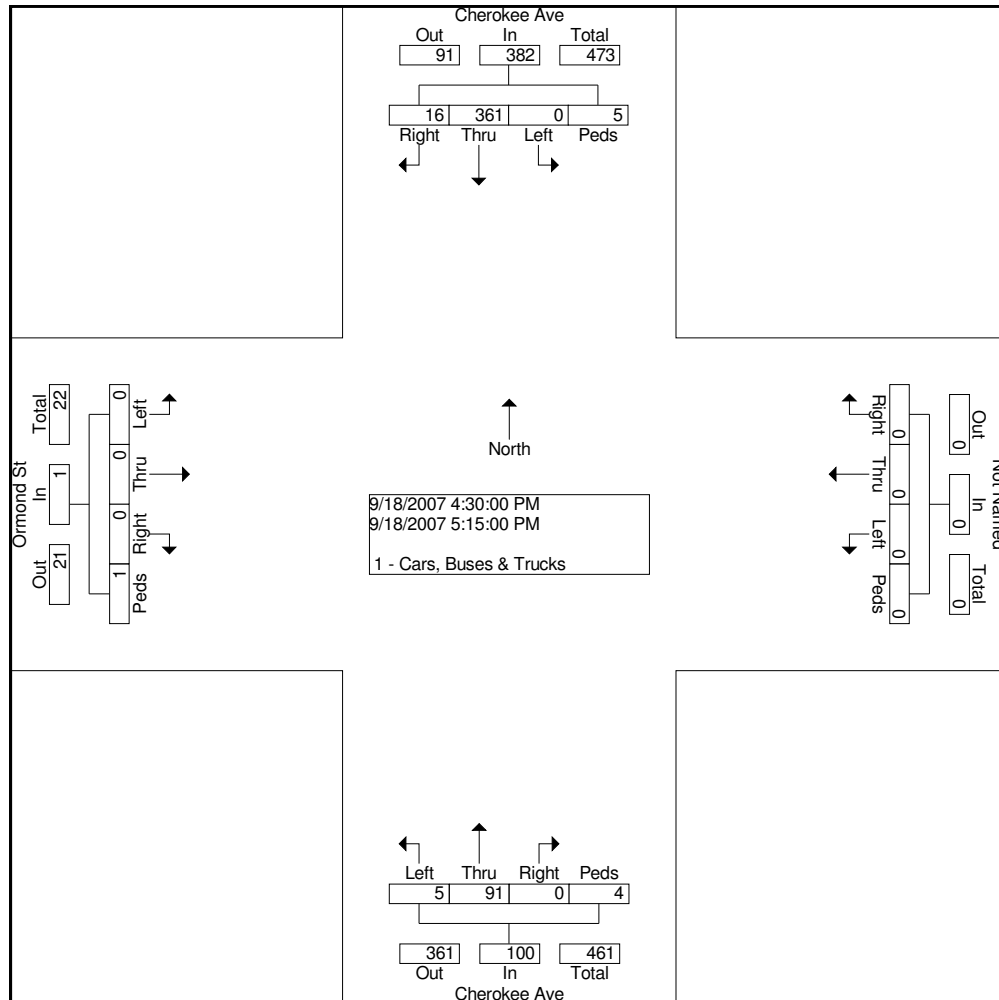
	Cherokee Ave Northbound					Cherokee Ave Southbound					Ormond St Eastbound					Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Intersection	07:45 AM																				
Volume	3	470	0	14	487	0	82	6	9	97	0	0	0	0	0	0	0	0	8	8	592
Percent	0.6	96.5	0.0	2.9		0.0	84.5	6.2	9.3		0.0	0.0	0.0	0.0		0.0	0.0	0.0	100.0		
08:15 Volume	0	138	0	0	138	0	22	0	0	22	0	0	0	0	0	0	0	0	0	0	160
Peak Factor																					0.925
High Int.	08:15 AM					08:30 AM					6:45:00 AM					07:45 AM					
Volume	0	138	0	0	138	0	22	2	5	29	0	0	0	0	0	0	0	0	3	3	
Peak Factor	0.88					0.83										0.66					7



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	Cherokee Ave Northbound					Cherokee Ave Southbound					Ormond St Eastbound					Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:30 PM																				
Volume	5	91	0	4	100	0	361	16	5	382	0	0	0	1	1	0	0	0	0	0	483
Percent	5.0	91.0	0.0	4.0		0.0	94.5	4.2	1.3		0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0		
04:45 Volume	3	23	0	3	29	0	93	4	2	99	0	0	0	1	1	0	0	0	0	0	129
Peak Factor																					0.936
High Int.	04:45 PM					05:15 PM					04:45 PM										
Volume	3	23	0	3	29	0	94	8	0	102	0	0	0	1	1						
Peak Factor					0.86					0.93					0.25						
					2					6					0						

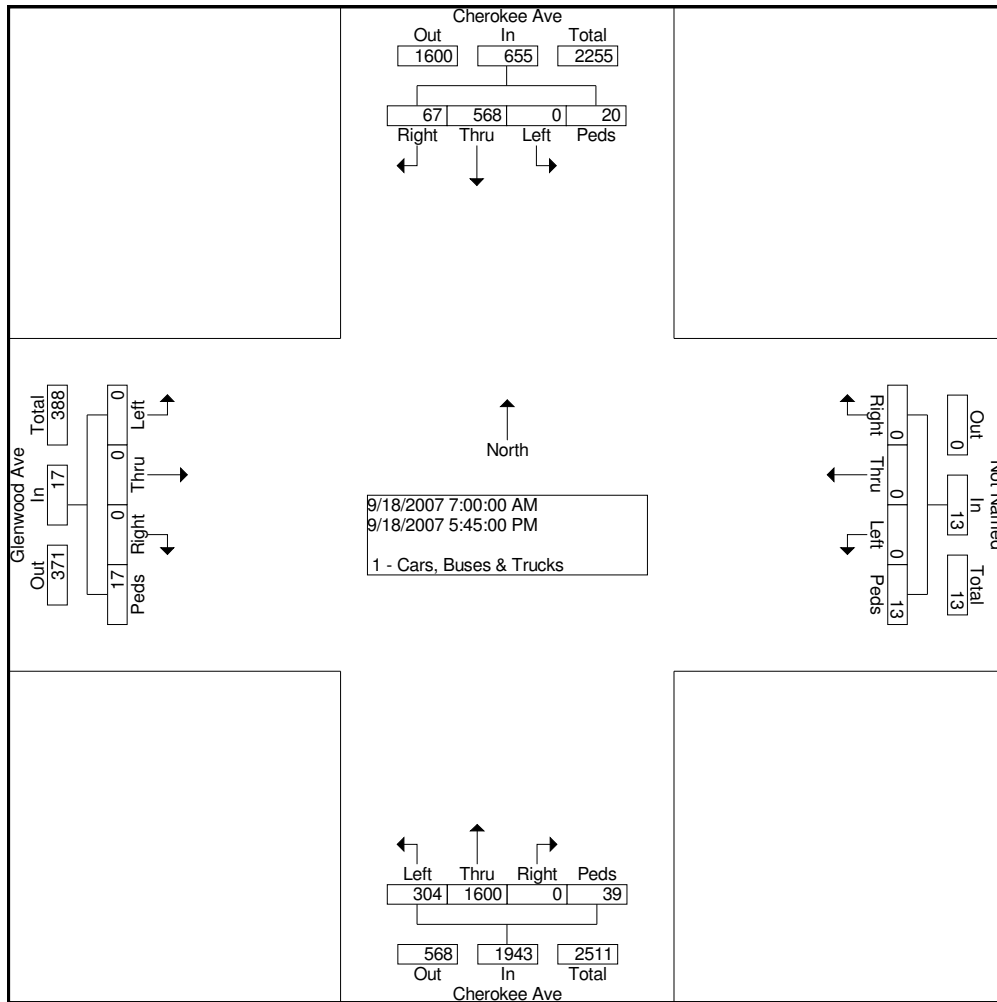


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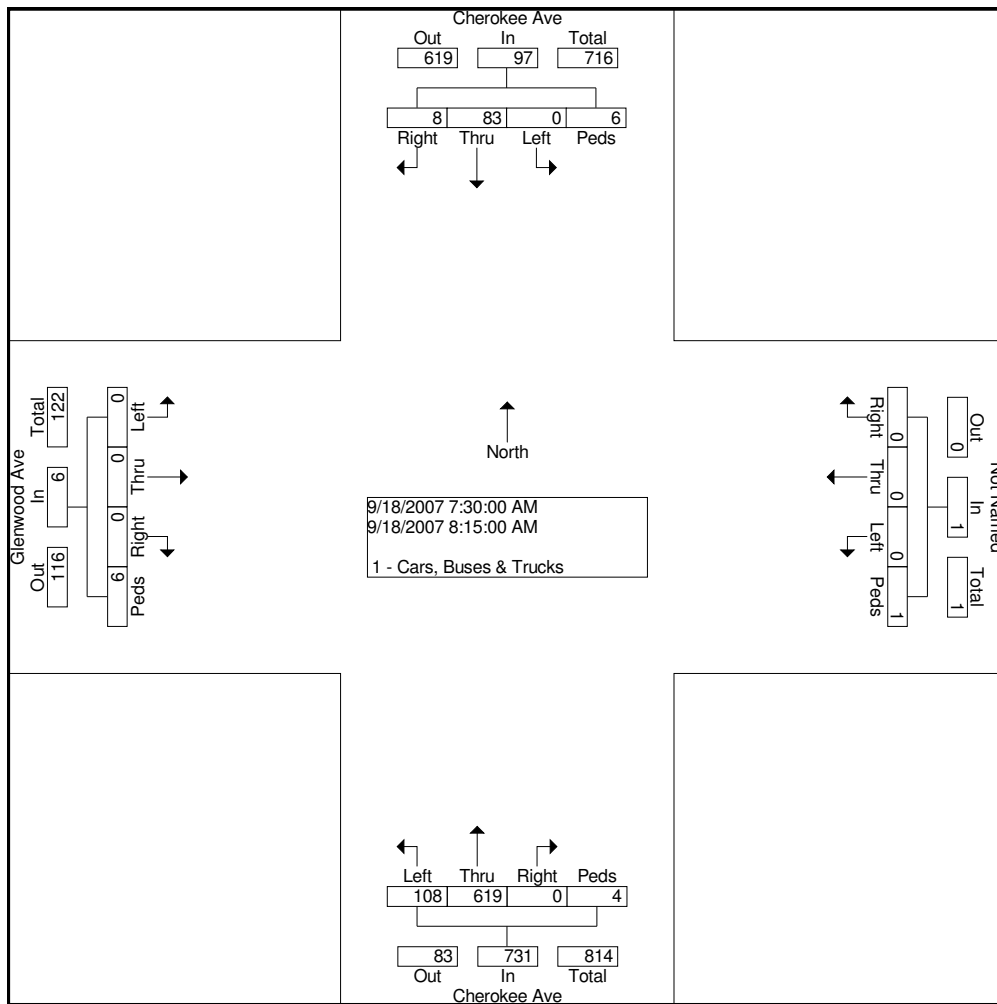
File Name : 25120009-AP
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Groups Printed- 1 - Cars, Buses & Trucks

	Cherokee Ave Northbound					Cherokee Ave Southbound					Glenwood Ave Eastbound					Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	9	53	0	0	62	0	14	1	3	18	0	0	0	0	0	0	0	0	0	0	80
07:15 AM	14	90	0	1	105	0	17	2	0	19	0	0	0	0	0	0	0	0	0	0	124
07:30 AM	24	138	0	1	163	0	24	2	3	29	0	0	0	1	1	0	0	0	0	0	193
07:45 AM	32	172	0	1	205	0	21	1	0	22	0	0	0	0	0	0	0	0	0	0	227
Total	79	453	0	3	535	0	76	6	6	88	0	0	0	1	1	0	0	0	0	0	624
08:00 AM	29	167	0	2	198	0	16	2	0	18	0	0	0	3	3	0	0	0	1	1	220
08:15 AM	23	142	0	0	165	0	22	3	3	28	0	0	0	2	2	0	0	0	0	0	195
08:30 AM	21	135	0	2	158	0	19	2	4	25	0	0	0	1	1	0	0	0	0	0	184
08:45 AM	25	138	0	4	167	0	24	2	3	29	0	0	0	1	1	0	0	0	0	0	197
Total	98	582	0	8	688	0	81	9	10	100	0	0	0	7	7	0	0	0	1	1	796
09:00 AM	28	129	0	1	158	0	18	3	2	23	0	0	0	0	0	0	0	0	0	0	181
09:15 AM	27	132	0	2	161	0	23	2	2	27	0	0	0	3	3	0	0	0	1	1	192
Total	55	261	0	3	319	0	41	5	4	50	0	0	0	3	3	0	0	0	1	1	373
04:00 PM	5	34	0	4	43	0	43	6	0	49	0	0	0	1	1	0	0	0	0	0	93
04:15 PM	5	37	0	2	44	0	39	7	0	46	0	0	0	0	0	0	0	0	2	2	92
04:30 PM	5	36	0	4	45	0	41	8	0	49	0	0	0	1	1	0	0	0	0	0	95
04:45 PM	9	37	0	3	49	0	50	4	0	54	0	0	0	0	0	0	0	0	0	0	103
Total	24	144	0	13	181	0	173	25	0	198	0	0	0	2	2	0	0	0	2	2	383
05:00 PM	14	43	0	2	59	0	51	6	0	57	0	0	0	0	0	0	0	0	2	2	118
05:15 PM	11	41	0	4	56	0	45	4	0	49	0	0	0	1	1	0	0	0	2	2	108
05:30 PM	10	37	0	2	49	0	52	4	0	56	0	0	0	2	2	0	0	0	3	3	110
05:45 PM	13	39	0	4	56	0	49	8	0	57	0	0	0	1	1	0	0	0	2	2	116
Total	48	160	0	12	220	0	197	22	0	219	0	0	0	4	4	0	0	0	9	9	452
Grand Total	304	1600	0	39	1943	0	568	67	20	655	0	0	0	17	17	0	0	0	13	13	2628
Apprch %	15.6	82.3	0.0	2.0		0.0	86.7	10.2	3.1		0.0	0.0	0.0	100.0		0.0	0.0	0.0	100.0		
Total %	11.6	60.9	0.0	1.5	73.9	0.0	21.6	2.5	0.8	24.9	0.0	0.0	0.0	0.6	0.6	0.0	0.0	0.0	0.5	0.5	



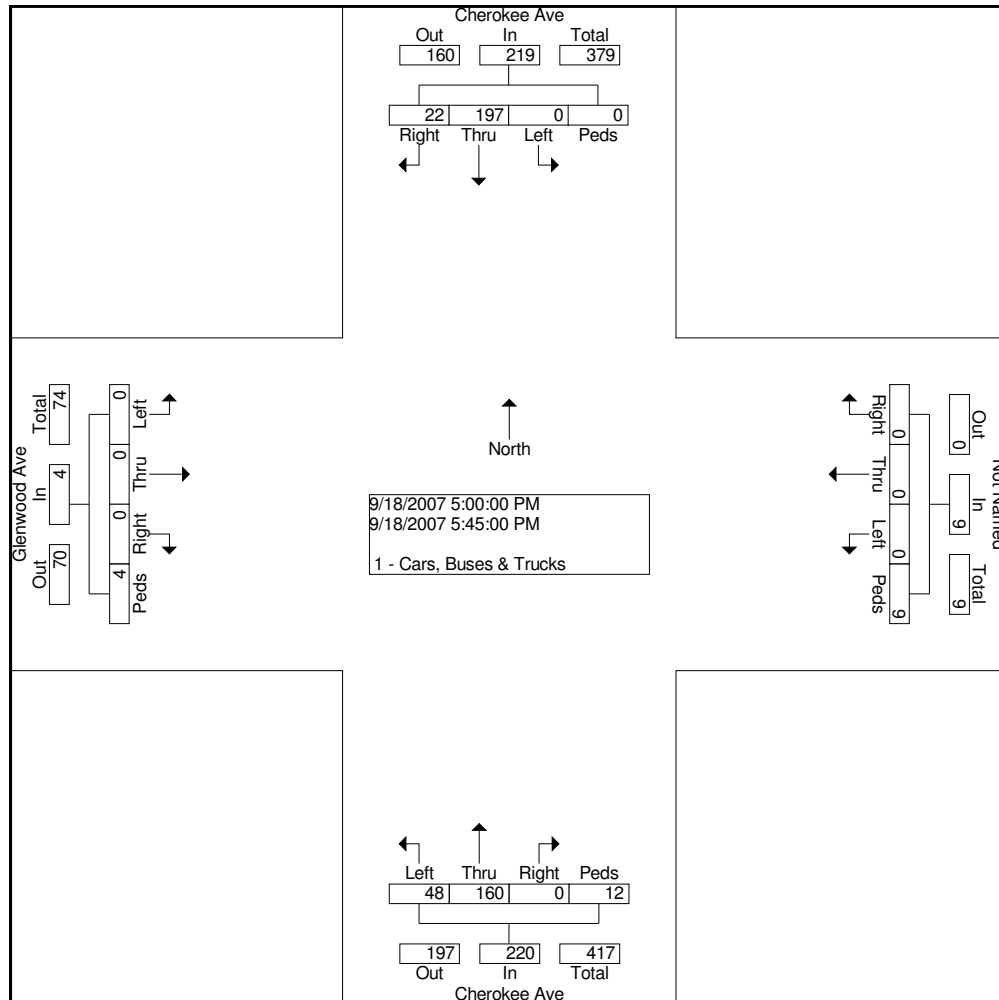
	Cherokee Ave Northbound					Cherokee Ave Southbound					Glenwood Ave Eastbound					Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	108	619	0	4	731	0	83	8	6	97	0	0	0	6	6	0	0	0	1	1	835
Percent	14.8	84.7	0.0	0.5		0.0	85.6	8.2	6.2		0.0	0.0	0.0	100.0		0.0	0.0	0.0	100.0		
07:45 Volume	32	172	0	1	205	0	21	1	0	22	0	0	0	0	0	0	0	0	0	0	227
Peak Factor	07:45 AM					07:30 AM					08:00 AM					08:00 AM					
High Int. Volume	32	172	0	1	205	0	24	2	3	29	0	0	0	3	3	0	0	0	1	1	0.920
Peak Factor	0.89					0.83					0.50					0.25					
	1					6					0					0					



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	Cherokee Ave Northbound					Cherokee Ave Southbound					Glenwood Ave Eastbound					Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	05:00 PM																				
Volume	48	160	0	12	220	0	197	22	0	219	0	0	0	4	4	0	0	0	9	9	452
Percent	21.8	72.7	0.0	5.5		0.0	90.0	10.0	0.0		0.0	0.0	0.0	100.0		0.0	0.0	0.0	100.0		
05:00 Volume	14	43	0	2	59	0	51	6	0	57	0	0	0	0	0	0	0	0	2	2	118
Peak Factor																					0.958
High Int.	05:00 PM					05:00 PM					05:30 PM					05:30 PM					
Volume	14	43	0	2	59	0	51	6	0	57	0	0	0	2	2	0	0	0	3	3	
Peak Factor	0.93					0.96					0.50					0.75					
	2					1					0					0					

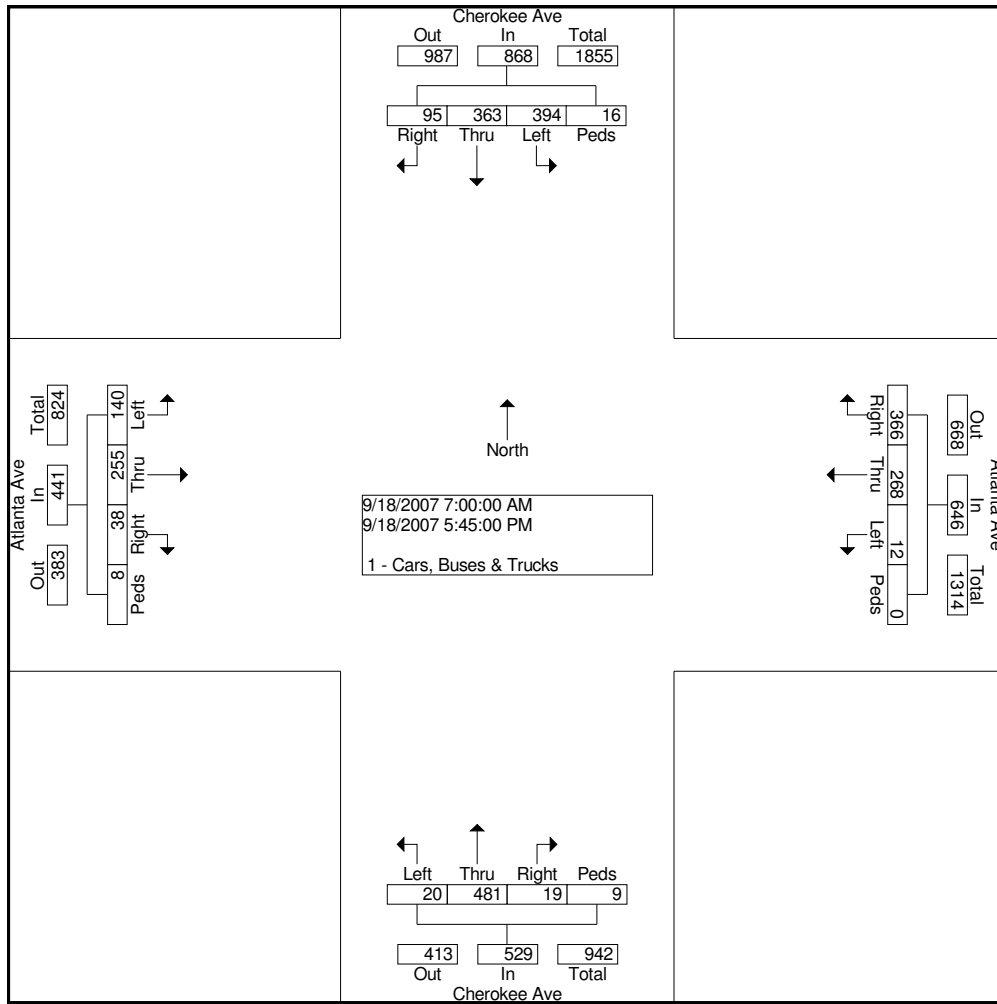


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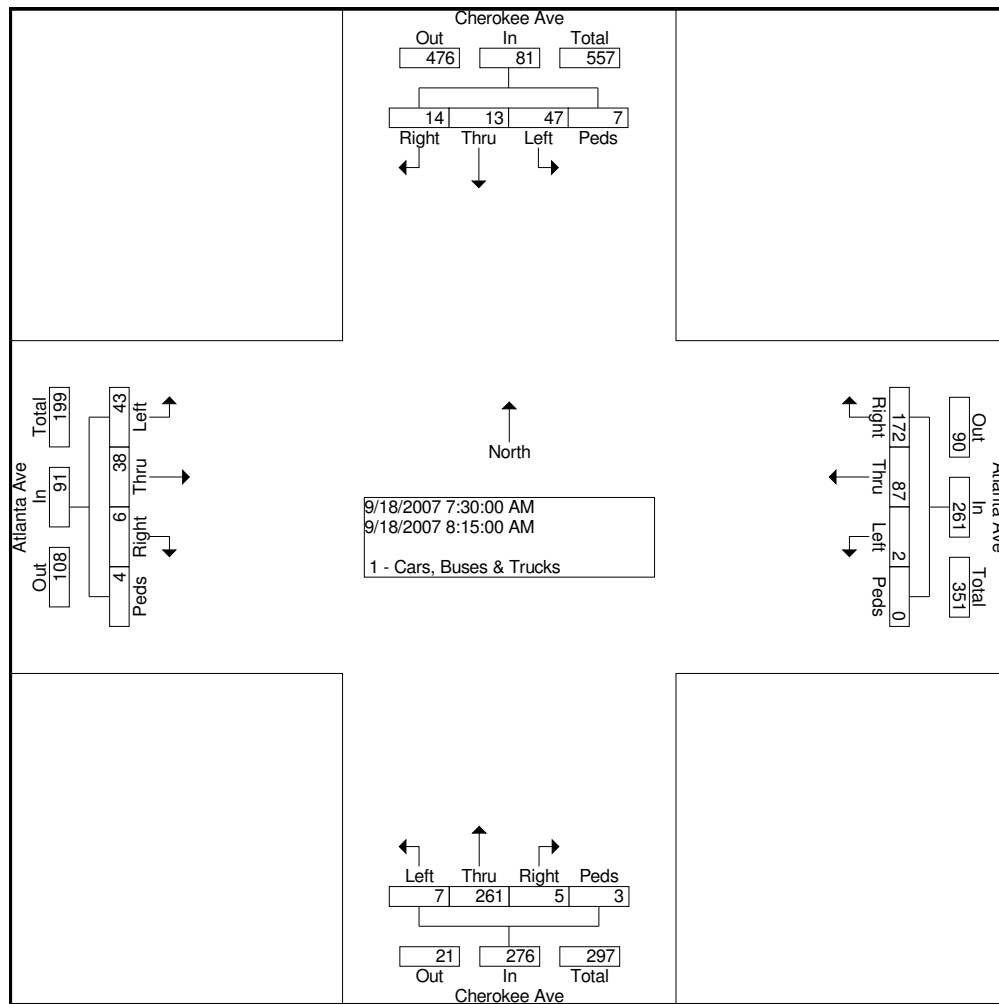
	Cherokee Ave Northbound					Cherokee Ave Southbound					Atlanta Ave Eastbound					Atlanta Ave Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	0	39	0	1	40	11	4	1	0	16	5	8	2	1	16	1	16	27	0	44	116
07:15 AM	0	43	0	1	44	10	4	3	3	20	7	11	0	1	19	0	21	35	0	56	139
07:30 AM	3	53	2	2	60	12	3	4	2	21	12	9	1	2	24	1	18	39	0	58	163
07:45 AM	3	61	0	0	64	10	5	4	1	20	11	8	3	1	23	1	22	32	0	55	162
Total	6	196	2	4	208	43	16	12	6	77	35	36	6	5	82	3	77	133	0	213	580
08:00 AM	1	75	3	0	79	12	3	2	1	18	10	10	2	0	22	0	20	43	0	63	182
08:15 AM	0	72	0	1	73	13	2	4	3	22	10	11	0	1	22	0	27	58	0	85	202
08:30 AM	3	53	2	2	60	12	5	5	2	24	7	11	0	2	20	1	16	39	0	56	160
08:45 AM	3	37	0	0	40	13	8	4	1	26	11	9	3	0	23	1	17	28	0	46	135
Total	7	237	5	3	252	50	18	15	7	90	38	41	5	3	87	2	80	168	0	250	679
04:00 PM	1	6	3	0	10	36	31	8	1	76	5	24	2	0	31	0	11	8	0	19	136
04:15 PM	0	8	1	0	9	37	38	9	0	84	11	21	4	0	36	1	15	5	0	21	150
04:30 PM	1	6	3	0	10	35	44	8	1	88	5	24	2	0	31	0	10	9	0	19	148
04:45 PM	0	8	1	0	9	37	43	10	0	90	11	25	3	0	39	1	18	7	0	26	164
Total	2	28	8	0	38	145	156	35	2	338	32	94	11	0	137	2	54	29	0	85	598
05:00 PM	2	3	0	1	6	39	48	9	0	96	9	23	4	0	36	2	14	13	0	29	167
05:15 PM	1	6	3	0	10	42	44	8	1	95	9	24	2	0	35	0	11	9	0	20	160
05:30 PM	0	8	1	0	9	37	43	7	0	87	11	22	6	0	39	1	18	6	0	25	160
05:45 PM	2	3	0	1	6	38	38	9	0	85	6	15	4	0	25	2	14	8	0	24	140
Total	5	20	4	2	31	156	173	33	1	363	35	84	16	0	135	5	57	36	0	98	627
Grand Total	20	481	19	9	529	394	363	95	16	868	140	255	38	8	441	12	268	366	0	646	2484
Apprch %	3.8	90.9	3.6	1.7		45.4	41.8	10.9	1.8		31.7	57.8	8.6	1.8		1.9	41.5	56.7	0.0		
Total %	0.8	19.4	0.8	0.4	21.3	15.9	14.6	3.8	0.6	34.9	5.6	10.3	1.5	0.3	17.8	0.5	10.8	14.7	0.0	26.0	



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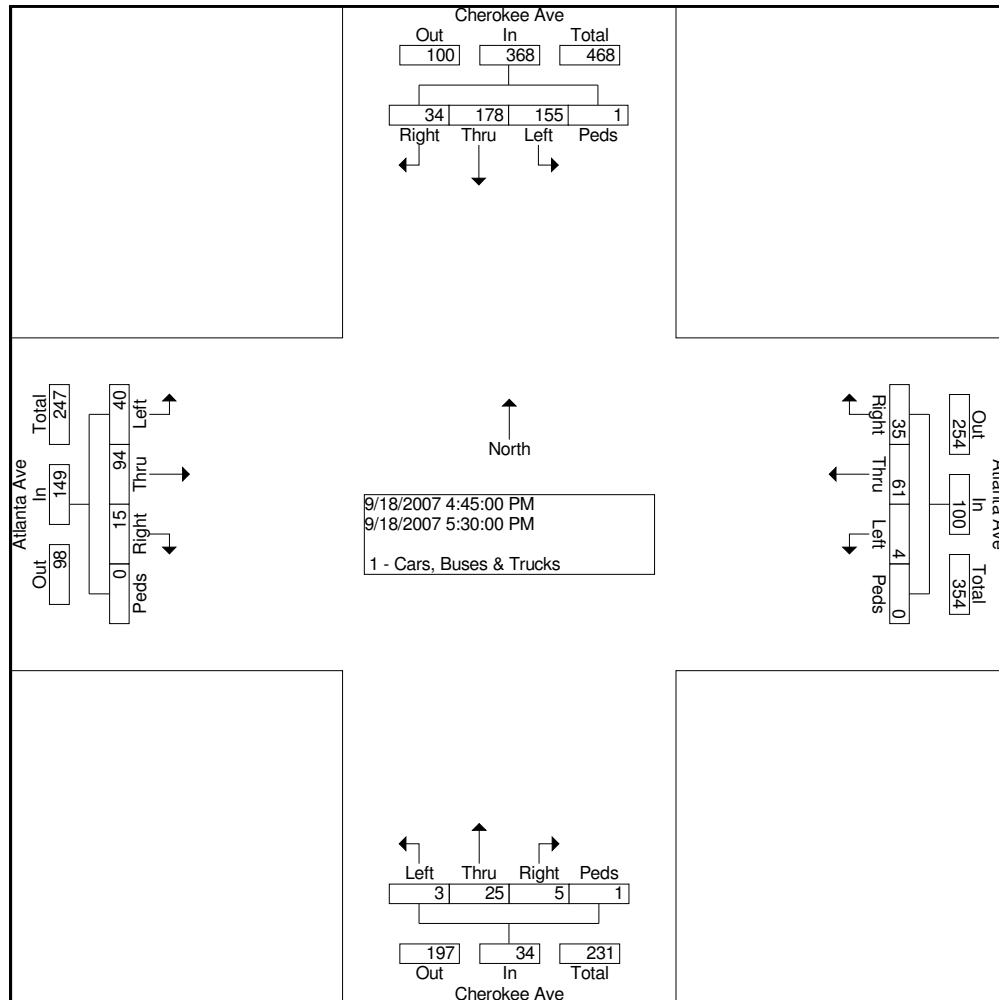
	Cherokee Ave Northbound					Cherokee Ave Southbound					Atlanta Ave Eastbound					Atlanta Ave Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	7	261	5	3	276	47	13	14	7	81	43	38	6	4	91	2	87	172	0	261	709
Percent	2.5	94.6	1.8	1.1		58.0	16.0	17.3	8.6		47.3	41.8	6.6	4.4		0.8	33.3	65.9	0.0		
08:15 Volume	0	72	0	1	73	13	2	4	3	22	10	11	0	1	22	0	27	58	0	85	202
Peak Factor																					0.877
High Int.	08:00 AM					08:15 AM					07:30 AM					08:15 AM					
Volume	1	75	3	0	79	13	2	4	3	22	12	9	1	2	24	0	27	58	0	85	
Peak Factor	0.873					0.920					0.948					0.768					



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	Cherokee Ave Northbound					Cherokee Ave Southbound					Atlanta Ave Eastbound					Atlanta Ave Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:45 PM																				
Volume	3	25	5	1	34	155	178	34	1	368	40	94	15	0	149	4	61	35	0	100	651
Percent	8.8	73.5	14.7	2.9		42.1	48.4	9.2	0.3		26.8	63.1	10.1	0.0		4.0	61.0	35.0	0.0		
05:00 Volume	2	3	0	1	6	39	48	9	0	96	9	23	4	0	36	2	14	13	0	29	167
Peak Factor																					0.975
High Int.	05:15 PM					05:00 PM					04:45 PM					05:00 PM					
Volume	1	6	3	0	10	39	48	9	0	96	11	25	3	0	39	2	14	13	0	29	
Peak Factor					0.85					0.95				0.95						0.86	
					0					8				5						2	

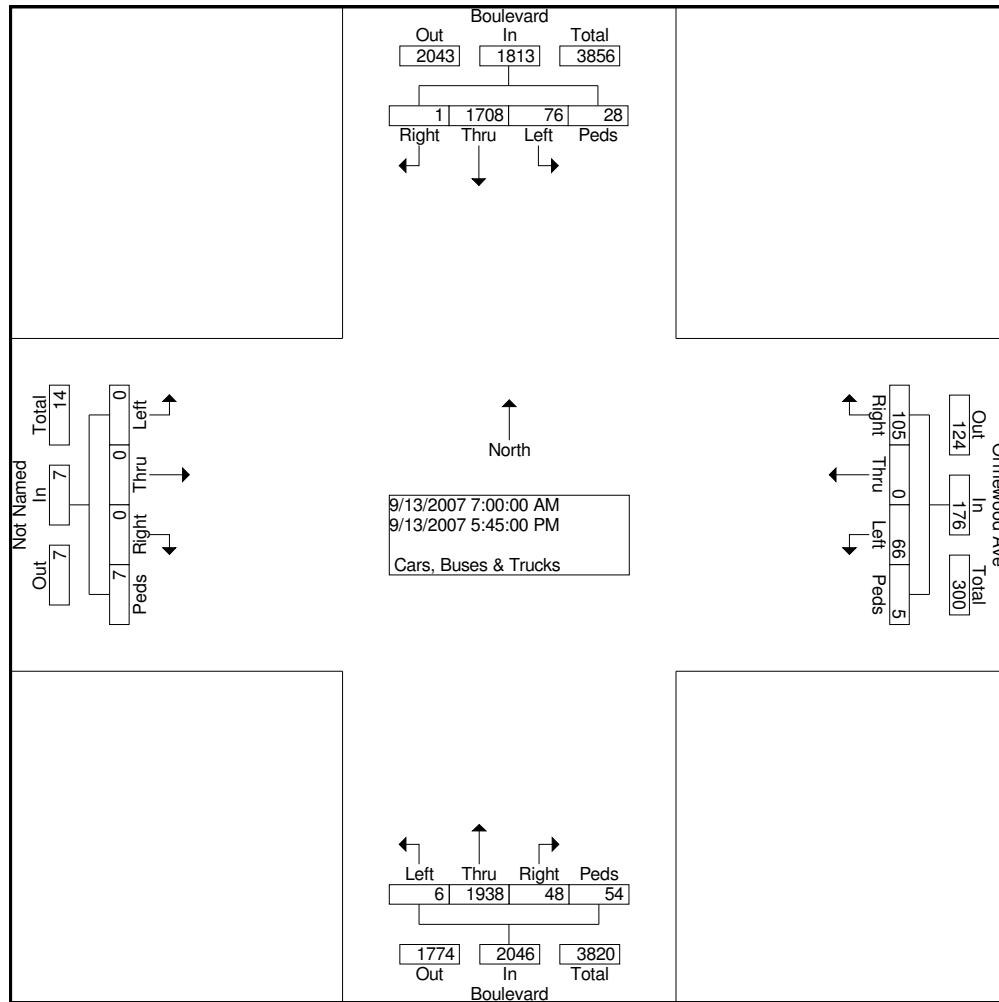


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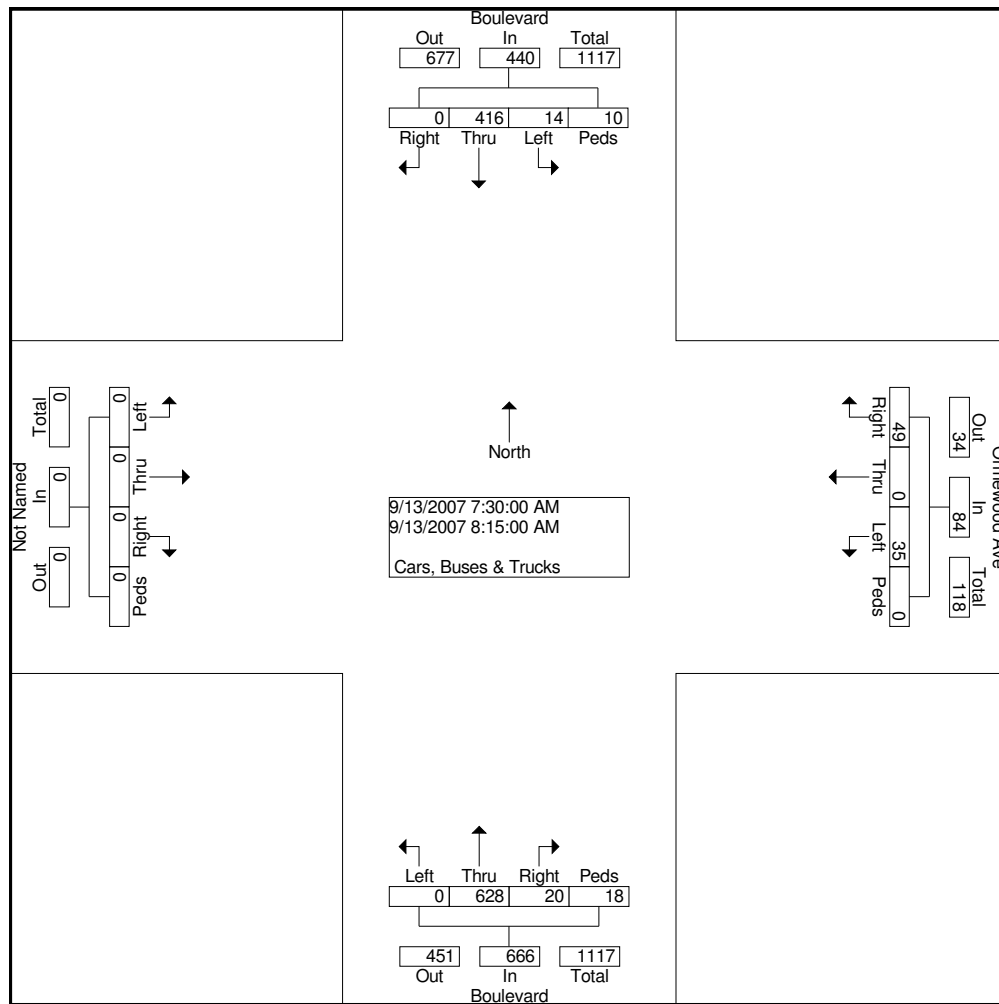
	Boulevard Northbound					Boulevard Southbound					Eastbound					Ormewood Ave Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	0	109	0	4	113	2	65	0	0	67	0	0	0	0	0	0	0	4	1	5	185
07:15 AM	0	144	3	1	148	7	86	0	2	95	0	0	0	1	1	1	0	9	0	10	254
07:30 AM	0	161	3	10	174	5	105	0	4	114	0	0	0	0	0	6	0	8	0	14	302
07:45 AM	0	148	5	3	156	3	112	0	3	118	0	0	0	0	0	13	0	10	0	23	297
Total	0	562	11	18	591	17	368	0	9	394	0	0	0	1	1	20	0	31	1	52	1038
08:00 AM	0	168	7	5	180	4	113	0	3	120	0	0	0	0	0	8	0	21	0	29	329
08:15 AM	0	151	5	0	156	2	86	0	0	88	0	0	0	0	0	8	0	10	0	18	262
08:30 AM	0	149	3	0	152	4	76	0	1	81	0	0	0	0	0	4	0	11	0	15	248
08:45 AM	0	136	1	0	137	4	77	0	0	81	0	0	0	1	1	5	0	6	0	11	230
Total	0	604	16	5	625	14	352	0	4	370	0	0	0	1	1	25	0	48	0	73	1069
04:00 PM	6	103	3	2	114	5	107	0	0	112	0	0	0	2	2	2	0	6	1	9	237
04:15 PM	0	89	5	3	97	4	123	0	1	128	0	0	0	0	0	4	0	5	0	9	234
04:30 PM	0	109	3	10	122	10	121	0	2	133	0	0	0	0	0	3	0	2	0	5	260
04:45 PM	0	104	1	5	110	2	111	0	4	117	0	0	0	0	0	2	0	3	2	7	234
Total	6	405	12	20	443	21	462	0	7	490	0	0	0	2	2	11	0	16	3	30	965
05:00 PM	0	95	2	2	99	5	118	0	2	125	0	0	0	0	0	3	0	2	0	5	229
05:15 PM	0	94	2	4	100	3	135	0	1	139	0	0	0	1	1	2	0	4	0	6	246
05:30 PM	0	100	3	3	106	3	140	1	4	148	0	0	0	0	0	4	0	2	1	7	261
05:45 PM	0	78	2	2	82	13	133	0	1	147	0	0	0	2	2	1	0	2	0	3	234
Total	0	367	9	11	387	24	526	1	8	559	0	0	0	3	3	10	0	10	1	21	970
Grand Total	6	1938	48	54	2046	76	1708	1	28	1813	0	0	0	7	7	66	0	105	5	176	4042
Apprch %	0.3	94.7	2.3	2.6		4.2	94.2	0.1	1.5		0.0	0.0	0.0	100.0		37.5	0.0	59.7	2.8		
Total %	0.1	47.9	1.2	1.3	50.6	1.9	42.3	0.0	0.7	44.9	0.0	0.0	0.0	0.2	0.2	1.6	0.0	2.6	0.1	4.4	



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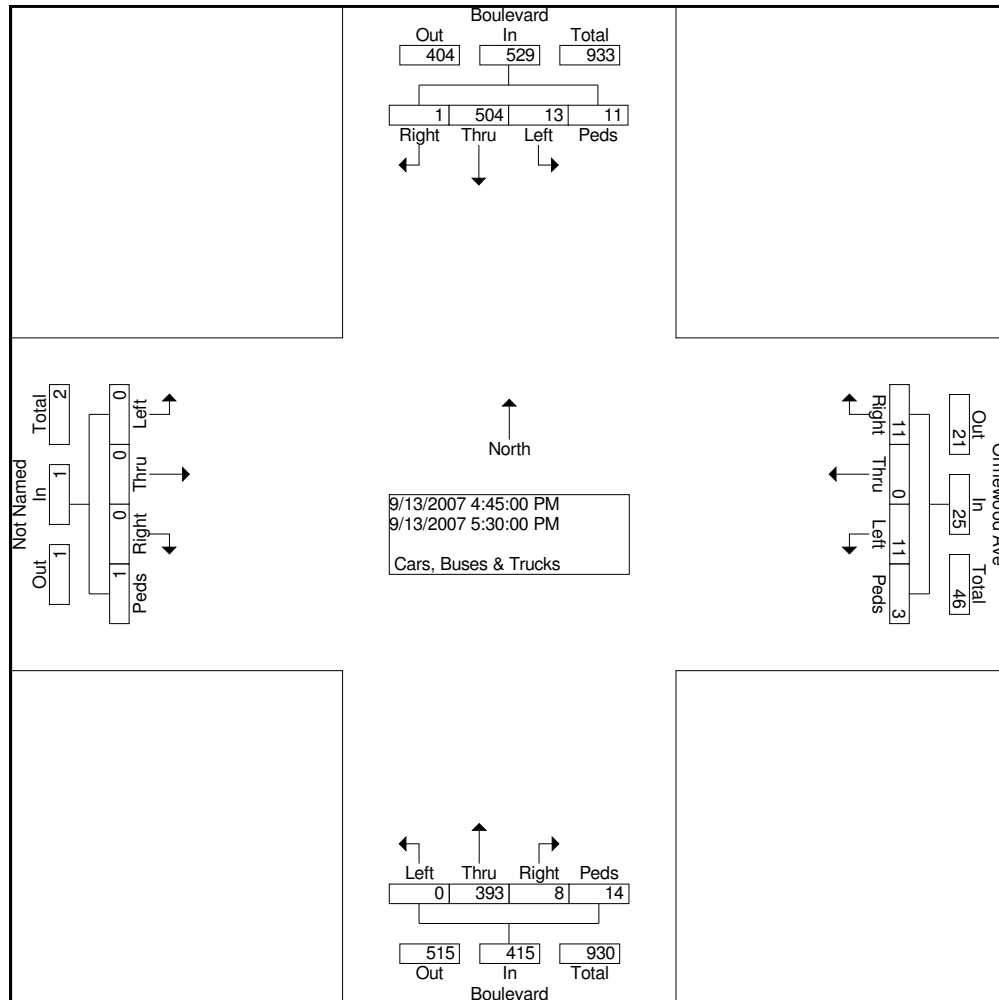
	Boulevard Northbound					Boulevard Southbound					Eastbound					Ormewood Ave Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	0	628	20	18	666	14	416	0	10	440	0	0	0	0	0	35	0	49	0	84	1190
Percent	0.0	94.3	3.0	2.7		3.2	94.5	0.0	2.3		0.0	0.0	0.0	0.0		41.7	0.0	58.3	0.0		
08:00 Volume	0	168	7	5	180	4	113	0	3	120	0	0	0	0	0	8	0	21	0	29	329
Peak Factor																					0.904
High Int.	08:00 AM					08:00 AM					6:45:00 AM					08:00 AM					
Volume	0	168	7	5	180	4	113	0	3	120	0	0	0	0	0	8	0	21	0	29	
Peak Factor	0.925					0.917										0.724					



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	Boulevard Northbound					Boulevard Southbound					Eastbound					Ormewood Ave Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:45 PM																				
Volume	0	393	8	14	415	13	504	1	11	529	0	0	0	1	1	11	0	11	3	25	970
Percent	0.0	94.7	1.9	3.4		2.5	95.3	0.2	2.1		0.0	0.0	0.0	100.0		44.0	0.0	44.0	12.0		
05:30 Volume	0	100	3	3	106	3	140	1	4	148	0	0	0	0	0	4	0	2	1	7	261
Peak Factor																					0.929
High Int.	04:45 PM					05:30 PM					05:15 PM					04:45 PM					
Volume	0	104	1	5	110	3	140	1	4	148	0	0	0	1	1	2	0	3	2	7	
Peak Factor	0.943					0.894					0.250					0.893					

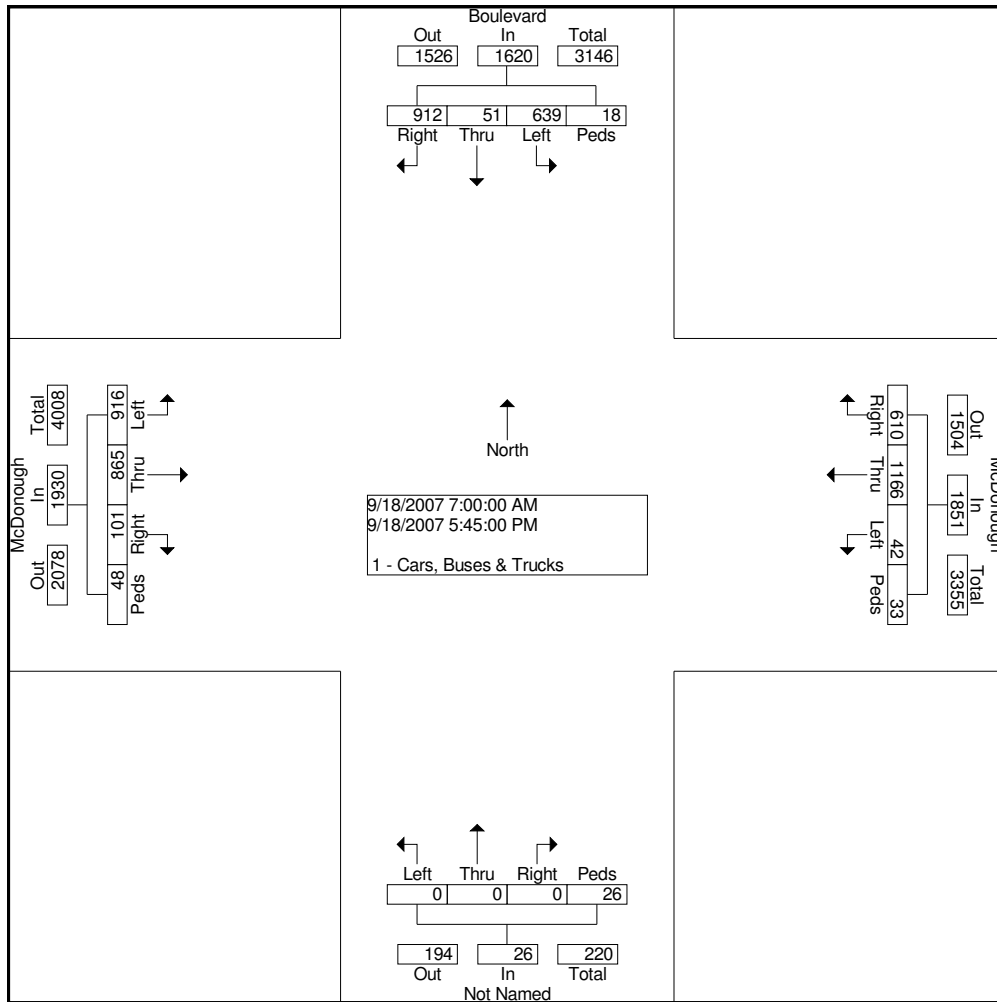


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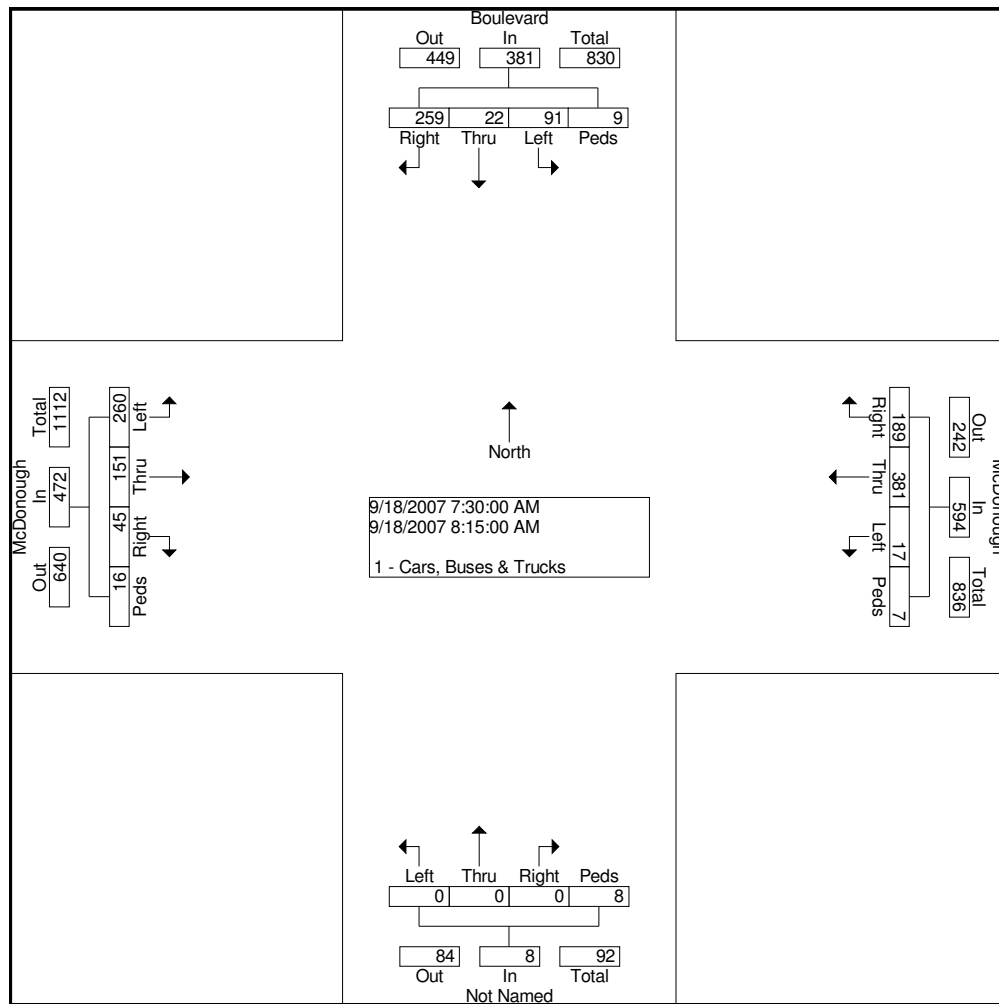
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Groups Printed- 1 - Cars, Buses & Trucks

	Northbound					Boulevard Southbound					McDonough Eastbound					McDonough Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	0	0	0	2	2	12	3	21	2	38	35	28	9	3	75	4	66	37	3	110	225
07:15 AM	0	0	0	0	0	26	7	48	3	84	60	35	3	1	99	2	93	52	3	150	333
07:30 AM	0	0	0	4	4	24	2	58	2	86	62	25	17	5	109	4	103	44	0	151	350
07:45 AM	0	0	0	1	1	17	7	75	2	101	90	53	5	4	152	4	97	43	1	145	399
Total	0	0	0	7	7	79	19	202	9	309	247	141	34	13	435	14	359	176	7	556	1307
08:00 AM	0	0	0	2	2	19	6	65	2	92	65	38	10	3	116	4	88	45	3	140	350
08:15 AM	0	0	0	1	1	31	7	61	3	102	43	35	13	4	95	5	93	57	3	158	356
08:30 AM	0	0	0	4	4	22	5	53	2	82	42	37	17	5	101	4	93	54	0	151	338
08:45 AM	0	0	0	2	2	29	5	48	2	84	57	43	14	4	118	2	89	43	1	135	339
Total	0	0	0	9	9	101	23	227	9	360	207	153	54	16	430	15	363	199	7	584	1383
04:00 PM	0	0	0	1	1	53	1	62	0	116	57	69	3	1	130	1	62	27	3	93	340
04:15 PM	0	0	0	5	5	52	0	56	0	108	53	88	1	2	144	2	59	28	3	92	349
04:30 PM	0	0	0	0	0	52	0	54	0	106	69	84	3	5	161	2	51	29	2	84	351
04:45 PM	0	0	0	0	0	61	2	58	0	121	57	49	0	0	106	0	53	33	0	86	313
Total	0	0	0	6	6	218	3	230	0	451	236	290	7	8	541	5	225	117	8	355	1353
05:00 PM	0	0	0	1	1	53	1	63	0	117	57	65	3	1	126	3	62	24	3	92	336
05:15 PM	0	0	0	1	1	62	2	58	0	122	55	84	1	3	143	2	55	28	3	88	354
05:30 PM	0	0	0	2	2	69	1	64	0	134	61	73	2	5	141	2	53	29	4	88	365
05:45 PM	0	0	0	0	0	57	2	68	0	127	53	59	0	2	114	1	49	37	1	88	329
Total	0	0	0	4	4	241	6	253	0	500	226	281	6	11	524	8	219	118	11	356	1384
Grand Total	0	0	0	26	26	639	51	912	18	1620	916	865	101	48	1930	42	1166	610	33	1851	5427
Apprch %	0.0	0.0	0.0	100.0		39.4	3.1	56.3	1.1		47.5	44.8	5.2	2.5		2.3	63.0	33.0	1.8		
Total %	0.0	0.0	0.0	0.5	0.5	11.8	0.9	16.8	0.3	29.9	16.9	15.9	1.9	0.9	35.6	0.8	21.5	11.2	0.6	34.1	



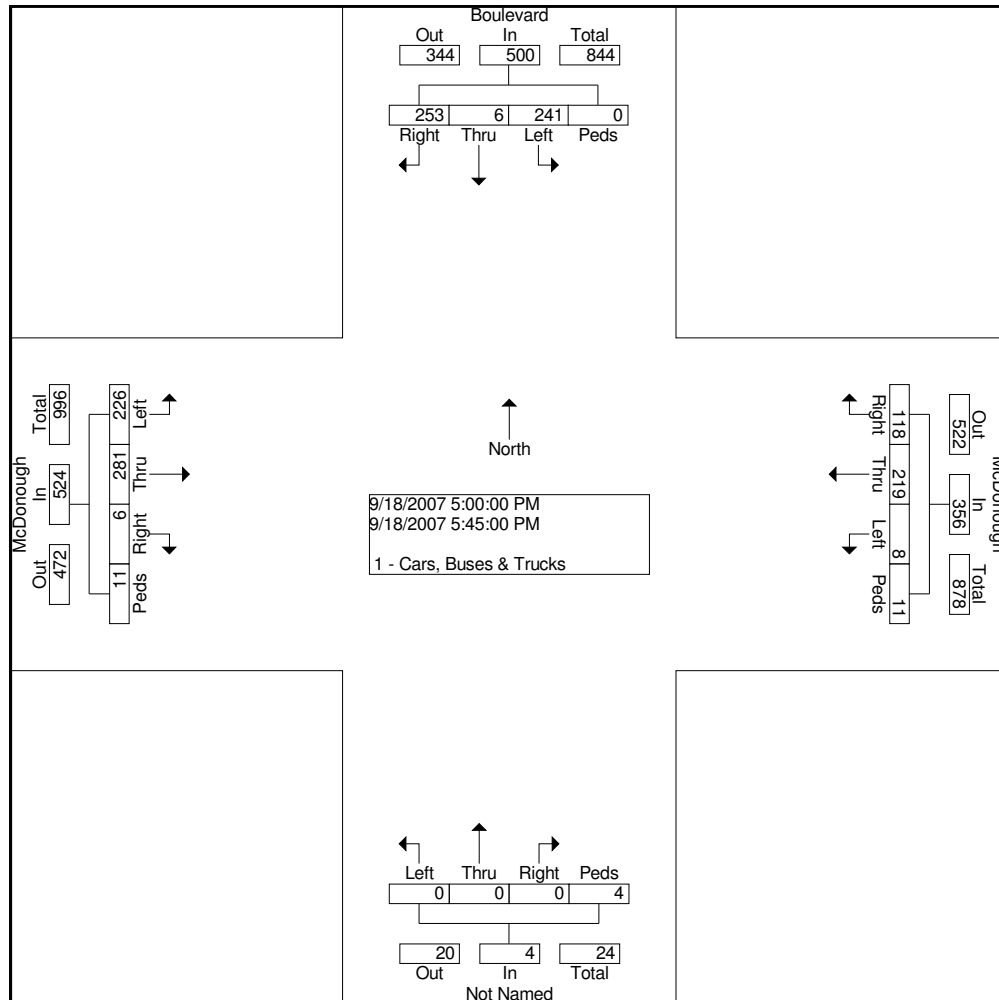
	Northbound					Boulevard Southbound					McDonough Eastbound					McDonough Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	0	0	0	8	8	91	22	259	9	381	260	151	45	16	472	17	381	189	7	594	1455
Percent	0.0	0.0	0.0	100.0		23.9	5.8	68.0	2.4		55.1	32.0	9.5	3.4		2.9	64.1	31.8	1.2		
07:45 Volume	0	0	0	1	1	17	7	75	2	101	90	53	5	4	152	4	97	43	1	145	399
Peak Factor																					0.912
High Int.	07:30 AM					08:15 AM					07:45 AM					08:15 AM					
Volume	0	0	0	4	4	31	7	61	3	102	90	53	5	4	152	5	93	57	3	158	
Peak Factor	0.50					0.93					0.77					0.94					0
	0					4					6					0					



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	Northbound					Boulevard Southbound					McDonough Eastbound					McDonough Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	05:00 PM																				
Volume	0	0	0	4	4	241	6	253	0	500	226	281	6	11	524	8	219	118	11	356	1384
Percent	0.0	0.0	0.0	100.0		48.2	1.2	50.6	0.0		43.1	53.6	1.1	2.1		2.2	61.5	33.1	3.1		
05:30 Volume	0	0	0	2	2	69	1	64	0	134	61	73	2	5	141	2	53	29	4	88	365
Peak Factor																					0.948
High Int.	05:30 PM					05:30 PM					05:15 PM					05:00 PM					
Volume	0	0	0	2	2	69	1	64	0	134	55	84	1	3	143	3	62	24	3	92	
Peak Factor	0.50					0.93					0.91					0.96					7

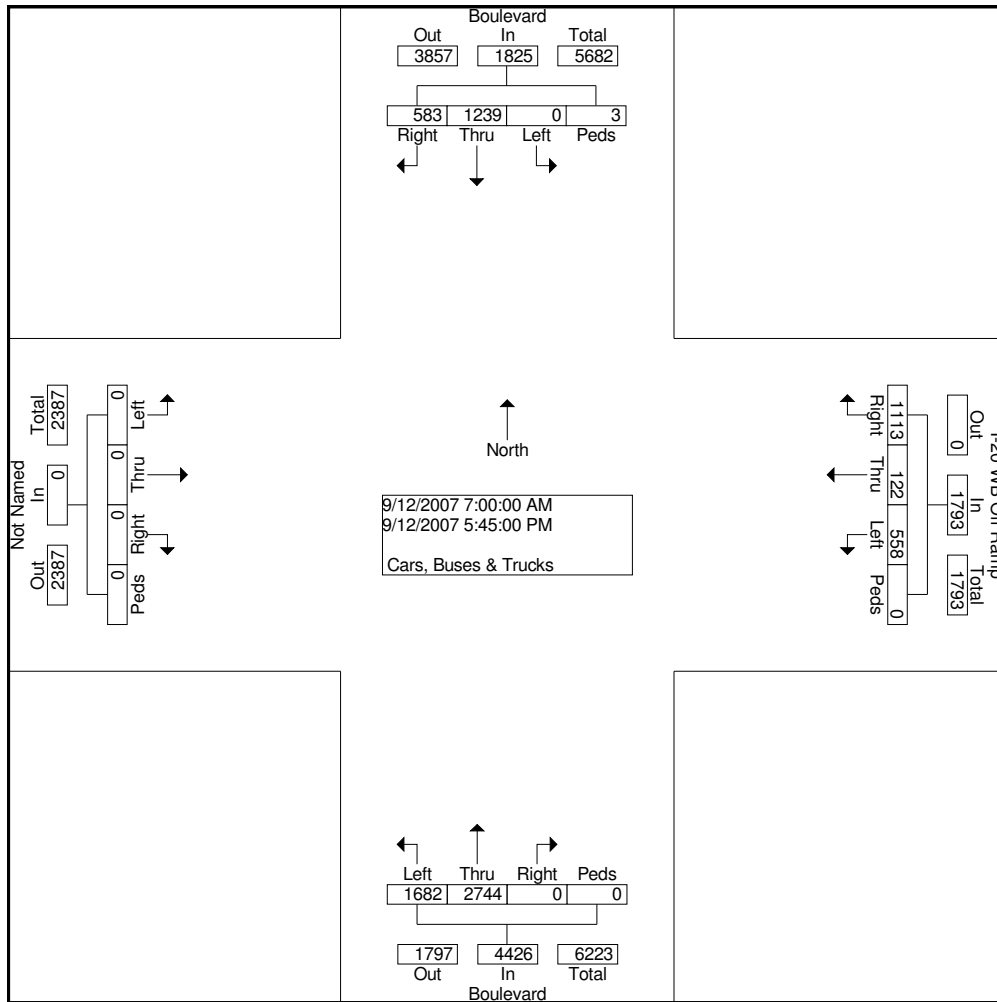


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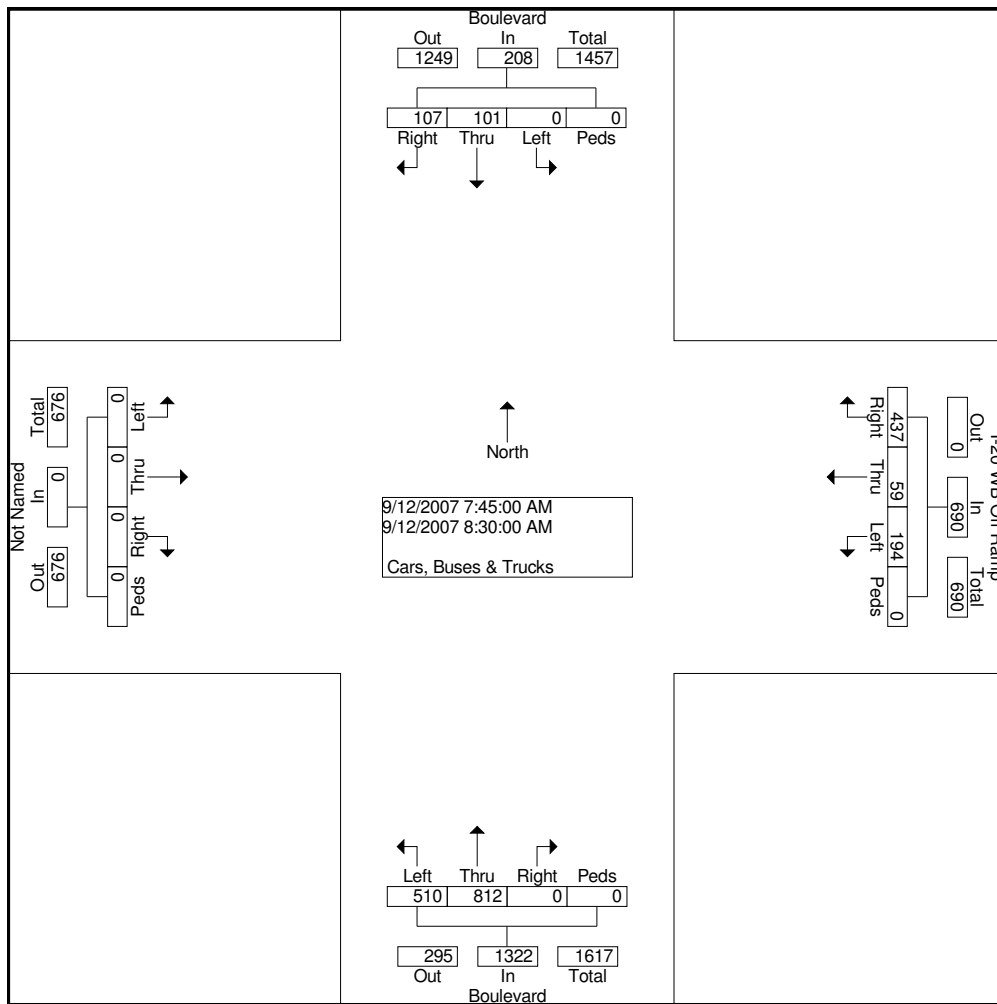
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Groups Printed- Cars, Buses & Trucks

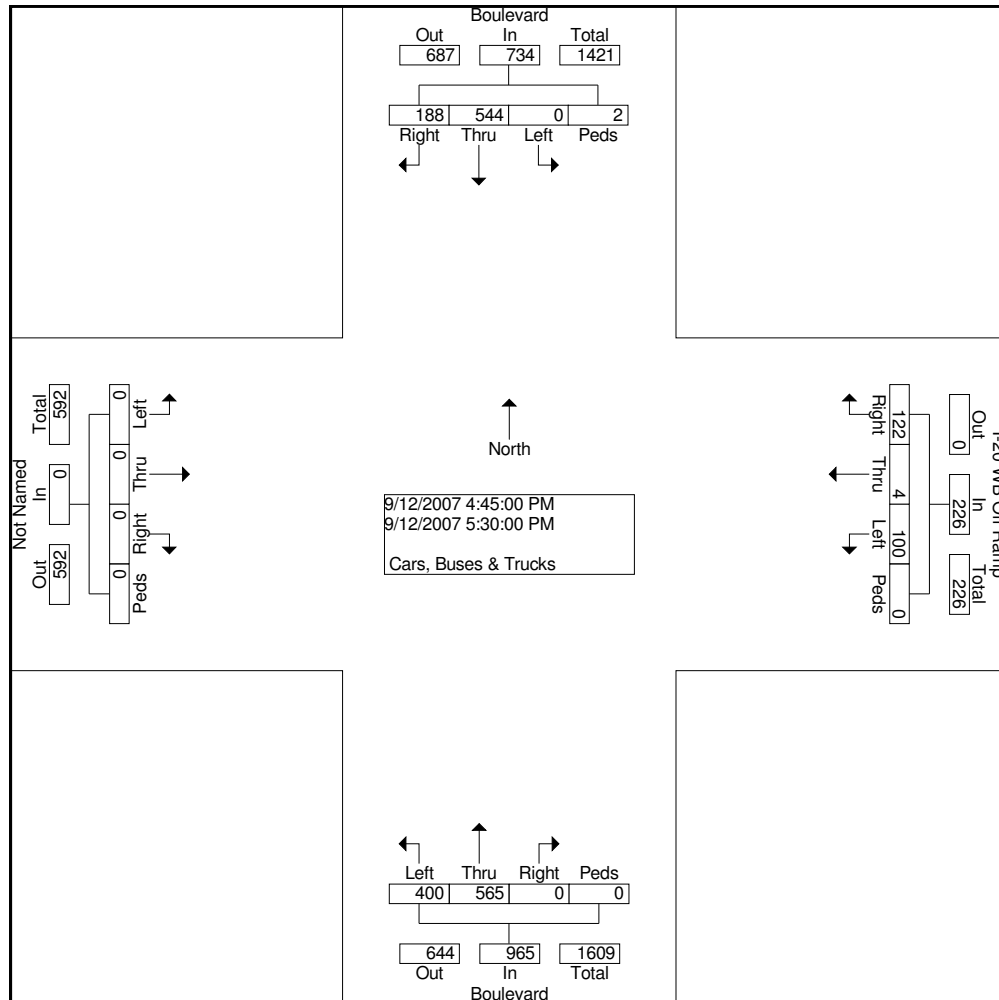
	Boulevard Northbound					Boulevard Southbound					Eastbound					I-20 WB Off Ramp Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	91	186	0	0	277	0	23	25	0	48	0	0	0	0	0	39	9	112	0	160	485
07:15 AM	92	195	0	0	287	0	25	34	0	59	0	0	0	0	0	48	13	105	0	166	512
07:30 AM	104	202	0	0	306	0	27	28	0	55	0	0	0	0	0	45	12	113	0	170	531
07:45 AM	117	223	0	0	340	0	15	21	0	36	0	0	0	0	0	52	12	104	0	168	544
Total	404	806	0	0	1210	0	90	108	0	198	0	0	0	0	0	184	46	434	0	664	2072
08:00 AM	128	206	0	0	334	0	21	30	0	51	0	0	0	0	0	47	14	116	0	177	562
08:15 AM	139	198	0	0	337	0	28	30	0	58	0	0	0	0	0	46	13	116	0	175	570
08:30 AM	126	185	0	0	311	0	37	26	0	63	0	0	0	0	0	49	20	101	0	170	544
08:45 AM	119	211	0	0	330	0	32	24	0	56	0	0	0	0	0	42	21	89	0	152	538
Total	512	800	0	0	1312	0	118	110	0	228	0	0	0	0	0	184	68	422	0	674	2214
04:00 PM	90	129	0	0	219	0	118	42	0	160	0	0	0	0	0	18	1	39	0	58	437
04:15 PM	93	137	0	0	230	0	89	46	0	135	0	0	0	0	0	22	1	37	0	60	425
04:30 PM	88	142	0	0	230	0	124	48	1	173	0	0	0	0	0	29	1	27	0	57	460
04:45 PM	112	137	0	0	249	0	176	54	0	230	0	0	0	0	0	25	0	27	0	52	531
Total	383	545	0	0	928	0	507	190	1	698	0	0	0	0	0	94	3	130	0	227	1853
05:00 PM	104	126	0	0	230	0	126	49	1	176	0	0	0	0	0	24	1	29	0	54	460
05:15 PM	93	145	0	0	238	0	118	37	0	155	0	0	0	0	0	22	1	35	0	58	451
05:30 PM	91	157	0	0	248	0	124	48	1	173	0	0	0	0	0	29	2	31	0	62	483
05:45 PM	95	165	0	0	260	0	156	41	0	197	0	0	0	0	0	21	1	32	0	54	511
Total	383	593	0	0	976	0	524	175	2	701	0	0	0	0	0	96	5	127	0	228	1905
Grand Total	1682	2744	0	0	4426	0	1239	583	3	1825	0	0	0	0	0	558	122	1113	0	1793	8044
Apprch %	38.0	62.0	0.0	0.0		0.0	67.9	31.9	0.2		0.0	0.0	0.0	0.0		31.1	6.8	62.1	0.0		
Total %	20.9	34.1	0.0	0.0	55.0	0.0	15.4	7.2	0.0	22.7	0.0	0.0	0.0	0.0	0.0	6.9	1.5	13.8	0.0	22.3	



	Boulevard Northbound					Boulevard Southbound					Eastbound					I-20 WB Off Ramp Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Intersection	07:45 AM																				
Volume	510	812	0	0	1322	0	101	107	0	208	0	0	0	0	0	194	59	437	0	690	2220
Percent	38.6	61.4	0.0	0.0		0.0	48.6	51.4	0.0		0.0	0.0	0.0	0.0		28.1	8.6	63.3	0.0		
08:15 Volume	139	198	0	0	337	0	28	30	0	58	0	0	0	0	0	46	13	116	0	175	570
Peak Factor																					0.974
High Int.	07:45 AM					08:30 AM					6:45:00 AM					08:00 AM					
Volume	117	223	0	0	340	0	37	26	0	63	0	0	0	0	0	47	14	116	0	177	
Peak Factor	0.972					0.825										0.975					



	Boulevard Northbound					Boulevard Southbound					Eastbound					I-20 WB Off Ramp Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:45 PM																				
Volume	400	565	0	0	965	0	544	188	2	734	0	0	0	0	0	100	4	122	0	226	1925
Percent	41.5	58.5	0.0	0.0		0.0	74.1	25.6	0.3		0.0	0.0	0.0	0.0		44.2	1.8	54.0	0.0		
04:45 Volume	112	137	0	0	249	0	176	54	0	230	0	0	0	0	0	25	0	27	0	52	531
Peak Factor																					0.906
High Int.	04:45 PM					04:45 PM										05:30 PM					
Volume	112	137	0	0	249	0	176	54	0	230	0	0	0	0	0	29	2	31	0	62	
Peak Factor	0.969					0.798										0.911					

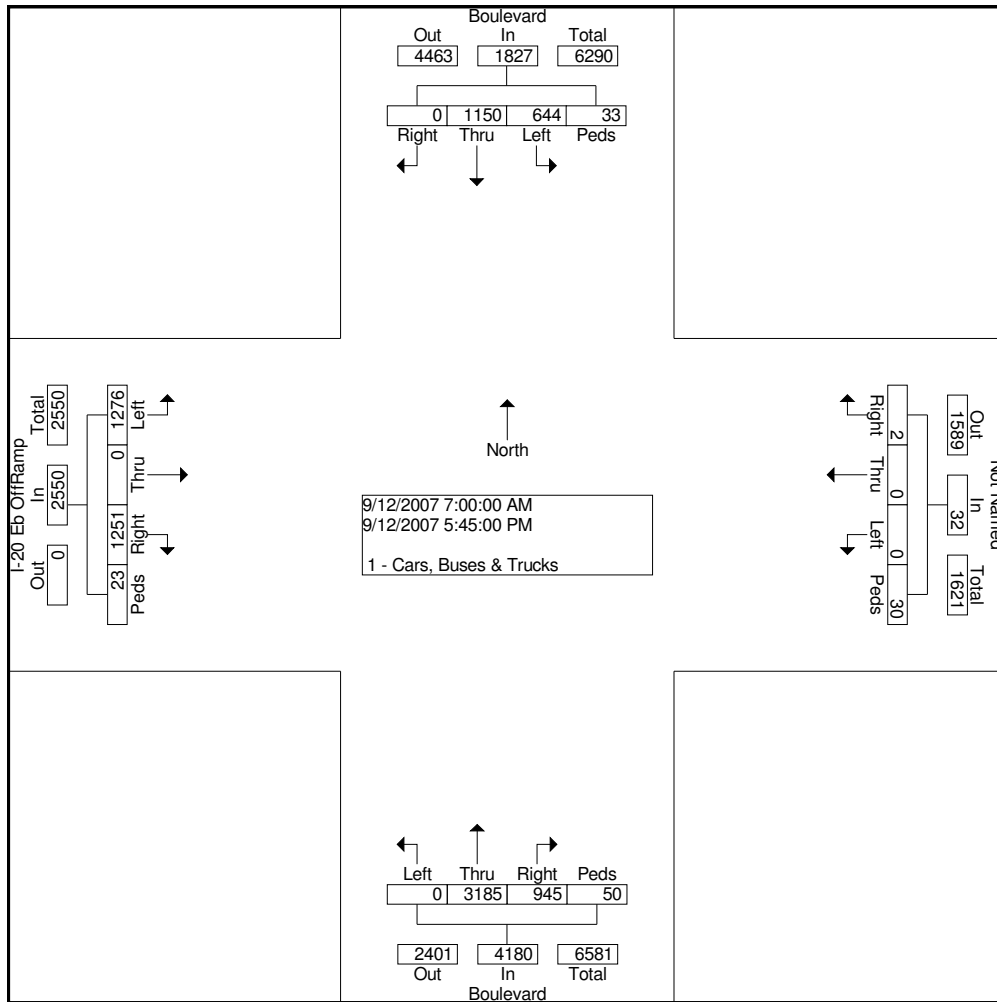


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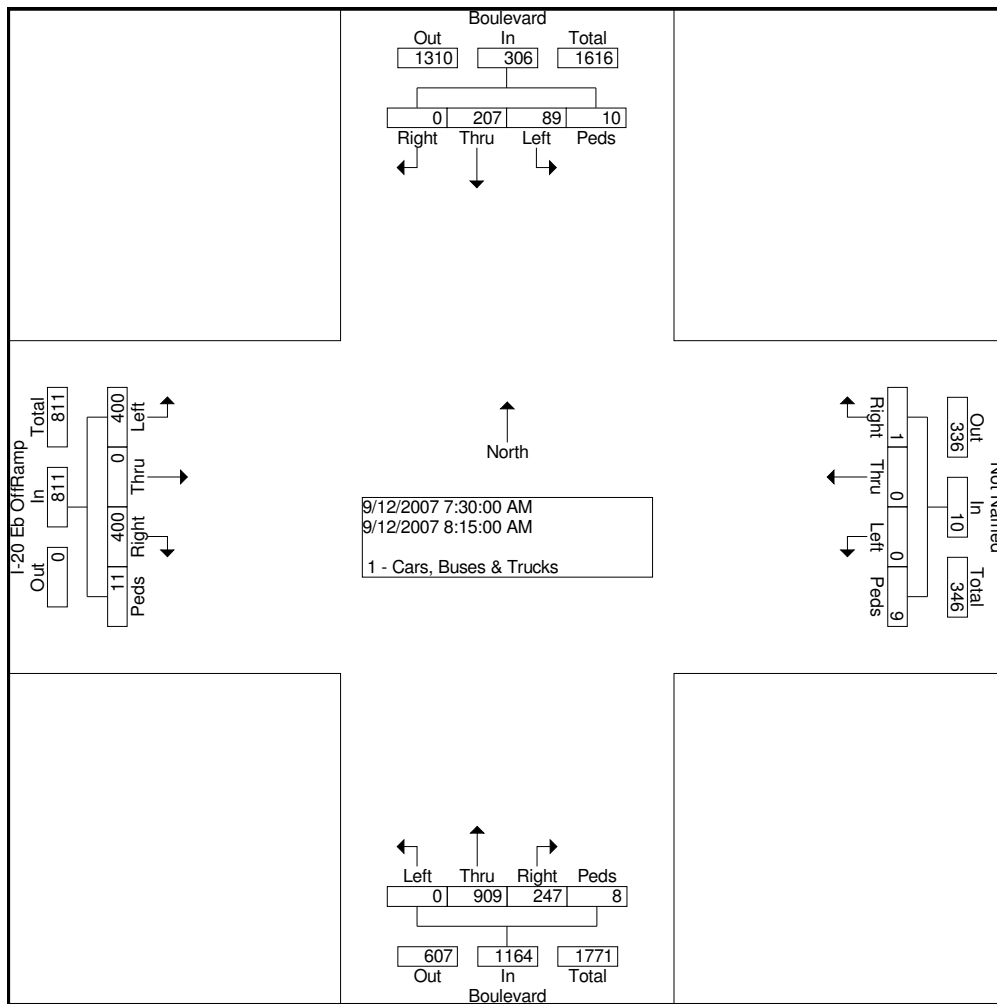
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Groups Printed- 1 - Cars, Buses & Trucks

	Boulevard Northbound					Boulevard Southbound					I-20 Eb OffRamp Eastbound					Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	0	184	77	1	262	19	35	0	0	54	102	0	81	3	186	0	0	0	1	1	503
07:15 AM	0	196	68	1	265	21	57	0	2	80	95	0	107	2	204	0	0	0	0	0	549
07:30 AM	0	212	65	4	281	17	60	0	3	80	93	0	103	4	200	0	0	0	5	5	566
07:45 AM	0	237	62	2	301	20	51	0	4	75	110	0	107	3	220	0	0	1	3	4	600
Total	0	829	272	8	1109	77	203	0	9	289	400	0	398	12	810	0	0	1	9	10	2218
08:00 AM	0	234	57	1	292	26	49	0	1	76	102	0	101	2	205	0	0	0	1	1	574
08:15 AM	0	226	63	1	290	26	47	0	2	75	95	0	89	2	186	0	0	0	0	0	551
08:30 AM	0	231	76	4	311	35	35	0	1	71	93	0	75	2	170	0	0	0	5	5	557
08:45 AM	0	235	49	2	286	32	41	0	4	77	110	0	63	3	176	0	0	1	3	4	543
Total	0	926	245	8	1179	119	172	0	8	299	400	0	328	9	737	0	0	1	9	10	2225
04:00 PM	0	157	67	2	226	61	74	0	1	136	52	0	57	1	110	0	0	0	0	0	472
04:15 PM	0	162	56	5	223	55	78	0	3	136	68	0	45	0	113	0	0	0	3	3	475
04:30 PM	0	179	49	5	233	64	101	0	4	169	63	0	47	0	110	0	0	0	3	3	515
04:45 PM	0	189	53	5	247	59	105	0	0	164	55	0	76	0	131	0	0	0	0	0	542
Total	0	687	225	17	929	239	358	0	8	605	238	0	225	1	464	0	0	0	6	6	2004
05:00 PM	0	175	57	2	234	61	124	0	1	186	52	0	82	1	135	0	0	0	0	0	555
05:15 PM	0	173	46	5	224	52	85	0	3	140	68	0	75	0	143	0	0	0	3	3	510
05:30 PM	0	184	52	5	241	49	102	0	4	155	63	0	77	0	140	0	0	0	3	3	539
05:45 PM	0	211	48	5	264	47	106	0	0	153	55	0	66	0	121	0	0	0	0	0	538
Total	0	743	203	17	963	209	417	0	8	634	238	0	300	1	539	0	0	0	6	6	2142
Grand Total	0	3185	945	50	4180	644	1150	0	33	1827	1276	0	1251	23	2550	0	0	2	30	32	8589
Apprch %	0.0	76.2	22.6	1.2		35.2	62.9	0.0	1.8		50.0	0.0	49.1	0.9		0.0	0.0	6.3	93.8		
Total %	0.0	37.1	11.0	0.6	48.7	7.5	13.4	0.0	0.4	21.3	14.9	0.0	14.6	0.3	29.7	0.0	0.0	0.0	0.3	0.4	



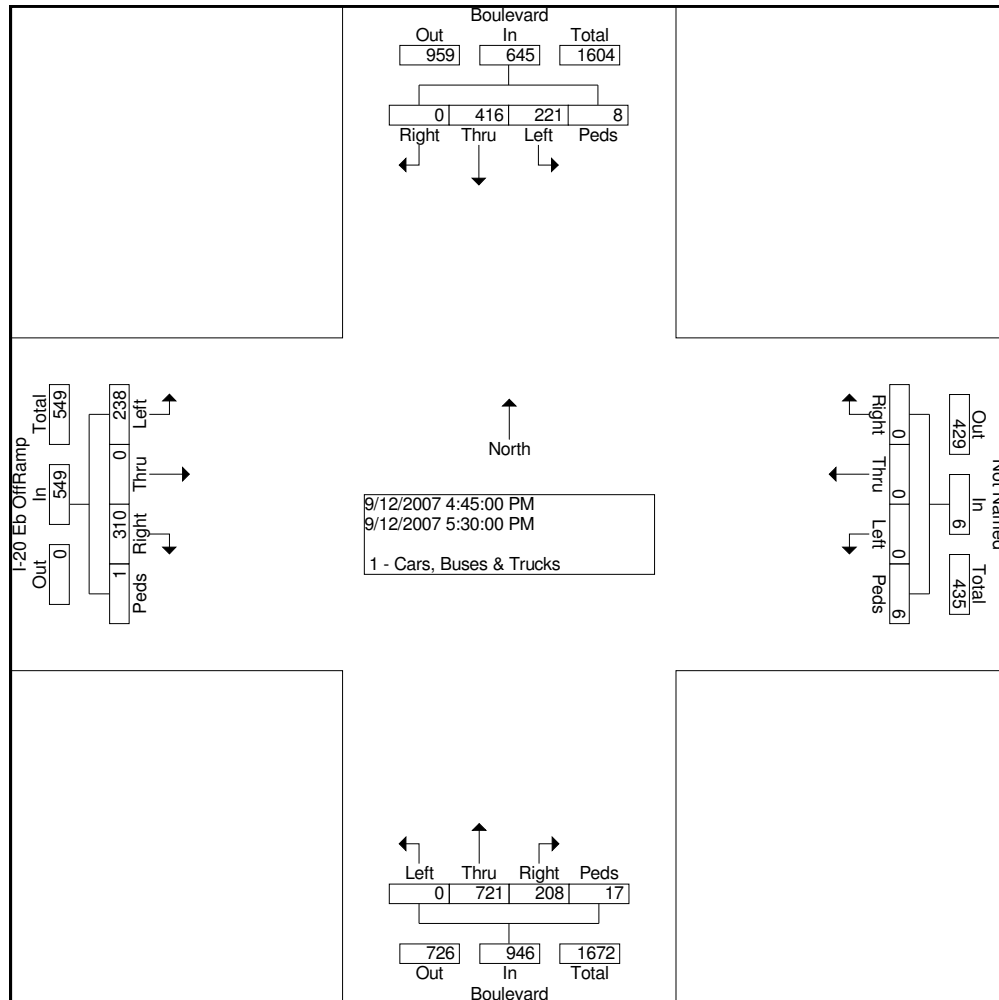
	Boulevard Northbound					Boulevard Southbound					I-20 Eb OffRamp Eastbound					Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	0	909	247	8	1164	89	207	0	10	306	400	0	400	11	811	0	0	1	9	10	2291
Percent	0.0	78.1	21.2	0.7		29.1	67.6	0.0	3.3		49.3	0.0	49.3	1.4		0.0	0.0	10.0	90.0		
07:45 Volume	0	237	62	2	301	20	51	0	4	75	110	0	107	3	220	0	0	1	3	4	600
Peak Factor	07:45 AM					07:30 AM					07:45 AM					07:30 AM					
High Int. Volume	0	237	62	2	301	17	60	0	3	80	110	0	107	3	220	0	0	0	5	5	0.955
Peak Factor	0.967					0.956					0.922					0.500					



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	Boulevard Northbound					Boulevard Southbound					I-20 Eb OffRamp Eastbound					Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:45 PM																				
Volume	0	721	208	17	946	221	416	0	8	645	238	0	310	1	549	0	0	0	6	6	2146
Percent	0.0	76.2	22.0	1.8		34.3	64.5	0.0	1.2		43.4	0.0	56.5	0.2		0.0	0.0	0.0	100.0		
05:00 Volume	0	175	57	2	234	61	124	0	1	186	52	0	82	1	135	0	0	0	0	0	555
Peak Factor																					0.967
High Int.	04:45 PM					05:00 PM					05:15 PM					05:15 PM					
Volume	0	189	53	5	247	61	124	0	1	186	68	0	75	0	143	0	0	0	3	3	
Peak Factor	0.957					0.867					0.960					0.500					

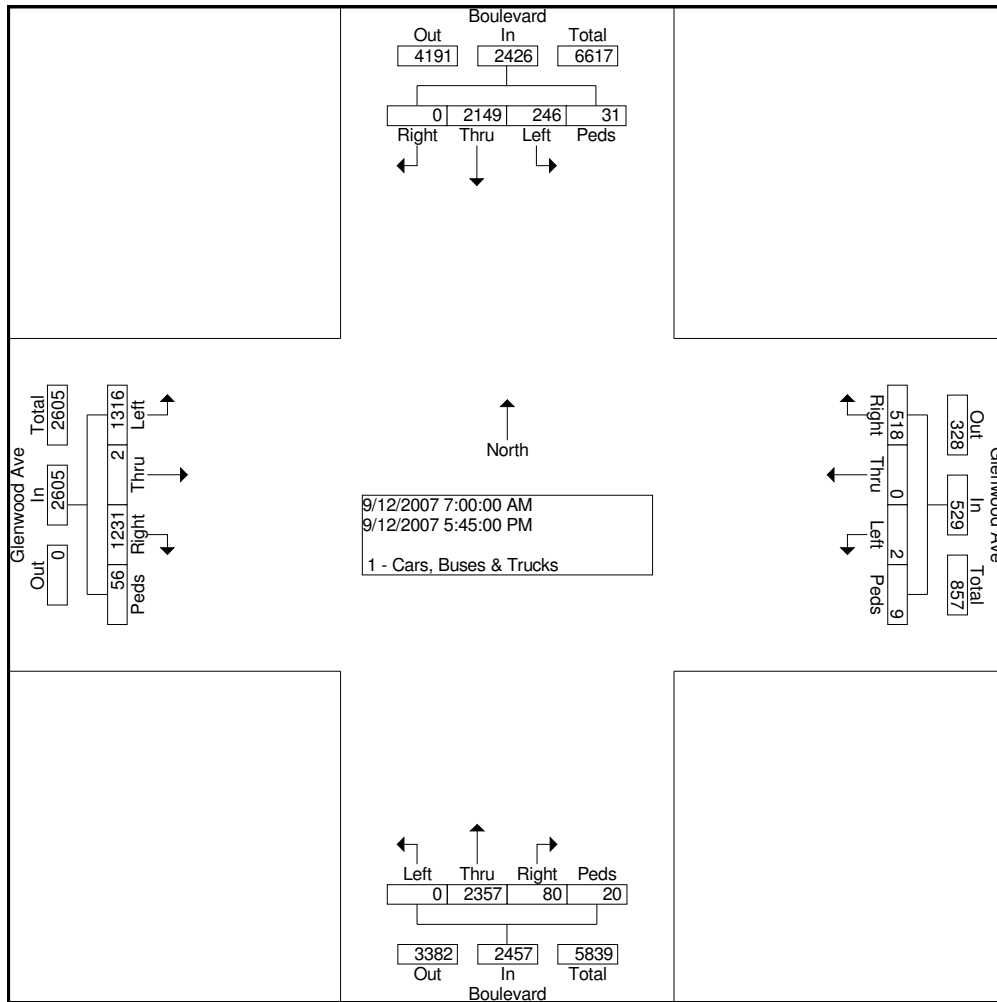


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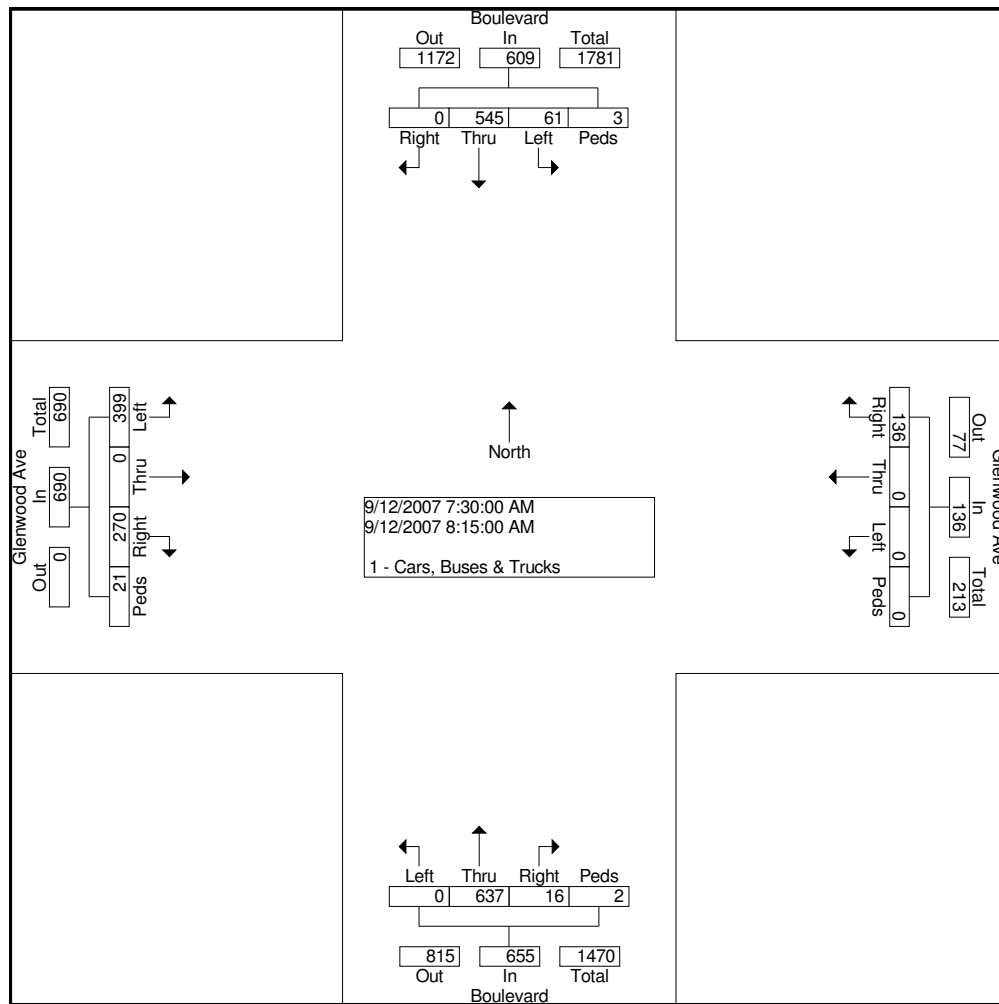
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Groups Printed- 1 - Cars, Buses & Trucks

	Boulevard Northbound					Boulevard Southbound					Glenwood Ave Eastbound					Glenwood Ave Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	0	141	3	0	144	21	107	0	2	130	91	0	51	4	146	0	0	34	0	34	454
07:15 AM	0	145	5	0	150	22	133	0	0	155	86	0	48	5	139	0	0	33	0	33	477
07:30 AM	0	159	2	0	161	19	142	0	1	162	95	0	59	9	163	0	0	30	0	30	516
07:45 AM	0	167	6	1	174	14	141	0	0	155	92	0	68	4	164	0	0	39	0	39	532
Total	0	612	16	1	629	76	523	0	3	602	364	0	226	22	612	0	0	136	0	136	1979
08:00 AM	0	156	3	0	159	16	139	0	2	157	101	0	69	1	171	0	0	34	0	34	521
08:15 AM	0	155	5	1	161	12	123	0	0	135	111	0	74	7	192	0	0	33	0	33	521
08:30 AM	0	146	3	0	149	14	95	0	1	110	126	0	84	12	222	0	0	30	0	30	511
08:45 AM	0	152	3	1	156	12	93	0	0	105	106	0	79	6	191	0	0	39	1	40	492
Total	0	609	14	2	625	54	450	0	3	507	444	0	306	26	776	0	0	136	1	137	2045
04:00 PM	0	143	5	2	150	13	111	0	2	126	55	0	55	2	112	0	0	29	1	30	418
04:15 PM	0	133	5	3	141	17	114	0	5	136	56	0	71	1	128	1	0	27	1	29	434
04:30 PM	0	131	4	1	136	12	131	0	4	147	67	0	82	0	149	0	0	36	2	38	470
04:45 PM	0	161	11	2	174	16	163	0	2	181	76	0	97	1	174	0	0	31	0	31	560
Total	0	568	25	8	601	58	519	0	13	590	254	0	305	4	563	1	0	123	4	128	1882
05:00 PM	0	143	5	1	149	18	187	0	3	208	55	0	98	2	155	0	0	29	1	30	542
05:15 PM	0	133	5	3	141	13	168	0	2	183	56	0	91	1	148	1	0	27	1	29	501
05:30 PM	0	131	4	4	139	15	155	0	7	177	67	2	102	0	171	0	0	36	2	38	525
05:45 PM	0	161	11	1	173	12	147	0	0	159	76	0	103	1	180	0	0	31	0	31	543
Total	0	568	25	9	602	58	657	0	12	727	254	2	394	4	654	1	0	123	4	128	2111
Grand Total	0	2357	80	20	2457	246	2149	0	31	2426	1316	2	1231	56	2605	2	0	518	9	529	8017
Apprch %	0.0	95.9	3.3	0.8		10.1	88.6	0.0	1.3		50.5	0.1	47.3	2.1		0.4	0.0	97.9	1.7		
Total %	0.0	29.4	1.0	0.2	30.6	3.1	26.8	0.0	0.4	30.3	16.4	0.0	15.4	0.7	32.5	0.0	0.0	6.5	0.1	6.6	



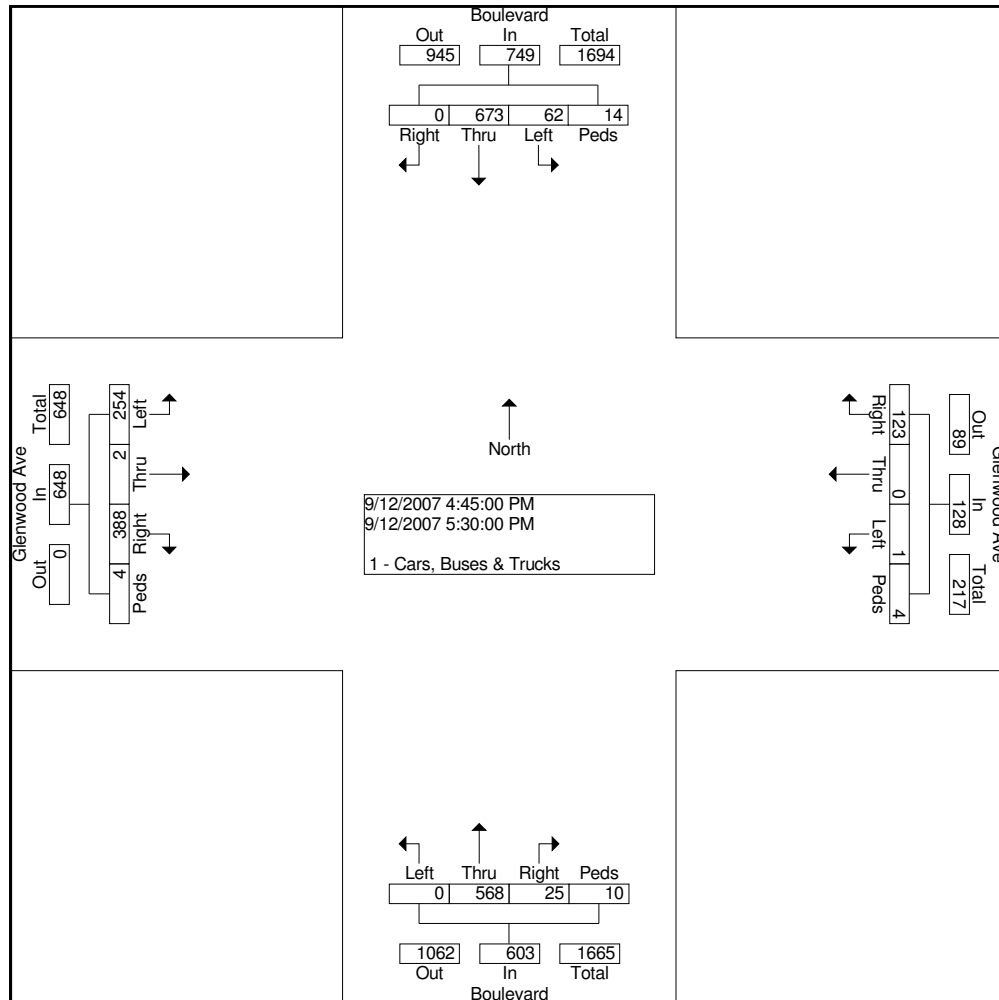
	Boulevard Northbound					Boulevard Southbound					Glenwood Ave Eastbound					Glenwood Ave Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 10:45 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	0	637	16	2	655	61	545	0	3	609	399	0	270	21	690	0	0	136	0	136	2090
Percent	0.0	97.3	2.4	0.3		10.0	89.5	0.0	0.5		57.8	0.0	39.1	3.0		0.0	0.0	100.0	0.0		
07:45 Volume	0	167	6	1	174	14	141	0	0	155	92	0	68	4	164	0	0	39	0	39	532
Peak Factor																					0.982
High Int.	07:45 AM					07:30 AM					08:15 AM					07:45 AM					
Volume	0	167	6	1	174	19	142	0	1	162	111	0	74	7	192	0	0	39	0	39	
Peak Factor	0.94					0.94					0.89					0.87					
	1										8					2					



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	Boulevard Northbound					Boulevard Southbound					Glenwood Ave Eastbound					Glenwood Ave Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 11:00 AM to 05:45 PM - Peak 1 of 1																					
Intersection	04:45 PM																				
Volume	0	568	25	10	603	62	673	0	14	749	254	2	388	4	648	1	0	123	4	128	2128
Percent	0.0	94.2	4.1	1.7		8.3	89.9	0.0	1.9		39.2	0.3	59.9	0.6		0.8	0.0	96.1	3.1		
04:45 Volume	0	161	11	2	174	16	163	0	2	181	76	0	97	1	174	0	0	31	0	31	560
Peak Factor																					0.950
High Int.	04:45 PM					05:00 PM					04:45 PM					05:30 PM					
Volume	0	161	11	2	174	18	187	0	3	208	76	0	97	1	174	0	0	36	2	38	
Peak Factor	0.866					0.900					0.931					0.842					

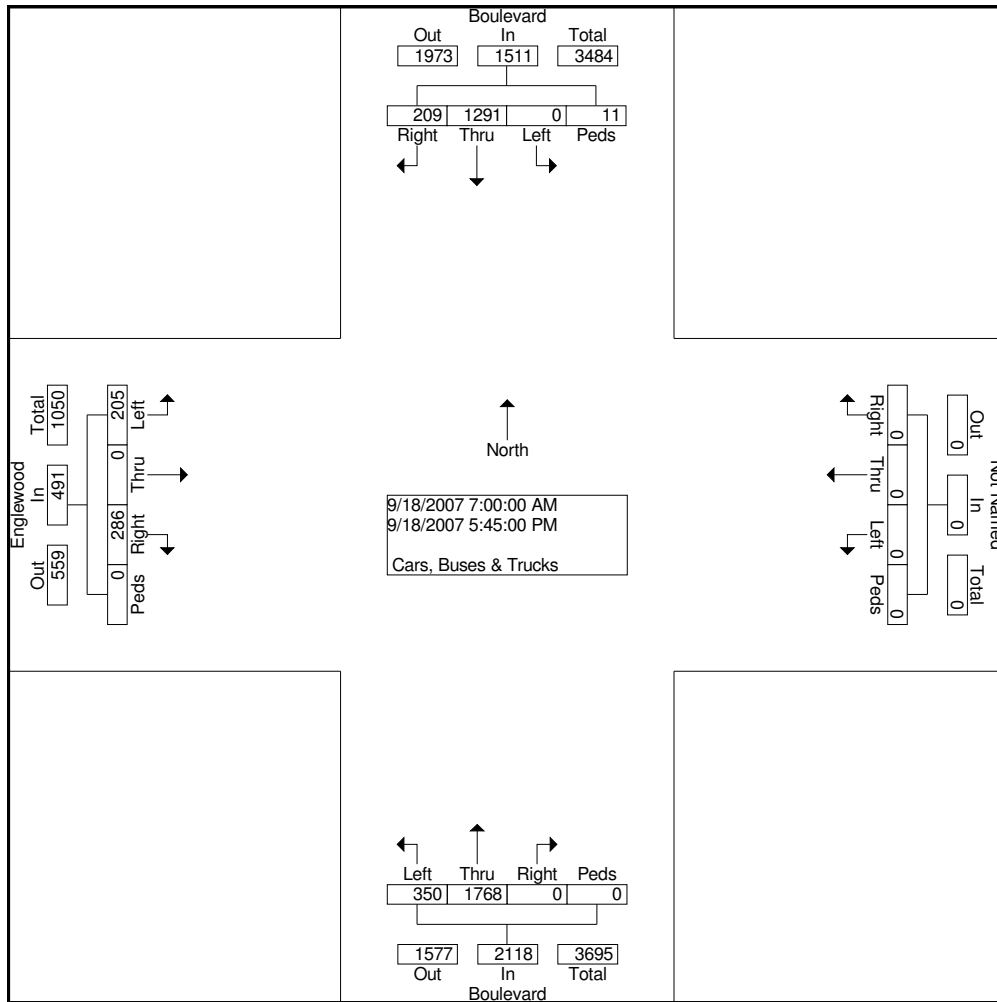


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Groups Printed- Cars, Buses & Trucks

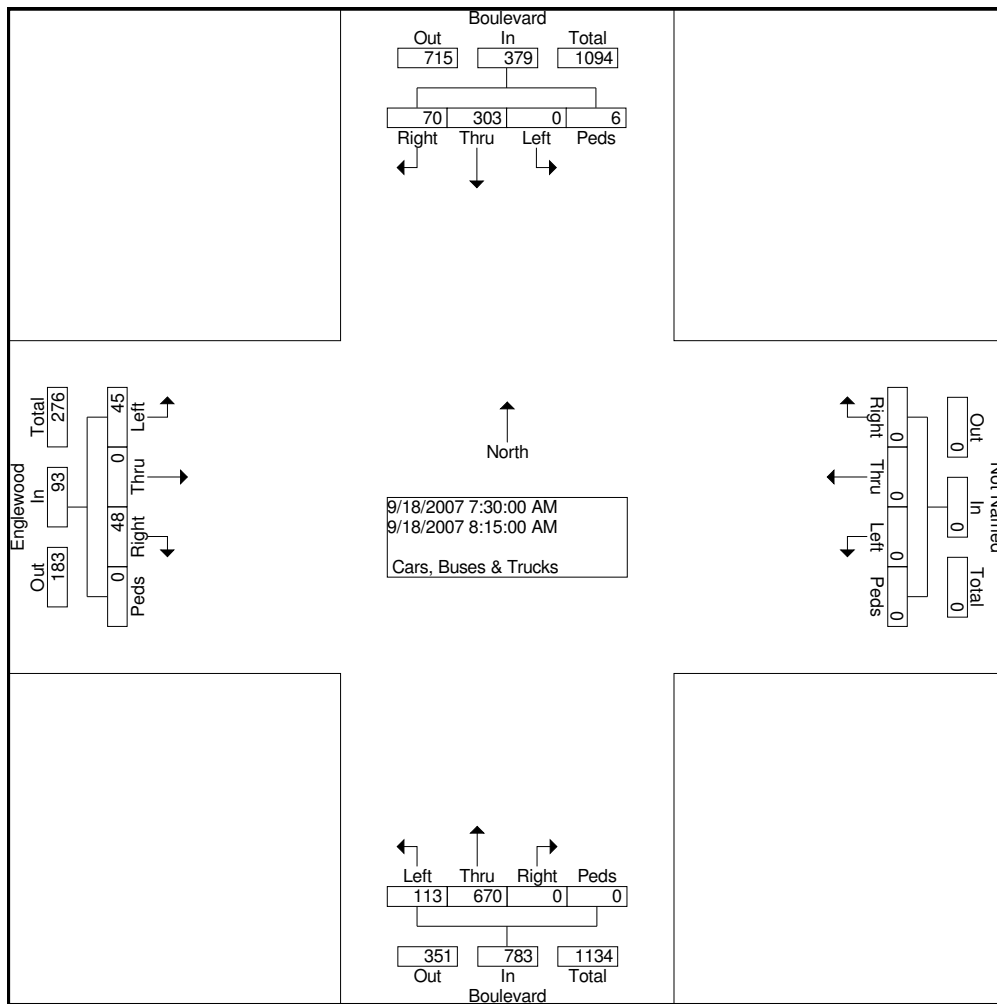
	Boulevard Northbound					Boulevard Southbound					Englewood Eastbound					Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	17	93	0	0	110	0	35	7	4	46	7	0	9	0	16	0	0	0	0	0	172
07:15 AM	11	128	0	0	139	0	52	5	0	57	13	0	12	0	25	0	0	0	0	0	221
07:30 AM	24	169	0	0	193	0	64	15	1	80	11	0	13	0	24	0	0	0	0	0	297
07:45 AM	36	174	0	0	210	0	89	19	0	108	10	0	12	0	22	0	0	0	0	0	340
Total	88	564	0	0	652	0	240	46	5	291	41	0	46	0	87	0	0	0	0	0	1030
08:00 AM	32	165	0	0	197	0	78	21	4	103	11	0	11	0	22	0	0	0	0	0	322
08:15 AM	21	162	0	0	183	0	72	15	1	88	13	0	12	0	25	0	0	0	0	0	296
08:30 AM	24	155	0	0	179	0	64	19	0	83	12	0	10	0	22	0	0	0	0	0	284
08:45 AM	25	161	0	0	186	0	69	19	1	89	10	0	12	0	22	0	0	0	0	0	297
Total	102	643	0	0	745	0	283	74	6	363	46	0	45	0	91	0	0	0	0	0	1199
04:00 PM	19	81	0	0	100	0	96	13	0	109	11	0	11	0	22	0	0	0	0	0	231
04:15 PM	23	56	0	0	79	0	105	9	0	114	13	0	16	0	29	0	0	0	0	0	222
04:30 PM	15	54	0	0	69	0	110	11	0	121	24	0	37	0	61	0	0	0	0	0	251
04:45 PM	23	74	0	0	97	0	116	10	0	126	17	0	35	0	52	0	0	0	0	0	275
Total	80	265	0	0	345	0	427	43	0	470	65	0	99	0	164	0	0	0	0	0	979
05:00 PM	20	72	0	0	92	0	96	13	0	109	15	0	26	0	41	0	0	0	0	0	242
05:15 PM	23	78	0	0	101	0	85	12	0	97	12	0	25	0	37	0	0	0	0	0	235
05:30 PM	19	81	0	0	100	0	79	11	0	90	15	0	21	0	36	0	0	0	0	0	226
05:45 PM	18	65	0	0	83	0	81	10	0	91	11	0	24	0	35	0	0	0	0	0	209
Total	80	296	0	0	376	0	341	46	0	387	53	0	96	0	149	0	0	0	0	0	912
Grand Total	350	1768	0	0	2118	0	1291	209	11	1511	205	0	286	0	491	0	0	0	0	0	4120
Apprch %	16.5	83.5	0.0	0.0		0.0	85.4	13.8	0.7		41.8	0.0	58.2	0.0		0.0	0.0	0.0	0.0		
Total %	8.5	42.9	0.0	0.0	51.4	0.0	31.3	5.1	0.3	36.7	5.0	0.0	6.9	0.0	11.9	0.0	0.0	0.0	0.0	0.0	



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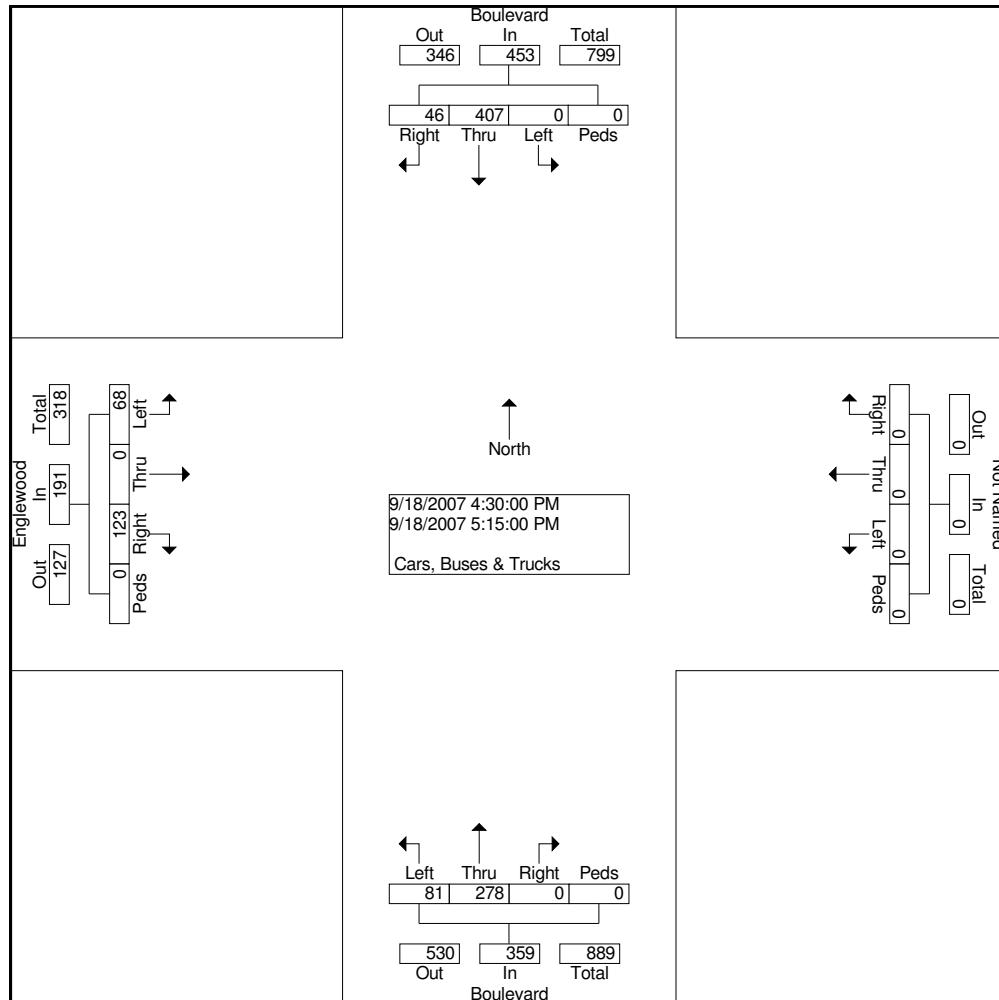
	Boulevard Northbound					Boulevard Southbound					Englewood Eastbound					Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	113	670	0	0	783	0	303	70	6	379	45	0	48	0	93	0	0	0	0	0	1255
Percent	14.4	85.6	0.0	0.0		0.0	79.9	18.5	1.6		48.4	0.0	51.6	0.0		0.0	0.0	0.0	0.0		
07:45 Volume	36	174	0	0	210	0	89	19	0	108	10	0	12	0	22	0	0	0	0	0	340
Peak Factor																					0.923
High Int.	07:45 AM					07:45 AM					08:15 AM					6:45:00 AM					
Volume	36	174	0	0	210	0	89	19	0	108	13	0	12	0	25						
Peak Factor	0.93					0.87					0.93					0					
	2					7					0										



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	Boulevard Northbound					Boulevard Southbound					Englewood Eastbound					Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:30 PM																				
Volume	81	278	0	0	359	0	407	46	0	453	68	0	123	0	191	0	0	0	0	0	1003
Percent	22.6	77.4	0.0	0.0		0.0	89.8	10.2	0.0		35.6	0.0	64.4	0.0		0.0	0.0	0.0	0.0		
04:45 Volume	23	74	0	0	97	0	116	10	0	126	17	0	35	0	52	0	0	0	0	0	275
Peak Factor																					0.912
High Int.	05:15 PM					04:45 PM					04:30 PM										
Volume	23	78	0	0	101	0	116	10	0	126	24	0	37	0	61						
Peak Factor	0.889					0.899					0.783										

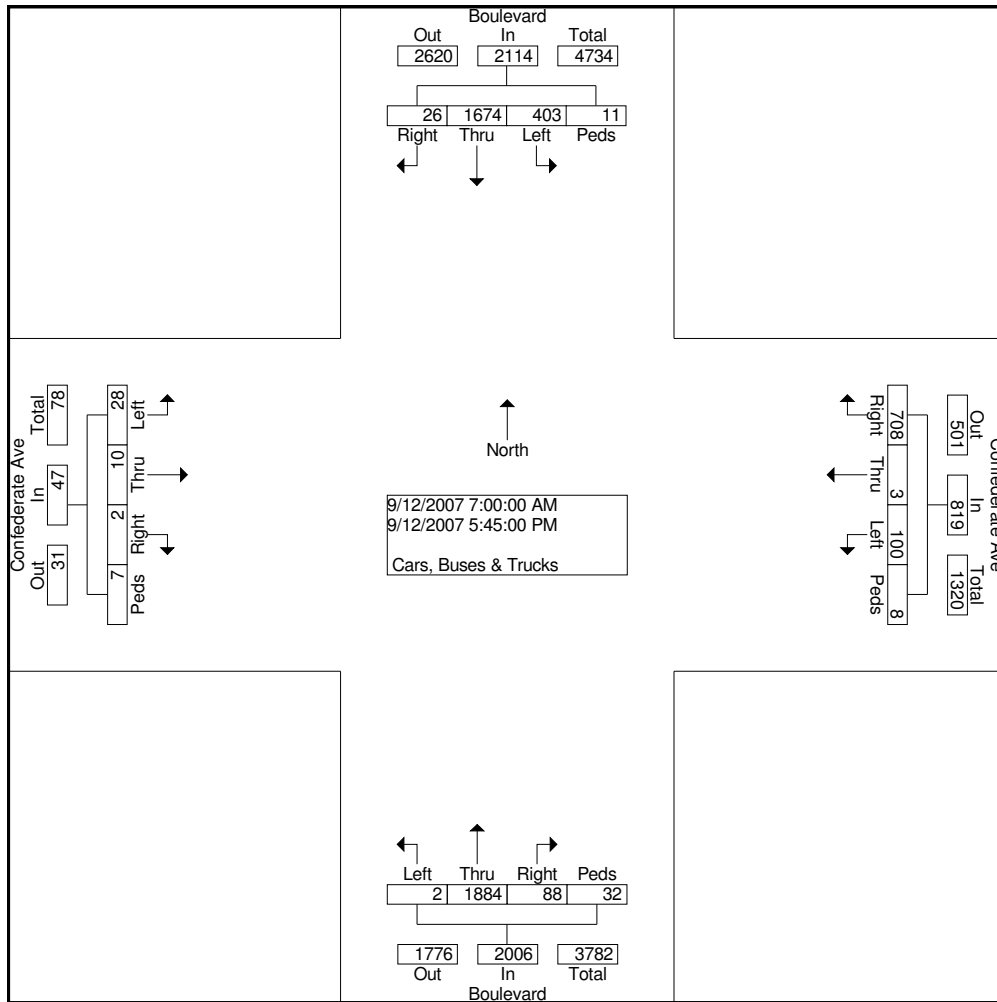


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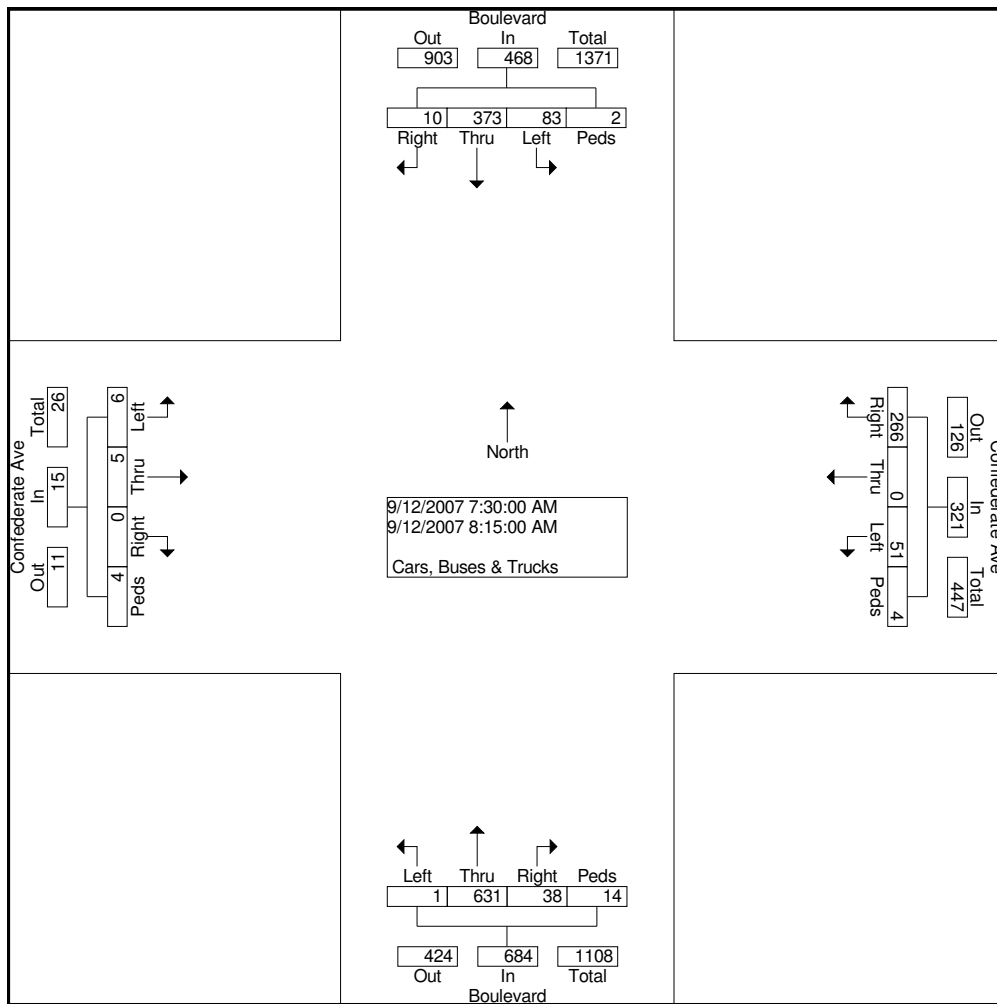
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Groups Printed- Cars, Buses & Trucks

	Boulevard Northbound					Boulevard Southbound					Confederate Ave Eastbound					Confederate Ave Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	0	111	7	6	124	24	66	2	2	94	1	1	0	0	2	4	1	56	2	63	283
07:15 AM	0	141	10	5	156	24	82	1	3	110	2	0	0	2	4	6	0	49	1	56	326
07:30 AM	1	135	12	0	148	20	93	1	1	115	2	2	0	2	6	7	0	67	0	74	343
07:45 AM	0	168	13	3	184	21	105	0	0	126	1	1	0	0	2	20	0	61	0	81	393
Total	1	555	42	14	612	89	346	4	6	445	6	4	0	4	14	37	1	233	3	274	1345
08:00 AM	0	182	8	5	195	17	92	2	0	111	1	1	0	1	3	17	0	78	3	98	407
08:15 AM	0	146	5	6	157	25	83	7	1	116	2	1	0	1	4	7	0	60	1	68	345
08:30 AM	0	118	3	3	124	22	72	1	0	95	1	0	0	1	2	6	0	71	0	77	298
08:45 AM	1	115	3	2	121	18	79	1	1	99	1	1	0	0	2	2	0	59	0	61	283
Total	1	561	19	16	597	82	326	11	2	421	5	3	0	3	11	32	0	268	4	304	1333
04:00 PM	0	97	2	0	99	25	110	1	0	136	1	0	0	0	1	3	1	33	0	37	273
04:15 PM	0	94	4	0	98	40	126	3	2	171	2	0	1	0	3	0	0	34	0	34	306
04:30 PM	0	114	0	0	114	33	122	3	0	158	1	1	0	0	2	5	1	38	0	44	318
04:45 PM	0	100	7	1	108	38	111	2	0	151	3	1	0	0	4	9	0	36	0	45	308
Total	0	405	13	1	419	136	469	9	2	616	7	2	1	0	10	17	2	141	0	160	1205
05:00 PM	0	93	4	0	97	24	122	1	0	147	4	0	1	0	5	3	0	34	0	37	286
05:15 PM	0	89	6	0	95	19	132	0	0	151	3	0	0	0	3	6	0	13	0	19	268
05:30 PM	0	92	2	0	94	29	134	0	1	164	2	0	0	0	2	1	0	8	1	10	270
05:45 PM	0	89	2	1	92	24	145	1	0	170	1	1	0	0	2	4	0	11	0	15	279
Total	0	363	14	1	378	96	533	2	1	632	10	1	1	0	12	14	0	66	1	81	1103
Grand Total	2	1884	88	32	2006	403	1674	26	11	2114	28	10	2	7	47	100	3	708	8	819	4986
Apprch %	0.1	93.9	4.4	1.6		19.1	79.2	1.2	0.5		59.6	21.3	4.3	14.9		12.2	0.4	86.4	1.0		
Total %	0.0	37.8	1.8	0.6	40.2	8.1	33.6	0.5	0.2	42.4	0.6	0.2	0.0	0.1	0.9	2.0	0.1	14.2	0.2	16.4	



	Boulevard Northbound					Boulevard Southbound					Confederate Ave Eastbound					Confederate Ave Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	1	631	38	14	684	83	373	10	2	468	6	5	0	4	15	51	0	266	4	321	1488
Percent	0.1	92.3	5.6	2.0		17.7	79.7	2.1	0.4		40.0	33.3	0.0	26.7		15.9	0.0	82.9	1.2		
08:00 Volume	0	182	8	5	195	17	92	2	0	111	1	1	0	1	3	17	0	78	3	98	407
Peak Factor																					0.914
High Int. Volume	08:00 AM					07:45 AM					07:30 AM					08:00 AM					
Peak Factor	0	182	8	5	195	21	105	0	0	126	2	2	0	2	6	17	0	78	3	98	
	0.87					0.92					0.62					0.81					9



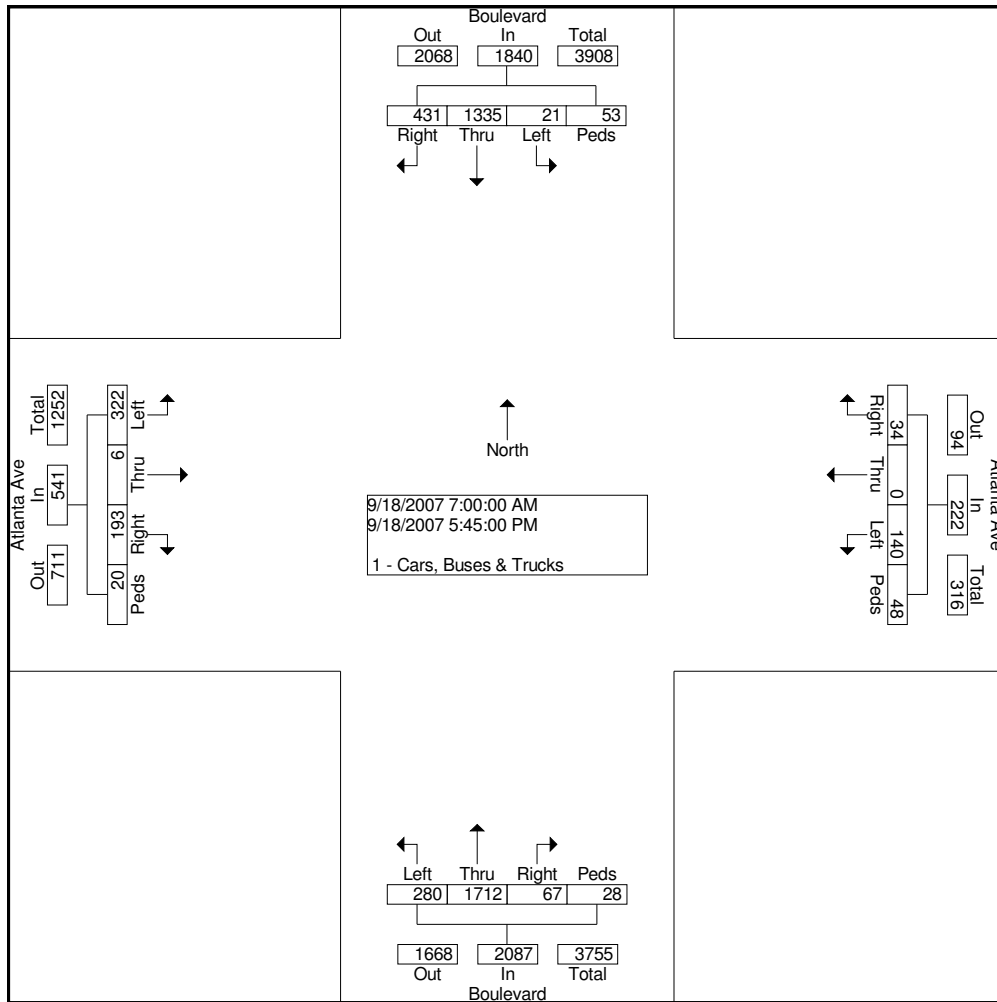
	Boulevard Northbound					Boulevard Southbound					Confederate Ave Eastbound					Confederate Ave Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:15 PM																				
Volume	0	401	15	1	417	135	481	9	2	627	10	2	2	0	14	17	1	142	0	160	1218
Percent	0.0	96.2	3.6	0.2		21.5	76.7	1.4	0.3		71.4	14.3	14.3	0.0		10.6	0.6	88.8	0.0		
04:30 Volume	0	114	0	0	114	33	122	3	0	158	1	1	0	0	2	5	1	38	0	44	318
Peak Factor																					0.958
High Int.	04:30 PM					04:15 PM					05:00 PM					04:45 PM					
Volume	0	114	0	0	114	40	126	3	2	171	4	0	1	0	5	9	0	36	0	45	
Peak Factor																					

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Groups Printed- 1 - Cars, Buses & Trucks

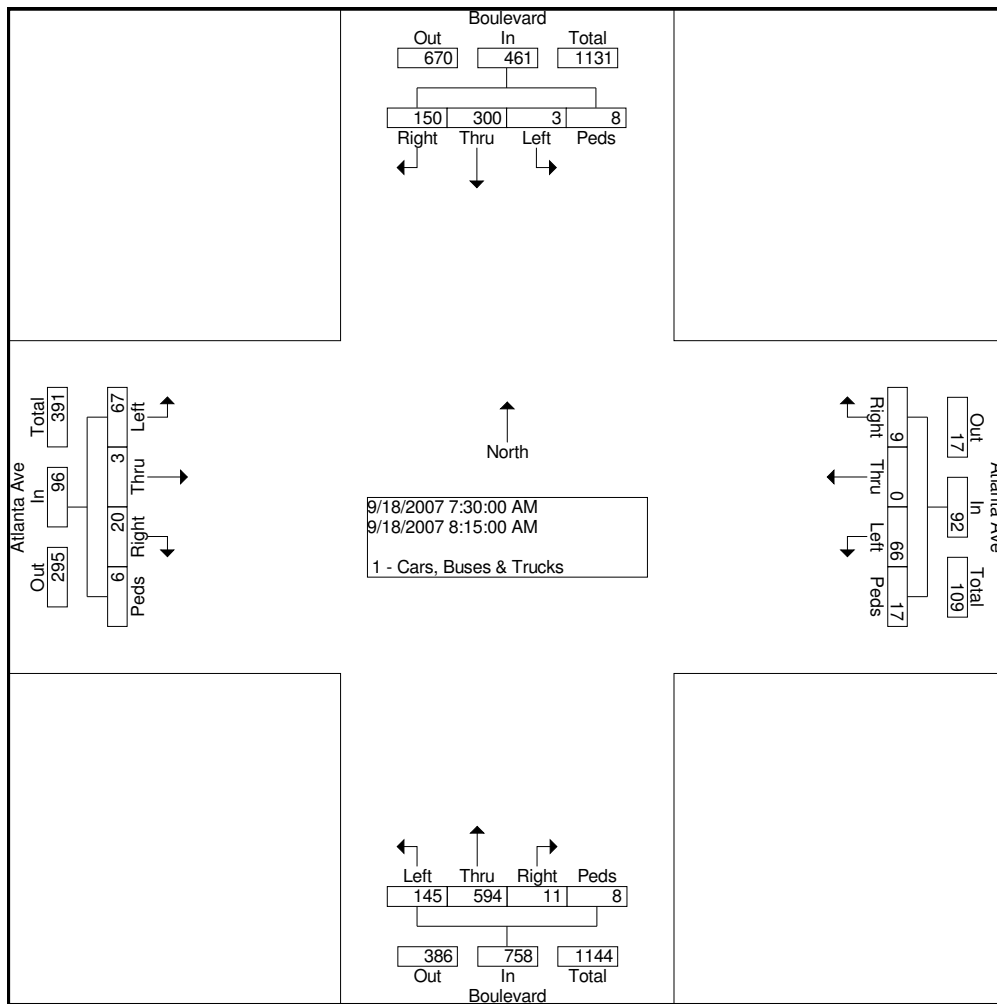
	Boulevard Northbound					Boulevard Southbound					Atlanta Ave Eastbound					Atlanta Ave Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	24	82	3	2	111	1	57	18	2	78	12	0	3	1	16	5	0	3	2	10	215
07:15 AM	24	124	2	1	151	1	56	30	1	88	17	2	6	2	27	11	0	3	3	17	283
07:30 AM	32	159	3	3	197	0	78	35	3	116	22	1	8	1	32	19	0	1	5	25	370
07:45 AM	41	142	2	1	186	1	70	56	1	128	15	0	4	1	20	24	0	2	5	31	365
Total	121	507	10	7	645	3	261	139	7	410	66	3	21	5	95	59	0	9	15	83	1233
08:00 AM	44	154	4	3	205	1	91	29	3	124	13	0	3	1	17	12	0	3	4	19	365
08:15 AM	28	139	2	1	170	1	61	30	1	93	17	2	5	3	27	11	0	3	3	17	307
08:30 AM	22	129	3	3	157	0	49	35	3	87	19	1	6	1	27	13	0	4	5	22	293
08:45 AM	21	135	2	1	159	1	42	33	1	77	21	0	4	1	26	25	0	2	5	32	294
Total	115	557	11	8	691	3	243	127	8	381	70	3	18	6	97	61	0	12	17	90	1259
04:00 PM	3	81	2	2	88	2	89	17	9	117	25	0	15	3	43	3	0	2	1	6	254
04:15 PM	6	72	5	1	84	3	101	18	5	127	23	0	23	1	47	4	0	1	2	7	265
04:30 PM	6	85	9	1	101	1	104	15	4	124	26	0	20	1	47	2	0	1	1	4	276
04:45 PM	8	92	7	3	110	4	102	16	6	128	21	0	17	2	40	3	0	3	3	9	287
Total	23	330	23	7	383	10	396	66	24	496	95	0	75	7	177	12	0	7	7	26	1082
05:00 PM	3	86	2	2	93	2	99	22	9	132	25	0	14	0	39	3	0	2	1	6	270
05:15 PM	7	75	8	1	91	2	109	26	2	139	21	0	23	1	45	2	0	1	3	6	281
05:30 PM	6	81	9	1	97	1	112	27	2	142	26	0	20	1	47	2	0	1	1	4	290
05:45 PM	5	76	4	2	87	0	115	24	1	140	19	0	22	0	41	1	0	2	4	7	275
Total	21	318	23	6	368	5	435	99	14	553	91	0	79	2	172	8	0	6	9	23	1116
Grand Total	280	1712	67	28	2087	21	1335	431	53	1840	322	6	193	20	541	140	0	34	48	222	4690
Apprch %	13.4	82.0	3.2	1.3		1.1	72.6	23.4	2.9		59.5	1.1	35.7	3.7		63.1	0.0	15.3	21.6		
Total %	6.0	36.5	1.4	0.6	44.5	0.4	28.5	9.2	1.1	39.2	6.9	0.1	4.1	0.4	11.5	3.0	0.0	0.7	1.0	4.7	



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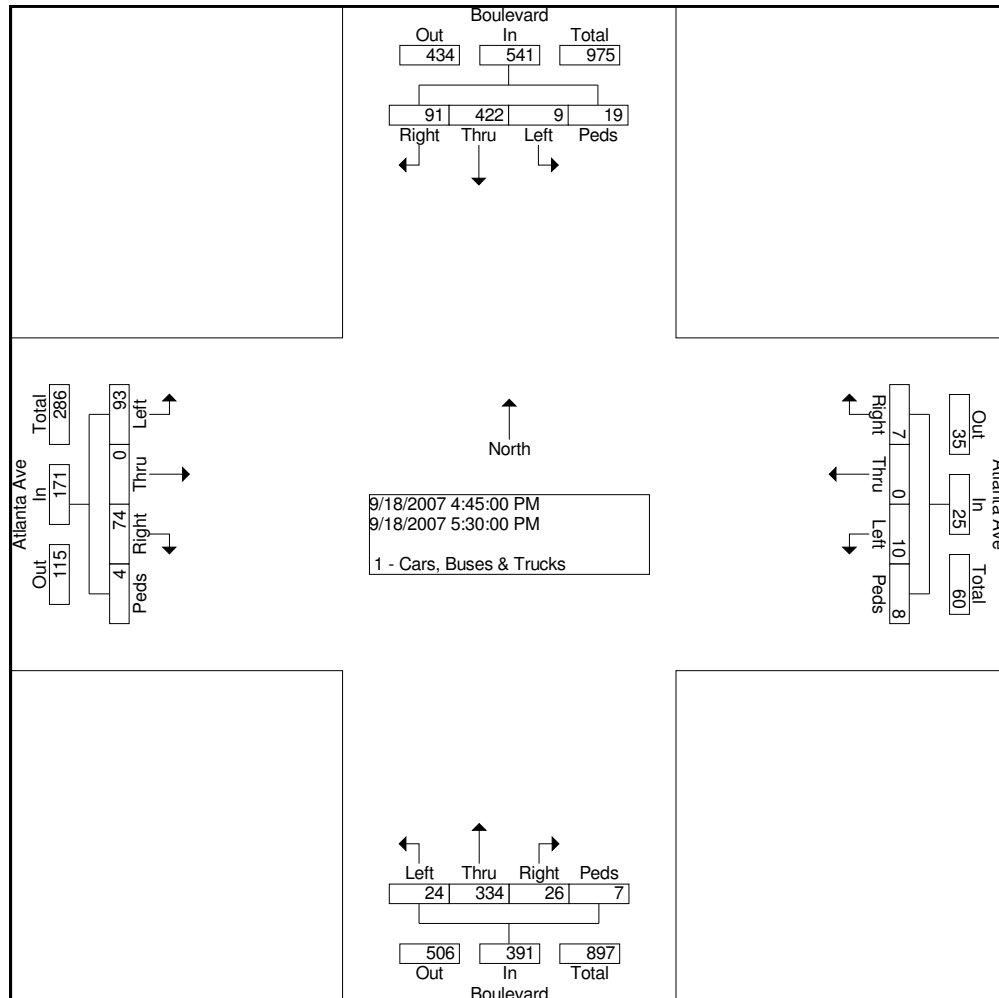
	Boulevard Northbound					Boulevard Southbound					Atlanta Ave Eastbound					Atlanta Ave Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	145	594	11	8	758	3	300	150	8	461	67	3	20	6	96	66	0	9	17	92	1407
Percent	19.	78.	1.5	1.1		0.7	65.	32.	1.7		69.	3.1	20.	6.3		71.	0.0	9.8	18.		
	1	4					1	5			8		8			7			5		
07:30 Volume	32	159	3	3	197	0	78	35	3	116	22	1	8	1	32	19	0	1	5	25	370
Peak Factor																					0.951
High Int.	08:00 AM					07:45 AM					07:30 AM					07:45 AM					
Volume	44	154	4	3	205	1	70	56	1	128	22	1	8	1	32	24	0	2	5	31	
Peak Factor	0.92					0.90					0.75					0.74					2
	4					0					0										



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	Boulevard Northbound					Boulevard Southbound					Atlanta Ave Eastbound					Atlanta Ave Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:45 PM																				
Volume	24	334	26	7	391	9	422	91	19	541	93	0	74	4	171	10	0	7	8	25	1128
Percent	6.1	85.4	6.6	1.8		1.7	78.0	16.8	3.5		54.4	0.0	43.3	2.3		40.0	0.0	28.0	32.0		
05:30 Volume	6	81	9	1	97	1	112	27	2	142	26	0	20	1	47	2	0	1	1	4	290
Peak Factor																					0.972
High Int.	04:45 PM					05:30 PM					05:30 PM					04:45 PM					
Volume	8	92	7	3	110	1	112	27	2	142	26	0	20	1	47	3	0	3	3	9	
Peak Factor	0.889					0.952					0.910					0.694					

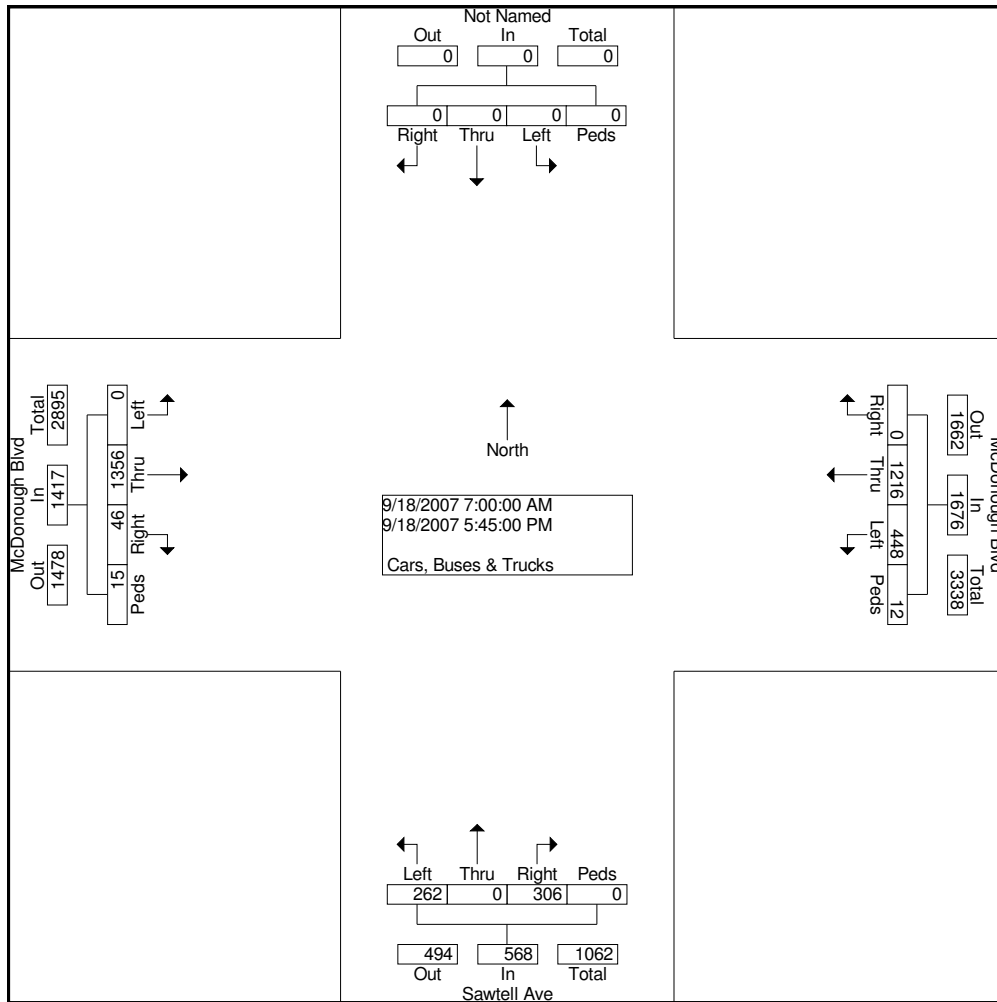


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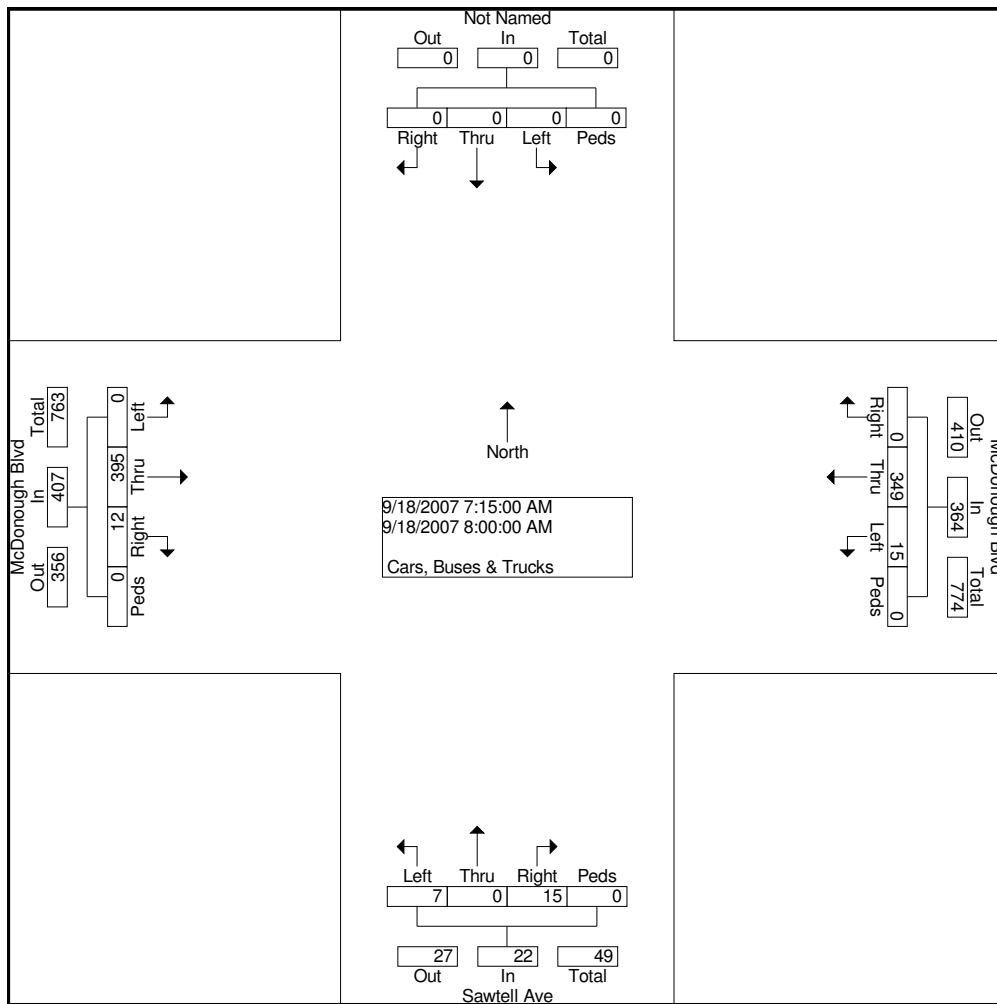
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Site Code : 25120017
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Groups Printed- Cars, Buses & Trucks

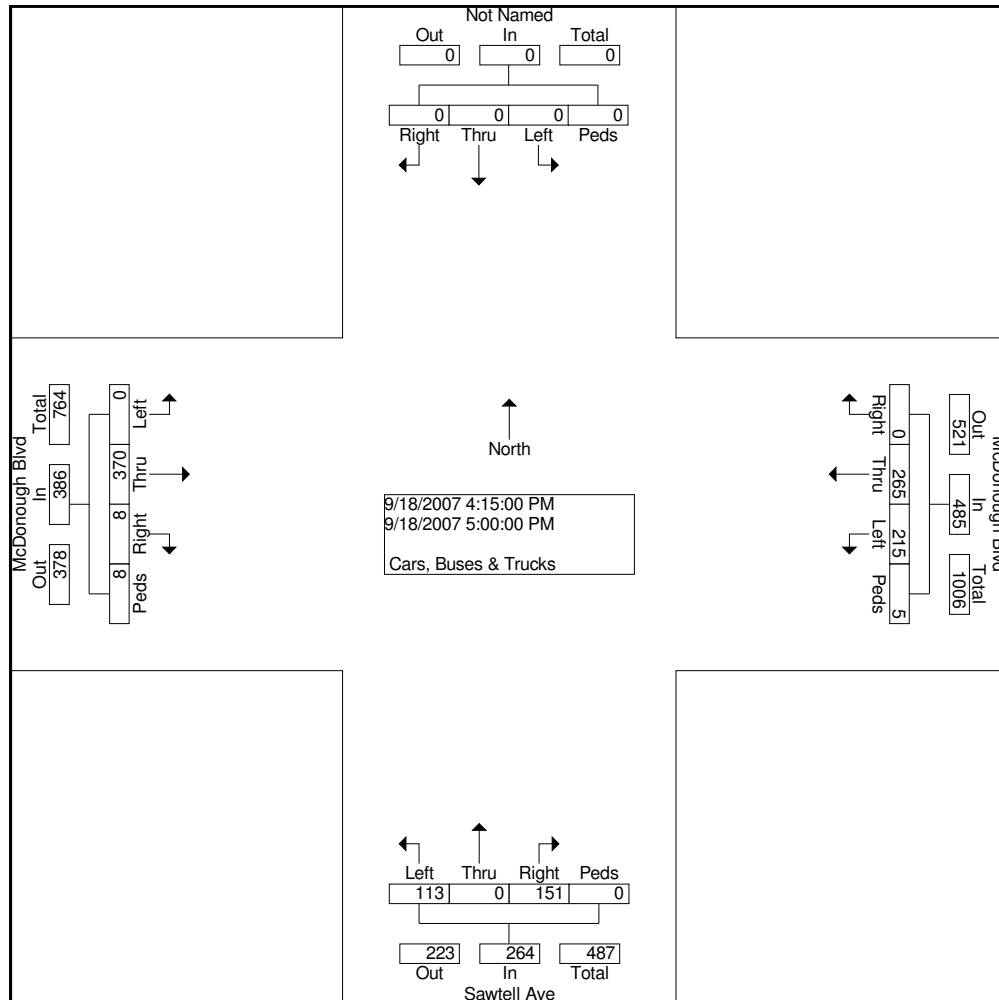
	Sawtell Ave Northbound					Southbound					McDonough Blvd Eastbound					McDonough Blvd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	2	0	5	0	7	0	0	0	0	0	0	72	5	0	77	7	65	0	0	72	156
07:15 AM	1	0	7	0	8	0	0	0	0	0	0	92	4	0	96	5	76	0	0	81	185
07:30 AM	3	0	2	0	5	0	0	0	0	0	0	107	3	0	110	3	88	0	0	91	206
07:45 AM	2	0	4	0	6	0	0	0	0	0	0	102	2	0	104	5	97	0	0	102	212
Total	8	0	18	0	26	0	0	0	0	0	0	373	14	0	387	20	326	0	0	346	759
08:00 AM	1	0	2	0	3	0	0	0	0	0	0	94	3	0	97	2	88	0	0	90	190
08:15 AM	2	0	4	0	6	0	0	0	0	0	0	84	2	0	86	6	85	0	0	91	183
08:30 AM	2	0	5	0	7	0	0	0	0	0	0	63	1	0	64	5	82	0	0	87	158
08:45 AM	2	0	3	0	5	0	0	0	0	0	0	61	2	0	63	4	89	0	0	93	161
Total	7	0	14	0	21	0	0	0	0	0	0	302	8	0	310	17	344	0	0	361	692
04:00 PM	27	0	35	0	62	0	0	0	0	0	0	85	2	2	89	47	69	0	2	118	269
04:15 PM	28	0	42	0	70	0	0	0	0	0	0	82	3	1	86	52	71	0	1	124	280
04:30 PM	35	0	38	0	73	0	0	0	0	0	0	92	2	2	96	55	56	0	2	113	282
04:45 PM	29	0	34	0	63	0	0	0	0	0	0	95	2	3	100	57	63	0	2	122	285
Total	119	0	149	0	268	0	0	0	0	0	0	354	9	8	371	211	259	0	7	477	1116
05:00 PM	21	0	37	0	58	0	0	0	0	0	0	101	1	2	104	51	75	0	0	126	288
05:15 PM	25	0	34	0	59	0	0	0	0	0	0	84	3	3	90	53	61	0	3	117	266
05:30 PM	44	0	28	0	72	0	0	0	0	0	0	67	7	1	75	52	73	0	0	125	272
05:45 PM	38	0	26	0	64	0	0	0	0	0	0	75	4	1	80	44	78	0	2	124	268
Total	128	0	125	0	253	0	0	0	0	0	0	327	15	7	349	200	287	0	5	492	1094
Grand Total	262	0	306	0	568	0	0	0	0	0	0	1356	46	15	1417	448	1216	0	12	1676	3661
Apprch %	46.1	0.0	53.9	0.0		0.0	0.0	0.0	0.0		0.0	95.7	3.2	1.1		26.7	72.6	0.0	0.7		
Total %	7.2	0.0	8.4	0.0	15.5	0.0	0.0	0.0	0.0	0.0	0.0	37.0	1.3	0.4	38.7	12.2	33.2	0.0	0.3	45.8	



	Sawtell Ave Northbound					Southbound					McDonough Blvd Eastbound					McDonough Blvd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Intersection	07:15 AM																				
Volume	7	0	15	0	22	0	0	0	0	0	0	395	12	0	407	15	349	0	0	364	793
Percent	31.8	0.0	68.2	0.0		0.0	0.0	0.0	0.0		0.0	97.1	2.9	0.0		4.1	95.9	0.0	0.0		
07:45 Volume	2	0	4	0	6	0	0	0	0	0	0	102	2	0	104	5	97	0	0	102	212
Peak Factor	07:15 AM					6:45:00 AM					07:30 AM					07:45 AM					0.935
High Int. Volume	1	0	7	0	8	0	0	0	0	0	0	107	3	0	110	5	97	0	0	102	
Peak Factor	0.68										0.92					0.89					2
	8										5					2					



	Sawtell Ave Northbound					Southbound					McDonough Blvd Eastbound					McDonough Blvd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:15 PM																				
Volume	113	0	151	0	264	0	0	0	0	0	0	370	8	8	386	215	265	0	5	485	1135
Percent	42.8	0.0	57.2	0.0		0.0	0.0	0.0	0.0		0.0	95.9	2.1	2.1		44.3	54.6	0.0	1.0		
05:00 Volume	21	0	37	0	58	0	0	0	0	0	0	101	1	2	104	51	75	0	0	126	288
Peak Factor																					0.985
High Int.	04:30 PM										05:00 PM					05:00 PM					
Volume	35	0	38	0	73	0	0	0	0	0	0	101	1	2	104	51	75	0	0	126	
Peak Factor	0.904										0.928					0.962					



Appendix D - Capacity Analysis




















Atlanta BeltLine
Sub-Area 3

BASE 2008













SYNCHRO REPORT
(September 2008)

Atlanta BeltLine Master Plan Subarea 3
70: I-20 WB On & Boulevard

Base 2008 AM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	0		0	280		280	150		0	0		0
Storage Lanes	0		0	1		2	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50	50	50	50			50	
Trailing Detector (ft)				0	0	0	0	0			0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	0	0	1681	1722	2787	3433	3539	0	0	4694	0
Flt Permitted				0.950	0.973		0.950					
Satd. Flow (perm)	0	0	0	1681	1722	2787	3433	3539	0	0	4694	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						235					130	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		281			1064			442			562	
Travel Time (s)		6.4			24.2			10.0			12.8	
Volume (vph)	0	0	0	194	59	437	510	812	0	0	101	107
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.97	0.97	0.97	0.97	0.97	0.97	0.82	0.82	0.82
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	0	0	127	134	451	526	837	0	0	253	0
Turn Type				Split		Perm	Prot					
Protected Phases				4	4		1 8	1 2 8			2	
Permitted Phases						4						
Detector Phases				4	4	4	1 8	1 2 8			2	
Minimum Initial (s)				12.0	12.0	12.0					14.0	
Minimum Split (s)				30.0	30.0	30.0					27.0	
Total Split (s)	0.0	0.0	0.0	53.0	53.0	53.0	47.0	67.0	0.0	0.0	20.0	0.0
Total Split (%)	0.0%	0.0%	0.0%	44.2%	44.2%	44.2%	39.2%	55.8%	0.0%	0.0%	16.7%	0.0%
Yellow Time (s)				3.6	3.6	3.6					3.7	
All-Red Time (s)				2.4	2.4	2.4					2.3	
Lead/Lag				Lag	Lag	Lag					Lag	
Lead-Lag Optimize?												
Recall Mode				None	None	None					C-Max	
Act Effct Green (s)				22.4	22.4	22.4	39.2	89.6			42.4	
Actuated g/C Ratio				0.19	0.19	0.19	0.33	0.75			0.35	
v/c Ratio				0.40	0.42	0.63	0.47	0.32			0.15	
Control Delay				44.3	44.6	23.8	21.0	2.8			14.9	
Queue Delay				0.0	0.0	0.0	0.0	0.3			0.0	
Total Delay				44.3	44.6	23.8	21.0	3.1			14.9	
LOS				D	D	C	C	A			B	
Approach Delay					31.4			10.0			14.9	

Lane Group	ø1	ø5	ø6	ø8
Lane Configurations				
Ideal Flow (vphpl)				
Lane Width (ft)				
Grade (%)				
Storage Length (ft)				
Storage Lanes				
Total Lost Time (s)				
Leading Detector (ft)				
Trailing Detector (ft)				
Turning Speed (mph)				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Growth Factor				
Heavy Vehicles (%)				
Bus Blockages (#/hr)				
Parking (#/hr)				
Mid-Block Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	5	6	8
Permitted Phases				
Detector Phases				
Minimum Initial (s)	11.0	7.0	14.0	12.0
Minimum Split (s)	16.2	12.2	27.0	30.0
Total Split (s)	16.0	16.0	20.0	31.0
Total Split (%)	13%	13%	17%	26%
Yellow Time (s)	3.6	3.6	3.7	3.6
All-Red Time (s)	1.6	1.6	2.3	2.4
Lead/Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?				
Recall Mode	Min	None	C-Max	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C						B			B		

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 12 (10%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 17.1







Intersection LOS: B

Intersection Capacity Utilization 70.0%

ICU Level of Service C

Analysis Period (min) 15




















Splits and Phases: 70: I-20 WB On & Boulevard

#70  ø1	#70  ø2	#70 #71  ø8	#70 #71  ø4
16 s	20 s	31 s	53 s
#71  ø5	#71  ø6		
16 s	20 s		

Lane Group	ø1	ø5	ø6	ø8
Approach LOS				
Intersection Summary				

Atlanta BeltLine Master Plan Subarea 3
71: I-20 EB Off & Boulevard













Base 2008 AM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	320		320	0		0	0		0	150		0
Storage Lanes	1		1	0		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50					50		50	50	
Trailing Detector (ft)	0	0	0					0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1681	1496	1504	0	0	0	0	3407	0	3433	3539	0
Flt Permitted	0.950	0.978								0.950		
Satd. Flow (perm)	1681	1496	1462	0	0	0	0	3407	0	3433	3539	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)								24				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1070			1567			170			442	
Travel Time (s)		24.3			35.6			3.9			10.0	
Volume (vph)	400	0	400	0	0	0	0	909	247	89	207	0
Confl. Peds. (#/hr)			11			9			8			10
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.50	0.50	0.50	0.97	0.97	0.97	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	298	307	265	0	0	0	0	1192	0	93	216	0
Turn Type	Split		Perm							Prot		
Protected Phases	8	8						6		4 5	4 5 6	
Permitted Phases			8									
Detector Phases	8	8	8					6		4 5	4 5 6	
Minimum Initial (s)	12.0	12.0	12.0					14.0				
Minimum Split (s)	30.0	30.0	30.0					27.0				
Total Split (s)	31.0	31.0	31.0	0.0	0.0	0.0	0.0	20.0	0.0	69.0	89.0	0.0
Total Split (%)	25.8%	25.8%	25.8%	0.0%	0.0%	0.0%	0.0%	16.7%	0.0%	57.5%	74.2%	0.0%
Yellow Time (s)	3.6	3.6	3.6					3.7				
All-Red Time (s)	2.4	2.4	2.4					2.3				
Lead/Lag	Lead	Lead	Lead					Lag				
Lead-Lag Optimize?												
Recall Mode	None	None	None					C-Max				
Act Effct Green (s)	27.0	27.0	27.0					46.4		34.6	85.0	
Actuated g/C Ratio	0.22	0.22	0.22					0.39		0.29	0.71	
v/c Ratio	0.79	0.91	0.81					0.90		0.09	0.09	
Control Delay	59.9	77.0	63.6					44.8		16.4	1.6	
Queue Delay	0.0	0.0	0.0					0.0		0.0	0.0	
Total Delay	59.9	77.0	63.6					44.8		16.4	1.6	
LOS	E	E	E					D		B	A	
Approach Delay		67.1						44.8			6.0	

Lane Group	ø1	ø2	ø4	ø5
Lane Configurations				
Ideal Flow (vphpl)				
Lane Width (ft)				
Grade (%)				
Storage Length (ft)				
Storage Lanes				
Total Lost Time (s)				
Leading Detector (ft)				
Trailing Detector (ft)				
Turning Speed (mph)				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Growth Factor				
Heavy Vehicles (%)				
Bus Blockages (#/hr)				
Parking (#/hr)				
Mid-Block Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	2	4	5
Permitted Phases				
Detector Phases				
Minimum Initial (s)	11.0	14.0	12.0	7.0
Minimum Split (s)	16.2	27.0	30.0	12.2
Total Split (s)	16.0	20.0	53.0	16.0
Total Split (%)	13%	17%	44%	13%
Yellow Time (s)	3.6	3.7	3.6	3.6
All-Red Time (s)	1.6	2.3	2.4	1.6
Lead/Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?				
Recall Mode	Min	C-Max	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				

71: I-20 EB Off & Boulevard

MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	E						D			A		

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 12 (10%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 47.9









Intersection LOS: D

Intersection Capacity Utilization 70.0%

ICU Level of Service C

Analysis Period (min) 15


















Splits and Phases: 71: I-20 EB Off & Boulevard













#70  ø1 16 s	#70  ø2 20 s	#70 #71   ø8 31 s	#70 #71   ø4 53 s
#71  ø5 16 s	#71  ø6 20 s		

Lane Group	ø1	ø2	ø4	ø5
Approach LOS				
Intersection Summary				

Atlanta BeltLine Master Plan Subarea 3
73: Confederate Ave. & Boulevard

Base 2008 AM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	80		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1812	0	1770	1554	0	0	1841	0	0	3495	0
Flt Permitted		0.848		0.746							0.697	
Satd. Flow (perm)	0	1580	0	1390	1554	0	0	1841	0	0	2458	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					174			5			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		792			1253			672			2707	
Travel Time (s)		18.0			28.5			15.3			61.5	
Volume (vph)	6	5	0	51	0	266	1	631	38	83	373	10
Confl. Peds. (#/hr)			4			4			14			2
Confl. Bikes (#/hr)												
Peak Hour Factor	0.62	0.62	0.62	0.82	0.82	0.82	0.88	0.88	0.88	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	18	0	62	324	0	0	761	0	0	501	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Detector Phases	8	8		4	4		2	2		6	6	
Minimum Initial (s)	17.0	17.0		17.0	17.0		15.0	15.0		15.0	15.0	
Minimum Split (s)	22.3	22.3		22.3	22.3		20.2	20.2		20.2	20.2	
Total Split (s)	38.0	38.0	0.0	38.0	38.0	0.0	52.0	52.0	0.0	52.0	52.0	0.0
Total Split (%)	42.2%	42.2%	0.0%	42.2%	42.2%	0.0%	57.8%	57.8%	0.0%	57.8%	57.8%	0.0%
Yellow Time (s)	3.6	3.6		3.6	3.6		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.7	1.7		1.7	1.7		1.5	1.5		1.5	1.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Act Effct Green (s)		19.7		19.7	19.7			62.3			62.3	
Actuated g/C Ratio		0.22		0.22	0.22			0.69			0.69	
v/c Ratio		0.05		0.20	0.68			0.60			0.29	
Control Delay		27.0		29.8	22.2			10.1			6.1	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		27.0		29.8	22.2			10.1			6.1	
LOS		C		C	C			B			A	
Approach Delay		27.0			23.4			10.1			6.1	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			C			B			A		

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 12.2

Intersection LOS: B

Intersection Capacity Utilization 75.6%

ICU Level of Service D

















Analysis Period (min) 15













Splits and Phases: 73: Confederate Ave. & Boulevard

 ø2	 ø4
52 s	38 s
 ø6	 ø8
52 s	38 s

Atlanta BeltLine Master Plan Subarea 3
75: Atlanta Ave. & Boulevard

Base 2008 AM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1742	0	0	1756	0	0	1840	0	0	3362	0
Flt Permitted		0.913			0.682			0.655			0.952	
Satd. Flow (perm)	0	1650	0	0	1225	0	0	1215	0	0	3201	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			8			1			114	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		806			1283			1444			1606	
Travel Time (s)		18.3			29.2			32.8			36.5	
Volume (vph)	67	3	20	66	0	9	145	594	11	3	300	150
Confl. Peds. (#/hr)	6			17			8			8		
Confl. Bikes (#/hr)												
Peak Hour Factor	0.75	0.75	0.75	0.74	0.74	0.74	0.92	0.92	0.92	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	120	0	0	101	0	0	816	0	0	503	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			4			2			6	
Permitted Phases	3			4			2			6		
Detector Phases	3	3		4	4		2	2		6	6	
Minimum Initial (s)	19.0	19.0		10.0	10.0		35.0	35.0		35.0	35.0	
Minimum Split (s)	24.8	24.8		23.8	23.8		41.5	41.5		41.5	41.5	
Total Split (s)	25.0	25.0	0.0	25.0	25.0	0.0	35.0	35.0	0.0	35.0	35.0	0.0
Total Split (%)	29.4%	29.4%	0.0%	29.4%	29.4%	0.0%	41.2%	41.2%	0.0%	41.2%	41.2%	0.0%
Yellow Time (s)	3.2	3.2		3.2	3.2		3.8	3.8		3.8	3.8	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.7	2.7		2.7	2.7	
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?												
Recall Mode	Min	Min		None	None		Min	Min		Min	Min	
Act Effct Green (s)		21.1			14.1			31.4			31.4	
Actuated g/C Ratio		0.28			0.18			0.42			0.42	
v/c Ratio		0.25			0.44			1.60			0.36	
Control Delay		22.1			32.5			300.8			13.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		22.1			32.5			300.8			13.3	
LOS		C			C			F			B	
Approach Delay		22.1			32.5			300.8			13.3	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			C			F			B		

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 74.8

Natural Cycle: 125

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.60

Intersection Signal Delay: 167.6





Intersection LOS: F











Intersection Capacity Utilization 94.9%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 75: Atlanta Ave. & Boulevard

 ø2	 ø3	 ø4
35 s	25 s	25 s
 ø6		
35 s		

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	1	0			0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	
Turning Speed (mph)	15	9	15			9
Satd. Flow (prot)	1770	1583	0	3514	3411	0
Flt Permitted	0.950			0.791		
Satd. Flow (perm)	1770	1583	0	2800	3411	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		52			44	
Link Speed (mph)	30			30	30	
Link Distance (ft)	3424			3251	1886	
Travel Time (s)	77.8			73.9	42.9	
Volume (vph)	45	48	113	670	303	70
Confl. Peds. (#/hr)						11
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Lane Group Flow (vph)	48	52	0	842	424	0
Turn Type		Perm	Perm			
Protected Phases	4			2	6	
Permitted Phases		4	2			
Detector Phases	4	4	2	2	6	
Minimum Initial (s)	9.0	9.0	15.0	15.0	15.0	
Minimum Split (s)	21.2	21.2	22.7	22.7	22.7	
Total Split (s)	42.0	42.0	38.0	38.0	38.0	0.0
Total Split (%)	52.5%	52.5%	47.5%	47.5%	47.5%	0.0%
Yellow Time (s)	3.2	3.2	3.8	3.8	3.8	
All-Red Time (s)	2.0	2.0	1.9	1.9	1.9	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	
Act Effct Green (s)	10.3	10.3		69.0	69.0	
Actuated g/C Ratio	0.13	0.13		0.86	0.86	
v/c Ratio	0.21	0.21		0.35	0.14	
Control Delay	33.8	12.0		4.1	1.7	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	33.8	12.0		4.1	1.7	
LOS	C	B		A	A	
Approach Delay	22.5			4.1	1.7	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach LOS	C			A	A	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 60 (75%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.35

Intersection Signal Delay: 4.7

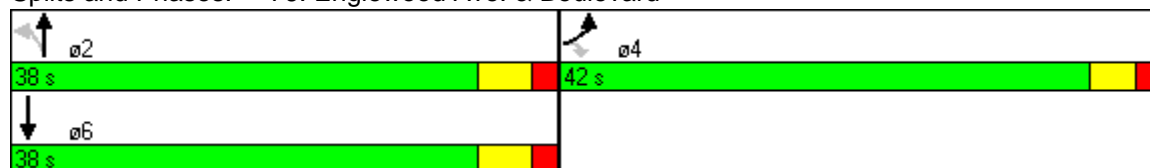
Intersection LOS: A

Intersection Capacity Utilization 53.5%

ICU Level of Service A



















Analysis Period (min) 15













Splits and Phases: 76: Englewood Ave. & Boulevard



Atlanta BeltLine Master Plan Subarea 3
77: Mc Donough Blvd & Boulevard

Base 2008 AM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%		0%		0%		0%		0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	1774	0	0	1768	0	0	1728	0	1770	1545	0
Flt Permitted	0.154				0.987			0.925		0.750		
Satd. Flow (perm)	287	1774	0	0	1747	0	0	1624	0	1397	1545	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		26			29			4			278	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1125			1642			628			3251	
Travel Time (s)		25.6			37.3			14.3			73.9	
Volume (vph)	260	151	45	17	381	189	2	2	2	91	22	259
Confl. Peds. (#/hr)			16			7			8			9
Confl. Bikes (#/hr)												
Peak Hour Factor	0.78	0.78	0.78	0.94	0.94	0.94	0.50	0.50	0.50	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	333	252	0	0	624	0	0	12	0	98	302	0
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	1	6			2			4			8	
Permitted Phases	6			2			4			8		
Detector Phases	1	6		2	2		4	4		8	8	
Minimum Initial (s)	8.0	15.0		15.0	15.0		19.0	19.0		19.0	19.0	
Minimum Split (s)	13.0	22.4		22.4	22.4		24.5	24.5		24.5	24.5	
Total Split (s)	17.0	43.0	0.0	26.0	26.0	0.0	37.0	37.0	0.0	37.0	37.0	0.0
Total Split (%)	21.3%	53.8%	0.0%	32.5%	32.5%	0.0%	46.3%	46.3%	0.0%	46.3%	46.3%	0.0%
Yellow Time (s)	3.5	3.7		3.7	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.5	1.7		1.7	1.7		1.8	1.8		1.8	1.8	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?												
Recall Mode	Min	C-Max		C-Max	C-Max		Max	Max		Max	Max	
Act Effct Green (s)	39.0	39.0			22.2		33.0			33.0	33.0	
Actuated g/C Ratio	0.49	0.49			0.28		0.41			0.41	0.41	
v/c Ratio	0.88	0.29			1.24		0.02			0.17	0.38	
Control Delay	43.8	11.9			150.0		12.0			15.3	6.1	
Queue Delay	0.0	0.0			0.0		0.0			0.0	0.0	
Total Delay	43.8	11.9			150.0		12.0			15.3	6.1	
LOS	D	B			F		B			B	A	
Approach Delay		30.1			150.0		12.0				8.4	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			F			B			A		

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 27 (34%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.24

Intersection Signal Delay: 70.8






Intersection LOS: E

Intersection Capacity Utilization 75.2%

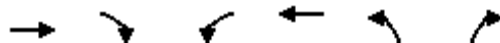
ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 77: Mc Donough Blvd & Boulevard

 ø1	 ø2	 ø4
17 s	26 s	37 s
 ø6	 ø8	
43 s	37 s	

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑	↘	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	150		0	500
Storage Lanes		0	1		1	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	50
Trailing Detector (ft)	0		0	0	0	0
Turning Speed (mph)		9	15		15	9
Satd. Flow (prot)	3525	0	1770	1863	1770	1583
Flt Permitted			0.391		0.950	
Satd. Flow (perm)	3525	0	728	1863	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	4					22
Link Speed (mph)	30			30	30	
Link Distance (ft)	1994			607	1361	
Travel Time (s)	45.3			13.8	30.9	
Volume (vph)	395	12	15	349	7	15
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.89	0.89	0.69	0.69
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Lane Group Flow (vph)	442	0	17	392	10	22
Turn Type			pm+pt			Perm
Protected Phases	6		5	2	4	
Permitted Phases			2			4
Detector Phases	6		5	2	4	4
Minimum Initial (s)	15.0		8.0	15.0	19.0	19.0
Minimum Split (s)	20.4		13.0	20.4	24.5	24.5
Total Split (s)	35.0	0.0	16.0	51.0	30.0	30.0
Total Split (%)	43.2%	0.0%	19.8%	63.0%	37.0%	37.0%
Yellow Time (s)	3.7		3.5	3.7	3.7	3.7
All-Red Time (s)	1.7		1.5	1.7	1.8	1.8
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?						
Recall Mode	Max		None	Max	None	None
Act Effct Green (s)	72.7		72.7	75.7	22.5	22.5
Actuated g/C Ratio	0.82		0.73	0.85	0.22	0.22
v/c Ratio	0.15		0.03	0.25	0.03	0.06
Control Delay	5.4		6.1	4.2	20.4	9.3
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	5.4		6.1	4.2	20.4	9.3
LOS	A		A	A	C	A
Approach Delay	5.4			4.3	12.8	



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach LOS	A		A		B	

Intersection Summary

Area Type: Other

Cycle Length: 81

Actuated Cycle Length: 89.2

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.25

Intersection Signal Delay: 5.1

Intersection LOS: A

Intersection Capacity Utilization 40.9%

ICU Level of Service A

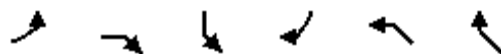
Analysis Period (min) 15

Splits and Phases: 79: Mc Donough Blvd & Sawtell Avenue

51 s		30 s	
16 s	35 s		



Lane Group	EBL	EBR	SBL	SBR	NWL	NWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%		0%	
Storage Length (ft)	0	0	0	0	0	80
Storage Lanes	1	0	1	0	0	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Turning Speed (mph)	15	9	15	9	15	9
Satd. Flow (prot)	1754	1504	1693	0	1770	1583
Flt Permitted	0.617		0.976		0.950	
Satd. Flow (perm)	1130	1504	1693	0	1770	1583
Right Turn on Red		Yes		Yes		Yes
Satd. Flow (RTOR)	13	203	55			
Link Speed (mph)	30		30		30	
Link Distance (ft)	1263		332		1994	
Travel Time (s)	28.7		7.5		45.3	
Volume (vph)	77	166	52	54	271	178
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.77	0.77	0.98	0.98	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%		0%	
Lane Group Flow (vph)	113	203	108	0	315	207
Turn Type	Perm				pm+ov	
Protected Phases		2	4		6	4
Permitted Phases	2					6
Detector Phases	2	2	4		6	4
Minimum Initial (s)	35.0	35.0	14.0		35.0	14.0
Minimum Split (s)	40.7	40.7	19.2		40.7	19.2
Total Split (s)	35.0	35.0	30.0	0.0	35.0	30.0
Total Split (%)	53.8%	53.8%	46.2%	0.0%	53.8%	46.2%
Yellow Time (s)	3.7	3.7	3.4		3.7	3.4
All-Red Time (s)	2.0	2.0	1.8		2.0	1.8
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max	Max	None		Max	None
Act Effct Green (s)	36.0	36.0	15.5		36.0	55.1
Actuated g/C Ratio	0.66	0.66	0.26		0.66	0.94
v/c Ratio	0.15	0.19	0.22		0.27	0.14
Control Delay	5.6	1.5	9.8		6.4	0.5
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	5.6	1.5	9.8		6.4	0.5
LOS	A	A	A		A	A
Approach Delay	3.0		9.8		4.1	



Lane Group	EBL	EBR	SBL	SBR	NWL	NWR
Approach LOS	A		A		A	

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 54.8

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.27

Intersection Signal Delay: 4.4

Intersection LOS: A

















Intersection Capacity Utilization 80.0%













ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 80: Mc Donough Blvd & Milton Ave.

 ø2 35 s	 ø4 30 s
 ø6 35 s	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1799	0	0	1697	0	0	1854	0	0	1750	0
Flt Permitted		0.771			0.998			0.995			0.738	
Satd. Flow (perm)	0	1421	0	0	1694	0	0	1847	0	0	1333	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			177			2			15	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		776			776			1683			518	
Travel Time (s)		17.6			17.6			38.3			11.8	
Volume (vph)	43	38	6	2	87	172	7	261	5	47	13	14
Confl. Peds. (#/hr)			4						3			7
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.77	0.77	0.77	0.87	0.87	0.87	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	91	0	0	339	0	0	314	0	0	80	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phases	4	4		8	8		2	2		6	6	
Minimum Initial (s)	9.0	9.0		16.0	16.0		30.0	30.0		14.0	14.0	
Minimum Split (s)	26.7	26.7		26.7	26.7		35.9	35.9		30.9	30.9	
Total Split (s)	30.0	30.0	0.0	30.0	30.0	0.0	35.0	35.0	0.0	35.0	35.0	0.0
Total Split (%)	46.2%	46.2%	0.0%	46.2%	46.2%	0.0%	53.8%	53.8%	0.0%	53.8%	53.8%	0.0%
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.5	2.5		2.5	2.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		18.1			18.1			31.5			31.5	
Actuated g/C Ratio		0.31			0.31			0.55			0.55	
v/c Ratio		0.20			0.52			0.31			0.11	
Control Delay		14.8			10.7			8.3			6.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		14.8			10.7			8.3			6.1	
LOS		B			B			A			A	
Approach Delay		14.8			10.7			8.3			6.1	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B			B			A			A		

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 57.6

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 9.8





Intersection LOS: A
















Intersection Capacity Utilization 64.8%

ICU Level of Service C




Analysis Period (min) 15

Splits and Phases: 85: Atlanta Ave. & Cherokee Ave.

 ø2	 ø4
35 s	30 s
 ø6	 ø8
35 s	30 s











												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Volume (veh/h)	0	0	0	0	0	136	0	637	16	61	545	0
Peak Hour Factor	0.92	0.92	0.92	0.87	0.87	0.87	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	0	0	0	156	0	678	17	65	580	0
Pedestrians						3						21
Lane Width (ft)						12.0						12.0
Walking Speed (ft/s)						4.0						4.0
Percent Blockage						0						2
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (ft)												170
pX, platoon unblocked	0.99	0.99	0.99	0.99	0.99	0.99						
vC, conflicting volume	1226	1407	290	1109	1399	371	580	698				
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1217	1401	272	1099	1392	371	565	698				
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1	4.1				
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2	2.2				
p0 queue free %	100	100	100	100	100	75	100	93				
cM capacity (veh/h)	93	127	718	155	129	613	993	892				
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2							
Volume Total	156	452	243	258	387							
Volume Left	0	0	0	65	0							
Volume Right	156	0	17	0	0							
cSH	613	1700	1700	892	1700							
Volume to Capacity	0.25	0.27	0.14	0.07	0.23							
Queue Length 95th (ft)	25	0	0	6	0							
Control Delay (s)	12.9	0.0	0.0	2.9	0.0							
Lane LOS	B				A							
Approach Delay (s)	12.9	0.0	1.2									
Approach LOS	B											
Intersection Summary												
Average Delay	1.8											
Intersection Capacity Utilization	41.6%			ICU Level of Service					A			
Analysis Period (min)	15											























Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	35	49	628	20	14	416
Peak Hour Factor	0.72	0.72	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	49	68	683	22	15	452
Pedestrians	18					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	2					
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						672
pX, platoon unblocked						
vC, conflicting volume	968	711			722	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	968	711			722	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	80	82			98	
cM capacity (veh/h)	243	370			863	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	117	704	166	301		
Volume Left	49	0	15	0		
Volume Right	68	22	0	0		
cSH	304	1700	863	1700		
Volume to Capacity	0.38	0.41	0.02	0.18		
Queue Length 95th (ft)	44	0	1	0		
Control Delay (s)	24.0	0.0	1.0	0.0		
Lane LOS	C		A			
Approach Delay (s)	24.0	0.0	0.4			
Approach LOS	C					
Intersection Summary						
Average Delay			2.3			
Intersection Capacity Utilization			45.9%		ICU Level of Service	A
Analysis Period (min)			15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕		↕↕	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	116	282	291	327	106	77
Peak Hour Factor	0.86	0.86	0.89	0.89	0.90	0.90
Hourly flow rate (vph)	135	328	327	367	118	86
Pedestrians					13	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					1	
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		607	1125			
pX, platoon unblocked	0.82				0.82	0.82
vC, conflicting volume	707				957	524
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	643				948	419
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	82				32	82
cM capacity (veh/h)	761				173	473
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	244	219	694	203		
Volume Left	135	0	0	118		
Volume Right	0	0	367	86		
cSH	761	1700	1700	236		
Volume to Capacity	0.18	0.13	0.41	0.86		
Queue Length 95th (ft)	16	0	0	173		
Control Delay (s)	6.8	0.0	0.0	72.2		
Lane LOS	A			F		
Approach Delay (s)	3.6		0.0	72.2		
Approach LOS				F		
Intersection Summary						
Average Delay			12.0			
Intersection Capacity Utilization			67.8%		ICU Level of Service	C
Analysis Period (min)			15			

						
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Yield	Stop		Free	
Grade		0%	0%		0%	
Volume (veh/h)	25	100	125	24	25	64
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	109	136	26	27	70
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	183	89	124	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	183	89	124	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	96	86	82	98	98	
cM capacity (veh/h)	646	788	754	1085	1623	
Direction, Lane #	NB 1	SB 1	SE 1			
Volume Total	136	162	97			
Volume Left	27	0	27			
Volume Right	0	26	70			
cSH	754	793	1623			
Volume to Capacity	0.18	0.20	0.02			
Queue Length 95th (ft)	16	19	1			
Control Delay (s)	10.8	10.7	2.1			
Lane LOS	B	B	A			
Approach Delay (s)	10.8	10.7	2.1			
Approach LOS	B	B				
Intersection Summary						
Average Delay		8.6				
Intersection Capacity Utilization		30.0%		ICU Level of Service		A
Analysis Period (min)		15				

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	15	47	200	52	78	54
Peak Hour Factor	0.74	0.74	0.90	0.90	0.89	0.89
Hourly flow rate (vph)	20	64	222	58	88	61
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	487	251			280	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	487	251			280	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	92			93	
cM capacity (veh/h)	503	788			1283	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	84	280	148			
Volume Left	20	0	88			
Volume Right	64	58	0			
cSH	693	1700	1283			
Volume to Capacity	0.12	0.16	0.07			
Queue Length 95th (ft)	10	0	5			
Control Delay (s)	10.9	0.0	5.0			
Lane LOS	B		A			
Approach Delay (s)	10.9	0.0	5.0			
Approach LOS	B					
Intersection Summary						
Average Delay		3.2				
Intersection Capacity Utilization		34.6%		ICU Level of Service		A
Analysis Period (min)		15				

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					 						 	
Sign Control		Yield			Stop			Stop			Stop	
Volume (vph)	0	0	0	5	32	0	127	0	0	0	56	7
Peak Hour Factor	0.25	0.25	0.25	0.75	0.75	0.75	0.94	0.94	0.94	0.96	0.96	0.96
Hourly flow rate (vph)	0	0	0	7	43	0	135	0	0	0	58	7
Direction, Lane #	WB 1	WB 2	NB 1	SB 1								
Volume Total (vph)	21	28	135	66								
Volume Left (vph)	7	0	135	0								
Volume Right (vph)	0	0	0	7								
Hadj (s)	0.19	0.03	0.23	-0.03								
Departure Headway (s)	5.1	5.0	4.3	4.1								
Degree Utilization, x	0.03	0.04	0.16	0.08								
Capacity (veh/h)	662	688	813	852								
Control Delay (s)	7.1	7.0	8.2	7.5								
Approach Delay (s)	7.0		8.2	7.5								
Approach LOS	A		A	A								
Intersection Summary												
Delay			7.8									
HCM Level of Service			A									
Intersection Capacity Utilization			23.7%		ICU Level of Service				A			
Analysis Period (min)			15									















Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↕	↕	
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	0	3	470	82	6
Peak Hour Factor	0.92	0.92	0.88	0.88	0.84	0.84
Hourly flow rate (vph)	0	0	3	534	98	7
Pedestrians	14					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)				518		
pX, platoon unblocked	0.97					
vC, conflicting volume	656	115	119			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	644	115	119			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	422	937	1469			
Direction, Lane #	NB 1	SB 1				
Volume Total	538	105				
Volume Left	3	0				
Volume Right	0	7				
cSH	1469	1700				
Volume to Capacity	0.00	0.06				
Queue Length 95th (ft)	0	0				
Control Delay (s)	0.1	0.0				
Lane LOS	A					
Approach Delay (s)	0.1	0.0				
Approach LOS						
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			30.5%		ICU Level of Service	A
Analysis Period (min)			15			

Atlanta BeltLine Master Plan Subarea 3
70: I-20 WB On & Boulevard

Base 2008 PM Peak
MG

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	0		0	280		280	150		0	0		0
Storage Lanes	0		0	1		2	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50	50	50	50			50	
Trailing Detector (ft)				0	0	0	0	0			0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	0	0	1681	1692	2787	3433	3539	0	0	4887	0
Flt Permitted				0.950	0.956		0.950					
Satd. Flow (perm)	0	0	0	1681	1692	2787	3433	3539	0	0	4887	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						134					65	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		281			1064			442			562	
Travel Time (s)		6.4			24.2			10.0			12.8	
Volume (vph)	0	0	0	100	4	122	400	565	0	0	544	188
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.91	0.91	0.91	0.97	0.97	0.97	0.80	0.80	0.80
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	0	0	56	58	134	412	582	0	0	915	0
Turn Type				Split		Perm	Prot					
Protected Phases				4	4		1 8	1 2 8			2	
Permitted Phases						4						
Detector Phases				4	4	4	1 8	1 2 8			2	
Minimum Initial (s)				12.0	12.0	12.0					14.0	
Minimum Split (s)				30.0	30.0	30.0					27.0	
Total Split (s)	0.0	0.0	0.0	35.0	35.0	35.0	56.0	91.0	0.0	0.0	35.0	0.0
Total Split (%)	0.0%	0.0%	0.0%	27.8%	27.8%	27.8%	44.4%	72.2%	0.0%	0.0%	27.8%	0.0%
Yellow Time (s)				3.6	3.6	3.6					3.7	
All-Red Time (s)				2.4	2.4	2.4					2.3	
Lead/Lag				Lag	Lag	Lag					Lag	
Lead-Lag Optimize?												
Recall Mode				None	None	None					C-Max	
Act Effct Green (s)				19.6	19.6	19.6	41.9	98.4			48.5	
Actuated g/C Ratio				0.16	0.16	0.16	0.33	0.78			0.38	
v/c Ratio				0.21	0.22	0.24	0.36	0.21			0.48	
Control Delay				46.7	46.8	7.9	23.8	0.9			29.8	
Queue Delay				0.0	0.0	0.0	0.0	0.1			0.0	
Total Delay				46.7	46.8	7.9	23.8	1.0			29.8	
LOS				D	D	A	C	A			C	
Approach Delay					25.8			10.5			29.8	

Lane Group	ø1	ø5	ø6	ø8
Lane Configurations				
Ideal Flow (vphpl)				
Lane Width (ft)				
Grade (%)				
Storage Length (ft)				
Storage Lanes				
Total Lost Time (s)				
Leading Detector (ft)				
Trailing Detector (ft)				
Turning Speed (mph)				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Growth Factor				
Heavy Vehicles (%)				
Bus Blockages (#/hr)				
Parking (#/hr)				
Mid-Block Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	5	6	8
Permitted Phases				
Detector Phases				
Minimum Initial (s)	11.0	7.0	14.0	12.0
Minimum Split (s)	16.2	12.2	27.0	30.0
Total Split (s)	18.0	18.0	35.0	38.0
Total Split (%)	14%	14%	28%	30%
Yellow Time (s)	3.6	3.6	3.7	3.6
All-Red Time (s)	1.6	1.6	2.3	2.4
Lead/Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?				
Recall Mode	Min	None	C-Max	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C						B			C		

Intersection Summary

Area Type: Other

Cycle Length: 126

Actuated Cycle Length: 126

Offset: 12 (10%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 20.4









Intersection LOS: C

Intersection Capacity Utilization 59.9%

ICU Level of Service B

Analysis Period (min) 15




















Splits and Phases: 70: I-20 WB On & Boulevard

#70  ø1 18 s	#70  ø2 35 s	#70 #71   ø8 38 s	#70 #71   ø4 35 s
#71  ø5 18 s	#71  ø6 35 s		













Lane Group	ø1	ø5	ø6	ø8
Approach LOS				
Intersection Summary				

Atlanta BeltLine Master Plan Subarea 3
71: I-20 EB Off & Boulevard

Base 2008 PM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	320		320	0		0	0		0	150		0
Storage Lanes	1		1	0		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50					50		50	50	
Trailing Detector (ft)	0	0	0					0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1681	1457	1504	0	0	0	0	3399	0	3433	3539	0
Flt Permitted	0.950	0.987								0.950		
Satd. Flow (perm)	1681	1457	1461	0	0	0	0	3399	0	3433	3539	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)								28				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1070			1567			170			442	
Travel Time (s)		24.3			35.6			3.9			10.0	
Volume (vph)	238	0	310	0	0	0	0	721	208	221	416	0
Confl. Peds. (#/hr)			11			9			8			10
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.50	0.50	0.50	0.96	0.96	0.96	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	194	202	175	0	0	0	0	968	0	254	478	0
Turn Type	Split		Perm							Prot		
Protected Phases	8	8						6		4 5	4 5 6	
Permitted Phases			8									
Detector Phases	8	8	8					6		4 5	4 5 6	
Minimum Initial (s)	12.0	12.0	12.0					14.0				
Minimum Split (s)	30.0	30.0	30.0					27.0				
Total Split (s)	38.0	38.0	38.0	0.0	0.0	0.0	0.0	35.0	0.0	53.0	88.0	0.0
Total Split (%)	30.2%	30.2%	30.2%	0.0%	0.0%	0.0%	0.0%	27.8%	0.0%	42.1%	69.8%	0.0%
Yellow Time (s)	3.6	3.6	3.6					3.7				
All-Red Time (s)	2.4	2.4	2.4					2.3				
Lead/Lag	Lead	Lead	Lead					Lag				
Lead-Lag Optimize?												
Recall Mode	None	None	None					C-Max				
Act Effct Green (s)	29.7	29.7	29.7					52.5		31.8	88.3	
Actuated g/C Ratio	0.24	0.24	0.24					0.42		0.25	0.70	
v/c Ratio	0.49	0.59	0.51					0.68		0.29	0.19	
Control Delay	44.9	49.1	46.1					34.0		54.7	2.8	
Queue Delay	0.0	0.0	0.0					0.0		0.0	0.0	
Total Delay	44.9	49.1	46.1					34.0		54.7	2.8	
LOS	D	D	D					C		D	A	
Approach Delay		46.7						34.0			20.8	

Lane Group	ø1	ø2	ø4	ø5
Lane Configurations				
Ideal Flow (vphpl)				
Lane Width (ft)				
Grade (%)				
Storage Length (ft)				
Storage Lanes				
Total Lost Time (s)				
Leading Detector (ft)				
Trailing Detector (ft)				
Turning Speed (mph)				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Growth Factor				
Heavy Vehicles (%)				
Bus Blockages (#/hr)				
Parking (#/hr)				
Mid-Block Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	2	4	5
Permitted Phases				
Detector Phases				
Minimum Initial (s)	11.0	14.0	12.0	7.0
Minimum Split (s)	16.2	27.0	30.0	12.2
Total Split (s)	18.0	35.0	35.0	18.0
Total Split (%)	14%	28%	28%	14%
Yellow Time (s)	3.6	3.7	3.6	3.6
All-Red Time (s)	1.6	2.3	2.4	1.6
Lead/Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?				
Recall Mode	Min	C-Max	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D						C			C		

Intersection Summary

Area Type: Other

Cycle Length: 126

Actuated Cycle Length: 126

Offset: 12 (10%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 32.9









Intersection LOS: C

Intersection Capacity Utilization 59.9%

ICU Level of Service B

Analysis Period (min) 15


















Splits and Phases: 71: I-20 EB Off & Boulevard













#70  ø1 18 s	#70  ø2 35 s	#70 #71   ø8 38 s	#70 #71   ø4 35 s
#71  ø5 18 s	#71  ø6 35 s		

Lane Group	ø1	ø2	ø4	ø5
Approach LOS				
Intersection Summary				

Atlanta BeltLine Master Plan Subarea 3
73: Confederate Ave. & Boulevard

Base 2008 PM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	80		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1758	0	1770	1556	0	0	1849	0	0	3492	0
Flt Permitted		0.842		0.744							0.695	
Satd. Flow (perm)	0	1533	0	1386	1556	0	0	1849	0	0	2454	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			160			3			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		792			1253			672			2707	
Travel Time (s)		18.0			28.5			15.3			61.5	
Volume (vph)	10	2	2	17	1	142	0	401	15	135	481	9
Confl. Peds. (#/hr)			4			4			14			2
Confl. Bikes (#/hr)												
Peak Hour Factor	0.70	0.70	0.70	0.89	0.89	0.89	0.91	0.91	0.91	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	20	0	19	161	0	0	457	0	0	680	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Detector Phases	8	8		4	4		2	2		6	6	
Minimum Initial (s)	17.0	17.0		17.0	17.0		15.0	15.0		15.0	15.0	
Minimum Split (s)	22.3	22.3		22.3	22.3		20.2	20.2		20.2	20.2	
Total Split (s)	35.0	35.0	0.0	35.0	35.0	0.0	55.0	55.0	0.0	55.0	55.0	0.0
Total Split (%)	38.9%	38.9%	0.0%	38.9%	38.9%	0.0%	61.1%	61.1%	0.0%	61.1%	61.1%	0.0%
Yellow Time (s)	3.6	3.6		3.6	3.6		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.7	1.7		1.7	1.7		1.5	1.5		1.5	1.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Act Effct Green (s)		18.3		18.3	18.3			63.7			63.7	
Actuated g/C Ratio		0.20		0.20	0.20			0.71			0.71	
v/c Ratio		0.06		0.07	0.36			0.35			0.39	
Control Delay		26.6		29.8	7.9			5.9			6.1	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		26.6		29.8	7.9			5.9			6.1	
LOS		C		C	A			A			A	
Approach Delay		26.6			10.2			5.9			6.1	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			B			A			A		

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.39

Intersection Signal Delay: 6.9





Intersection LOS: A

Intersection Capacity Utilization 63.7%

ICU Level of Service B

















Analysis Period (min) 15













Splits and Phases: 73: Confederate Ave. & Boulevard

	ø2			ø4
55 s			35 s	
	ø6			ø8
55 s			35 s	

Atlanta BeltLine Master Plan Subarea 3
75: Atlanta Ave. & Boulevard

Base 2008 PM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1704	0	0	1709	0	0	1840	0	0	3444	0
Flt Permitted		0.719			0.833			0.945			0.947	
Satd. Flow (perm)	0	1259	0	0	1447	0	0	1744	0	0	3264	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		45			10			5			33	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		806			1283			1444			1606	
Travel Time (s)		18.3			29.2			32.8			36.5	
Volume (vph)	93	0	74	10	0	7	24	334	26	9	422	91
Confl. Peds. (#/hr)	6			17			8			8		
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.69	0.69	0.69	0.89	0.89	0.89	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	183	0	0	24	0	0	431	0	0	549	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			4			2			6	
Permitted Phases	3			4			2			6		
Detector Phases	3	3		4	4		2	2		6	6	
Minimum Initial (s)	19.0	19.0		10.0	10.0		35.0	35.0		35.0	35.0	
Minimum Split (s)	24.8	24.8		23.8	23.8		41.5	41.5		41.5	41.5	
Total Split (s)	25.0	25.0	0.0	25.0	25.0	0.0	35.0	35.0	0.0	35.0	35.0	0.0
Total Split (%)	29.4%	29.4%	0.0%	29.4%	29.4%	0.0%	41.2%	41.2%	0.0%	41.2%	41.2%	0.0%
Yellow Time (s)	3.2	3.2		3.2	3.2		3.8	3.8		3.8	3.8	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.7	2.7		2.7	2.7	
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?												
Recall Mode	Min	Min		None	None		Min	Min		Min	Min	
Act Effct Green (s)		21.1			11.8			31.4			31.4	
Actuated g/C Ratio		0.32			0.16			0.47			0.47	
v/c Ratio		0.42			0.10			0.52			0.35	
Control Delay		18.7			21.5			16.6			12.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		18.7			21.5			16.6			12.3	
LOS		B			C			B			B	
Approach Delay		18.7			21.5			16.6			12.3	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B			C			B			B		

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 66.2

Natural Cycle: 95

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 15.0





Intersection LOS: B

Intersection Capacity Utilization 61.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 75: Atlanta Ave. & Boulevard

 ø2	 ø3	 ø4
35 s	25 s	25 s
 ø6		
35 s		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	1	0			0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	
Turning Speed (mph)	15	9	15			9
Satd. Flow (prot)	1770	1583	0	3500	3470	0
Flt Permitted	0.950			0.749		
Satd. Flow (perm)	1770	1583	0	2651	3470	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		158			19	
Link Speed (mph)	30			30	30	
Link Distance (ft)	3424			3251	1886	
Travel Time (s)	77.8			73.9	42.9	
Volume (vph)	68	123	81	278	407	46
Confl. Peds. (#/hr)						11
Confl. Bikes (#/hr)						
Peak Hour Factor	0.78	0.78	0.89	0.89	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Lane Group Flow (vph)	87	158	0	403	503	0
Turn Type		Perm	Perm			
Protected Phases	4			2	6	
Permitted Phases		4	2			
Detector Phases	4	4	2	2	6	
Minimum Initial (s)	9.0	9.0	15.0	15.0	15.0	
Minimum Split (s)	21.2	21.2	22.7	22.7	22.7	
Total Split (s)	42.0	42.0	38.0	38.0	38.0	0.0
Total Split (%)	52.5%	52.5%	47.5%	47.5%	47.5%	0.0%
Yellow Time (s)	3.2	3.2	3.8	3.8	3.8	
All-Red Time (s)	2.0	2.0	1.9	1.9	1.9	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	
Act Effct Green (s)	10.9	10.9		61.1	61.1	
Actuated g/C Ratio	0.14	0.14		0.76	0.76	
v/c Ratio	0.36	0.45		0.20	0.19	
Control Delay	35.7	10.0		3.3	2.8	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	35.7	10.0		3.3	2.8	
LOS	D	A		A	A	
Approach Delay	19.1			3.3	2.8	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach LOS	B			A	A	

Intersection Summary



















Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	22 (28%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle:	45
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.45
Intersection Signal Delay:	6.4
Intersection LOS:	A
Intersection Capacity Utilization	44.2%
ICU Level of Service	A
Analysis Period (min)	15













Splits and Phases: 76: Englewood Ave. & Boulevard

 ø2 38 s	 ø4 42 s
 ø6 38 s	

Atlanta BeltLine Master Plan Subarea 3
77: Mc Donough Blvd & Boulevard

Base 2008 PM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%		0%		0%		0%		0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	1855	0	0	1762	0	0	1728	0	1770	1526	0
Flt Permitted	0.274				0.990			0.928		0.750		
Satd. Flow (perm)	510	1855	0	0	1746	0	0	1630	0	1397	1526	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			32			4			272	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1125			1642			628			3251	
Travel Time (s)		25.6			37.3			14.3			73.9	
Volume (vph)	226	281	6	8	219	118	2	2	2	241	6	253
Confl. Peds. (#/hr)			16			7			8			9
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.97	0.97	0.97	0.50	0.50	0.50	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	246	312	0	0	356	0	0	12	0	259	278	0
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	1	6			2			4			8	
Permitted Phases	6			2			4			8		
Detector Phases	1	6		2	2		4	4		8	8	
Minimum Initial (s)	8.0	15.0		15.0	15.0		19.0	19.0		19.0	19.0	
Minimum Split (s)	13.0	22.4		22.4	22.4		24.5	24.5		24.5	24.5	
Total Split (s)	17.0	43.0	0.0	26.0	26.0	0.0	37.0	37.0	0.0	37.0	37.0	0.0
Total Split (%)	21.3%	53.8%	0.0%	32.5%	32.5%	0.0%	46.3%	46.3%	0.0%	46.3%	46.3%	0.0%
Yellow Time (s)	3.5	3.7		3.7	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.5	1.7		1.7	1.7		1.8	1.8		1.8	1.8	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?												
Recall Mode	Min	C-Max		C-Max	C-Max		Max	Max		Max	Max	
Act Effct Green (s)	39.0	39.0			23.5		33.0			33.0	33.0	
Actuated g/C Ratio	0.49	0.49			0.29		0.41			0.41	0.41	
v/c Ratio	0.57	0.34			0.67		0.02			0.45	0.35	
Control Delay	18.0	13.9			30.2		12.0			27.0	8.9	
Queue Delay	0.0	0.0			0.0		0.0			0.0	0.0	
Total Delay	18.0	13.9			30.2		12.0			27.0	8.9	
LOS	B	B			C		B			C	A	
Approach Delay		15.7			30.2		12.0				17.6	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B			C			B			B		

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 10 (13%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 19.9






Intersection LOS: B

Intersection Capacity Utilization 64.6%







ICU Level of Service C

Analysis Period (min) 15





Splits and Phases: 77: Mc Donough Blvd & Boulevard

 ø1	 ø2	 ø4
17 s	26 s	37 s
 ø6		 ø8
43 s		37 s

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑	↘	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	150		0	500
Storage Lanes		0	1		1	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	50
Trailing Detector (ft)	0		0	0	0	0
Turning Speed (mph)		9	15		15	9
Satd. Flow (prot)	3529	0	1770	1863	1770	1583
Flt Permitted			0.414		0.950	
Satd. Flow (perm)	3529	0	771	1863	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	3					168
Link Speed (mph)	30			30	30	
Link Distance (ft)	1994			607	1361	
Travel Time (s)	45.3			13.8	30.9	
Volume (vph)	370	8	215	265	113	151
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.96	0.96	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Lane Group Flow (vph)	407	0	224	276	126	168
Turn Type			pm+pt			Perm
Protected Phases	6		5	2	4	
Permitted Phases			2			4
Detector Phases	6		5	2	4	4
Minimum Initial (s)	15.0		8.0	15.0	19.0	19.0
Minimum Split (s)	20.4		13.0	20.4	24.5	24.5
Total Split (s)	35.0	0.0	16.0	51.0	30.0	30.0
Total Split (%)	43.2%	0.0%	19.8%	63.0%	37.0%	37.0%
Yellow Time (s)	3.7		3.5	3.7	3.7	3.7
All-Red Time (s)	1.7		1.5	1.7	1.8	1.8
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?						
Recall Mode	Max		None	Max	None	None
Act Effct Green (s)	32.9		47.0	47.0	20.5	20.5
Actuated g/C Ratio	0.44		0.62	0.62	0.27	0.27
v/c Ratio	0.26		0.37	0.24	0.26	0.30
Control Delay	14.3		8.0	7.0	23.4	5.6
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	14.3		8.0	7.0	23.4	5.6
LOS	B		A	A	C	A
Approach Delay	14.3			7.4	13.2	

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach LOS	B		A		B	
Intersection Summary						
Area Type:	Other					
Cycle Length: 81						
Actuated Cycle Length: 75.5						
Natural Cycle: 60						
Control Type: Actuated-Uncoordinated						
Maximum v/c Ratio: 0.37						
Intersection Signal Delay: 11.2				Intersection LOS: B		
Intersection Capacity Utilization 50.2%				ICU Level of Service A		
Analysis Period (min) 15						

Splits and Phases: 79: Mc Donough Blvd & Sawtell Avenue

 ø2 51 s		 ø4 30 s	
 ø5 16 s	 ø6 35 s		



Lane Group	EBL	EBR	SBL	SBR	NWL	NWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%		0%	
Storage Length (ft)	0	0	0	0	0	80
Storage Lanes	1	0	1	0	0	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Turning Speed (mph)	15	9	15	9	15	9
Satd. Flow (prot)	1638	1504	1717	0	1770	1583
Flt Permitted	0.847		0.969		0.950	
Satd. Flow (perm)	1407	1504	1717	0	1770	1583
Right Turn on Red		Yes		Yes		Yes
Satd. Flow (RTOR)	117	309	53			
Link Speed (mph)	30		30		30	
Link Distance (ft)	1263		329		1994	
Travel Time (s)	28.7		7.5		45.3	
Volume (vph)	39	371	145	83	331	54
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.87	0.87	0.86	0.86	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%		0%	
Lane Group Flow (vph)	162	309	266	0	376	61
Turn Type	Perm				pm+ov	
Protected Phases		2	4		6	4
Permitted Phases	2					6
Detector Phases	2	2	4		6	4
Minimum Initial (s)	35.0	35.0	14.0		35.0	14.0
Minimum Split (s)	40.7	40.7	19.2		40.7	19.2
Total Split (s)	35.0	35.0	30.0	0.0	35.0	30.0
Total Split (%)	53.8%	53.8%	46.2%	0.0%	53.8%	46.2%
Yellow Time (s)	3.7	3.7	3.4		3.7	3.4
All-Red Time (s)	2.0	2.0	1.8		2.0	1.8
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max	Max	None		Max	None
Act Effct Green (s)	31.0	31.0	16.4		31.0	55.4
Actuated g/C Ratio	0.56	0.56	0.30		0.56	1.00
v/c Ratio	0.19	0.32	0.49		0.38	0.04
Control Delay	3.2	2.0	16.1		8.6	0.0
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	3.2	2.0	16.1		8.6	0.0
LOS	A	A	B		A	A
Approach Delay	2.4		16.1		7.4	



Lane Group	EBL	EBR	SBL	SBR	NWL	NWR
Approach LOS	A		B		A	

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 55.4

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.49

Intersection Signal Delay: 7.4

Intersection LOS: A

















Intersection Capacity Utilization 81.4%













ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 80: Mc Donough Blvd & Milton Ave.

 ø2 35 s	 ø4 30 s
 ø6 35 s	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1808	0	0	1772	0	0	1808	0	0	1797	0
Flt Permitted		0.909			0.990			0.968			0.852	
Satd. Flow (perm)	0	1665	0	0	1757	0	0	1759	0	0	1564	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			41			6			11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		776			776			1683			518	
Travel Time (s)		17.6			17.6			38.3			11.8	
Volume (vph)	40	94	15	4	61	35	3	25	5	155	178	34
Confl. Peds. (#/hr)			4						3			7
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.86	0.86	0.86	0.85	0.85	0.85	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	157	0	0	117	0	0	39	0	0	381	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phases	4	4		8	8		2	2		6	6	
Minimum Initial (s)	9.0	9.0		16.0	16.0		30.0	30.0		14.0	14.0	
Minimum Split (s)	26.7	26.7		26.7	26.7		35.9	35.9		30.9	30.9	
Total Split (s)	30.0	30.0	0.0	30.0	30.0	0.0	35.0	35.0	0.0	35.0	35.0	0.0
Total Split (%)	46.2%	46.2%	0.0%	46.2%	46.2%	0.0%	53.8%	53.8%	0.0%	53.8%	53.8%	0.0%
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.5	2.5		2.5	2.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		17.3			18.6			38.6			38.6	
Actuated g/C Ratio		0.27			0.29			0.64			0.64	
v/c Ratio		0.34			0.22			0.03			0.38	
Control Delay		16.4			10.8			5.5			8.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		16.4			10.8			5.5			8.2	
LOS		B			B			A			A	
Approach Delay		16.4			10.8			5.5			8.2	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B			B			A			A		

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 60.5

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.38

Intersection Signal Delay: 10.4

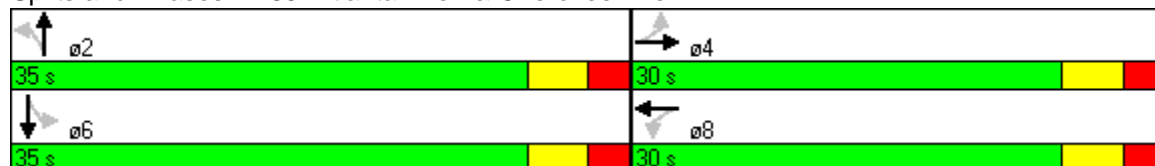
Intersection LOS: B
















Intersection Capacity Utilization 48.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 85: Atlanta Ave. & Cherokee Ave.












												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Volume (veh/h)	0	0	0	0	0	123	0	568	25	62	673	0
Peak Hour Factor	0.92	0.92	0.92	0.84	0.84	0.84	0.87	0.87	0.87	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	0	0	0	146	0	653	29	69	748	0
Pedestrians						3						21
Lane Width (ft)						12.0						12.0
Walking Speed (ft/s)						4.0						4.0
Percent Blockage						0						2
Right turn flare (veh)												
Median type	None				None							
Median storage veh												
Upstream signal (ft)												170
pX, platoon unblocked	0.96	0.96	0.96	0.96	0.96	0.96						
vC, conflicting volume	1379	1570	374	1182	1556	365	748			685		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1351	1550	299	1144	1535	365	690			685		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	76	100			92		
cM capacity (veh/h)	73	99	667	139	101	619	861			902		
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2							
Volume Total	146	435	246	318	499							
Volume Left	0	0	0	69	0							
Volume Right	146	0	29	0	0							
cSH	619	1700	1700	902	1700							
Volume to Capacity	0.24	0.26	0.14	0.08	0.29							
Queue Length 95th (ft)	23	0	0	6	0							
Control Delay (s)	12.6	0.0	0.0	2.7	0.0							
Lane LOS	B				A							
Approach Delay (s)	12.6	0.0	1.0									
Approach LOS	B											
Intersection Summary												
Average Delay	1.6											
Intersection Capacity Utilization	43.6%			ICU Level of Service				A				
Analysis Period (min)	15											




























Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰↱		↰			↰↱
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	11	11	393	8	13	504
Peak Hour Factor	0.89	0.89	0.94	0.94	0.89	0.89
Hourly flow rate (vph)	12	12	418	9	15	566
Pedestrians	18					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	2					
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						672
pX, platoon unblocked						
vC, conflicting volume	753	440			445	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	753	440			445	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	98			99	
cM capacity (veh/h)	336	556			1095	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	25	427	203	378		
Volume Left	12	0	15	0		
Volume Right	12	9	0	0		
cSH	419	1700	1095	1700		
Volume to Capacity	0.06	0.25	0.01	0.22		
Queue Length 95th (ft)	5	0	1	0		
Control Delay (s)	14.1	0.0	0.7	0.0		
Lane LOS	B		A			
Approach Delay (s)	14.1	0.0	0.3			
Approach LOS	B					
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization		33.3%		ICU Level of Service	A	
Analysis Period (min)		15				



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕		↕↕	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	9	478	466	8	45	8
Peak Hour Factor	0.96	0.96	0.97	0.97	0.78	0.78
Hourly flow rate (vph)	9	498	480	8	58	10
Pedestrians					13	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					1	
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		607	1125			
pX, platoon unblocked					0.99	
vC, conflicting volume	502				765	498
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	502				758	498
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				83	98
cM capacity (veh/h)	1047				334	513
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	175	332	489	68		
Volume Left	9	0	0	58		
Volume Right	0	0	8	10		
cSH	1047	1700	1700	353		
Volume to Capacity	0.01	0.20	0.29	0.19		
Queue Length 95th (ft)	1	0	0	18		
Control Delay (s)	0.5	0.0	0.0	17.6		
Lane LOS	A			C		
Approach Delay (s)	0.2		0.0	17.6		
Approach LOS				C		
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			35.0%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Yield	Stop		Free	
Grade		0%	0%		0%	
Volume (veh/h)	25	100	125	24	25	64
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	109	136	26	27	70
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	183	89	124	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	183	89	124	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	96	86	82	98	98	
cM capacity (veh/h)	646	788	754	1085	1623	
Direction, Lane #	NB 1	SB 1	SE 1			
Volume Total	136	162	97			
Volume Left	27	0	27			
Volume Right	0	26	70			
cSH	754	793	1623			
Volume to Capacity	0.18	0.20	0.02			
Queue Length 95th (ft)	16	19	1			
Control Delay (s)	10.8	10.7	2.1			
Lane LOS	B	B	A			
Approach Delay (s)	10.8	10.7	2.1			
Approach LOS	B	B				
Intersection Summary						
Average Delay		8.6				
Intersection Capacity Utilization		30.0%		ICU Level of Service		A
Analysis Period (min)		15				

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	105	70	79	19	72	131
Peak Hour Factor	0.90	0.90	0.79	0.79	0.93	0.93
Hourly flow rate (vph)	117	78	100	24	77	141
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	408	112			124	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	408	112			124	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	79	92			95	
cM capacity (veh/h)	568	941			1463	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	194	124	218			
Volume Left	117	0	77			
Volume Right	78	24	0			
cSH	675	1700	1463			
Volume to Capacity	0.29	0.07	0.05			
Queue Length 95th (ft)	30	0	4			
Control Delay (s)	12.5	0.0	3.0			
Lane LOS	B		A			
Approach Delay (s)	12.5	0.0	3.0			
Approach LOS	B					
Intersection Summary						
Average Delay		5.7				
Intersection Capacity Utilization		34.3%		ICU Level of Service		A
Analysis Period (min)		15				

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Yield			Stop			Stop			Stop	
Volume (vph)	0	0	0	17	112	0	42	0	0	0	0	14
Peak Hour Factor	0.58	0.58	0.58	0.90	0.90	0.90	0.83	0.83	0.83	0.80	0.80	0.80
Hourly flow rate (vph)	0	0	0	19	124	0	51	0	0	0	0	18
Direction, Lane #	WB 1	WB 2	NB 1	SB 1								
Volume Total (vph)	60	83	51	18								
Volume Left (vph)	19	0	51	0								
Volume Right (vph)	0	0	0	18								
Hadj (s)	0.19	0.03	0.23	-0.57								
Departure Headway (s)	4.8	4.7	4.5	3.7								
Degree Utilization, x	0.08	0.11	0.06	0.02								
Capacity (veh/h)	730	749	771	925								
Control Delay (s)	7.1	7.1	7.8	6.8								
Approach Delay (s)	7.1		7.8	6.8								
Approach LOS	A		A	A								
Intersection Summary												
Delay			7.2									
HCM Level of Service			A									
Intersection Capacity Utilization			19.2%		ICU Level of Service				A			
Analysis Period (min)			15									



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↕	↕	
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	0	5	91	361	16
Peak Hour Factor	0.92	0.92	0.86	0.86	0.94	0.94
Hourly flow rate (vph)	0	0	6	106	384	17
Pedestrians	14					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)				518		
pX, platoon unblocked						
vC, conflicting volume	524	407	415			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	524	407	415			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	99			
cM capacity (veh/h)	511	644	1144			
Direction, Lane #	NB 1	SB 1				
Volume Total	112	401				
Volume Left	6	0				
Volume Right	0	17				
cSH	1144	1700				
Volume to Capacity	0.01	0.24				
Queue Length 95th (ft)	0	0				
Control Delay (s)	0.5	0.0				
Lane LOS	A					
Approach Delay (s)	0.5	0.0				
Approach LOS						
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			23.3%		ICU Level of Service	A
Analysis Period (min)			15			




















Atlanta BeltLine
Sub-Area 3

BASELINE 2020













SYNCHRO REPORT
(September 2008)

Atlanta BeltLine Master Plan Subarea 3
70: I-20 WB On & Boulevard

Baseline 2020 AM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	0		0	280		280	150		0	0		0
Storage Lanes	0		0	1		2	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50	50	50	50			50	
Trailing Detector (ft)				0	0	0	0	0			0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	0	0	1681	1715	2787	3433	3539	0	0	4724	0
Flt Permitted				0.950	0.969		0.950					
Satd. Flow (perm)	0	0	0	1681	1715	2787	3433	3539	0	0	4724	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						214					172	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		281			1064			442			562	
Travel Time (s)		6.4			24.2			10.0			12.8	
Volume (vph)	0	0	0	338	78	580	775	1234	0	0	157	142
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.97	0.97	0.97	0.97	0.97	0.97	0.82	0.82	0.82
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	0	0	208	220	598	799	1272	0	0	364	0
Turn Type				Split		Perm	Prot					
Protected Phases				4	4		1 8	1 2 8			2	
Permitted Phases						4						
Detector Phases				4	4	4	1 8	1 2 8			2	
Minimum Initial (s)				12.0	12.0	12.0					14.0	
Minimum Split (s)				30.0	30.0	30.0					27.0	
Total Split (s)	0.0	0.0	0.0	30.0	30.0	30.0	61.2	115.0	0.0	0.0	53.8	0.0
Total Split (%)	0.0%	0.0%	0.0%	20.7%	20.7%	20.7%	42.2%	79.3%	0.0%	0.0%	37.1%	0.0%
Yellow Time (s)				3.6	3.6	3.6					3.7	
All-Red Time (s)				2.4	2.4	2.4					2.3	
Lead/Lag				Lag	Lag	Lag					Lag	
Lead-Lag Optimize?												
Recall Mode				None	None	None					C-Max	
Act Effct Green (s)				26.0	26.0	26.0	47.2	111.0			55.8	
Actuated g/C Ratio				0.18	0.18	0.18	0.33	0.77			0.38	
v/c Ratio				0.69	0.71	0.89	0.71	0.47			0.19	
Control Delay				68.8	70.0	52.9	30.5	2.3			15.5	
Queue Delay				0.0	0.0	0.0	0.3	1.5			0.0	
Total Delay				68.8	70.0	52.9	30.8	3.8			15.5	
LOS				E	E	D	C	A			B	
Approach Delay					59.8			14.2			15.5	

Lane Group	ø1	ø5	ø6	ø8
Lane Configurations				
Ideal Flow (vphpl)				
Lane Width (ft)				
Grade (%)				
Storage Length (ft)				
Storage Lanes				
Total Lost Time (s)				
Leading Detector (ft)				
Trailing Detector (ft)				
Turning Speed (mph)				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Growth Factor				
Heavy Vehicles (%)				
Bus Blockages (#/hr)				
Parking (#/hr)				
Mid-Block Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	5	6	8
Permitted Phases				
Detector Phases				
Minimum Initial (s)	11.0	7.0	14.0	12.0
Minimum Split (s)	16.2	12.2	27.0	30.0
Total Split (s)	22.2	12.2	63.8	39.0
Total Split (%)	15%	8%	44%	27%
Yellow Time (s)	3.6	3.6	3.7	3.6
All-Red Time (s)	1.6	1.6	2.3	2.4
Lead/Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?				
Recall Mode	Min	None	C-Max	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	E						B			B		

Intersection Summary

Area Type: Other

Cycle Length: 145

Actuated Cycle Length: 145

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.35

Intersection Signal Delay: 27.9







Intersection LOS: C

Intersection Capacity Utilization 94.7%

ICU Level of Service F

Analysis Period (min) 15




















Splits and Phases: 70: I-20 WB On & Boulevard

#70  ø1 22.2 s	#70  ø2 53.8 s	#70 #71  ø8 39 s	#70 #71  ø4 30 s
#71  ø5 12.2 s	#71  ø6 63.8 s		













Lane Group	ø1	ø5	ø6	ø8
Approach LOS				
Intersection Summary				

Atlanta BeltLine Master Plan Subarea 3
71: I-20 EB Off & Boulevard

Baseline 2020 AM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	320		320	0		0	0		0	150		0
Storage Lanes	1		1	0		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50					50		50	50	
Trailing Detector (ft)	0	0	0					0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1681	1468	1504	0	0	0	0	3405	0	3433	3539	0
Flt Permitted	0.950	0.984								0.950		
Satd. Flow (perm)	1681	1468	1457	0	0	0	0	3405	0	3433	3539	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)								29				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1070			1567			170			442	
Travel Time (s)		24.3			35.6			3.9			10.0	
Volume (vph)	531	0	630	0	0	0	0	1460	397	118	379	0
Confl. Peds. (#/hr)			11			9			8			10
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.50	0.50	0.50	0.97	0.97	0.97	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	431	447	384	0	0	0	0	1914	0	123	395	0
Turn Type	Split		Perm							Prot		
Protected Phases	8	8						6		4 5	4 5 6	
Permitted Phases			8									
Detector Phases	8	8	8					6		4 5	4 5 6	
Minimum Initial (s)	12.0	12.0	12.0					14.0				
Minimum Split (s)	30.0	30.0	30.0					27.0				
Total Split (s)	39.0	39.0	39.0	0.0	0.0	0.0	0.0	63.8	0.0	42.2	106.0	0.0
Total Split (%)	26.9%	26.9%	26.9%	0.0%	0.0%	0.0%	0.0%	44.0%	0.0%	29.1%	73.1%	0.0%
Yellow Time (s)	3.6	3.6	3.6					3.7				
All-Red Time (s)	2.4	2.4	2.4					2.3				
Lead/Lag	Lead	Lead	Lead					Lag				
Lead-Lag Optimize?												
Recall Mode	None	None	None					C-Max				
Act Effct Green (s)	35.0	35.0	35.0					59.8		38.2	102.0	
Actuated g/C Ratio	0.24	0.24	0.24					0.41		0.26	0.70	
v/c Ratio	1.06	1.26	1.09					1.35		0.14	0.16	
Control Delay	113.5	183.2	125.0					195.4		21.7	1.7	
Queue Delay	60.2	79.3	0.0					1.7		0.0	0.0	
Total Delay	173.8	262.5	125.0					197.1		21.7	1.7	
LOS	F	F	F					F		C	A	
Approach Delay		190.3						197.1			6.5	

Lane Group	ø1	ø2	ø4	ø5
Lane Configurations				
Ideal Flow (vphpl)				
Lane Width (ft)				
Grade (%)				
Storage Length (ft)				
Storage Lanes				
Total Lost Time (s)				
Leading Detector (ft)				
Trailing Detector (ft)				
Turning Speed (mph)				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Growth Factor				
Heavy Vehicles (%)				
Bus Blockages (#/hr)				
Parking (#/hr)				
Mid-Block Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	2	4	5
Permitted Phases				
Detector Phases				
Minimum Initial (s)	11.0	14.0	12.0	7.0
Minimum Split (s)	16.2	27.0	30.0	12.2
Total Split (s)	22.2	53.8	30.0	12.2
Total Split (%)	15%	37%	21%	8%
Yellow Time (s)	3.6	3.7	3.6	3.6
All-Red Time (s)	1.6	2.3	2.4	1.6
Lead/Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?				
Recall Mode	Min	C-Max	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	F						F			A		

Intersection Summary

Area Type: Other

Cycle Length: 145

Actuated Cycle Length: 145

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.35

Intersection Signal Delay: 168.0







Intersection LOS: F

Intersection Capacity Utilization 94.7%

ICU Level of Service F

Analysis Period (min) 15


















Splits and Phases: 71: I-20 EB Off & Boulevard













#70  ø1 22.2 s	#70  ø2 53.8 s	#70 #71  ø8 39 s	#70 #71  ø4 30 s
#71  ø5 12.2 s	#71  ø6 63.8 s		

Lane Group	ø1	ø2	ø4	ø5
Approach LOS				
Intersection Summary				

Atlanta BeltLine Master Plan Subarea 3
73: Confederate Ave. & Boulevard

Baseline 2020 AM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	80		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1814	0	1770	1552	0	0	1843	0	0	3495	0
Flt Permitted		0.506		0.742							0.550	
Satd. Flow (perm)	0	943	0	1382	1552	0	0	1843	0	0	1940	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					94			5			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		792			1253			672			2707	
Travel Time (s)		18.0			28.5			15.3			61.5	
Volume (vph)	8	7	0	69	0	432	1	1024	52	143	641	17
Confl. Peds. (#/hr)			4			4			14			2
Confl. Bikes (#/hr)												
Peak Hour Factor	0.62	0.62	0.62	0.82	0.82	0.82	0.88	0.88	0.88	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	24	0	84	527	0	0	1224	0	0	861	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Detector Phases	8	8		4	4		2	2		6	6	
Minimum Initial (s)	17.0	17.0		17.0	17.0		15.0	15.0		15.0	15.0	
Minimum Split (s)	22.3	22.3		22.3	22.3		20.2	20.2		20.2	20.2	
Total Split (s)	35.0	35.0	0.0	35.0	35.0	0.0	75.0	75.0	0.0	75.0	75.0	0.0
Total Split (%)	31.8%	31.8%	0.0%	31.8%	31.8%	0.0%	68.2%	68.2%	0.0%	68.2%	68.2%	0.0%
Yellow Time (s)	3.6	3.6		3.6	3.6		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.7	1.7		1.7	1.7		1.5	1.5		1.5	1.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Act Effct Green (s)		31.0		31.0	31.0			71.0			71.0	
Actuated g/C Ratio		0.28		0.28	0.28			0.65			0.65	
v/c Ratio		0.09		0.22	1.04			1.03			0.69	
Control Delay		30.4		32.1	84.5			54.1			15.9	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		30.4		32.1	84.5			54.1			15.9	
LOS		C		C	F			D			B	
Approach Delay		30.4			77.3			54.1			15.9	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			E			D			B		

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 47.0





Intersection LOS: D

Intersection Capacity Utilization 116.8%

ICU Level of Service H

















Analysis Period (min) 15













Splits and Phases: 73: Confederate Ave. & Boulevard

 ø2	 ø4
75 s	35 s
 ø6	 ø8
75 s	35 s

Atlanta BeltLine Master Plan Subarea 3
75: Atlanta Ave. & Boulevard

Baseline 2020 AM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1747	0	0	1752	0	0	1844	0	0	3366	0
Flt Permitted		0.890			0.634			0.624			0.945	
Satd. Flow (perm)	0	1615	0	0	1123	0	0	1159	0	0	3181	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			5			1			115	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		806			1283			1444			1606	
Travel Time (s)		18.3			29.2			32.8			36.5	
Volume (vph)	107	4	27	88	0	14	192	948	20	5	494	246
Confl. Peds. (#/hr)	6			17			8			8		
Confl. Bikes (#/hr)												
Peak Hour Factor	0.75	0.75	0.75	0.74	0.74	0.74	0.92	0.92	0.92	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	184	0	0	138	0	0	1261	0	0	828	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			4			2			6	
Permitted Phases	3			4			2			6		
Detector Phases	3	3		4	4		2	2		6	6	
Minimum Initial (s)	19.0	19.0		10.0	10.0		35.0	35.0		35.0	35.0	
Minimum Split (s)	24.8	24.8		23.8	23.8		41.5	41.5		41.5	41.5	
Total Split (s)	24.8	24.8	0.0	23.8	23.8	0.0	96.4	96.4	0.0	96.4	96.4	0.0
Total Split (%)	17.1%	17.1%	0.0%	16.4%	16.4%	0.0%	66.5%	66.5%	0.0%	66.5%	66.5%	0.0%
Yellow Time (s)	3.2	3.2		3.2	3.2		3.8	3.8		3.8	3.8	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.7	2.7		2.7	2.7	
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?												
Recall Mode	Min	Min		None	None		Min	Min		Min	Min	
Act Effct Green (s)		20.8			19.3			92.4			92.4	
Actuated g/C Ratio		0.14			0.13			0.64			0.64	
v/c Ratio		0.77			0.89			1.70			0.40	
Control Delay		78.8			107.4			344.7			11.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		78.8			107.4			344.7			11.3	
LOS		E			F			F			B	
Approach Delay		78.8			107.4			344.7			11.3	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	E			F			F			B		

Intersection Summary

Area Type: Other

Cycle Length: 145

Actuated Cycle Length: 144.5

Natural Cycle: 145

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.70

Intersection Signal Delay: 196.3





Intersection LOS: F











Intersection Capacity Utilization 116.7%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 75: Atlanta Ave. & Boulevard

 ø2	 ø3	 ø4
96.4 s	24.8 s	23.8 s
 ø6		
96.4 s		

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	1	0			0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	
Turning Speed (mph)	15	9	15			9
Satd. Flow (prot)	1770	1583	0	3514	3415	0
Flt Permitted	0.950			0.740		
Satd. Flow (perm)	1770	1583	0	2619	3415	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		69			79	
Link Speed (mph)	30			30	30	
Link Distance (ft)	3424			3251	1886	
Travel Time (s)	77.8			73.9	42.9	
Volume (vph)	70	64	160	1044	480	111
Confl. Peds. (#/hr)						11
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Lane Group Flow (vph)	75	69	0	1295	671	0
Turn Type		Perm	Perm			
Protected Phases	4			2	6	
Permitted Phases		4	2			
Detector Phases	4	4	2	2	6	
Minimum Initial (s)	9.0	9.0	15.0	15.0	15.0	
Minimum Split (s)	21.2	21.2	22.7	22.7	22.7	
Total Split (s)	21.2	21.2	38.8	38.8	38.8	0.0
Total Split (%)	35.3%	35.3%	64.7%	64.7%	64.7%	0.0%
Yellow Time (s)	3.2	3.2	3.8	3.8	3.8	
All-Red Time (s)	2.0	2.0	1.9	1.9	1.9	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	
Act Effct Green (s)	10.5	10.5		45.2	45.2	
Actuated g/C Ratio	0.18	0.18		0.75	0.75	
v/c Ratio	0.24	0.21		0.66	0.26	
Control Delay	23.5	8.1		7.3	3.1	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	23.5	8.1		7.3	3.1	
LOS	C	A		A	A	
Approach Delay	16.1			7.3	3.1	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach LOS	B		A		A	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 6.5

Intersection LOS: A

Intersection Capacity Utilization 68.0%

ICU Level of Service C



















Analysis Period (min) 15













Splits and Phases: 76: Englewood Ave. & Boulevard

 <p>ø2</p> <p>38.8 s</p>	 <p>ø4</p> <p>21.2 s</p>
 <p>ø6</p> <p>38.8 s</p>	

Atlanta BeltLine Master Plan Subarea 3
77: Mc Donough Blvd & Boulevard

Baseline 2020 AM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%		0%		0%		0%		0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	1765	0	0	1758	0	0	1720	0	1770	1522	0
Flt Permitted	0.217				0.980			0.462		0.746		
Satd. Flow (perm)	404	1765	0	0	1724	0	0	808	0	1390	1522	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37			33			6			348	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1125			1642			628			3251	
Travel Time (s)		25.6			37.3			14.3			73.9	
Volume (vph)	432	236	69	28	607	329	3	3	3	140	34	398
Confl. Peds. (#/hr)			16			7			8			9
Confl. Bikes (#/hr)												
Peak Hour Factor	0.78	0.78	0.78	0.94	0.94	0.94	0.50	0.50	0.50	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	554	391	0	0	1026	0	0	18	0	151	465	0
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	1	6			2			4			8	
Permitted Phases	6			2			4			8		
Detector Phases	1	6		2	2		4	4		8	8	
Minimum Initial (s)	8.0	15.0		15.0	15.0		19.0	19.0		19.0	19.0	
Minimum Split (s)	13.0	22.4		22.4	22.4		24.5	24.5		24.5	24.5	
Total Split (s)	28.0	115.5	0.0	87.5	87.5	0.0	24.5	24.5	0.0	24.5	24.5	0.0
Total Split (%)	20.0%	82.5%	0.0%	62.5%	62.5%	0.0%	17.5%	17.5%	0.0%	17.5%	17.5%	0.0%
Yellow Time (s)	3.5	3.7		3.7	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.5	1.7		1.7	1.7		1.8	1.8		1.8	1.8	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?												
Recall Mode	Min	C-Max		C-Max	C-Max		Max	Max		Max	Max	
Act Effct Green (s)	111.5	111.5			83.5			20.5		20.5	20.5	
Actuated g/C Ratio	0.80	0.80			0.60			0.15		0.15	0.15	
v/c Ratio	1.00	0.28			0.98			0.15		0.74	0.89	
Control Delay	56.7	3.9			51.6			42.8		79.1	35.8	
Queue Delay	0.0	0.0			0.0			0.0		0.0	0.0	
Total Delay	56.7	3.9			51.6			42.8		79.1	35.8	
LOS	E	A			D			D		E	D	
Approach Delay		34.8			51.6			42.8			46.4	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			D			D			D		

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 44.2


Intersection LOS: D

Intersection Capacity Utilization 115.0%







ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 77: Mc Donough Blvd & Boulevard

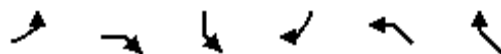
		
ø1	ø2	ø4
28 s	87.5 s	24.5 s
		
ø6		ø8
115.5 s		24.5 s

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑	↘	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	150		0	500
Storage Lanes		0	1		1	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	50
Trailing Detector (ft)	0		0	0	0	0
Turning Speed (mph)		9	15		15	9
Satd. Flow (prot)	3522	0	1770	1863	1770	1583
Flt Permitted			0.179		0.950	
Satd. Flow (perm)	3522	0	333	1863	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	6					36
Link Speed (mph)	30			30	30	
Link Distance (ft)	1994			607	1361	
Travel Time (s)	45.3			13.8	30.9	
Volume (vph)	663	22	25	587	17	25
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.89	0.89	0.69	0.69
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Lane Group Flow (vph)	745	0	28	660	25	36
Turn Type			pm+pt			Perm
Protected Phases	6		5	2	4	
Permitted Phases			2			4
Detector Phases	6		5	2	4	4
Minimum Initial (s)	15.0		8.0	15.0	19.0	19.0
Minimum Split (s)	20.4		13.0	20.4	24.5	24.5
Total Split (s)	22.5	0.0	13.0	35.5	24.5	24.5
Total Split (%)	37.5%	0.0%	21.7%	59.2%	40.8%	40.8%
Yellow Time (s)	3.7		3.5	3.7	3.7	3.7
All-Red Time (s)	1.7		1.5	1.7	1.8	1.8
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?						
Recall Mode	Max		None	Max	None	None
Act Effct Green (s)	51.8		58.1	59.0	24.3	24.3
Actuated g/C Ratio	0.63		0.64	0.72	0.26	0.26
v/c Ratio	0.34		0.07	0.50	0.05	0.08
Control Delay	11.6		7.8	9.5	13.6	5.7
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	11.6		7.8	9.5	13.6	5.7
LOS	B		A	A	B	A
Approach Delay	11.6			9.4	8.9	

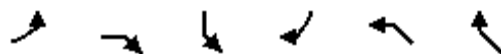
						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach LOS	B			A		
Intersection Summary						
Area Type:	Other					
Cycle Length: 60						
Actuated Cycle Length: 82.5						
Natural Cycle: 60						
Control Type: Actuated-Uncoordinated						
Maximum v/c Ratio: 0.50						
Intersection Signal Delay: 10.5				Intersection LOS: B		
Intersection Capacity Utilization 53.4%				ICU Level of Service A		
Analysis Period (min) 15						

Splits and Phases: 79: Mc Donough Blvd & Sawtell Avenue

← ø2	↖ ø4
35.5 s	24.5 s
↘ ø5	→ ø6
13 s	22.5 s



Lane Group	EBL	EBR	SBL	SBR	NWL	NWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%		0%	
Storage Length (ft)	0	0	0	0	0	80
Storage Lanes	1	0	1	0	0	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Turning Speed (mph)	15	9	15	9	15	9
Satd. Flow (prot)	1758	1504	1698	0	1770	1583
Flt Permitted	0.462		0.974		0.950	
Satd. Flow (perm)	849	1504	1698	0	1770	1583
Right Turn on Red		Yes		Yes		Yes
Satd. Flow (RTOR)	16	431	72			
Link Speed (mph)	30		30		30	
Link Distance (ft)	1263		332		1994	
Travel Time (s)	28.7		7.5		45.3	
Volume (vph)	131	345	89	80	440	288
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.77	0.77	0.98	0.98	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%		0%	
Lane Group Flow (vph)	187	431	173	0	512	335
Turn Type	Perm				pm+ov	
Protected Phases		2	4		6	4
Permitted Phases	2					6
Detector Phases	2	2	4		6	4
Minimum Initial (s)	35.0	35.0	14.0		35.0	14.0
Minimum Split (s)	40.7	40.7	19.2		40.7	19.2
Total Split (s)	40.8	40.8	19.2	0.0	40.8	19.2
Total Split (%)	68.0%	68.0%	32.0%	0.0%	68.0%	32.0%
Yellow Time (s)	3.7	3.7	3.4		3.7	3.4
All-Red Time (s)	2.0	2.0	1.8		2.0	1.8
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max	Max	None		Max	None
Act Effct Green (s)	36.8	36.8	15.2		36.8	60.0
Actuated g/C Ratio	0.61	0.61	0.25		0.61	1.00
v/c Ratio	0.35	0.40	0.36		0.47	0.21
Control Delay	7.5	1.8	13.6		8.1	0.3
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	7.5	1.8	13.6		8.1	0.3
LOS	A	A	B		A	A
Approach Delay	3.5		13.6		5.0	



Lane Group	EBL	EBR	SBL	SBR	NWL	NWR
Approach LOS	A		B		A	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.47

Intersection Signal Delay: 5.4




Intersection LOS: A

















Intersection Capacity Utilization 80.0%













ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 80: Mc Donough Blvd & Milton Ave.

 <p>ø2</p> <p>40.8 s</p>	 <p>ø4</p> <p>19.2 s</p>
 <p>ø6</p> <p>40.8 s</p>	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1795	0	0	1686	0	0	1856	0	0	1748	0
Flt Permitted		0.589			0.998			0.995			0.619	
Satd. Flow (perm)	0	1087	0	0	1682	0	0	1849	0	0	1117	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			215			2			26	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		776			776			1683			518	
Travel Time (s)		17.6			17.6			38.3			11.8	
Volume (vph)	70	50	8	3	115	281	9	427	7	89	24	27
Confl. Peds. (#/hr)			4						3			7
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.77	0.77	0.77	0.87	0.87	0.87	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	135	0	0	518	0	0	509	0	0	152	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phases	4	4		8	8		2	2		6	6	
Minimum Initial (s)	9.0	9.0		16.0	16.0		30.0	30.0		14.0	14.0	
Minimum Split (s)	26.7	26.7		26.7	26.7		35.9	35.9		30.9	30.9	
Total Split (s)	29.0	29.0	0.0	29.0	29.0	0.0	36.0	36.0	0.0	36.0	36.0	0.0
Total Split (%)	44.6%	44.6%	0.0%	44.6%	44.6%	0.0%	55.4%	55.4%	0.0%	55.4%	55.4%	0.0%
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.5	2.5		2.5	2.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		20.6			20.6			32.1			32.1	
Actuated g/C Ratio		0.34			0.34			0.53			0.53	
v/c Ratio		0.36			0.73			0.52			0.25	
Control Delay		17.4			16.6			12.3			8.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		17.4			16.6			12.3			8.5	
LOS		B			B			B			A	
Approach Delay		17.4			16.6			12.3			8.5	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B			B			B			A		

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 60.7

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 14.1




Intersection LOS: B
















Intersection Capacity Utilization 91.4%










ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 85: Atlanta Ave. & Cherokee Ave.










 ø2	 ø4
36 s	29 s
 ø6	 ø8
36 s	29 s










												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Volume (veh/h)	0	0	0	0	0	237	0	1111	21	101	906	0
Peak Hour Factor	0.92	0.92	0.92	0.87	0.87	0.87	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	0	0	0	272	0	1182	22	107	964	0
Pedestrians						3						21
Lane Width (ft)						12.0						12.0
Walking Speed (ft/s)						4.0						4.0
Percent Blockage						0						2
Right turn flare (veh)												
Median type	None				None							
Median storage veh												
Upstream signal (ft)											170	
pX, platoon unblocked	0.97	0.97	0.97	0.97	0.97	0.97						
vC, conflicting volume	2063	2386	482	1893	2375	626	964			1207		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2065	2400	428	1889	2388	626	927			1207		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	35	100			81		
cM capacity (veh/h)	9	26	555	35	26	418	708			572		
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2							
Volume Total	272	788	416	429	643							
Volume Left	0	0	0	107	0							
Volume Right	272	0	22	0	0							
cSH	418	1700	1700	572	1700							
Volume to Capacity	0.65	0.46	0.24	0.19	0.38							
Queue Length 95th (ft)	112	0	0	17	0							
Control Delay (s)	28.3	0.0	0.0	5.4	0.0							
Lane LOS	D				A							
Approach Delay (s)	28.3	0.0	2.2									
Approach LOS	D											
Intersection Summary												
Average Delay	3.9											
Intersection Capacity Utilization	66.0%			ICU Level of Service			C					
Analysis Period (min)	15											
















						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	48	79	1008	32	24	694
Peak Hour Factor	0.72	0.72	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	67	110	1096	35	26	754
Pedestrians	18					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	2					
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						672
pX, platoon unblocked	0.93					
vC, conflicting volume	1560	1131			1148	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1528	1131			1148	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	30	44			96	
cM capacity (veh/h)	95	194			595	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	176	1130	278	503		
Volume Left	67	0	26	0		
Volume Right	110	35	0	0		
cSH	139	1700	595	1700		
Volume to Capacity	1.27	0.66	0.04	0.30		
Queue Length 95th (ft)	270	0	3	0		
Control Delay (s)	226.8	0.0	1.6	0.0		
Lane LOS	F		A			
Approach Delay (s)	226.8	0.0	0.6			
Approach LOS	F					
Intersection Summary						
Average Delay			19.4			
Intersection Capacity Utilization			69.2%		ICU Level of Service	C
Analysis Period (min)			15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕		↕↕	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	176	496	499	476	151	118
Peak Hour Factor	0.86	0.86	0.89	0.89	0.90	0.90
Hourly flow rate (vph)	205	577	561	535	168	131
Pedestrians					13	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					1	
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		607	1125			
pX, platoon unblocked	0.57				0.61	0.57
vC, conflicting volume	1109				1539	841
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1191				1525	720
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	37				0	37
cM capacity (veh/h)	327				25	208
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	397	384	1096	299		
Volume Left	205	0	0	168		
Volume Right	0	0	535	131		
cSH	327	1700	1700	40		
Volume to Capacity	0.63	0.23	0.64	7.46		
Queue Length 95th (ft)	100	0	0	Err		
Control Delay (s)	28.1	0.0	0.0	Err		
Lane LOS	D			F		
Approach Delay (s)	14.3		0.0	Err		
Approach LOS				F		
Intersection Summary						
Average Delay		1378.7				
Intersection Capacity Utilization		100.4%		ICU Level of Service		G
Analysis Period (min)		15				

						
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Yield	Stop		Free	
Grade		0%	0%		0%	
Volume (veh/h)	49	198	186	36	38	93
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	53	215	202	39	41	101
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	273	133	184	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	273	133	184	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	89	71	71	96	97	
cM capacity (veh/h)	497	738	692	1085	1623	
Direction, Lane #	NB 1	SB 1	SE 1			
Volume Total	268	241	142			
Volume Left	53	0	41			
Volume Right	0	39	101			
cSH	674	736	1623			
Volume to Capacity	0.40	0.33	0.03			
Queue Length 95th (ft)	48	36	2			
Control Delay (s)	13.8	12.3	2.3			
Lane LOS	B	B	A			
Approach Delay (s)	13.8	12.3	2.3			
Approach LOS	B	B				
Intersection Summary						
Average Delay		10.7				
Intersection Capacity Utilization		42.9%		ICU Level of Service		A
Analysis Period (min)		15				

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	22	66	321	83	135	94
Peak Hour Factor	0.74	0.74	0.90	0.90	0.89	0.89
Hourly flow rate (vph)	30	89	357	92	152	106
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	812	403			449	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	812	403			449	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	90	86			86	
cM capacity (veh/h)	301	648			1111	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	119	449	257			
Volume Left	30	0	152			
Volume Right	89	92	0			
cSH	503	1700	1111			
Volume to Capacity	0.24	0.26	0.14			
Queue Length 95th (ft)	23	0	12			
Control Delay (s)	14.4	0.0	5.7			
Lane LOS	B		A			
Approach Delay (s)	14.4	0.0	5.7			
Approach LOS	B					
Intersection Summary						
Average Delay		3.8				
Intersection Capacity Utilization		49.6%		ICU Level of Service		A
Analysis Period (min)		15				




















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Yield			Stop			Stop			Stop	
Volume (vph)	0	0	0	8	45	0	229	0	0	0	126	16
Peak Hour Factor	0.25	0.25	0.25	0.75	0.75	0.75	0.94	0.94	0.94	0.96	0.96	0.96
Hourly flow rate (vph)	0	0	0	11	60	0	244	0	0	0	131	17
Direction, Lane #	WB 1	WB 2	NB 1	SB 1								
Volume Total (vph)	31	40	244	148								
Volume Left (vph)	11	0	244	0								
Volume Right (vph)	0	0	0	17								
Hadj (s)	0.21	0.03	0.23	-0.03								
Departure Headway (s)	5.6	5.4	4.5	4.3								
Degree Utilization, x	0.05	0.06	0.30	0.18								
Capacity (veh/h)	595	617	783	800								
Control Delay (s)	7.7	7.6	9.4	8.3								
Approach Delay (s)	7.6		9.4	8.3								
Approach LOS	A		A	A								
Intersection Summary												
Delay			8.8									
HCM Level of Service			A									
Intersection Capacity Utilization			34.0%		ICU Level of Service				A			
Analysis Period (min)			15									















Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↕	↕	
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	0	5	770	151	11
Peak Hour Factor	0.92	0.92	0.88	0.88	0.84	0.84
Hourly flow rate (vph)	0	0	6	875	180	13
Pedestrians	14					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)				518		
pX, platoon unblocked	0.84					
vC, conflicting volume	1087	200	207			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1103	200	207			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	195	841	1364			
Direction, Lane #	NB 1	SB 1				
Volume Total	881	193				
Volume Left	6	0				
Volume Right	0	13				
cSH	1364	1700				
Volume to Capacity	0.00	0.11				
Queue Length 95th (ft)	0	0				
Control Delay (s)	0.1	0.0				
Lane LOS	A					
Approach Delay (s)	0.1	0.0				
Approach LOS						
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			47.8%	ICU Level of Service		A
Analysis Period (min)			15			

Atlanta BeltLine Master Plan Subarea 3
70: I-20 WB On & Boulevard

Baseline 2020 PM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	0		0	280		280	150		0	0		0
Storage Lanes	0		0	1		2	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50	50	50	50			50	
Trailing Detector (ft)				0	0	0	0	0			0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	0	0	1681	1690	2787	3433	3539	0	0	4917	0
Flt Permitted				0.950	0.955		0.950					
Satd. Flow (perm)	0	0	0	1681	1690	2787	3433	3539	0	0	4917	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						178					58	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		281			1064			442			562	
Travel Time (s)		6.4			24.2			10.0			12.8	
Volume (vph)	0	0	0	184	5	162	640	903	0	0	882	249
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.91	0.91	0.91	0.97	0.97	0.97	0.80	0.80	0.80
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	0	0	101	106	178	660	931	0	0	1413	0
Turn Type				Split		Perm	Prot					
Protected Phases				4	4		1 8	1 2 8			2	
Permitted Phases						4						
Detector Phases				4	4	4	1 8	1 2 8			2	
Minimum Initial (s)				12.0	12.0	12.0					14.0	
Minimum Split (s)				30.0	30.0	30.0					27.0	
Total Split (s)	0.0	0.0	0.0	30.0	30.0	30.0	53.5	115.0	0.0	0.0	61.5	0.0
Total Split (%)	0.0%	0.0%	0.0%	20.7%	20.7%	20.7%	36.9%	79.3%	0.0%	0.0%	42.4%	0.0%
Yellow Time (s)				3.6	3.6	3.6					3.7	
All-Red Time (s)				2.4	2.4	2.4					2.3	
Lead/Lag				Lag	Lag	Lag					Lag	
Lead-Lag Optimize?												
Recall Mode				None	None	None					C-Max	
Act Effct Green (s)				23.9	23.9	23.9	41.2	113.1			63.9	
Actuated g/C Ratio				0.16	0.16	0.16	0.28	0.78			0.44	
v/c Ratio				0.37	0.38	0.29	0.68	0.34			0.64	
Control Delay				57.0	57.4	8.0	35.9	1.7			32.3	
Queue Delay				0.0	0.0	0.0	0.0	0.5			0.0	
Total Delay				57.0	57.4	8.0	35.9	2.2			32.3	
LOS				E	E	A	D	A			C	
Approach Delay					34.4			16.1			32.3	

Lane Group	ø1	ø5	ø6	ø8
Lane Configurations				
Ideal Flow (vphpl)				
Lane Width (ft)				
Grade (%)				
Storage Length (ft)				
Storage Lanes				
Total Lost Time (s)				
Leading Detector (ft)				
Trailing Detector (ft)				
Turning Speed (mph)				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Growth Factor				
Heavy Vehicles (%)				
Bus Blockages (#/hr)				
Parking (#/hr)				
Mid-Block Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	5	6	8
Permitted Phases				
Detector Phases				
Minimum Initial (s)	11.0	7.0	14.0	12.0
Minimum Split (s)	16.2	12.2	27.0	30.0
Total Split (s)	20.5	12.2	69.8	33.0
Total Split (%)	14%	8%	48%	23%
Yellow Time (s)	3.6	3.6	3.7	3.6
All-Red Time (s)	1.6	1.6	2.3	2.4
Lead/Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?				
Recall Mode	Min	None	C-Max	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C						B			C		

Intersection Summary

Area Type: Other

Cycle Length: 145

Actuated Cycle Length: 145

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.07

Intersection Signal Delay: 24.9









Intersection LOS: C

Intersection Capacity Utilization 81.4%

ICU Level of Service D

Analysis Period (min) 15




















Splits and Phases: 70: I-20 WB On & Boulevard

#70  ø1 20.5 s	#70  ø2 61.5 s	#70 #71   ø8 33 s	#70 #71   ø4 30 s
#71  ø5 12.2 s	#71  ø6 69.8 s		













Lane Group	ø1	ø5	ø6	ø8
Approach LOS				
Intersection Summary				

Atlanta BeltLine Master Plan Subarea 3
71: I-20 EB Off & Boulevard

Baseline 2020 PM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	320		320	0		0	0		0	150		0
Storage Lanes	1		1	0		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50					50		50	50	
Trailing Detector (ft)	0	0	0					0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1681	1415	1504	0	0	0	0	3397	0	3433	3539	0
Flt Permitted	0.950	0.996								0.950		
Satd. Flow (perm)	1681	1415	1457	0	0	0	0	3397	0	3433	3539	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)								34				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1070			1567			170			442	
Travel Time (s)		24.3			35.6			3.9			10.0	
Volume (vph)	316	0	538	0	0	0	0	1219	352	293	763	0
Confl. Peds. (#/hr)			11			9			8			10
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.50	0.50	0.50	0.96	0.96	0.96	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	302	304	283	0	0	0	0	1637	0	337	877	0
Turn Type	Split		Perm							Prot		
Protected Phases	8	8						6		4 5	4 5 6	
Permitted Phases			8									
Detector Phases	8	8	8					6		4 5	4 5 6	
Minimum Initial (s)	12.0	12.0	12.0					14.0				
Minimum Split (s)	30.0	30.0	30.0					27.0				
Total Split (s)	33.0	33.0	33.0	0.0	0.0	0.0	0.0	69.8	0.0	42.2	112.0	0.0
Total Split (%)	22.8%	22.8%	22.8%	0.0%	0.0%	0.0%	0.0%	48.1%	0.0%	29.1%	77.2%	0.0%
Yellow Time (s)	3.6	3.6	3.6					3.7				
All-Red Time (s)	2.4	2.4	2.4					2.3				
Lead/Lag	Lead	Lead	Lead					Lag				
Lead-Lag Optimize?												
Recall Mode	None	None	None					C-Max				
Act Effct Green (s)	29.0	29.0	29.0					67.9		36.1	108.0	
Actuated g/C Ratio	0.20	0.20	0.20					0.47		0.25	0.74	
v/c Ratio	0.90	1.07	0.97					1.02		0.40	0.33	
Control Delay	85.6	128.2	103.2					64.2		62.1	2.3	
Queue Delay	13.1	40.9	0.0					0.0		0.0	0.2	
Total Delay	98.7	169.1	103.2					64.2		62.1	2.5	
LOS	F	F	F					E		E	A	
Approach Delay		124.2						64.2			19.1	

Lane Group	ø1	ø2	ø4	ø5
Lane Configurations				
Ideal Flow (vphpl)				
Lane Width (ft)				
Grade (%)				
Storage Length (ft)				
Storage Lanes				
Total Lost Time (s)				
Leading Detector (ft)				
Trailing Detector (ft)				
Turning Speed (mph)				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Growth Factor				
Heavy Vehicles (%)				
Bus Blockages (#/hr)				
Parking (#/hr)				
Mid-Block Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	2	4	5
Permitted Phases				
Detector Phases				
Minimum Initial (s)	11.0	14.0	12.0	7.0
Minimum Split (s)	16.2	27.0	30.0	12.2
Total Split (s)	20.5	61.5	30.0	12.2
Total Split (%)	14%	42%	21%	8%
Yellow Time (s)	3.6	3.7	3.6	3.6
All-Red Time (s)	1.6	2.3	2.4	1.6
Lead/Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?				
Recall Mode	Min	C-Max	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	F						E			B		

Intersection Summary

Area Type: Other

Cycle Length: 145

Actuated Cycle Length: 145

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.07

Intersection Signal Delay: 63.8







Intersection LOS: E

Intersection Capacity Utilization 81.4%

ICU Level of Service D

Analysis Period (min) 15


















Splits and Phases: 71: I-20 EB Off & Boulevard













#70  ø1	#70  ø2	#70 #71  ø8	#70 #71  ø4
20.5 s	61.5 s	33 s	30 s
#71  ø5	#71  ø6		
12.2 s	69.8 s		

Lane Group	ø1	ø2	ø4	ø5
Approach LOS				
Intersection Summary				

Atlanta BeltLine Master Plan Subarea 3
73: Confederate Ave. & Boulevard

Baseline 2020 PM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	80		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1759	0	1770	1557	0	0	1852	0	0	3492	0
Flt Permitted		0.692		0.740							0.559	
Satd. Flow (perm)	0	1260	0	1378	1557	0	0	1852	0	0	1974	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			213			4			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		792			1253			672			2707	
Travel Time (s)		18.0			28.5			15.3			61.5	
Volume (vph)	13	3	3	24	1	261	0	737	22	246	876	16
Confl. Peds. (#/hr)			4			4			14			2
Confl. Bikes (#/hr)												
Peak Hour Factor	0.70	0.70	0.70	0.89	0.89	0.89	0.91	0.91	0.91	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	27	0	27	294	0	0	834	0	0	1236	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Detector Phases	8	8		4	4		2	2		6	6	
Minimum Initial (s)	17.0	17.0		17.0	17.0		15.0	15.0		15.0	15.0	
Minimum Split (s)	22.3	22.3		22.3	22.3		20.2	20.2		20.2	20.2	
Total Split (s)	22.3	22.3	0.0	22.3	22.3	0.0	57.7	57.7	0.0	57.7	57.7	0.0
Total Split (%)	27.9%	27.9%	0.0%	27.9%	27.9%	0.0%	72.1%	72.1%	0.0%	72.1%	72.1%	0.0%
Yellow Time (s)	3.6	3.6		3.6	3.6		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.7	1.7		1.7	1.7		1.5	1.5		1.5	1.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Act Effct Green (s)		18.3		18.3	18.3			53.7			53.7	
Actuated g/C Ratio		0.23		0.23	0.23			0.67			0.67	
v/c Ratio		0.09		0.09	0.57			0.67			0.93	
Control Delay		22.8		25.2	13.1			11.2			26.4	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		22.8		25.2	13.1			11.2			26.4	
LOS		C		C	B			B			C	
Approach Delay		22.8			14.2			11.2			26.4	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			B			B			C		

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 19.5





Intersection LOS: B

Intersection Capacity Utilization 98.7%

ICU Level of Service F

















Analysis Period (min) 15













Splits and Phases: 73: Confederate Ave. & Boulevard

 ø2	 ø4
57.7 s	22.3 s
 ø6	 ø8
57.7 s	22.3 s

Atlanta BeltLine Master Plan Subarea 3
75: Atlanta Ave. & Boulevard

Baseline 2020 PM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1715	0	0	1706	0	0	1844	0	0	3444	0
Flt Permitted		0.673			0.761			0.863			0.936	
Satd. Flow (perm)	0	1191	0	0	1317	0	0	1595	0	0	3227	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		26			17			4			32	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		806			1283			1444			1606	
Travel Time (s)		18.3			29.2			32.8			36.5	
Volume (vph)	167	0	98	15	0	12	32	601	39	16	750	162
Confl. Peds. (#/hr)	6			17			8			8		
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.69	0.69	0.69	0.89	0.89	0.89	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	292	0	0	39	0	0	755	0	0	977	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			4			2			6	
Permitted Phases	3			4			2			6		
Detector Phases	3	3		4	4		2	2		6	6	
Minimum Initial (s)	19.0	19.0		10.0	10.0		35.0	35.0		35.0	35.0	
Minimum Split (s)	24.8	24.8		23.8	23.8		41.5	41.5		41.5	41.5	
Total Split (s)	28.0	28.0	0.0	23.8	23.8	0.0	53.2	53.2	0.0	53.2	53.2	0.0
Total Split (%)	26.7%	26.7%	0.0%	22.7%	22.7%	0.0%	50.7%	50.7%	0.0%	50.7%	50.7%	0.0%
Yellow Time (s)	3.2	3.2		3.2	3.2		3.8	3.8		3.8	3.8	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.7	2.7		2.7	2.7	
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?												
Recall Mode	Min	Min		None	None		Min	Min		Min	Min	
Act Effct Green (s)		24.2			11.9			49.6			49.6	
Actuated g/C Ratio		0.27			0.12			0.55			0.55	
v/c Ratio		0.87			0.22			0.86			0.55	
Control Delay		57.5			28.9			32.2			15.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		57.5			28.9			32.2			15.5	
LOS		E			C			C			B	
Approach Delay		57.5			28.9			32.2			15.5	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	E			C			C			B		

Intersection Summary

Area Type: Other

Cycle Length: 105

Actuated Cycle Length: 90.8

Natural Cycle: 105

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 27.8





Intersection LOS: C











Intersection Capacity Utilization 86.5%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 75: Atlanta Ave. & Boulevard

 ø2	 ø3	 ø4
53.2 s	28 s	23.8 s
 ø6		
53.2 s		

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	1	0			0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	
Turning Speed (mph)	15	9	15			9
Satd. Flow (prot)	1770	1583	0	3504	3474	0
Flt Permitted	0.950			0.631		
Satd. Flow (perm)	1770	1583	0	2233	3474	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		93			34	
Link Speed (mph)	30			30	30	
Link Distance (ft)	3424			3251	1886	
Travel Time (s)	77.8			73.9	42.9	
Volume (vph)	122	163	122	499	713	80
Confl. Peds. (#/hr)						11
Confl. Bikes (#/hr)						
Peak Hour Factor	0.78	0.78	0.89	0.89	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Lane Group Flow (vph)	156	209	0	698	881	0
Turn Type		Perm	Perm			
Protected Phases	4			2	6	
Permitted Phases		4	2			
Detector Phases	4	4	2	2	6	
Minimum Initial (s)	9.0	9.0	15.0	15.0	15.0	
Minimum Split (s)	21.2	21.2	22.7	22.7	22.7	
Total Split (s)	21.2	21.2	23.8	23.8	23.8	0.0
Total Split (%)	47.1%	47.1%	52.9%	52.9%	52.9%	0.0%
Yellow Time (s)	3.2	3.2	3.8	3.8	3.8	
All-Red Time (s)	2.0	2.0	1.9	1.9	1.9	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	
Act Effct Green (s)	11.4	11.4		29.2	29.2	
Actuated g/C Ratio	0.25	0.25		0.65	0.65	
v/c Ratio	0.35	0.44		0.48	0.39	
Control Delay	15.6	11.1		8.0	5.9	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	15.6	11.1		8.0	5.9	
LOS	B	B		A	A	
Approach Delay	13.0			8.0	5.9	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach LOS	B			A	A	

Intersection Summary

Area Type: Other

Cycle Length: 45

Actuated Cycle Length: 45

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 8.0

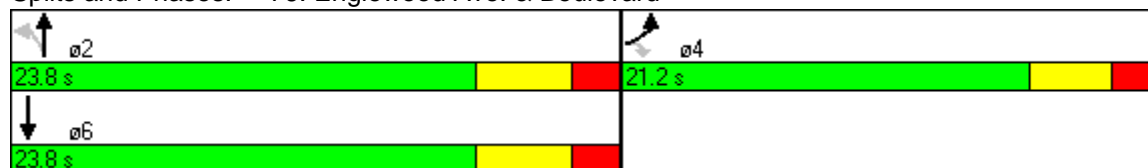
Intersection LOS: A

Intersection Capacity Utilization 57.2%

ICU Level of Service B



















Analysis Period (min) 15













Splits and Phases: 76: Englewood Ave. & Boulevard



Atlanta BeltLine Master Plan Subarea 3
77: Mc Donough Blvd & Boulevard

Baseline 2020 PM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%		0%		0%		0%		0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	1855	0	0	1761	0	0	1727	0	1770	1524	0
Flt Permitted	0.217				0.983			0.877		0.746		
Satd. Flow (perm)	404	1855	0	0	1733	0	0	1539	0	1390	1524	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			35			6			455	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1125			1642			628			3251	
Travel Time (s)		25.6			37.3			14.3			73.9	
Volume (vph)	382	534	11	15	408	220	3	3	3	403	11	423
Confl. Peds. (#/hr)			16			7			8			9
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.97	0.97	0.97	0.50	0.50	0.50	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	415	592	0	0	663	0	0	18	0	433	467	0
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	1	6			2			4			8	
Permitted Phases	6			2			4			8		
Detector Phases	1	6		2	2		4	4		8	8	
Minimum Initial (s)	8.0	15.0		15.0	15.0		19.0	19.0		19.0	19.0	
Minimum Split (s)	13.0	22.4		22.4	22.4		24.5	24.5		24.5	24.5	
Total Split (s)	17.0	57.0	0.0	40.0	40.0	0.0	33.0	33.0	0.0	33.0	33.0	0.0
Total Split (%)	18.9%	63.3%	0.0%	44.4%	44.4%	0.0%	36.7%	36.7%	0.0%	36.7%	36.7%	0.0%
Yellow Time (s)	3.5	3.7		3.7	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.5	1.7		1.7	1.7		1.8	1.8		1.8	1.8	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?												
Recall Mode	Min	C-Max		C-Max	C-Max		Max	Max		Max	Max	
Act Effct Green (s)	53.0	53.0			36.0			29.0		29.0	29.0	
Actuated g/C Ratio	0.59	0.59			0.40			0.32		0.32	0.32	
v/c Ratio	0.95	0.54			0.93			0.04		0.97	0.58	
Control Delay	48.6	13.4			46.1			16.9		70.3	10.9	
Queue Delay	0.0	0.0			0.0			0.0		0.0	0.0	
Total Delay	48.6	13.4			46.1			16.9		70.3	10.9	
LOS	D	B			D			B		E	B	
Approach Delay		27.9			46.1			16.9			39.5	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			D			B			D		

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 36.5






Intersection LOS: D












Intersection Capacity Utilization 103.8%







ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 77: Mc Donough Blvd & Boulevard

 ø1	 ø2	 ø4
17 s	40 s	33 s
 ø6		 ø8
57 s		33 s

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	150		0	500
Storage Lanes		0	1		1	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	50
Trailing Detector (ft)	0		0	0	0	0
Turning Speed (mph)		9	15		15	9
Satd. Flow (prot)	3525	0	1770	1863	1770	1583
Flt Permitted			0.195		0.950	
Satd. Flow (perm)	3525	0	363	1863	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	4					298
Link Speed (mph)	30			30	30	
Link Distance (ft)	1994			607	1361	
Travel Time (s)	45.3			13.8	30.9	
Volume (vph)	659	17	378	466	165	268
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.96	0.96	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Lane Group Flow (vph)	727	0	394	485	183	298
Turn Type			pm+pt			Perm
Protected Phases	6		5	2	4	
Permitted Phases			2			4
Detector Phases	6		5	2	4	4
Minimum Initial (s)	15.0		8.0	15.0	19.0	19.0
Minimum Split (s)	20.4		13.0	20.4	24.5	24.5
Total Split (s)	20.5	0.0	15.0	35.5	24.5	24.5
Total Split (%)	34.2%	0.0%	25.0%	59.2%	40.8%	40.8%
Yellow Time (s)	3.7		3.5	3.7	3.7	3.7
All-Red Time (s)	1.7		1.5	1.7	1.8	1.8
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?						
Recall Mode	Max		None	Max	None	None
Act Effct Green (s)	16.5		31.5	31.5	20.5	20.5
Actuated g/C Ratio	0.28		0.52	0.52	0.34	0.34
v/c Ratio	0.75		0.88	0.50	0.30	0.40
Control Delay	25.6		35.6	11.4	16.2	4.0
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	25.6		35.6	11.4	16.2	4.0
LOS	C		D	B	B	A
Approach Delay	25.6			22.2	8.7	

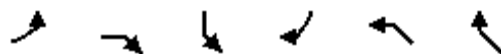
						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach LOS	C		C		A	
Intersection Summary						
Area Type:	Other					
Cycle Length: 60						
Actuated Cycle Length: 60						
Natural Cycle: 60						
Control Type: Actuated-Uncoordinated						
Maximum v/c Ratio: 0.88						
Intersection Signal Delay: 20.3				Intersection LOS: C		
Intersection Capacity Utilization 65.5%				ICU Level of Service C		
Analysis Period (min) 15						

Splits and Phases: 79: Mc Donough Blvd & Sawtell Avenue

← ø2	↖ ø4
35.5 s	24.5 s
↘ ø5	→ ø6
15 s	20.5 s



Lane Group	EBL	EBR	SBL	SBR	NWL	NWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%		0%	
Storage Length (ft)	0	0	0	0	0	80
Storage Lanes	1	0	1	0	0	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Turning Speed (mph)	15	9	15	9	15	9
Satd. Flow (prot)	1650	1504	1724	0	1770	1583
Flt Permitted	0.730		0.968		0.950	
Satd. Flow (perm)	1225	1504	1724	0	1770	1583
Right Turn on Red		Yes		Yes		Yes
Satd. Flow (RTOR)	161	277	39			
Link Speed (mph)	30		30		30	
Link Distance (ft)	1263		329		1994	
Travel Time (s)	28.7		7.5		45.3	
Volume (vph)	72	628	230	113	539	101
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.87	0.87	0.86	0.86	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%		0%	
Lane Group Flow (vph)	244	561	398	0	612	115
Turn Type	Perm				pm+ov	
Protected Phases		2	4		6	4
Permitted Phases	2					6
Detector Phases	2	2	4		6	4
Minimum Initial (s)	35.0	35.0	14.0		35.0	14.0
Minimum Split (s)	40.7	40.7	19.2		40.7	19.2
Total Split (s)	40.8	40.8	19.2	0.0	40.8	19.2
Total Split (%)	68.0%	68.0%	32.0%	0.0%	68.0%	32.0%
Yellow Time (s)	3.7	3.7	3.4		3.7	3.4
All-Red Time (s)	2.0	2.0	1.8		2.0	1.8
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max	Max	None		Max	None
Act Effct Green (s)	36.8	36.8	15.2		36.8	60.0
Actuated g/C Ratio	0.61	0.61	0.25		0.61	1.00
v/c Ratio	0.30	0.54	0.85		0.56	0.07
Control Delay	3.1	5.4	39.8		9.4	0.1
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	3.1	5.4	39.8		9.4	0.1
LOS	A	A	D		A	A
Approach Delay	4.7		39.8		7.9	



Lane Group	EBL	EBR	SBL	SBR	NWL	NWR
Approach LOS	A		D		A	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 13.2

Intersection LOS: B

















Intersection Capacity Utilization 88.7%













ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 80: Mc Donough Blvd & Milton Ave.

 <div>ø2</div> <div>40.8 s</div>	 <div>ø4</div> <div>19.2 s</div>
 <div>ø6</div> <div>40.8 s</div>	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1807	0	0	1755	0	0	1818	0	0	1795	0
Flt Permitted		0.852			0.989			0.961			0.833	
Satd. Flow (perm)	0	1564	0	0	1739	0	0	1755	0	0	1527	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			60			8			12	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		776			776			1683			518	
Travel Time (s)		17.6			17.6			38.3			11.8	
Volume (vph)	70	125	20	5	81	61	4	44	7	274	314	61
Confl. Peds. (#/hr)			4						3			7
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.86	0.86	0.86	0.85	0.85	0.85	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	227	0	0	171	0	0	65	0	0	676	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phases	4	4		8	8		2	2		6	6	
Minimum Initial (s)	9.0	9.0		16.0	16.0		30.0	30.0		14.0	14.0	
Minimum Split (s)	26.7	26.7		26.7	26.7		35.9	35.9		30.9	30.9	
Total Split (s)	26.7	26.7	0.0	26.7	26.7	0.0	38.3	38.3	0.0	38.3	38.3	0.0
Total Split (%)	41.1%	41.1%	0.0%	41.1%	41.1%	0.0%	58.9%	58.9%	0.0%	58.9%	58.9%	0.0%
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.5	2.5		2.5	2.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		18.4			18.4			35.4			35.4	
Actuated g/C Ratio		0.30			0.30			0.57			0.57	
v/c Ratio		0.48			0.31			0.06			0.77	
Control Delay		20.4			12.2			5.9			18.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		20.4			12.2			5.9			18.4	
LOS		C			B			A			B	
Approach Delay		20.4			12.2			5.9			18.4	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			B			A			B		

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 61.8

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 17.2

Intersection LOS: B
















Intersection Capacity Utilization 77.9%










ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 85: Atlanta Ave. & Cherokee Ave.











 ø2	 ø4
38.3 s	26.7 s
 ø6	 ø8
38.3 s	26.7 s










													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Sign Control	Stop			Stop			Free			Free			
Grade	0%			0%			0%			0%			
Volume (veh/h)	0	0	0	0	0	223	0	1032	33	111	1202	0	
Peak Hour Factor	0.92	0.92	0.92	0.84	0.84	0.84	0.87	0.87	0.87	0.90	0.90	0.90	
Hourly flow rate (vph)	0	0	0	0	0	265	0	1186	38	123	1336	0	
Pedestrians						3						21	
Lane Width (ft)						12.0						12.0	
Walking Speed (ft/s)						4.0						4.0	
Percent Blockage						0						2	
Right turn flare (veh)													
Median type	None				None								
Median storage veh													
Upstream signal (ft)											170		
pX, platoon unblocked	0.92	0.92	0.92	0.92	0.92	0.92							
vC, conflicting volume	2462	2809	668	2123	2790	636	1336			1227			
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	2504	2884	545	2134	2863	636	1274			1227			
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1			
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2			
p0 queue free %	100	100	100	100	100	36	100			78			
cM capacity (veh/h)	4	11	442	21	12	412	495			562			
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2								
Volume Total	265	791	433	569	890								
Volume Left	0	0	0	123	0								
Volume Right	265	0	38	0	0								
cSH	412	1700	1700	562	1700								
Volume to Capacity	0.64	0.47	0.25	0.22	0.52								
Queue Length 95th (ft)	110	0	0	21	0								
Control Delay (s)	28.2	0.0	0.0	5.9	0.0								
Lane LOS	D				A								
Approach Delay (s)	28.2	0.0	2.3										
Approach LOS	D												
Intersection Summary													
Average Delay	3.7												
Intersection Capacity Utilization	72.7%			ICU Level of Service			C						
Analysis Period (min)	15												

















						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Volume (veh/h)	17	21	722	15	23	902
Peak Hour Factor	0.89	0.89	0.94	0.94	0.89	0.89
Hourly flow rate (vph)	19	24	768	16	26	1013
Pedestrians	18					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	2					
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)	672					
pX, platoon unblocked	0.89					
vC, conflicting volume	1352	794			802	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1271	794			802	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	86	93			97	
cM capacity (veh/h)	135	326			805	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	43	784	364	676		
Volume Left	19	0	26	0		
Volume Right	24	16	0	0		
cSH	200	1700	805	1700		
Volume to Capacity	0.21	0.46	0.03	0.40		
Queue Length 95th (ft)	20	0	2	0		
Control Delay (s)	27.8	0.0	1.0	0.0		
Lane LOS	D		A			
Approach Delay (s)	27.8	0.0	0.4			
Approach LOS	D					
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization	51.4%		ICU Level of Service		A	
Analysis Period (min)	15					



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕		↕↕	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	16	866	819	14	74	17
Peak Hour Factor	0.96	0.96	0.97	0.97	0.78	0.78
Hourly flow rate (vph)	17	902	844	14	95	22
Pedestrians					13	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					1	
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		607	1125			
pX, platoon unblocked	0.88				0.92	0.88
vC, conflicting volume	872				1349	865
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	854				1031	846
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				53	92
cM capacity (veh/h)	680				203	266
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	317	601	859	117		
Volume Left	17	0	0	95		
Volume Right	0	0	14	22		
cSH	680	1700	1700	212		
Volume to Capacity	0.02	0.35	0.51	0.55		
Queue Length 95th (ft)	2	0	0	73		
Control Delay (s)	0.8	0.0	0.0	40.9		
Lane LOS	A			E		
Approach Delay (s)	0.3		0.0	40.9		
Approach LOS				E		
Intersection Summary						
Average Delay			2.7			
Intersection Capacity Utilization			55.8%		ICU Level of Service	B
Analysis Period (min)			15			

						
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Yield	Stop		Free	
Grade		0%	0%		0%	
Volume (veh/h)	43	172	193	37	38	99
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	47	187	210	40	41	108
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	282	136	190	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	282	136	190	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	90	75	69	96	97	
cM capacity (veh/h)	484	735	687	1085	1623	
Direction, Lane #	NB 1	SB 1	SE 1			
Volume Total	234	250	149			
Volume Left	47	0	41			
Volume Right	0	40	108			
cSH	666	730	1623			
Volume to Capacity	0.35	0.34	0.03			
Queue Length 95th (ft)	39	38	2			
Control Delay (s)	13.3	12.5	2.2			
Lane LOS	B	B	A			
Approach Delay (s)	13.3	12.5	2.2			
Approach LOS	B	B				
Intersection Summary						
Average Delay		10.4				
Intersection Capacity Utilization		42.0%		ICU Level of Service		A
Analysis Period (min)		15				

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	150	100	141	33	107	195
Peak Hour Factor	0.90	0.90	0.79	0.79	0.93	0.93
Hourly flow rate (vph)	167	111	178	42	115	210
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	639	199			220	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	639	199			220	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	59	87			91	
cM capacity (veh/h)	403	842			1349	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	278	220	325			
Volume Left	167	0	115			
Volume Right	111	42	0			
cSH	509	1700	1349			
Volume to Capacity	0.55	0.13	0.09			
Queue Length 95th (ft)	81	0	7			
Control Delay (s)	20.3	0.0	3.3			
Lane LOS	C		A			
Approach Delay (s)	20.3	0.0	3.3			
Approach LOS	C					
Intersection Summary						
Average Delay		8.1				
Intersection Capacity Utilization		50.0%		ICU Level of Service		A
Analysis Period (min)		15				

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Yield			Stop			Stop			Stop	
Volume (vph)	0	0	0	24	157	0	99	0	0	0	31	89
Peak Hour Factor	0.58	0.58	0.58	0.90	0.90	0.90	0.83	0.83	0.83	0.80	0.80	0.80
Hourly flow rate (vph)	0	0	0	27	174	0	119	0	0	0	39	111
Direction, Lane #	WB 1	WB 2	NB 1	SB 1								
Volume Total (vph)	85	116	119	150								
Volume Left (vph)	27	0	119	0								
Volume Right (vph)	0	0	0	111								
Hadj (s)	0.19	0.03	0.23	-0.41								
Departure Headway (s)	5.3	5.2	4.8	4.2								
Degree Utilization, x	0.13	0.17	0.16	0.17								
Capacity (veh/h)	642	666	714	820								
Control Delay (s)	7.9	8.0	8.7	8.0								
Approach Delay (s)	7.9		8.7	8.0								
Approach LOS	A		A	A								
Intersection Summary												
Delay			8.2									
HCM Level of Service			A									
Intersection Capacity Utilization			23.9%		ICU Level of Service					A		
Analysis Period (min)			15									






















Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↕	↕	
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	0	9	162	641	28
Peak Hour Factor	0.92	0.92	0.86	0.86	0.94	0.94
Hourly flow rate (vph)	0	0	10	188	682	30
Pedestrians	14					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)				518		
pX, platoon unblocked						
vC, conflicting volume	920	711	726			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	920	711	726			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	99			
cM capacity (veh/h)	297	433	877			
Direction, Lane #	NB 1	SB 1				
Volume Total	199	712				
Volume Left	10	0				
Volume Right	0	30				
cSH	877	1700				
Volume to Capacity	0.01	0.42				
Queue Length 95th (ft)	1	0				
Control Delay (s)	0.6	0.0				
Lane LOS	A					
Approach Delay (s)	0.6	0.0				
Approach LOS						
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			38.8%	ICU Level of Service		A
Analysis Period (min)			15			













Atlanta BeltLine
Sub-Area 3

BASELINE 2020
WITH IMPROVEMENTS

SYNCHRO REPORT
(September 2008)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	0		0	280		280	150		0	0		0
Storage Lanes	0		0	1		2	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50	50	50	50			50	
Trailing Detector (ft)				0	0	0	0	0			0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	0	0	1681	1715	2787	3433	3539	0	0	4724	0
Flt Permitted				0.950	0.969		0.950					
Satd. Flow (perm)	0	0	0	1681	1715	2787	3433	3539	0	0	4724	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						148					173	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		281			1064			442			562	
Travel Time (s)		6.4			24.2			10.0			12.8	
Volume (vph)	0	0	0	338	78	580	775	1234	0	0	157	142
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.97	0.97	0.97	0.97	0.97	0.97	0.82	0.82	0.82
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	0	0	209	219	598	799	1272	0	0	364	0
Turn Type				Split		Perm	Prot					
Protected Phases				4	4		1	1 2			2	
Permitted Phases						4						
Detector Phases				4	4	4	1	1 2			2	
Minimum Initial (s)				12.0	12.0	12.0	11.0				14.0	
Minimum Split (s)				30.0	30.0	30.0	16.2				27.0	
Total Split (s)	0.0	0.0	0.0	30.0	30.0	30.0	36.2	70.0	0.0	0.0	33.8	0.0
Total Split (%)	0.0%	0.0%	0.0%	30.0%	30.0%	30.0%	36.2%	70.0%	0.0%	0.0%	33.8%	0.0%
Yellow Time (s)				3.6	3.6	3.6	3.6				3.7	
All-Red Time (s)				2.4	2.4	2.4	1.6				2.3	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?												
Recall Mode				None	None	None	Min				C-Max	
Act Effct Green (s)				25.1	25.1	25.1	27.5	66.9			35.3	
Actuated g/C Ratio				0.25	0.25	0.25	0.28	0.67			0.35	
v/c Ratio				0.49	0.51	0.74	0.85	0.54			0.20	
Control Delay				36.3	36.6	31.6	45.8	9.1			13.0	
Queue Delay				0.0	0.0	0.0	0.1	0.8			0.0	
Total Delay				36.3	36.6	31.6	45.9	9.8			13.0	
LOS				D	D	C	D	A			B	
Approach Delay					33.6			23.7			13.0	

Lane Group	ø5	ø6	ø8
Lane Configurations			
Ideal Flow (vphpl)			
Lane Width (ft)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Total Lost Time (s)			
Leading Detector (ft)			
Trailing Detector (ft)			
Turning Speed (mph)			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Volume (vph)			
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)			
Peak Hour Factor			
Growth Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Parking (#/hr)			
Mid-Block Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phases			
Minimum Initial (s)	7.0	14.0	12.0
Minimum Split (s)	12.2	27.0	30.0
Total Split (s)	12.2	57.8	30.0
Total Split (%)	12%	58%	30%
Yellow Time (s)	3.6	3.7	3.6
All-Red Time (s)	1.6	2.3	2.4
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Recall Mode	None	C-Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C						C			B		

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 25.5







Intersection LOS: C

Intersection Capacity Utilization 90.5%

ICU Level of Service E

Analysis Period (min) 15




















Splits and Phases: 70: I-20 WB On & Boulevard

#70  ø1 36.2 s		#70  ø2 33.8 s		#70  ø4 30 s	
#71  ø5 12.2 s		#71  ø6 57.8 s		#71  ø8 30 s	













Lane Group	ø5	ø6	ø8
Approach LOS			
Intersection Summary			

Atlanta BeltLine Master Plan Subarea 3
71: I-20 EB Off & Boulevard

Baseline 2020 AM Peak With Improvements
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	320		320	0		0	0		0	150		0
Storage Lanes	1		1	0		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50					50		50	50	
Trailing Detector (ft)	0	0	0					0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1681	1550	1504	0	0	0	0	3409	0	3433	3539	0
Flt Permitted	0.950	0.967								0.950		
Satd. Flow (perm)	1681	1550	1466	0	0	0	0	3409	0	3433	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22	485					53				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1070			1567			170			442	
Travel Time (s)		24.3			35.6			3.9			10.0	
Volume (vph)	531	0	630	0	0	0	0	1460	397	118	379	0
Confl. Peds. (#/hr)			11			9			8			10
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.50	0.50	0.50	0.97	0.97	0.97	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	333	355	574	0	0	0	0	1914	0	123	395	0
Turn Type	Split		Perm							Prot		
Protected Phases	8	8						6		5	5 6	
Permitted Phases			8									
Detector Phases	8	8	8					6		5	5 6	
Minimum Initial (s)	12.0	12.0	12.0					14.0		7.0		
Minimum Split (s)	30.0	30.0	30.0					27.0		12.2		
Total Split (s)	30.0	30.0	30.0	0.0	0.0	0.0	0.0	57.8	0.0	12.2	70.0	0.0
Total Split (%)	30.0%	30.0%	30.0%	0.0%	0.0%	0.0%	0.0%	57.8%	0.0%	12.2%	70.0%	0.0%
Yellow Time (s)	3.6	3.6	3.6					3.7		3.6		
All-Red Time (s)	2.4	2.4	2.4					2.3		1.6		
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?												
Recall Mode	None	None	None					C-Max		None		
Act Effct Green (s)	25.1	25.1	25.1					54.1		8.8	66.9	
Actuated g/C Ratio	0.25	0.25	0.25					0.54		0.09	0.67	
v/c Ratio	0.79	0.87	0.78					1.02		0.41	0.17	
Control Delay	49.4	56.7	14.9					50.7		29.7	12.3	
Queue Delay	0.0	0.0	0.0					0.0		0.0	0.0	
Total Delay	49.4	56.7	14.9					50.7		29.7	12.3	
LOS	D	E	B					D		C	B	
Approach Delay		35.8						50.7			16.5	

Lane Group	ø1	ø2	ø4
Lane Configurations			
Ideal Flow (vphpl)			
Lane Width (ft)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Total Lost Time (s)			
Leading Detector (ft)			
Trailing Detector (ft)			
Turning Speed (mph)			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Volume (vph)			
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)			
Peak Hour Factor			
Growth Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Parking (#/hr)			
Mid-Block Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phases			
Minimum Initial (s)	11.0	14.0	12.0
Minimum Split (s)	16.2	27.0	30.0
Total Split (s)	36.2	33.8	30.0
Total Split (%)	36%	34%	30%
Yellow Time (s)	3.6	3.7	3.6
All-Red Time (s)	1.6	2.3	2.4
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Recall Mode	Min	C-Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D						D			B		

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 40.8







Intersection LOS: D

Intersection Capacity Utilization 90.5%

ICU Level of Service E

Analysis Period (min) 15


















Splits and Phases: 71: I-20 EB Off & Boulevard













#70  ø1 36.2 s		#70  ø2 33.8 s		#70  ø4 30 s	
#71  ø5 12.2 s		#71  ø6 57.8 s		#71  ø8 30 s	

Lane Group	ø1	ø2	ø4
Approach LOS			
Intersection Summary			

Atlanta BeltLine Master Plan Subarea 3
75: Atlanta Ave. & Boulevard

Baseline 2020 AM Peak With Improvements
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1747	0	0	1752	0	1770	1857	0	0	3366	0
Flt Permitted		0.890			0.634		0.270				0.789	
Satd. Flow (perm)	0	1615	0	0	1130	0	500	1857	0	0	2656	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			6			1			115	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		806			1283			1444			1606	
Travel Time (s)		18.3			29.2			32.8			36.5	
Volume (vph)	107	4	27	88	0	14	192	948	20	5	494	246
Confl. Peds. (#/hr)	6			17			8			8		
Confl. Bikes (#/hr)												
Peak Hour Factor	0.75	0.75	0.75	0.74	0.74	0.74	0.92	0.92	0.92	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	184	0	0	138	0	209	1052	0	0	828	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			4			2			6	
Permitted Phases	3			4			2			6		
Detector Phases	3	3		4	4		2	2		6	6	
Minimum Initial (s)	19.0	19.0		10.0	10.0		35.0	35.0		35.0	35.0	
Minimum Split (s)	24.8	24.8		23.8	23.8		41.5	41.5		41.5	41.5	
Total Split (s)	24.8	24.8	0.0	23.8	23.8	0.0	66.4	66.4	0.0	66.4	66.4	0.0
Total Split (%)	21.6%	21.6%	0.0%	20.7%	20.7%	0.0%	57.7%	57.7%	0.0%	57.7%	57.7%	0.0%
Yellow Time (s)	3.2	3.2		3.2	3.2		3.8	3.8		3.8	3.8	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.7	2.7		2.7	2.7	
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?												
Recall Mode	Min	Min		None	None		Min	Min		Min	Min	
Act Effct Green (s)		20.8			17.7		62.4	62.4			62.4	
Actuated g/C Ratio		0.18			0.16		0.55	0.55			0.55	
v/c Ratio		0.60			0.76		0.76	1.02			0.54	
Control Delay		50.1			69.4		40.5	60.9			15.5	
Queue Delay		0.0			0.0		0.0	0.0			0.0	
Total Delay		50.1			69.4		40.5	60.9			15.5	
LOS		D			E		D	E			B	
Approach Delay		50.1			69.4			57.5			15.5	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			E			E			B		

Intersection Summary

Area Type: Other

Cycle Length: 115

Actuated Cycle Length: 112.9

Natural Cycle: 115

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 43.2

Intersection LOS: D

Intersection Capacity Utilization 106.1%

ICU Level of Service G




















Analysis Period (min) 15

Splits and Phases: 75: Atlanta Ave. & Boulevard













 ø2	 ø3	 ø4
66.4 s	24.8 s	23.8 s
 ø6		
66.4 s		

Atlanta BeltLine Master Plan Subarea 3
70: I-20 WB On & Boulevard

Baseline 2020 PM Peak With Improvements
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	0		0	280		280	150		0	0		0
Storage Lanes	0		0	1		2	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50	50	50	50			50	
Trailing Detector (ft)				0	0	0	0	0			0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	0	0	1681	1690	2787	3433	3539	0	0	4917	0
Flt Permitted				0.950	0.955		0.950					
Satd. Flow (perm)	0	0	0	1681	1690	2787	3433	3539	0	0	4917	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						178					86	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		281			1064			442			562	
Travel Time (s)		6.4			24.2			10.0			12.8	
Volume (vph)	0	0	0	184	5	162	640	903	0	0	882	249
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.91	0.91	0.91	0.97	0.97	0.97	0.80	0.80	0.80
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	0	0	101	106	178	660	931	0	0	1413	0
Turn Type				Split		Perm	Prot					
Protected Phases				4	4		1	1 2			2	
Permitted Phases						4						
Detector Phases				4	4	4	1	1 2			2	
Minimum Initial (s)				12.0	12.0	12.0	11.0				14.0	
Minimum Split (s)				30.0	30.0	30.0	16.2				27.0	
Total Split (s)	0.0	0.0	0.0	30.0	30.0	30.0	24.9	60.0	0.0	0.0	35.1	0.0
Total Split (%)	0.0%	0.0%	0.0%	33.3%	33.3%	33.3%	27.7%	66.7%	0.0%	0.0%	39.0%	0.0%
Yellow Time (s)				3.6	3.6	3.6	3.6				3.7	
All-Red Time (s)				2.4	2.4	2.4	1.6				2.3	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?												
Recall Mode				None	None	None	Min				C-Max	
Act Effct Green (s)				21.3	21.3	21.3	21.0	60.7			35.6	
Actuated g/C Ratio				0.24	0.24	0.24	0.23	0.67			0.40	
v/c Ratio				0.25	0.26	0.22	0.82	0.39			0.71	
Control Delay				28.0	28.2	4.7	49.4	7.6			24.7	
Queue Delay				0.0	0.0	0.0	0.0	0.2			0.0	
Total Delay				28.0	28.2	4.7	49.4	7.8			24.7	
LOS				C	C	A	D	A			C	
Approach Delay					17.3			25.0			24.7	

Lane Group	ø5	ø6	ø8
Lane Configurations			
Ideal Flow (vphpl)			
Lane Width (ft)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Total Lost Time (s)			
Leading Detector (ft)			
Trailing Detector (ft)			
Turning Speed (mph)			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Volume (vph)			
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)			
Peak Hour Factor			
Growth Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Parking (#/hr)			
Mid-Block Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phases			
Minimum Initial (s)	7.0	14.0	12.0
Minimum Split (s)	12.2	27.0	30.0
Total Split (s)	13.4	46.6	30.0
Total Split (%)	15%	52%	33%
Yellow Time (s)	3.6	3.7	3.6
All-Red Time (s)	1.6	2.3	2.4
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Recall Mode	None	C-Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B						C			C		

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 24.0







Intersection LOS: C

Intersection Capacity Utilization 79.8%

ICU Level of Service D

Analysis Period (min) 15




















Splits and Phases: 70: I-20 WB On & Boulevard

#70  ø1	#70  ø2	#70  ø4
24.9 s	35.1 s	30 s
#71  ø5	#71  ø6	#71  ø8
13.4 s	46.6 s	30 s

Lane Group	ø5	ø6	ø8
Approach LOS			
Intersection Summary			

Atlanta BeltLine Master Plan Subarea 3
71: I-20 EB Off & Boulevard













Baseline 2020 PM Peak With Improvements
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	320		320	0		0	0		0	150		0
Storage Lanes	1		1	0		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50					50		50	50	
Trailing Detector (ft)	0	0	0					0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1681	1450	1504	0	0	0	0	3402	0	3433	3539	0
Flt Permitted	0.950	0.990								0.950		
Satd. Flow (perm)	1681	1450	1468	0	0	0	0	3402	0	3433	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		164	164					56				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1070			1567			170			442	
Travel Time (s)		24.3			35.6			3.9			10.0	
Volume (vph)	316	0	538	0	0	0	0	1219	352	293	763	0
Confl. Peds. (#/hr)			11			9			8			10
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.50	0.50	0.50	0.96	0.96	0.96	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	260	332	297	0	0	0	0	1637	0	337	877	0
Turn Type	Split		Perm							Prot		
Protected Phases	8	8						6		5	5	6
Permitted Phases			8									
Detector Phases	8	8	8					6		5	5	6
Minimum Initial (s)	12.0	12.0	12.0					14.0		7.0		
Minimum Split (s)	30.0	30.0	30.0					27.0		12.2		
Total Split (s)	30.0	30.0	30.0	0.0	0.0	0.0	0.0	46.6	0.0	13.4	60.0	0.0
Total Split (%)	33.3%	33.3%	33.3%	0.0%	0.0%	0.0%	0.0%	51.8%	0.0%	14.9%	66.7%	0.0%
Yellow Time (s)	3.6	3.6	3.6					3.7		3.6		
All-Red Time (s)	2.4	2.4	2.4					2.3		1.6		
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?												
Recall Mode	None	None	None					C-Max		None		
Act Effct Green (s)	21.3	21.3	21.3					44.7		12.0	60.7	
Actuated g/C Ratio	0.24	0.24	0.24					0.50		0.13	0.67	
v/c Ratio	0.65	0.71	0.63					0.95		0.73	0.37	
Control Delay	38.4	23.7	19.0					36.0		49.9	7.7	
Queue Delay	0.0	0.0	0.0					0.0		0.0	0.1	
Total Delay	38.4	23.7	19.0					36.0		49.9	7.8	
LOS	D	C	B					D		D	A	
Approach Delay		26.4						36.0			19.5	

Lane Group	ø1	ø2	ø4
Lane Configurations			
Ideal Flow (vphpl)			
Lane Width (ft)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Total Lost Time (s)			
Leading Detector (ft)			
Trailing Detector (ft)			
Turning Speed (mph)			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Volume (vph)			
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)			
Peak Hour Factor			
Growth Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Parking (#/hr)			
Mid-Block Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phases			
Minimum Initial (s)	11.0	14.0	12.0
Minimum Split (s)	16.2	27.0	30.0
Total Split (s)	24.9	35.1	30.0
Total Split (%)	28%	39%	33%
Yellow Time (s)	3.6	3.7	3.6
All-Red Time (s)	1.6	2.3	2.4
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Recall Mode	Min	C-Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

71: I-20 EB Off & Boulevard

MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C						D			B		

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 28.3

Intersection LOS: C

Intersection Capacity Utilization 79.8%


















ICU Level of Service D













Analysis Period (min) 15

Splits and Phases: 71: I-20 EB Off & Boulevard

#70  ø1	#70  ø2	#70  ø4
24.9 s	35.1 s	30 s
#71  ø5	#71  ø6	#71  ø8
13.4 s	46.6 s	30 s

Lane Group	ø1	ø2	ø4
Approach LOS			
Intersection Summary			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1715	0	0	1706	0	1770	1846	0	0	3444	0
Flt Permitted		0.673			0.767		0.163				0.780	
Satd. Flow (perm)	0	1191	0	0	1329	0	304	1846	0	0	2689	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			17			4			33	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		806			1283			1444			1606	
Travel Time (s)		18.3			29.2			32.8			36.5	
Volume (vph)	167	0	98	15	0	12	32	601	39	16	750	162
Confl. Peds. (#/hr)	6			17			8			8		
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.69	0.69	0.69	0.89	0.89	0.89	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	292	0	0	39	0	36	719	0	0	977	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			4			2			6	
Permitted Phases	3			4			2			6		
Detector Phases	3	3		4	4		2	2		6	6	
Minimum Initial (s)	19.0	19.0		10.0	10.0		35.0	35.0		35.0	35.0	
Minimum Split (s)	24.8	24.8		23.8	23.8		41.5	41.5		41.5	41.5	
Total Split (s)	27.0	27.0	0.0	23.8	23.8	0.0	44.2	44.2	0.0	44.2	44.2	0.0
Total Split (%)	28.4%	28.4%	0.0%	25.1%	25.1%	0.0%	46.5%	46.5%	0.0%	46.5%	46.5%	0.0%
Yellow Time (s)	3.2	3.2		3.2	3.2		3.8	3.8		3.8	3.8	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.7	2.7		2.7	2.7	
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?												
Recall Mode	Min	Min		None	None		Min	Min		Min	Min	
Act Effct Green (s)		22.8			11.8		39.6	39.6			39.6	
Actuated g/C Ratio		0.29			0.14		0.50	0.50			0.50	
v/c Ratio		0.80			0.20		0.24	0.78			0.72	
Control Delay		44.6			24.9		19.2	25.6			20.2	
Queue Delay		0.0			0.0		0.0	0.0			0.0	
Total Delay		44.6			24.9		19.2	25.6			20.2	
LOS		D			C		B	C			C	
Approach Delay		44.6			24.9			25.3			20.2	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			C			C			C		

Intersection Summary

Area Type: Other

Cycle Length: 95

Actuated Cycle Length: 79.2

Natural Cycle: 95

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 25.6





Intersection LOS: C

Intersection Capacity Utilization 63.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 75: Atlanta Ave. & Boulevard

 ø2	 ø3	 ø4
44.2 s	27 s	23.8 s
 ø6		
44.2 s		

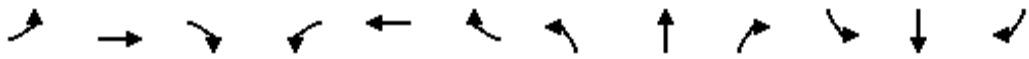







Atlanta BeltLine
Sub-Area 3

BASELINE 2030













SYNCHRO REPORT
(September 2008)

Atlanta BeltLine Master Plan Subarea 3
70: I-20 WB On & Boulevard

Baseline 2030 AM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	0		0	280		280	150		0	0		0
Storage Lanes	0		0	1		2	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50	50	50	50			50	
Trailing Detector (ft)				0	0	0	0	0			0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	0	0	1681	1715	2787	3433	3539	0	0	4724	0
Flt Permitted				0.950	0.969		0.950					
Satd. Flow (perm)	0	0	0	1681	1715	2787	3433	3539	0	0	4724	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						90					157	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		281			1064			442			562	
Travel Time (s)		6.4			24.2			10.0			12.8	
Volume (vph)	0	0	0	421	97	721	963	1533	0	0	195	177
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.97	0.97	0.97	0.97	0.97	0.97	0.82	0.82	0.82
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	0	0	260	274	743	993	1580	0	0	454	0
Turn Type				Split		Perm	Prot					
Protected Phases				4	4		1	1 2			2	
Permitted Phases						4						
Detector Phases				4	4	4	1	1 2			2	
Minimum Initial (s)				12.0	12.0	12.0	11.0				14.0	
Minimum Split (s)				30.0	30.0	30.0	16.2				27.0	
Total Split (s)	0.0	0.0	0.0	42.0	42.0	42.0	59.1	108.0	0.0	0.0	48.9	0.0
Total Split (%)	0.0%	0.0%	0.0%	28.0%	28.0%	28.0%	39.4%	72.0%	0.0%	0.0%	32.6%	0.0%
Yellow Time (s)				3.6	3.6	3.6	3.6				3.7	
All-Red Time (s)				2.4	2.4	2.4	1.6				2.3	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?												
Recall Mode				None	None	None	Min				C-Max	
Act Effct Green (s)				38.0	38.0	38.0	53.5	104.0			46.5	
Actuated g/C Ratio				0.25	0.25	0.25	0.36	0.69			0.31	
v/c Ratio				0.61	0.63	0.96	0.81	0.64			0.29	
Control Delay				56.6	57.3	72.3	48.9	11.6			26.0	
Queue Delay				0.0	0.0	0.0	76.0	27.5			0.0	
Total Delay				56.6	57.3	72.3	124.9	39.0			26.0	
LOS				E	E	E	F	D			C	
Approach Delay					65.9			72.2			26.0	

Lane Group	ø5	ø6	ø8
Lane Configurations			
Ideal Flow (vphpl)			
Lane Width (ft)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Total Lost Time (s)			
Leading Detector (ft)			
Trailing Detector (ft)			
Turning Speed (mph)			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Volume (vph)			
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)			
Peak Hour Factor			
Growth Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Parking (#/hr)			
Mid-Block Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phases			
Minimum Initial (s)	7.0	14.0	12.0
Minimum Split (s)	12.2	27.0	30.0
Total Split (s)	12.2	95.8	42.0
Total Split (%)	8%	64%	28%
Yellow Time (s)	3.6	3.7	3.6
All-Red Time (s)	1.6	2.3	2.4
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Recall Mode	None	C-Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	E						E			C		

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.13

Intersection Signal Delay: 65.4







Intersection LOS: E

Intersection Capacity Utilization 108.5%

ICU Level of Service G

Analysis Period (min) 15




















Splits and Phases: 70: I-20 WB On & Boulevard

#70  ø1 59.1 s		#70  ø2 48.9 s		#70  ø4 42 s	
#71  ø5 12.2 s		#71  ø6 95.8 s		#71  ø8 42 s	













Lane Group	ø5	ø6	ø8
Approach LOS			
Intersection Summary			

Atlanta BeltLine Master Plan Subarea 3
71: I-20 EB Off & Boulevard

Baseline 2030 AM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	320		320	0		0	0		0	150		0
Storage Lanes	1		1	0		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50					50		50	50	
Trailing Detector (ft)	0	0	0					0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1681	1538	1504	0	0	0	0	3405	0	3433	3539	0
Flt Permitted	0.950	0.968								0.950		
Satd. Flow (perm)	1681	1538	1456	0	0	0	0	3405	0	3433	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17	421					42				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1070			1567			170			442	
Travel Time (s)		24.3			35.6			3.9			10.0	
Volume (vph)	660	0	783	0	0	0	0	1815	493	147	471	0
Confl. Peds. (#/hr)			11			9			8			10
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.50	0.50	0.50	0.97	0.97	0.97	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	424	449	695	0	0	0	0	2379	0	153	491	0
Turn Type	Split		Perm							Prot		
Protected Phases	8	8						6		5	5	6
Permitted Phases			8									
Detector Phases	8	8	8					6		5	5	6
Minimum Initial (s)	12.0	12.0	12.0					14.0		7.0		
Minimum Split (s)	30.0	30.0	30.0					27.0		12.2		
Total Split (s)	42.0	42.0	42.0	0.0	0.0	0.0	0.0	95.8	0.0	12.2	108.0	0.0
Total Split (%)	28.0%	28.0%	28.0%	0.0%	0.0%	0.0%	0.0%	63.9%	0.0%	8.1%	72.0%	0.0%
Yellow Time (s)	3.6	3.6	3.6					3.7		3.6		
All-Red Time (s)	2.4	2.4	2.4					2.3		1.6		
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?												
Recall Mode	None	None	None					C-Max		None		
Act Effct Green (s)	38.0	38.0	38.0					91.8		8.2	104.0	
Actuated g/C Ratio	0.25	0.25	0.25					0.61		0.05	0.69	
v/c Ratio	1.00	1.12	1.02					1.13		0.81	0.20	
Control Delay	97.6	128.8	60.4					92.2		69.0	19.2	
Queue Delay	126.4	152.4	0.0					28.5		0.0	0.6	
Total Delay	224.0	281.2	60.4					120.7		69.0	19.8	
LOS	F	F	E					F		E	B	
Approach Delay		167.9						120.7			31.5	

Lane Group	ø1	ø2	ø4
Lane Configurations			
Ideal Flow (vphpl)			
Lane Width (ft)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Total Lost Time (s)			
Leading Detector (ft)			
Trailing Detector (ft)			
Turning Speed (mph)			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Volume (vph)			
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)			
Peak Hour Factor			
Growth Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Parking (#/hr)			
Mid-Block Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phases			
Minimum Initial (s)	11.0	14.0	12.0
Minimum Split (s)	16.2	27.0	30.0
Total Split (s)	59.1	48.9	42.0
Total Split (%)	39%	33%	28%
Yellow Time (s)	3.6	3.7	3.6
All-Red Time (s)	1.6	2.3	2.4
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Recall Mode	Min	C-Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	F						F			C		

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.13

Intersection Signal Delay: 124.3







Intersection LOS: F

Intersection Capacity Utilization 108.5%

ICU Level of Service G

Analysis Period (min) 15


















Splits and Phases: 71: I-20 EB Off & Boulevard













#70  ø1 59.1 s		#70  ø2 48.9 s		#70  ø4 42 s	
#71  ø5 12.2 s		#71  ø6 95.8 s		#71  ø8 42 s	

Lane Group	ø1	ø2	ø4
Approach LOS			
Intersection Summary			

Atlanta BeltLine Master Plan Subarea 3
73: Confederate Ave. & Boulevard

Baseline 2030 AM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	80		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1812	0	1770	1547	0	0	1841	0	0	3495	0
Flt Permitted		0.414		0.738				0.999			0.500	
Satd. Flow (perm)	0	771	0	1375	1547	0	0	1839	0	0	1763	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					48			3			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		792			1253			672			2707	
Travel Time (s)		18.0			28.5			15.3			61.5	
Volume (vph)	10	8	0	85	0	537	2	1273	65	178	797	21
Confl. Peds. (#/hr)			4			4			14			2
Confl. Bikes (#/hr)												
Peak Hour Factor	0.62	0.62	0.62	0.82	0.82	0.82	0.88	0.88	0.88	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	29	0	104	655	0	0	1523	0	0	1071	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Detector Phases	8	8		4	4		2	2		6	6	
Minimum Initial (s)	17.0	17.0		17.0	17.0		15.0	15.0		15.0	15.0	
Minimum Split (s)	22.3	22.3		22.3	22.3		20.2	20.2		20.2	20.2	
Total Split (s)	51.0	51.0	0.0	51.0	51.0	0.0	99.0	99.0	0.0	99.0	99.0	0.0
Total Split (%)	34.0%	34.0%	0.0%	34.0%	34.0%	0.0%	66.0%	66.0%	0.0%	66.0%	66.0%	0.0%
Yellow Time (s)	3.6	3.6		3.6	3.6		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.7	1.7		1.7	1.7		1.5	1.5		1.5	1.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Act Effct Green (s)		47.0		47.0	47.0			95.0			95.0	
Actuated g/C Ratio		0.31		0.31	0.31			0.63			0.63	
v/c Ratio		0.12		0.24	1.26			1.31			1.20dl	
Control Delay		38.6		40.2	172.9			170.9			48.0	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		38.6		40.2	172.9			170.9			48.0	
LOS		D		D	F			F			D	
Approach Delay		38.6			154.7			170.9			48.0	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			F			F			D		

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.31

Intersection Signal Delay: 127.2

Intersection LOS: F

Intersection Capacity Utilization 142.7%

ICU Level of Service H

Analysis Period (min) 15


















dl Defacto Left Lane. Recode with 1 though lane as a left lane.













Splits and Phases: 73: Confederate Ave. & Boulevard

 ø2	 ø4
99 s	51 s
 ø6	 ø8
99 s	51 s

Atlanta BeltLine Master Plan Subarea 3
75: Atlanta Ave. & Boulevard

Baseline 2030 AM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1747	0	0	1754	0	1770	1857	0	0	3362	0
Flt Permitted		0.892			0.607		0.222				0.774	
Satd. Flow (perm)	0	1618	0	0	1078	0	414	1857	0	0	2602	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			5			1			115	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		806			1283			1444			1606	
Travel Time (s)		18.3			29.2			32.8			36.5	
Volume (vph)	133	5	33	109	0	17	239	1179	24	6	614	306
Confl. Peds. (#/hr)	6			17			8			8		
Confl. Bikes (#/hr)												
Peak Hour Factor	0.75	0.75	0.75	0.74	0.74	0.74	0.92	0.92	0.92	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	228	0	0	170	0	260	1308	0	0	1029	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			4			2			6	
Permitted Phases	3			4			2			6		
Detector Phases	3	3		4	4		2	2		6	6	
Minimum Initial (s)	19.0	19.0		10.0	10.0		35.0	35.0		35.0	35.0	
Minimum Split (s)	24.8	24.8		23.8	23.8		41.5	41.5		41.5	41.5	
Total Split (s)	24.8	24.8	0.0	24.0	24.0	0.0	96.2	96.2	0.0	96.2	96.2	0.0
Total Split (%)	17.1%	17.1%	0.0%	16.6%	16.6%	0.0%	66.3%	66.3%	0.0%	66.3%	66.3%	0.0%
Yellow Time (s)	3.2	3.2		3.2	3.2		3.8	3.8		3.8	3.8	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.7	2.7		2.7	2.7	
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?												
Recall Mode	Min	Min		None	None		Min	Min		Min	Min	
Act Effct Green (s)		20.8			20.0		92.2	92.2			92.2	
Actuated g/C Ratio		0.14			0.14		0.64	0.64			0.64	
v/c Ratio		0.96			1.11		0.99	1.11			0.61	
Control Delay		107.5			159.3		80.2	87.6			15.4	
Queue Delay		0.0			0.0		0.0	0.0			0.0	
Total Delay		107.5			159.3		80.2	87.6			15.4	
LOS		F			F		F	F			B	
Approach Delay		107.5			159.3			86.4			15.4	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	F			F			F			B		

Intersection Summary

Area Type: Other

Cycle Length: 145

Actuated Cycle Length: 145

Natural Cycle: 145

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.11

Intersection Signal Delay: 67.7

Intersection LOS: E

Intersection Capacity Utilization 118.5%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 75: Atlanta Ave. & Boulevard

 ø2	 ø3	 ø4
96.2 s	24.8 s	24 s
 ø6		
96.2 s		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	1	0			0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	
Turning Speed (mph)	15	9	15			9
Satd. Flow (prot)	1770	1583	0	3514	3409	0
Flt Permitted	0.950			0.668		
Satd. Flow (perm)	1770	1583	0	2364	3409	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		85			80	
Link Speed (mph)	30			30	30	
Link Distance (ft)	3424			3251	1886	
Travel Time (s)	77.8			73.9	42.9	
Volume (vph)	87	79	199	1298	597	138
Confl. Peds. (#/hr)						11
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Lane Group Flow (vph)	94	85	0	1610	835	0
Turn Type		Perm	Perm			
Protected Phases	4			2	6	
Permitted Phases		4	2			
Detector Phases	4	4	2	2	6	
Minimum Initial (s)	9.0	9.0	15.0	15.0	15.0	
Minimum Split (s)	21.2	21.2	22.7	22.7	22.7	
Total Split (s)	21.2	21.2	68.8	68.8	68.8	0.0
Total Split (%)	23.6%	23.6%	76.4%	76.4%	76.4%	0.0%
Yellow Time (s)	3.2	3.2	3.8	3.8	3.8	
All-Red Time (s)	2.0	2.0	1.9	1.9	1.9	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	
Act Effct Green (s)	11.8	11.8		73.8	73.8	
Actuated g/C Ratio	0.13	0.13		0.82	0.82	
v/c Ratio	0.40	0.30		0.83	0.30	
Control Delay	40.8	11.0		12.2	2.7	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	40.8	11.0		12.2	2.7	
LOS	D	B		B	A	
Approach Delay	26.6			12.2	2.7	






Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach LOS	C		B		A	

Intersection Summary



















Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.83
Intersection Signal Delay:	10.2
Intersection LOS:	B
Intersection Capacity Utilization	80.3%
ICU Level of Service	D
Analysis Period (min)	15













Splits and Phases: 76: Englewood Ave. & Boulevard

 ø2 68.8 s	 ø4 21.2 s
 ø6 68.8 s	

Atlanta BeltLine Master Plan Subarea 3
77: Mc Donough Blvd & Boulevard

Baseline 2030 AM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%		0%		0%		0%		0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	1765	0	0	1758	0	0	1720	0	1770	1522	0
Flt Permitted	0.152				0.975			0.468		0.746		
Satd. Flow (perm)	283	1765	0	0	1715	0	0	818	0	1390	1522	0
Right Turn on Red			Yes				Yes				Yes	
Satd. Flow (RTOR)		36			31			6			349	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1125			1642			628			3251	
Travel Time (s)		25.6			37.3			14.3			73.9	
Volume (vph)	537	294	85	34	754	409	3	3	3	174	43	494
Confl. Peds. (#/hr)			16			7			8			9
Confl. Bikes (#/hr)												
Peak Hour Factor	0.78	0.78	0.78	0.94	0.94	0.94	0.50	0.50	0.50	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	688	486	0	0	1273	0	0	18	0	187	577	0
Turn Type	pm+pt		Perm		Perm		Perm		Perm		Perm	
Protected Phases	1	6			2			4			8	
Permitted Phases	6			2			4			8		
Detector Phases	1	6		2	2		4	4		8	8	
Minimum Initial (s)	8.0	15.0		15.0	15.0		19.0	19.0		19.0	19.0	
Minimum Split (s)	13.0	22.4		22.4	22.4		24.5	24.5		24.5	24.5	
Total Split (s)	32.0	115.0	0.0	83.0	83.0	0.0	25.0	25.0	0.0	25.0	25.0	0.0
Total Split (%)	22.9%	82.1%	0.0%	59.3%	59.3%	0.0%	17.9%	17.9%	0.0%	17.9%	17.9%	0.0%
Yellow Time (s)	3.5	3.7		3.7	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.5	1.7		1.7	1.7		1.8	1.8		1.8	1.8	
Lead/Lag	Lead		Lag		Lag							
Lead-Lag Optimize?												
Recall Mode	Min	C-Max		C-Max	C-Max		Max	Max		Max	Max	
Act Effct Green (s)	111.0	111.0			79.0			21.0		21.0	21.0	
Actuated g/C Ratio	0.79	0.79			0.56			0.15		0.15	0.15	
v/c Ratio	1.32	0.35			1.30			0.14		0.89	1.10	
Control Delay	183.8	4.5			169.6			42.2		98.1	90.4	
Queue Delay	0.0	0.0			0.0			0.0		0.0	0.0	
Total Delay	183.8	4.5			169.6			42.2		98.1	90.4	
LOS	F	A			F			D		F	F	
Approach Delay		109.6			169.6			42.2			92.3	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	F			F			D			F		

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.32

Intersection Signal Delay: 128.8






Intersection LOS: F

Intersection Capacity Utilization 140.2%

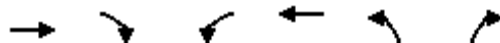
ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 77: Mc Donough Blvd & Boulevard

 ø1	 ø2	 ø4
32 s	83 s	25 s
 ø6		 ø8
115 s		25 s

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑	↘	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	150		0	500
Storage Lanes		0	1		1	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	50
Trailing Detector (ft)	0		0	0	0	0
Turning Speed (mph)		9	15		15	9
Satd. Flow (prot)	3522	0	1770	1863	1770	1583
Flt Permitted			0.178		0.950	
Satd. Flow (perm)	3522	0	332	1863	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	5					45
Link Speed (mph)	30			30	30	
Link Distance (ft)	1994			607	1361	
Travel Time (s)	45.3			13.8	30.9	
Volume (vph)	824	27	31	730	21	31
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.89	0.89	0.69	0.69
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Lane Group Flow (vph)	925	0	35	820	30	45
Turn Type			pm+pt			Perm
Protected Phases	6		5	2	4	
Permitted Phases			2			4
Detector Phases	6		5	2	4	4
Minimum Initial (s)	15.0		8.0	15.0	19.0	19.0
Minimum Split (s)	20.4		13.0	20.4	24.5	24.5
Total Split (s)	22.5	0.0	13.0	35.5	24.5	24.5
Total Split (%)	37.5%	0.0%	21.7%	59.2%	40.8%	40.8%
Yellow Time (s)	3.7		3.5	3.7	3.7	3.7
All-Red Time (s)	1.7		1.5	1.7	1.8	1.8
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?						
Recall Mode	Max		None	Max	None	None
Act Effct Green (s)	46.7		51.8	53.1	23.2	23.2
Actuated g/C Ratio	0.63		0.63	0.71	0.28	0.28
v/c Ratio	0.42		0.09	0.62	0.06	0.10
Control Delay	13.4		8.0	12.7	13.7	5.4
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	13.4		8.0	12.7	13.7	5.4
LOS	B		A	B	B	A
Approach Delay	13.4			12.5	8.7	



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach LOS	B		B		A	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 74.3

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 12.8

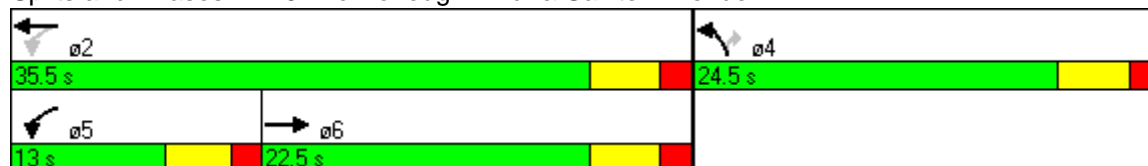
Intersection LOS: B

Intersection Capacity Utilization 60.9%

ICU Level of Service B

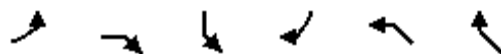
Analysis Period (min) 15

Splits and Phases: 79: Mc Donough Blvd & Sawtell Avenue





Lane Group	EBL	EBR	SBL	SBR	NWL	NWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%		0%	
Storage Length (ft)	0	0	0	0	0	80
Storage Lanes	1	0	1	0	0	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Turning Speed (mph)	15	9	15	9	15	9
Satd. Flow (prot)	1770	1504	1698	0	1770	1583
Flt Permitted	0.324		0.974		0.950	
Satd. Flow (perm)	604	1504	1698	0	1770	1583
Right Turn on Red		Yes		Yes		Yes
Satd. Flow (RTOR)		557	72			
Link Speed (mph)	30		30		30	
Link Distance (ft)	1263		332		1994	
Travel Time (s)	28.7		7.5		45.3	
Volume (vph)	163	429	111	99	546	358
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.77	0.77	0.98	0.98	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%		0%	
Lane Group Flow (vph)	212	557	214	0	635	416
Turn Type	Perm				pm+ov	
Protected Phases		2	4		6	4
Permitted Phases	2					6
Detector Phases	2	2	4		6	4
Minimum Initial (s)	35.0	35.0	14.0		35.0	14.0
Minimum Split (s)	40.7	40.7	19.2		40.7	19.2
Total Split (s)	40.8	40.8	19.2	0.0	40.8	19.2
Total Split (%)	68.0%	68.0%	32.0%	0.0%	68.0%	32.0%
Yellow Time (s)	3.7	3.7	3.4		3.7	3.4
All-Red Time (s)	2.0	2.0	1.8		2.0	1.8
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max	Max	None		Max	None
Act Effct Green (s)	36.8	36.8	15.2		36.8	60.0
Actuated g/C Ratio	0.61	0.61	0.25		0.61	1.00
v/c Ratio	0.57	0.49	0.44		0.58	0.26
Control Delay	14.7	2.2	15.7		9.8	0.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	14.7	2.2	15.7		9.8	0.4
LOS	B	A	B		A	A
Approach Delay	5.6		15.7		6.1	



Lane Group	EBL	EBR	SBL	SBR	NWL	NWR
Approach LOS	A		B		A	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 6.9

Intersection LOS: A

















Intersection Capacity Utilization 81.6%













ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 80: Mc Donough Blvd & Milton Ave.

<p>ø2</p> <p>40.8 s</p>	<p>ø4</p> <p>19.2 s</p>
<p>ø6</p> <p>40.8 s</p>	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1795	0	0	1686	0	0	1857	0	0	1748	0
Flt Permitted		0.463			0.999			0.993			0.511	
Satd. Flow (perm)	0	853	0	0	1684	0	0	1845	0	0	922	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			213			2			26	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		776			776			1683			518	
Travel Time (s)		17.6			17.6			38.3			11.8	
Volume (vph)	87	63	10	3	144	350	12	531	8	111	30	33
Confl. Peds. (#/hr)			4						3			7
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.77	0.77	0.77	0.87	0.87	0.87	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	169	0	0	646	0	0	633	0	0	190	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phases	4	4		8	8		2	2		6	6	
Minimum Initial (s)	9.0	9.0		16.0	16.0		30.0	30.0		14.0	14.0	
Minimum Split (s)	26.7	26.7		26.7	26.7		35.9	35.9		30.9	30.9	
Total Split (s)	29.0	29.0	0.0	29.0	29.0	0.0	36.0	36.0	0.0	36.0	36.0	0.0
Total Split (%)	44.6%	44.6%	0.0%	44.6%	44.6%	0.0%	55.4%	55.4%	0.0%	55.4%	55.4%	0.0%
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.5	2.5		2.5	2.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		22.7			22.7			32.1			32.1	
Actuated g/C Ratio		0.36			0.36			0.51			0.51	
v/c Ratio		0.54			0.87			0.67			0.39	
Control Delay		22.7			26.6			16.5			11.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		22.7			26.6			16.5			11.7	
LOS		C			C			B			B	
Approach Delay		22.7			26.6			16.5			11.7	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			C			B			B		

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 62.8

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 20.6





Intersection LOS: C
















Intersection Capacity Utilization 102.4%










ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 85: Atlanta Ave. & Cherokee Ave.










 ø2	 ø4
36 s	29 s
 ø6	 ø8
36 s	29 s

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Volume (veh/h)	0	0	0	0	0	295	0	1381	26	125	1127	0
Peak Hour Factor	0.92	0.92	0.92	0.87	0.87	0.87	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	0	0	0	339	0	1469	28	133	1199	0
Pedestrians						3						21
Lane Width (ft)						12.0						12.0
Walking Speed (ft/s)						4.0						4.0
Percent Blockage						0						2
Right turn flare (veh)												
Median type	None				None							
Median storage veh												
Upstream signal (ft)												170
pX, platoon unblocked	0.95	0.95	0.95	0.95	0.95	0.95						
vC, conflicting volume	2560	2965	599	2351	2951	772	1199			1500		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2587	3013	530	2369	2998	772	1159			1500		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	100	100	100	100	0	100			70		
cM capacity (veh/h)	0	9	470	13	9	335	570			442		
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2							
Volume Total	339	979	517	533	799							
Volume Left	0	0	0	133	0							
Volume Right	339	0	28	0	0							
cSH	335	1700	1700	442	1700							
Volume to Capacity	1.01	0.58	0.30	0.30	0.47							
Queue Length 95th (ft)	288	0	0	31	0							
Control Delay (s)	88.3	0.0	0.0	9.1	0.0							
Lane LOS	F				A							
Approach Delay (s)	88.3	0.0	3.6									
Approach LOS	F											
Intersection Summary												
Average Delay	11.0											
Intersection Capacity Utilization	80.5%			ICU Level of Service			D					
Analysis Period (min)	15											

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	60	98	1253	39	29	863
Peak Hour Factor	0.72	0.72	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	83	136	1362	42	32	938
Pedestrians	18					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	2					
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						672
pX, platoon unblocked	0.87					
vC, conflicting volume	1933	1401			1422	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1923	1401			1422	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	0			93	
cM capacity (veh/h)	47	128			467	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	219	1404	344	625		
Volume Left	83	0	32	0		
Volume Right	136	42	0	0		
cSH	77	1700	467	1700		
Volume to Capacity	2.85	0.83	0.07	0.37		
Queue Length 95th (ft)	540	0	5	0		
Control Delay (s)	950.2	0.0	2.2	0.0		
Lane LOS	F		A			
Approach Delay (s)	950.2	0.0	0.8			
Approach LOS	F					
Intersection Summary						
Average Delay		80.7				
Intersection Capacity Utilization		84.4%		ICU Level of Service	E	
Analysis Period (min)		15				



















Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕		↕↕	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	219	617	620	592	187	147
Peak Hour Factor	0.86	0.86	0.89	0.89	0.90	0.90
Hourly flow rate (vph)	255	717	697	665	208	163
Pedestrians					13	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					1	
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		607	1125			
pX, platoon unblocked	0.49				0.56	0.49
vC, conflicting volume	1375				1910	1042
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1763				2021	1086
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	0				0	0
cM capacity (veh/h)	170				0	103
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	494	478	1362	371		
Volume Left	255	0	0	208		
Volume Right	0	0	665	163		
cSH	170	1700	1700	0		
Volume to Capacity	1.50	0.28	0.80	Err		
Queue Length 95th (ft)	409	0	0	Err		
Control Delay (s)	324.6	0.0	0.0	Err		
Lane LOS	F			F		
Approach Delay (s)	164.9		0.0	Err		
Approach LOS				F		
Intersection Summary						
Average Delay			Err			
Intersection Capacity Utilization		122.3%		ICU Level of Service	H	
Analysis Period (min)		15				

						
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Yield	Stop		Free	
Grade		0%	0%		0%	
Volume (veh/h)	61	246	231	45	47	116
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	66	267	251	49	51	126
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	340	165	228	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	340	165	228	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	83	62	61	95	97	
cM capacity (veh/h)	401	704	650	1085	1623	
Direction, Lane #	NB 1	SB 1	SE 1			
Volume Total	334	300	177			
Volume Left	66	0	51			
Volume Right	0	49	126			
cSH	612	696	1623			
Volume to Capacity	0.54	0.43	0.03			
Queue Length 95th (ft)	82	54	2			
Control Delay (s)	17.7	14.0	2.3			
Lane LOS	C	B	A			
Approach Delay (s)	17.7	14.0	2.3			
Approach LOS	C	B				
Intersection Summary						
Average Delay		13.0				
Intersection Capacity Utilization		51.0%		ICU Level of Service	A	
Analysis Period (min)		15				



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	R	T	R	L	T
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	27	83	400	103	167	116
Peak Hour Factor	0.74	0.74	0.90	0.90	0.89	0.89
Hourly flow rate (vph)	36	112	444	114	188	130
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1007	502			559	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1007	502			559	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	83	80			81	
cM capacity (veh/h)	217	570			1012	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	149	559	318			
Volume Left	36	0	188			
Volume Right	112	114	0			
cSH	407	1700	1012			
Volume to Capacity	0.36	0.33	0.19			
Queue Length 95th (ft)	41	0	17			
Control Delay (s)	18.8	0.0	6.3			
Lane LOS	C		A			
Approach Delay (s)	18.8	0.0	6.3			
Approach LOS	C					
Intersection Summary						
Average Delay			4.7			
Intersection Capacity Utilization		59.3%		ICU Level of Service		B
Analysis Period (min)		15				




















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Yield			Stop			Stop			Stop	
Volume (vph)	0	0	0	9	57	0	284	0	0	0	157	20
Peak Hour Factor	0.25	0.25	0.25	0.75	0.75	0.75	0.94	0.94	0.94	0.96	0.96	0.96
Hourly flow rate (vph)	0	0	0	12	76	0	302	0	0	0	164	21
Direction, Lane #	WB 1	WB 2	NB 1	SB 1								
Volume Total (vph)	37	51	302	184								
Volume Left (vph)	12	0	302	0								
Volume Right (vph)	0	0	0	21								
Hadj (s)	0.19	0.03	0.23	-0.03								
Departure Headway (s)	5.8	5.7	4.6	4.5								
Degree Utilization, x	0.06	0.08	0.39	0.23								
Capacity (veh/h)	569	587	766	774								
Control Delay (s)	8.0	7.9	10.4	8.8								
Approach Delay (s)	8.0		10.4	8.8								
Approach LOS	A		B	A								
Intersection Summary												
Delay			9.5									
HCM Level of Service			A									
Intersection Capacity Utilization			38.8%		ICU Level of Service				A			
Analysis Period (min)			15									















Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↕	↕	
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	0	6	957	187	14
Peak Hour Factor	0.92	0.92	0.88	0.88	0.84	0.84
Hourly flow rate (vph)	0	0	7	1088	223	17
Pedestrians	14					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)				518		
pX, platoon unblocked	0.75					
vC, conflicting volume	1346	245	253			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1464	245	253			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	99			
cM capacity (veh/h)	105	794	1312			
Direction, Lane #	NB 1	SB 1				
Volume Total	1094	239				
Volume Left	7	0				
Volume Right	0	17				
cSH	1312	1700				
Volume to Capacity	0.01	0.14				
Queue Length 95th (ft)	0	0				
Control Delay (s)	0.2	0.0				
Lane LOS	A					
Approach Delay (s)	0.2	0.0				
Approach LOS						
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			58.5%	ICU Level of Service		B
Analysis Period (min)			15			

Atlanta BeltLine Master Plan Subarea 3
70: I-20 WB On & Boulevard

Baseline 2030 PM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	0		0	280		280	150		0	0		0
Storage Lanes	0		0	1		2	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50	50	50	50				50
Trailing Detector (ft)				0	0	0	0	0				0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	0	0	1681	1690	2787	3433	3539	0	0	4917	0
Flt Permitted				0.950	0.955		0.950					
Satd. Flow (perm)	0	0	0	1681	1690	2787	3433	3539	0	0	4917	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						221						68
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		281			1064			442			562	
Travel Time (s)		6.4			24.2			10.0			12.8	
Volume (vph)	0	0	0	228	7	201	795	1122	0	0	1096	310
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.91	0.91	0.91	0.97	0.97	0.97	0.80	0.80	0.80
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	0	0	126	133	221	820	1157	0	0	1758	0
Turn Type				Split		Perm	Prot					
Protected Phases				4	4		1	1 2			2	
Permitted Phases						4						
Detector Phases				4	4	4	1	1 2			2	
Minimum Initial (s)				12.0	12.0	12.0	11.0				14.0	
Minimum Split (s)				30.0	30.0	30.0	16.2				27.0	
Total Split (s)	0.0	0.0	0.0	31.0	31.0	31.0	39.5	99.0	0.0	0.0	59.5	0.0
Total Split (%)	0.0%	0.0%	0.0%	23.8%	23.8%	23.8%	30.4%	76.2%	0.0%	0.0%	45.8%	0.0%
Yellow Time (s)				3.6	3.6	3.6	3.6				3.7	
All-Red Time (s)				2.4	2.4	2.4	1.6				2.3	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?												
Recall Mode				None	None	None	Min				C-Max	
Act Effct Green (s)				27.0	27.0	27.0	34.1	95.0			56.9	
Actuated g/C Ratio				0.21	0.21	0.21	0.26	0.73			0.44	
v/c Ratio				0.36	0.38	0.29	0.91	0.45			0.80	
Control Delay				47.6	48.0	6.4	63.3	6.6			34.2	
Queue Delay				0.0	0.0	0.0	12.6	0.9			0.0	
Total Delay				47.6	48.0	6.4	75.9	7.5			34.2	
LOS				D	D	A	E	A			C	
Approach Delay					28.7			35.8			34.2	

Lane Group	ø5	ø6	ø8
Lane Configurations			
Ideal Flow (vphpl)			
Lane Width (ft)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Total Lost Time (s)			
Leading Detector (ft)			
Trailing Detector (ft)			
Turning Speed (mph)			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Volume (vph)			
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)			
Peak Hour Factor			
Growth Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Parking (#/hr)			
Mid-Block Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phases			
Minimum Initial (s)	7.0	14.0	12.0
Minimum Split (s)	12.2	27.0	30.0
Total Split (s)	20.1	78.9	31.0
Total Split (%)	15%	61%	24%
Yellow Time (s)	3.6	3.7	3.6
All-Red Time (s)	1.6	2.3	2.4
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Recall Mode	None	C-Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C						D			C		

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 34.3







Intersection LOS: C

Intersection Capacity Utilization 95.2%

ICU Level of Service F

Analysis Period (min) 15




















Splits and Phases: 70: I-20 WB On & Boulevard

#70  ø1 39.5 s		#70  ø2 59.5 s		#70  ø4 31 s	
#71  ø5 20.1 s		#71  ø6 78.9 s		#71  ø8 31 s	













Lane Group	ø5	ø6	ø8
Approach LOS			
Intersection Summary			

Atlanta BeltLine Master Plan Subarea 3
71: I-20 EB Off & Boulevard

Baseline 2030 PM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	320		320	0		0	0		0	150		0
Storage Lanes	1		1	0		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50					50		50	50	
Trailing Detector (ft)	0	0	0					0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1681	1449	1504	0	0	0	0	3399	0	3433	3539	0
Flt Permitted	0.950	0.988								0.950		
Satd. Flow (perm)	1681	1449	1460	0	0	0	0	3399	0	3433	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		113	147					48				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1070			1567			170			442	
Travel Time (s)		24.3			35.6			3.9			10.0	
Volume (vph)	393	0	669	0	0	0	0	1515	438	365	949	0
Confl. Peds. (#/hr)			11			9			8			10
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.50	0.50	0.50	0.96	0.96	0.96	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	313	407	386	0	0	0	0	2034	0	420	1091	0
Turn Type	Split		Perm							Prot		
Protected Phases	8	8						6		5	5	6
Permitted Phases			8									
Detector Phases	8	8	8					6		5	5	6
Minimum Initial (s)	12.0	12.0	12.0					14.0		7.0		
Minimum Split (s)	30.0	30.0	30.0					27.0		12.2		
Total Split (s)	31.0	31.0	31.0	0.0	0.0	0.0	0.0	78.9	0.0	20.1	99.0	0.0
Total Split (%)	23.8%	23.8%	23.8%	0.0%	0.0%	0.0%	0.0%	60.7%	0.0%	15.5%	76.2%	0.0%
Yellow Time (s)	3.6	3.6	3.6					3.7		3.6		
All-Red Time (s)	2.4	2.4	2.4					2.3		1.6		
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?												
Recall Mode	None	None	None					C-Max		None		
Act Effct Green (s)	27.0	27.0	27.0					74.9		16.1	95.0	
Actuated g/C Ratio	0.21	0.21	0.21					0.58		0.12	0.73	
v/c Ratio	0.90	1.04	0.92					1.03		0.99	0.42	
Control Delay	78.5	93.4	59.1					54.8		91.0	6.2	
Queue Delay	53.4	79.2	0.0					0.5		0.0	0.4	
Total Delay	132.0	172.6	59.1					55.4		91.0	6.6	
LOS	F	F	E					E		F	A	
Approach Delay		121.5						55.4			30.1	

Lane Group	ø1	ø2	ø4
Lane Configurations			
Ideal Flow (vphpl)			
Lane Width (ft)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Total Lost Time (s)			
Leading Detector (ft)			
Trailing Detector (ft)			
Turning Speed (mph)			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Volume (vph)			
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)			
Peak Hour Factor			
Growth Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Parking (#/hr)			
Mid-Block Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phases			
Minimum Initial (s)	11.0	14.0	12.0
Minimum Split (s)	16.2	27.0	30.0
Total Split (s)	39.5	59.5	31.0
Total Split (%)	30%	46%	24%
Yellow Time (s)	3.6	3.7	3.6
All-Red Time (s)	1.6	2.3	2.4
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Recall Mode	Min	C-Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	F						E			C		

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 62.9

Intersection LOS: E

Intersection Capacity Utilization 95.2%

ICU Level of Service F

Analysis Period (min) 15


















Splits and Phases: 71: I-20 EB Off & Boulevard













#70  ø1 39.5 s		#70  ø2 59.5 s		#70  ø4 31 s	
#71  ø5 20.1 s		#71  ø6 78.9 s		#71  ø8 31 s	

Lane Group	ø1	ø2	ø4
Approach LOS			
Intersection Summary			

Atlanta BeltLine Master Plan Subarea 3
73: Confederate Ave. & Boulevard

Baseline 2030 PM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	80		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1760	0	1770	1550	0	0	1851	0	0	3492	0
Flt Permitted		0.198		0.780							0.537	
Satd. Flow (perm)	0	362	0	1453	1550	0	0	1851	0	0	1896	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			206			4			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		792			1253			672			2707	
Travel Time (s)		18.0			28.5			15.3			61.5	
Volume (vph)	16	3	3	29	2	325	0	916	27	306	1089	20
Confl. Peds. (#/hr)			4			4			14			2
Confl. Bikes (#/hr)												
Peak Hour Factor	0.70	0.70	0.70	0.89	0.89	0.89	0.91	0.91	0.91	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	31	0	33	367	0	0	1037	0	0	1539	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Detector Phases	8	8		4	4		2	2		6	6	
Minimum Initial (s)	17.0	17.0		17.0	17.0		15.0	15.0		15.0	15.0	
Minimum Split (s)	22.3	22.3		22.3	22.3		20.2	20.2		20.2	20.2	
Total Split (s)	22.3	22.3	0.0	22.3	22.3	0.0	117.7	117.7	0.0	117.7	117.7	0.0
Total Split (%)	15.9%	15.9%	0.0%	15.9%	15.9%	0.0%	84.1%	84.1%	0.0%	84.1%	84.1%	0.0%
Yellow Time (s)	3.6	3.6		3.6	3.6		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.7	1.7		1.7	1.7		1.5	1.5		1.5	1.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Act Effct Green (s)		18.3		18.3	18.3			113.7			113.7	
Actuated g/C Ratio		0.13		0.13	0.13			0.81			0.81	
v/c Ratio		0.61		0.17	0.96			0.69			1.05dl	
Control Delay		97.2		56.8	63.4			8.5			36.4	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		97.2		56.8	63.4			8.5			36.4	
LOS		F		E	E			A			D	
Approach Delay		97.2			62.8			8.5			36.4	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	F			E			A			D		

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 30.9

Intersection LOS: C

Intersection Capacity Utilization 120.2%

ICU Level of Service H

Analysis Period (min) 15


















dl Defacto Left Lane. Recode with 1 though lane as a left lane.













Splits and Phases: 73: Confederate Ave. & Boulevard

 ø2	 ø4
117.7 s	22.3 s
 ø6	 ø8
117.7 s	22.3 s

Atlanta BeltLine Master Plan Subarea 3
75: Atlanta Ave. & Boulevard

Baseline 2030 PM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1715	0	0	1706	0	1770	1846	0	0	3444	0
Flt Permitted		0.669			0.697		0.116				0.676	
Satd. Flow (perm)	0	1184	0	0	1203	0	216	1846	0	0	2330	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			22			3			25	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		806			1283			1444			1606	
Travel Time (s)		18.3			29.2			32.8			36.5	
Volume (vph)	208	0	122	19	0	15	40	747	48	20	932	201
Confl. Peds. (#/hr)	6			17			8			8		
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.69	0.69	0.69	0.89	0.89	0.89	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	363	0	0	50	0	45	893	0	0	1214	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			4			2			6	
Permitted Phases	3			4			2			6		
Detector Phases	3	3		4	4		2	2		6	6	
Minimum Initial (s)	19.0	19.0		10.0	10.0		35.0	35.0		35.0	35.0	
Minimum Split (s)	24.8	24.8		23.8	23.8		41.5	41.5		41.5	41.5	
Total Split (s)	45.0	45.0	0.0	23.8	23.8	0.0	76.2	76.2	0.0	76.2	76.2	0.0
Total Split (%)	31.0%	31.0%	0.0%	16.4%	16.4%	0.0%	52.6%	52.6%	0.0%	52.6%	52.6%	0.0%
Yellow Time (s)	3.2	3.2		3.2	3.2		3.8	3.8		3.8	3.8	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.7	2.7		2.7	2.7	
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?												
Recall Mode	Min	Min		None	None		Min	Min		Min	Min	
Act Effct Green (s)		41.1			12.8		72.4	72.4			72.4	
Actuated g/C Ratio		0.30			0.09		0.54	0.54			0.54	
v/c Ratio		0.97			0.38		0.39	0.90			0.96	
Control Delay		83.8			45.5		32.9	42.4			48.0	
Queue Delay		0.0			0.0		0.0	0.0			0.0	
Total Delay		83.8			45.5		32.9	42.4			48.0	
LOS		F			D		C	D			D	
Approach Delay		83.8			45.5			41.9			48.0	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	F			D			D			D		

Intersection Summary

Area Type: Other

Cycle Length: 145

Actuated Cycle Length: 134.8

Natural Cycle: 145

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 50.8





Intersection LOS: D

Intersection Capacity Utilization 77.7%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 75: Atlanta Ave. & Boulevard

 ø2	 ø3	 ø4
76.2 s	45 s	23.8 s
 ø6		
76.2 s		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	1	0			0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	
Turning Speed (mph)	15	9	15			9
Satd. Flow (prot)	1770	1583	0	3504	3472	0
Flt Permitted	0.950			0.578		
Satd. Flow (perm)	1770	1583	0	2046	3472	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		110			34	
Link Speed (mph)	30			30	30	
Link Distance (ft)	3424			3251	1886	
Travel Time (s)	77.8			73.9	42.9	
Volume (vph)	152	203	152	620	886	99
Confl. Peds. (#/hr)						11
Confl. Bikes (#/hr)						
Peak Hour Factor	0.78	0.78	0.89	0.89	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Lane Group Flow (vph)	195	260	0	868	1094	0
Turn Type		Perm	Perm			
Protected Phases	4			2	6	
Permitted Phases		4	2			
Detector Phases	4	4	2	2	6	
Minimum Initial (s)	9.0	9.0	15.0	15.0	15.0	
Minimum Split (s)	21.2	21.2	22.7	22.7	22.7	
Total Split (s)	21.2	21.2	38.8	38.8	38.8	0.0
Total Split (%)	35.3%	35.3%	64.7%	64.7%	64.7%	0.0%
Yellow Time (s)	3.2	3.2	3.8	3.8	3.8	
All-Red Time (s)	2.0	2.0	1.9	1.9	1.9	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	
Act Effct Green (s)	13.1	13.1		38.9	38.9	
Actuated g/C Ratio	0.22	0.22		0.65	0.65	
v/c Ratio	0.50	0.60		0.65	0.48	
Control Delay	24.7	17.8		10.2	6.6	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	24.7	17.8		10.2	6.6	
LOS	C	B		B	A	
Approach Delay	20.8			10.2	6.6	






Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach LOS	C		B		A	

Intersection Summary



















Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.65
Intersection Signal Delay:	10.6
Intersection LOS:	B
Intersection Capacity Utilization	67.7%
ICU Level of Service	C
Analysis Period (min)	15













Splits and Phases: 76: Englewood Ave. & Boulevard

 ø2 38.8 s	 ø4 21.2 s
 ø6 38.8 s	

Atlanta BeltLine Master Plan Subarea 3
77: Mc Donough Blvd & Boulevard

Baseline 2030 PM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	1854	0	0	1757	0	0	1719	0	1770	1499	0
Flt Permitted	0.170				0.975			0.683		0.746		
Satd. Flow (perm)	317	1854	0	0	1715	0	0	1193	0	1390	1499	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			21			6			460	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1125			1642			628			3251	
Travel Time (s)		25.6			37.3			14.3			73.9	
Volume (vph)	475	664	14	18	507	273	3	3	3	501	14	525
Confl. Peds. (#/hr)			16			7			8			9
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.97	0.97	0.97	0.50	0.50	0.50	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	516	737	0	0	823	0	0	18	0	539	580	0
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	1	6			2			4			8	
Permitted Phases	6			2			4			8		
Detector Phases	1	6		2	2		4	4		8	8	
Minimum Initial (s)	8.0	15.0		15.0	15.0		19.0	19.0		19.0	19.0	
Minimum Split (s)	13.0	22.4		22.4	22.4		24.5	24.5		24.5	24.5	
Total Split (s)	30.0	96.0	0.0	66.0	66.0	0.0	54.0	54.0	0.0	54.0	54.0	0.0
Total Split (%)	20.0%	64.0%	0.0%	44.0%	44.0%	0.0%	36.0%	36.0%	0.0%	36.0%	36.0%	0.0%
Yellow Time (s)	3.5	3.7		3.7	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.5	1.7		1.7	1.7		1.8	1.8		1.8	1.8	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?												
Recall Mode	Min	C-Max		C-Max	C-Max		Max	Max		Max	Max	
Act Effct Green (s)	92.0	92.0			62.0		50.0			50.0	50.0	
Actuated g/C Ratio	0.61	0.61			0.41		0.33			0.33	0.33	
v/c Ratio	1.16	0.65			1.14		0.04			1.16	0.72	
Control Delay	121.9	21.9			118.9		26.1			139.2	14.5	
Queue Delay	0.0	0.0			0.0		0.0			0.0	0.0	
Total Delay	121.9	21.9			118.9		26.1			139.2	14.5	
LOS	F	C			F		C			F	B	
Approach Delay		63.1			118.9		26.1				74.6	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	E			F			C			E		

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.16

Intersection Signal Delay: 81.2






Intersection LOS: F

Intersection Capacity Utilization 124.8%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 77: Mc Donough Blvd & Boulevard

 ø1	 ø2	 ø4
30 s	66 s	54 s
 ø6		 ø8
96 s		54 s

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑	↘	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	150		0	500
Storage Lanes		0	1		1	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	50
Trailing Detector (ft)	0		0	0	0	0
Turning Speed (mph)		9	15		15	9
Satd. Flow (prot)	3525	0	1770	1863	1770	1583
Flt Permitted			0.151		0.950	
Satd. Flow (perm)	3525	0	281	1863	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	3					371
Link Speed (mph)	30			30	30	
Link Distance (ft)	1994			607	1361	
Travel Time (s)	45.3			13.8	30.9	
Volume (vph)	819	21	470	579	205	334
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.96	0.96	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Lane Group Flow (vph)	904	0	490	603	228	371
Turn Type			pm+pt			Perm
Protected Phases	6		5	2	4	
Permitted Phases			2			4
Detector Phases	6		5	2	4	4
Minimum Initial (s)	15.0		8.0	15.0	19.0	19.0
Minimum Split (s)	20.4		13.0	20.4	24.5	24.5
Total Split (s)	26.5	0.0	24.0	50.5	24.5	24.5
Total Split (%)	35.3%	0.0%	32.0%	67.3%	32.7%	32.7%
Yellow Time (s)	3.7		3.5	3.7	3.7	3.7
All-Red Time (s)	1.7		1.5	1.7	1.8	1.8
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?						
Recall Mode	Max		None	Max	None	None
Act Effct Green (s)	24.0		46.5	46.5	20.5	20.5
Actuated g/C Ratio	0.32		0.62	0.62	0.27	0.27
v/c Ratio	0.80		0.91	0.52	0.47	0.53
Control Delay	30.6		39.1	10.0	26.6	5.8
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	30.6		39.1	10.0	26.6	5.8
LOS	C		D	B	C	A
Approach Delay	30.6			23.1	13.7	



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach LOS	C		C		B	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 23.5

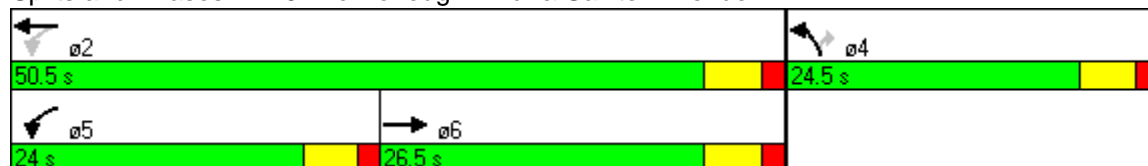
Intersection LOS: C

Intersection Capacity Utilization 75.2%

ICU Level of Service D

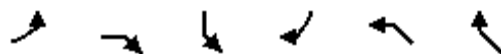
Analysis Period (min) 15

Splits and Phases: 79: Mc Donough Blvd & Sawtell Avenue





Lane Group	EBL	EBR	SBL	SBR	NWL	NWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%		0%	
Storage Length (ft)	0	0	0	0	0	80
Storage Lanes	1	0	1	0	0	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Turning Speed (mph)	15	9	15	9	15	9
Satd. Flow (prot)	1674	1504	1722	0	1770	1583
Flt Permitted	0.451		0.968		0.950	
Satd. Flow (perm)	773	1504	1722	0	1770	1583
Right Turn on Red		Yes		Yes		Yes
Satd. Flow (RTOR)	117	267	39			
Link Speed (mph)	30		30		30	
Link Distance (ft)	1263		329		1994	
Travel Time (s)	28.7		7.5		45.3	
Volume (vph)	89	781	286	141	670	125
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.87	0.87	0.86	0.86	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%		0%	
Lane Group Flow (vph)	219	781	497	0	761	142
Turn Type	Perm				pm+ov	
Protected Phases		2	4		6	4
Permitted Phases	2					6
Detector Phases	2	2	4		6	4
Minimum Initial (s)	35.0	35.0	14.0		35.0	14.0
Minimum Split (s)	40.7	40.7	19.2		40.7	19.2
Total Split (s)	41.0	41.0	24.0	0.0	41.0	24.0
Total Split (%)	63.1%	63.1%	36.9%	0.0%	63.1%	36.9%
Yellow Time (s)	3.7	3.7	3.4		3.7	3.4
All-Red Time (s)	2.0	2.0	1.8		2.0	1.8
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max	Max	None		Max	None
Act Effct Green (s)	37.0	37.0	19.6		37.0	64.6
Actuated g/C Ratio	0.57	0.57	0.30		0.57	1.00
v/c Ratio	0.45	0.80	0.90		0.75	0.09
Control Delay	7.1	15.2	43.4		16.5	0.1
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	7.1	15.2	43.4		16.5	0.1
LOS	A	B	D		B	A
Approach Delay	13.5		43.4		13.9	



Lane Group	EBL	EBR	SBL	SBR	NWL	NWR
Approach LOS	B		D		B	

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 64.6

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 19.8



Intersection LOS: B

Intersection Capacity Utilization 100.7%

ICU Level of Service G

















Analysis Period (min) 15













Splits and Phases: 80: Mc Donough Blvd & Milton Ave.

 ø2	 ø4
41 s	24 s
 ø6	
41 s	

Atlanta BeltLine Master Plan Subarea 3
85: Atlanta Ave. & Cherokee Ave.

Baseline 2030 PM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1806	0	0	1755	0	0	1822	0	0	1795	0
Flt Permitted		0.773			0.985			0.954			0.827	
Satd. Flow (perm)	0	1419	0	0	1732	0	0	1746	0	0	1516	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			44			9			12	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		776			776			1683			518	
Travel Time (s)		17.6			17.6			38.3			11.8	
Volume (vph)	87	155	25	7	101	76	5	55	8	340	391	76
Confl. Peds. (#/hr)			4						3			7
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.86	0.86	0.86	0.85	0.85	0.85	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	281	0	0	213	0	0	80	0	0	840	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phases	4	4		8	8		2	2		6	6	
Minimum Initial (s)	9.0	9.0		16.0	16.0		30.0	30.0		14.0	14.0	
Minimum Split (s)	26.7	26.7		26.7	26.7		35.9	35.9		30.9	30.9	
Total Split (s)	26.7	26.7	0.0	26.7	26.7	0.0	53.3	53.3	0.0	53.3	53.3	0.0
Total Split (%)	33.4%	33.4%	0.0%	33.4%	33.4%	0.0%	66.6%	66.6%	0.0%	66.6%	66.6%	0.0%
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.5	2.5		2.5	2.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		20.7			20.7			49.4			49.4	
Actuated g/C Ratio		0.27			0.27			0.63			0.63	
v/c Ratio		0.74			0.43			0.07			0.87	
Control Delay		38.6			21.6			5.7			24.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		38.6			21.6			5.7			24.8	
LOS		D			C			A			C	
Approach Delay		38.6			21.6			5.7			24.8	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			C			A			C		

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 78.1

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 26.0





Intersection LOS: C
















Intersection Capacity Utilization 89.0%










ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 85: Atlanta Ave. & Cherokee Ave.










 ø2	 ø4
53.3 s	26.7 s
 ø6	 ø8
53.3 s	26.7 s










												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Volume (veh/h)	0	0	0	0	0	277	0	1283	41	138	1494	0
Peak Hour Factor	0.92	0.92	0.92	0.84	0.84	0.84	0.87	0.87	0.87	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	0	0	0	330	0	1475	47	153	1660	0
Pedestrians						3						21
Lane Width (ft)						12.0						12.0
Walking Speed (ft/s)						4.0						4.0
Percent Blockage						0						2
Right turn flare (veh)												
Median type	None				None							
Median storage veh												
Upstream signal (ft)												170
pX, platoon unblocked	0.88	0.88	0.88	0.88	0.88	0.88						
vC, conflicting volume	3055	3492	830	2638	3468	785	1660	1525				
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	3202	3699	667	2727	3672	785	1613	1525				
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1	4.1				
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2	2.2				
p0 queue free %	0	100	100	100	100	0	100	65				
cM capacity (veh/h)	0	3	352	6	3	329	352	432				
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2							
Volume Total	330	983	539	707	1107							
Volume Left	0	0	0	153	0							
Volume Right	330	0	47	0	0							
cSH	329	1700	1700	432	1700							
Volume to Capacity	1.00	0.58	0.32	0.35	0.65							
Queue Length 95th (ft)	279	0	0	39	0							
Control Delay (s)	86.9	0.0	0.0	11.2	0.0							
Lane LOS	F			B								
Approach Delay (s)	86.9	0.0		4.4								
Approach LOS	F											
Intersection Summary												
Average Delay	10.0											
Intersection Capacity Utilization	88.7%			ICU Level of Service					E			
Analysis Period (min)	15											

















						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	21	26	898	18	29	1121
Peak Hour Factor	0.89	0.89	0.94	0.94	0.89	0.89
Hourly flow rate (vph)	24	29	955	19	33	1260
Pedestrians	18					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	2					
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						672
pX, platoon unblocked	0.88					
vC, conflicting volume	1678	983			992	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1635	983			992	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	69	88			95	
cM capacity (veh/h)	76	244			682	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	53	974	452	840		
Volume Left	24	0	33	0		
Volume Right	29	19	0	0		
cSH	123	1700	682	1700		
Volume to Capacity	0.43	0.57	0.05	0.49		
Queue Length 95th (ft)	47	0	4	0		
Control Delay (s)	54.8	0.0	1.4	0.0		
Lane LOS	F		A			
Approach Delay (s)	54.8	0.0	0.5			
Approach LOS	F					
Intersection Summary						
Average Delay			1.5			
Intersection Capacity Utilization			61.8%		ICU Level of Service	B
Analysis Period (min)			15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕		↕↕	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	20	1077	1019	17	92	21
Peak Hour Factor	0.96	0.96	0.97	0.97	0.78	0.78
Hourly flow rate (vph)	21	1122	1051	18	118	27
Pedestrians					13	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					1	
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)		607	1125			
pX, platoon unblocked	0.67				0.78	0.67
vC, conflicting volume	1081				1675	1072
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1120				1199	1107
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				9	80
cM capacity (veh/h)	412				130	136
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	395	748	1068	145		
Volume Left	21	0	0	118		
Volume Right	0	0	18	27		
cSH	412	1700	1700	131		
Volume to Capacity	0.05	0.44	0.63	1.10		
Queue Length 95th (ft)	4	0	0	207		
Control Delay (s)	1.6	0.0	0.0	175.3		
Lane LOS	A			F		
Approach Delay (s)	0.6		0.0	175.3		
Approach LOS				F		
Intersection Summary						
Average Delay			11.0			
Intersection Capacity Utilization			67.7%		ICU Level of Service	C
Analysis Period (min)			15			

						
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Yield	Stop		Free	
Grade		0%	0%		0%	
Volume (veh/h)	54	213	240	46	47	123
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	59	232	261	50	51	134
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	349	169	236	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	349	169	236	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	85	67	59	95	97	
cM capacity (veh/h)	386	701	644	1085	1623	
Direction, Lane #	NB 1	SB 1	SE 1			
Volume Total	290	311	185			
Volume Left	59	0	51			
Volume Right	0	50	134			
cSH	602	689	1623			
Volume to Capacity	0.48	0.45	0.03			
Queue Length 95th (ft)	65	59	2			
Control Delay (s)	16.4	14.5	2.2			
Lane LOS	C	B	A			
Approach Delay (s)	16.4	14.5	2.2			
Approach LOS	C	B				
Intersection Summary						
Average Delay		12.3				
Intersection Capacity Utilization		49.8%		ICU Level of Service		A
Analysis Period (min)		15				

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	187	124	175	41	132	242
Peak Hour Factor	0.90	0.90	0.79	0.79	0.93	0.93
Hourly flow rate (vph)	208	138	222	52	142	260
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	792	247			273	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	792	247			273	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	35	83			89	
cM capacity (veh/h)	319	791			1290	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	346	273	402			
Volume Left	208	0	142			
Volume Right	138	52	0			
cSH	418	1700	1290			
Volume to Capacity	0.83	0.16	0.11			
Queue Length 95th (ft)	193	0	9			
Control Delay (s)	43.2	0.0	3.6			
Lane LOS	E		A			
Approach Delay (s)	43.2	0.0	3.6			
Approach LOS	E					
Intersection Summary						
Average Delay		16.0				
Intersection Capacity Utilization		59.7%		ICU Level of Service		B
Analysis Period (min)		15				

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Yield			Stop			Stop			Stop	
Volume (vph)	0	0	0	29	195	0	123	0	0	0	39	110
Peak Hour Factor	0.58	0.58	0.58	0.90	0.90	0.90	0.83	0.83	0.83	0.80	0.80	0.80
Hourly flow rate (vph)	0	0	0	32	217	0	148	0	0	0	49	138
Direction, Lane #	WB 1	WB 2	NB 1	SB 1								
Volume Total (vph)	104	144	148	186								
Volume Left (vph)	32	0	148	0								
Volume Right (vph)	0	0	0	138								
Hadj (s)	0.19	0.03	0.23	-0.41								
Departure Headway (s)	5.5	5.3	5.0	4.3								
Degree Utilization, x	0.16	0.21	0.21	0.22								
Capacity (veh/h)	620	642	685	784								
Control Delay (s)	8.3	8.6	9.3	8.6								
Approach Delay (s)	8.5		9.3	8.6								
Approach LOS	A		A	A								
Intersection Summary												
Delay			8.7									
HCM Level of Service			A									
Intersection Capacity Utilization			32.3%		ICU Level of Service				A			
Analysis Period (min)			15									



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↕	↕	
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	0	11	201	797	35
Peak Hour Factor	0.92	0.92	0.86	0.86	0.94	0.94
Hourly flow rate (vph)	0	0	13	234	848	37
Pedestrians	14					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				518		
pX, platoon unblocked						
vC, conflicting volume	1140	880	899			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1140	880	899			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	98			
cM capacity (veh/h)	219	346	755			
Direction, Lane #	NB 1	SB 1				
Volume Total	247	885				
Volume Left	13	0				
Volume Right	0	37				
cSH	755	1700				
Volume to Capacity	0.02	0.52				
Queue Length 95th (ft)	1	0				
Control Delay (s)	0.7	0.0				
Lane LOS	A					
Approach Delay (s)	0.7	0.0				
Approach LOS						
Intersection Summary						
Average Delay		0.2				
Intersection Capacity Utilization		47.4%		ICU Level of Service		A
Analysis Period (min)		15				




















Atlanta BeltLine
Sub-Area 3

BASELINE 2030
WITH IMPROVEMENTS













SYNCHRO REPORT
(September 2008)

Atlanta BeltLine Master Plan Subarea 3
70: I-20 WB On & Boulevard

Baseline 2030 AM Peak With Improvements
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	0		0	280		280	150		0	0		0
Storage Lanes	0		0	1		2	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50	50	50	50				50
Trailing Detector (ft)				0	0	0	0	0				0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	0	0	1681	1715	2787	3433	3539	0	0	4724	0
Flt Permitted				0.950	0.969		0.950					
Satd. Flow (perm)	0	0	0	1681	1715	2787	3433	3539	0	0	4724	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						65						191
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		281			1064			442			562	
Travel Time (s)		6.4			24.2			10.0			12.8	
Volume (vph)	0	0	0	421	97	721	963	1533	0	0	195	177
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.97	0.97	0.97	0.97	0.97	0.97	0.82	0.82	0.82
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	0	0	260	274	743	993	1580	0	0	454	0
Turn Type				Split		Perm	Prot					
Protected Phases				4	4		1	1 2			2	
Permitted Phases						4						
Detector Phases				4	4	4	1	1 2			2	
Minimum Initial (s)				12.0	12.0	12.0	11.0				14.0	
Minimum Split (s)				30.0	30.0	30.0	16.2				27.0	
Total Split (s)	0.0	0.0	0.0	36.8	36.8	36.8	46.0	73.2	0.0	0.0	27.2	0.0
Total Split (%)	0.0%	0.0%	0.0%	33.5%	33.5%	33.5%	41.8%	66.5%	0.0%	0.0%	24.7%	0.0%
Yellow Time (s)				3.6	3.6	3.6	3.6				3.7	
All-Red Time (s)				2.4	2.4	2.4	1.6				2.3	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?												
Recall Mode				None	None	None	Min				C-Max	
Act Effct Green (s)				32.8	32.8	32.8	42.0	69.2			23.2	
Actuated g/C Ratio				0.30	0.30	0.30	0.38	0.63			0.21	
v/c Ratio				0.52	0.54	0.85	0.76	0.71			0.40	
Control Delay				36.5	36.9	43.5	36.7	11.5			22.3	
Queue Delay				0.0	0.0	0.0	3.9	2.6			0.0	
Total Delay				36.5	36.9	43.5	40.6	14.0			22.3	
LOS				D	D	D	D	B			C	
Approach Delay					40.7			24.3			22.3	

Lane Group	ø5	ø6	ø8
Lane Configurations			
Ideal Flow (vphpl)			
Lane Width (ft)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Total Lost Time (s)			
Leading Detector (ft)			
Trailing Detector (ft)			
Turning Speed (mph)			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Volume (vph)			
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)			
Peak Hour Factor			
Growth Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Parking (#/hr)			
Mid-Block Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phases			
Minimum Initial (s)	7.0	14.0	12.0
Minimum Split (s)	12.2	27.0	30.0
Total Split (s)	12.2	61.0	36.8
Total Split (%)	11%	55%	33%
Yellow Time (s)	3.6	3.7	3.6
All-Red Time (s)	1.6	2.3	2.4
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Recall Mode	None	C-Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D						C			C		

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 28.9







Intersection LOS: C

Intersection Capacity Utilization 92.6%

ICU Level of Service F

Analysis Period (min) 15





















Splits and Phases: 70: I-20 WB On & Boulevard

#70  ø1 46 s		#70  ø2 27.2 s		#70  ø4 36.8 s	
#71  ø5 12.2 s		#71  ø6 61 s		#71  ø8 36.8 s	













Lane Group	ø5	ø6	ø8
Approach LOS			
Intersection Summary			

Atlanta BeltLine Master Plan Subarea 3
71: I-20 EB Off & Boulevard

Baseline 2030 AM Peak With Improvements
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	320		320	0		0	0		0	150		0
Storage Lanes	1		1	0		0	0		1	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50					50	50	50	50	
Trailing Detector (ft)	0	0	0					0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1681	1524	1504	0	0	0	0	3539	1583	3433	3539	0
Flt Permitted	0.950	0.973								0.950		
Satd. Flow (perm)	1681	1524	1464	0	0	0	0	3539	1545	3433	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36	382						385			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1070			1567			170			442	
Travel Time (s)		24.3			35.6			3.9			10.0	
Volume (vph)	660	0	783	0	0	0	0	1815	493	147	471	0
Confl. Peds. (#/hr)			11			9			8			10
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.50	0.50	0.50	0.97	0.97	0.97	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	445	482	641	0	0	0	0	1871	508	153	491	0
Turn Type	Split		Perm						Perm	Prot		
Protected Phases	8	8						6		5	5	6
Permitted Phases			8						6			
Detector Phases	8	8	8					6	6	5	5	6
Minimum Initial (s)	12.0	12.0	12.0					14.0	14.0	7.0		
Minimum Split (s)	30.0	30.0	30.0					27.0	27.0	12.2		
Total Split (s)	36.8	36.8	36.8	0.0	0.0	0.0	0.0	61.0	61.0	12.2	73.2	0.0
Total Split (%)	33.5%	33.5%	33.5%	0.0%	0.0%	0.0%	0.0%	55.5%	55.5%	11.1%	66.5%	0.0%
Yellow Time (s)	3.6	3.6	3.6					3.7	3.7	3.6		
All-Red Time (s)	2.4	2.4	2.4					2.3	2.3	1.6		
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?												
Recall Mode	None	None	None					C-Max	C-Max	None		
Act Effct Green (s)	32.8	32.8	32.8					57.0	57.0	8.2	69.2	
Actuated g/C Ratio	0.30	0.30	0.30					0.52	0.52	0.07	0.63	
v/c Ratio	0.89	1.00	0.91					1.02	0.52	0.60	0.22	
Control Delay	58.2	78.8	33.5					53.3	6.0	39.1	16.8	
Queue Delay	0.0	0.0	0.0					10.2	0.0	0.0	0.0	
Total Delay	58.2	78.8	33.5					63.5	6.0	39.1	16.8	
LOS	E	E	C					E	A	D	B	
Approach Delay		54.4						51.2			22.1	

Lane Group	ø1	ø2	ø4
Lane Configurations			
Ideal Flow (vphpl)			
Lane Width (ft)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Total Lost Time (s)			
Leading Detector (ft)			
Trailing Detector (ft)			
Turning Speed (mph)			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Volume (vph)			
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)			
Peak Hour Factor			
Growth Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Parking (#/hr)			
Mid-Block Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phases			
Minimum Initial (s)	11.0	14.0	12.0
Minimum Split (s)	16.2	27.0	30.0
Total Split (s)	46.0	27.2	36.8
Total Split (%)	42%	25%	33%
Yellow Time (s)	3.6	3.7	3.6
All-Red Time (s)	1.6	2.3	2.4
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Recall Mode	Min	C-Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D						D			C		

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 48.2







Intersection LOS: D

Intersection Capacity Utilization 92.6%

ICU Level of Service F

Analysis Period (min) 15



















Splits and Phases: 71: I-20 EB Off & Boulevard













#70  ø1 46 s		#70  ø2 27.2 s		#70  ø4 36.8 s	
#71  ø5 12.2 s		#71  ø6 61 s		#71  ø8 36.8 s	

Lane Group	ø1	ø2	ø4
Approach LOS			
Intersection Summary			

Atlanta BeltLine Master Plan Subarea 3
73: Confederate Ave. & Boulevard

Baseline 2030 AM Peak With Improvements
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	80		0	0		0	0		0
Storage Lanes	0		0	0		1	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1812	0	0	1770	1583	0	3503	0	1770	1854	0
Flt Permitted		0.853			0.738			0.954		0.089		
Satd. Flow (perm)	0	1589	0	0	1375	1554	0	3342	0	166	1854	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						12		7			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		792			1253			672			2707	
Travel Time (s)		18.0			28.5			15.3			61.5	
Volume (vph)	10	8	0	85	0	537	2	1273	65	178	797	21
Confl. Peds. (#/hr)			4			4			14			2
Confl. Bikes (#/hr)												
Peak Hour Factor	0.62	0.62	0.62	0.82	0.82	0.82	0.88	0.88	0.88	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	29	0	0	104	655	0	1523	0	191	880	0
Turn Type	Perm			Perm		pm+ov	Perm			pm+pt		
Protected Phases		8			4	1		2		1	6	
Permitted Phases	8			4		4	2			6		
Detector Phases	8	8		4	4	1	2	2		1	6	
Minimum Initial (s)	17.0	17.0		17.0	17.0	5.0	15.0	15.0		5.0	15.0	
Minimum Split (s)	22.3	22.3		22.3	22.3	10.0	20.2	20.2		10.0	20.2	
Total Split (s)	22.3	22.3	0.0	22.3	22.3	23.0	44.7	44.7	0.0	23.0	67.7	0.0
Total Split (%)	24.8%	24.8%	0.0%	24.8%	24.8%	25.6%	49.7%	49.7%	0.0%	25.6%	75.2%	0.0%
Yellow Time (s)	3.6	3.6		3.6	3.6	3.5	3.7	3.7		3.5	3.7	
All-Red Time (s)	1.7	1.7		1.7	1.7	1.5	1.5	1.5		1.5	1.5	
Lead/Lag						Lead	Lag	Lag		Lead		
Lead-Lag Optimize?						Yes	Yes	Yes		Yes		
Recall Mode	None	None		None	None	None	C-Max	C-Max		None	C-Max	
Act Effct Green (s)		18.3			18.3	38.1		40.7		68.2	69.0	
Actuated g/C Ratio		0.20			0.20	0.42		0.45		0.76	0.77	
v/c Ratio		0.09			0.37	0.97		1.01		0.35	0.62	
Control Delay		30.1			35.4	54.9		50.1		12.5	8.9	
Queue Delay		0.0			0.0	0.0		0.0		0.0	0.0	
Total Delay		30.1			35.4	54.9		50.1		12.5	8.9	
LOS		C			D	D		D		B	A	
Approach Delay		30.1			52.2			50.1			9.6	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			D			D			A		

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 37.6

Intersection LOS: D

Intersection Capacity Utilization 104.8%

ICU Level of Service G


















Analysis Period (min) 15

Splits and Phases: 73: Confederate Ave. & Boulevard

 ø1	 ø2	 ø4
23 s	44.7 s	22.3 s
 ø6		 ø8
67.7 s		22.3 s













Atlanta BeltLine Master Plan Subarea 3
75: Atlanta Ave. & Boulevard

Baseline 2030 AM Peak With Improvements
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1747	0	0	1754	0	1770	1857	0	0	3362	0
Flt Permitted		0.758			0.715		0.172				0.778	
Satd. Flow (perm)	0	1364	0	0	1292	0	320	1857	0	0	2616	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			7			3			124	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		806			1283			1444			1606	
Travel Time (s)		18.3			29.2			32.8			36.5	
Volume (vph)	133	5	33	109	0	17	239	1179	24	6	614	306
Confl. Peds. (#/hr)	6			17			8			8		
Confl. Bikes (#/hr)												
Peak Hour Factor	0.75	0.75	0.75	0.74	0.74	0.74	0.92	0.92	0.92	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	228	0	0	170	0	260	1308	0	0	1029	0
Turn Type	Perm			Perm			pm+pt			Perm		
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phases	4	4		8	8		5	2		6	6	
Minimum Initial (s)	10.0	10.0		19.0	19.0		5.0	35.0		35.0	35.0	
Minimum Split (s)	23.8	23.8		24.8	24.8		10.0	41.5		41.5	41.5	
Total Split (s)	25.0	25.0	0.0	25.0	25.0	0.0	20.0	75.0	0.0	55.0	55.0	0.0
Total Split (%)	25.0%	25.0%	0.0%	25.0%	25.0%	0.0%	20.0%	75.0%	0.0%	55.0%	55.0%	0.0%
Yellow Time (s)	3.2	3.2		3.2	3.2		3.5	3.8		3.8	3.8	
All-Red Time (s)	2.6	2.6		2.6	2.6		1.5	2.7		2.7	2.7	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Recall Mode	None	None		Min	Min		None	Min		Min	Min	
Act Effct Green (s)		20.9			20.9		71.0	71.0			55.2	
Actuated g/C Ratio		0.21			0.21		0.71	0.71			0.55	
v/c Ratio		0.78			0.62		0.65	0.99			0.69	
Control Delay		54.7			45.1		14.8	38.3			17.4	
Queue Delay		0.0			0.0		0.0	0.0			0.0	
Total Delay		54.7			45.1		14.8	38.3			17.4	
LOS		D			D		B	D			B	
Approach Delay		54.7			45.1			34.4			17.4	

75: Atlanta Ave. & Boulevard

MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			D			C			B		

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 99.9

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 30.7




Intersection LOS: C






















Intersection Capacity Utilization 118.5%













ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 75: Atlanta Ave. & Boulevard

 ø2	 ø4
75 s	25 s
 ø5	 ø8
20 s	25 s
 ø6	
55 s	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%		0%		0%		0%		0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	2		0	1		1	0		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	3433	1769	0	1770	1863	1583	0	1723	0	1770	1863	1583
Flt Permitted	0.950			0.486				0.933		0.722		
Satd. Flow (perm)	3433	1769	0	905	1863	1541	0	1633	0	1345	1863	1502
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21				355		6				96
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1125			1642			628			3251	
Travel Time (s)		25.6			37.3			14.3			73.9	
Volume (vph)	537	294	85	34	754	409	3	3	3	174	43	494
Confl. Peds. (#/hr)			16			7			8			9
Confl. Bikes (#/hr)												
Peak Hour Factor	0.78	0.78	0.78	0.94	0.94	0.94	0.50	0.50	0.50	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	688	486	0	36	802	435	0	18	0	187	46	531
Turn Type	Prot			pm+pt		pm+ov	Perm			pm+pt		pm+ov
Protected Phases	1	6		5	2	3		4		3	8	1
Permitted Phases				2		2	4			8		8
Detector Phases	1	6		5	2	3	4	4		3	8	1
Minimum Initial (s)	8.0	15.0		5.0	15.0	5.0	19.0	19.0		5.0	19.0	8.0
Minimum Split (s)	13.0	22.4		10.0	22.4	10.0	24.5	24.5		10.0	24.5	13.0
Total Split (s)	28.0	75.5	0.0	10.0	57.5	10.0	24.5	24.5	0.0	10.0	34.5	28.0
Total Split (%)	23.3%	62.9%	0.0%	8.3%	47.9%	8.3%	20.4%	20.4%	0.0%	8.3%	28.8%	23.3%
Yellow Time (s)	3.5	3.7		3.5	3.7	3.5	3.7	3.7		3.5	3.7	3.5
All-Red Time (s)	1.5	1.7		1.5	1.7	1.5	1.8	1.8		1.5	1.8	1.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lag	Lag		Lead		Lead
Lead-Lag Optimize?		Yes		Yes		Yes	Yes	Yes		Yes		
Recall Mode	Min	C-Max		None	C-Max	None	Max	Max		None	Max	Min
Act Effct Green (s)	24.0	75.5		59.5	53.5	59.5		20.5		30.5	30.5	54.5
Actuated g/C Ratio	0.20	0.63		0.50	0.45	0.50		0.17		0.25	0.25	0.45
v/c Ratio	1.00	0.43		0.07	0.97	0.46		0.06		0.52	0.10	0.71
Control Delay	82.9	13.0		8.8	56.9	5.0		32.6		43.6	35.0	25.4
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Delay	82.9	13.0		8.8	56.9	5.0		32.6		43.6	35.0	25.4
LOS	F	B		A	E	A		C		D	D	C
Approach Delay		53.9			37.8			32.6			30.4	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			D			C			C		

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBT, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 41.9

Intersection LOS: D

Intersection Capacity Utilization 97.0%

ICU Level of Service F




















Analysis Period (min) 15

Splits and Phases: 77: Mc Donough Blvd & Boulevard













 ø1	 ø2	 ø3	 ø4
28 s	57.5 s	10 s	24.5 s
 ø5	 ø6	 ø7	 ø8
10 s	75.5 s	34.5 s	

Atlanta BeltLine Master Plan Subarea 3
70: I-20 WB On & Boulevard

Baseline 2030 PM Peak With Improvements
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	280		280	150		0	0		0
Storage Lanes	0		0	1		2	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50	50	50	50			50	
Trailing Detector (ft)				0	0	0	0	0			0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	0	0	1681	1690	2787	3433	3539	0	0	4917	0
Flt Permitted				0.950	0.955		0.950					
Satd. Flow (perm)	0	0	0	1681	1690	2787	3433	3539	0	0	4917	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						163					86	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		281			1064			442			562	
Travel Time (s)		6.4			24.2			10.0			12.8	
Volume (vph)	0	0	0	228	7	201	795	1122	0	0	1096	310
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.91	0.91	0.91	0.97	0.97	0.97	0.80	0.80	0.80
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	0	0	126	133	221	820	1157	0	0	1758	0
Turn Type				Split		Perm	Prot					
Protected Phases				4	4		1	1 2			2	
Permitted Phases						4						
Detector Phases				4	4	4	1	1 2			2	
Minimum Initial (s)				12.0	12.0	12.0	11.0				14.0	
Minimum Split (s)				30.0	30.0	30.0	16.2				27.0	
Total Split (s)	0.0	0.0	0.0	30.0	30.0	30.0	25.4	60.0	0.0	0.0	34.6	0.0
Total Split (%)	0.0%	0.0%	0.0%	33.3%	33.3%	33.3%	28.2%	66.7%	0.0%	0.0%	38.4%	0.0%
Yellow Time (s)				3.6	3.6	3.6	3.6				3.7	
All-Red Time (s)				2.4	2.4	2.4	1.6				2.3	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?												
Recall Mode				None	None	None	Min				C-Max	
Act Effct Green (s)				24.5	24.5	24.5	22.7	57.5			30.8	
Actuated g/C Ratio				0.27	0.27	0.27	0.25	0.64			0.34	
v/c Ratio				0.28	0.29	0.25	0.95	0.51			1.01	
Control Delay				26.9	27.1	8.3	57.9	9.1			53.5	
Queue Delay				0.0	0.0	0.0	0.0	0.3			0.0	
Total Delay				26.9	27.1	8.3	57.9	9.4			53.5	
LOS				C	C	A	E	A			D	
Approach Delay					18.4			29.5			53.5	

Lane Group	ø5	ø6	ø8
Lane Configurations			
Ideal Flow (vphpl)			
Lane Width (ft)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Total Lost Time (s)			
Leading Detector (ft)			
Trailing Detector (ft)			
Turning Speed (mph)			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Volume (vph)			
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)			
Peak Hour Factor			
Growth Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Parking (#/hr)			
Mid-Block Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phases			
Minimum Initial (s)	7.0	14.0	12.0
Minimum Split (s)	12.2	27.0	30.0
Total Split (s)	15.5	44.5	30.0
Total Split (%)	17%	49%	33%
Yellow Time (s)	3.6	3.7	3.6
All-Red Time (s)	1.6	2.3	2.4
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Recall Mode	None	C-Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B						C			D		

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 38.3

Intersection LOS: D

Intersection Capacity Utilization 81.0%

ICU Level of Service D

Analysis Period (min) 15





















Splits and Phases: 70: I-20 WB On & Boulevard

#70 	#70 	#70 
ø1	ø2	ø4
25.4 s	34.6 s	30 s
#71 	#71 	#71 
ø5	ø6	ø8
15.5 s	44.5 s	30 s

Lane Group	ø5	ø6	ø8
Approach LOS			
Intersection Summary			

Atlanta BeltLine Master Plan Subarea 3
71: I-20 EB Off & Boulevard













Baseline 2030 PM Peak With Improvements
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	320		320	0		0	0		0	150		0
Storage Lanes	1		1	0		0	0		1	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50					50	50	50	50	
Trailing Detector (ft)	0	0	0					0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1681	1442	1504	0	0	0	0	3539	1583	3433	3539	0
Flt Permitted	0.950	0.992								0.950		
Satd. Flow (perm)	1681	1442	1468	0	0	0	0	3539	1548	3433	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		102	102						439			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1070			1567			170			442	
Travel Time (s)		24.3			35.6			3.9			10.0	
Volume (vph)	393	0	669	0	0	0	0	1515	438	365	949	0
Confl. Peds. (#/hr)			11			9			8			10
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.50	0.50	0.50	0.96	0.96	0.96	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	341	406	359	0	0	0	0	1578	456	420	1091	0
Turn Type	Split		Perm						Perm	Prot		
Protected Phases	8	8						6		5	5	6
Permitted Phases			8						6			
Detector Phases	8	8	8					6	6	5	5	6
Minimum Initial (s)	12.0	12.0	12.0					14.0	14.0	7.0		
Minimum Split (s)	30.0	30.0	30.0					27.0	27.0	12.2		
Total Split (s)	30.0	30.0	30.0	0.0	0.0	0.0	0.0	44.5	44.5	15.5	60.0	0.0
Total Split (%)	33.3%	33.3%	33.3%	0.0%	0.0%	0.0%	0.0%	49.4%	49.4%	17.2%	66.7%	0.0%
Yellow Time (s)	3.6	3.6	3.6					3.7	3.7	3.6		
All-Red Time (s)	2.4	2.4	2.4					2.3	2.3	1.6		
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?												
Recall Mode	None	None	None					C-Max	C-Max	None		
Act Effct Green (s)	24.5	24.5	24.5					41.3	41.3	12.2	57.5	
Actuated g/C Ratio	0.27	0.27	0.27					0.46	0.46	0.14	0.64	
v/c Ratio	0.74	0.87	0.76					0.97	0.48	0.90	0.48	
Control Delay	40.6	43.4	32.3					39.9	4.2	53.4	11.7	
Queue Delay	0.0	0.0	0.0					0.0	0.0	0.0	0.3	
Total Delay	40.6	43.4	32.3					39.9	4.2	53.4	12.0	
LOS	D	D	C					D	A	D	B	
Approach Delay		38.9						31.9			23.5	

Lane Group	ø1	ø2	ø4
Lane Configurations			
Ideal Flow (vphpl)			
Lane Width (ft)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Total Lost Time (s)			
Leading Detector (ft)			
Trailing Detector (ft)			
Turning Speed (mph)			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Volume (vph)			
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)			
Peak Hour Factor			
Growth Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Parking (#/hr)			
Mid-Block Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phases			
Minimum Initial (s)	11.0	14.0	12.0
Minimum Split (s)	16.2	27.0	30.0
Total Split (s)	25.4	34.6	30.0
Total Split (%)	28%	38%	33%
Yellow Time (s)	3.6	3.7	3.6
All-Red Time (s)	1.6	2.3	2.4
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Recall Mode	Min	C-Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

71: I-20 EB Off & Boulevard

MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D						C			C		

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 30.8

Intersection LOS: C

Intersection Capacity Utilization 81.0%



















ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 71: I-20 EB Off & Boulevard













#70  ø1	#70  ø2	#70  ø4
25.4 s	34.6 s	30 s
#71  ø5	#71  ø6	#71  ø8
15.5 s	44.5 s	30 s

Lane Group	ø1	ø2	ø4
Approach LOS			
Intersection Summary			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	80		0	0		0	0		0
Storage Lanes	0		0	0		1	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1761	0	0	1779	1583	0	3519	0	1770	1856	0
Flt Permitted		0.828			0.777					0.125		
Satd. Flow (perm)	0	1512	0	0	1447	1554	0	3519	0	233	1856	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				39		4			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		792			1253			672			2707	
Travel Time (s)		18.0			28.5			15.3			61.5	
Volume (vph)	16	3	3	29	2	325	0	916	27	306	1089	20
Confl. Peds. (#/hr)			4			4			14			2
Confl. Bikes (#/hr)												
Peak Hour Factor	0.70	0.70	0.70	0.89	0.89	0.89	0.91	0.91	0.91	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	31	0	0	35	365	0	1037	0	333	1206	0
Turn Type	Perm			Perm		pm+ov	Perm			pm+pt		
Protected Phases		8			4	1		2		1	6	
Permitted Phases	8			4		4	2			6		
Detector Phases	8	8		4	4	1	2	2		1	6	
Minimum Initial (s)	17.0	17.0		17.0	17.0	5.0	15.0	15.0		5.0	15.0	
Minimum Split (s)	22.3	22.3		22.3	22.3	10.0	20.2	20.2		10.0	20.2	
Total Split (s)	22.3	22.3	0.0	22.3	22.3	26.0	41.7	41.7	0.0	26.0	67.7	0.0
Total Split (%)	24.8%	24.8%	0.0%	24.8%	24.8%	28.9%	46.3%	46.3%	0.0%	28.9%	75.2%	0.0%
Yellow Time (s)	3.6	3.6		3.6	3.6	3.5	3.7	3.7		3.5	3.7	
All-Red Time (s)	1.7	1.7		1.7	1.7	1.5	1.5	1.5		1.5	1.5	
Lead/Lag						Lead	Lag	Lag		Lead		
Lead-Lag Optimize?						Yes	Yes	Yes		Yes		
Recall Mode	None	None		None	None	None	C-Max	C-Max		None	C-Max	
Act Effct Green (s)		18.3			18.3	29.6		50.0		72.6	74.2	
Actuated g/C Ratio		0.20			0.20	0.33		0.56		0.81	0.82	
v/c Ratio		0.10			0.12	0.67		0.53		0.66	0.79	
Control Delay		27.4			30.6	26.2		16.4		24.2	13.2	
Queue Delay		0.0			0.0	0.0		0.0		0.0	0.0	
Total Delay		27.4			30.6	26.2		16.4		24.2	13.2	
LOS		C			C	C		B		C	B	
Approach Delay		27.4			26.6			16.4			15.6	

73: Confederate Ave. & Boulevard

MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			C			B			B		

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 17.5

Intersection LOS: B


















Intersection Capacity Utilization 108.9%













ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 73: Confederate Ave. & Boulevard

 ø1	 ø2	 ø4
26 s	41.7 s	22.3 s
 ø6	 ø8	
67.7 s	22.3 s	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1715	0	0	1706	0	1770	1846	0	0	3444	0
Flt Permitted		0.779			0.788		0.104				0.928	
Satd. Flow (perm)	0	1368	0	0	1374	0	194	1846	0	0	3199	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		38			22			7			43	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		806			1283			1444			1606	
Travel Time (s)		18.3			29.2			32.8			36.5	
Volume (vph)	208	0	122	19	0	15	40	747	48	20	932	201
Confl. Peds. (#/hr)	6			17			8			8		
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.69	0.69	0.69	0.89	0.89	0.89	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	363	0	0	50	0	45	893	0	0	1214	0
Turn Type	Perm			Perm			pm+pt			Perm		
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phases	4	4		8	8		5	2		6	6	
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	35.0		35.0	35.0	
Minimum Split (s)	23.8	23.8		23.8	23.8		10.0	41.5		41.5	41.5	
Total Split (s)	28.0	28.0	0.0	28.0	28.0	0.0	10.0	52.0	0.0	42.0	42.0	0.0
Total Split (%)	35.0%	35.0%	0.0%	35.0%	35.0%	0.0%	12.5%	65.0%	0.0%	52.5%	52.5%	0.0%
Yellow Time (s)	3.2	3.2		3.2	3.2		3.5	3.8		3.8	3.8	
All-Red Time (s)	2.6	2.6		2.6	2.6		1.5	2.7		2.7	2.7	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Recall Mode	None	None		None	None		None	Min		Min	Min	
Act Effct Green (s)		21.6			21.6		44.2	44.3			38.8	
Actuated g/C Ratio		0.29			0.29		0.57	0.60			0.52	
v/c Ratio		0.85			0.12		0.19	0.81			0.71	
Control Delay		43.6			14.2		8.8	19.1			17.5	
Queue Delay		0.0			0.0		0.0	0.0			0.0	
Total Delay		43.6			14.2		8.8	19.1			17.5	
LOS		D			B		A	B			B	
Approach Delay		43.6			14.2			18.6			17.5	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			B			B			B		

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 74

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 21.5




Intersection LOS: C






















Intersection Capacity Utilization 77.7%













ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 75: Atlanta Ave. & Boulevard

 ø2	 ø4
52 s	28 s
 ø5	 ø8
10 s	28 s
 ø6	
42 s	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	2		0	1		1	0		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	3433	1855	0	1770	1863	1583	0	1727	0	1770	1863	1583
Flt Permitted	0.950			0.136				0.944		0.722		
Satd. Flow (perm)	3433	1855	0	253	1863	1547	0	1656	0	1345	1863	1515
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				281		6				125
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1125			1642			628			3251	
Travel Time (s)		25.6			37.3			14.3			73.9	
Volume (vph)	475	664	14	18	507	273	3	3	3	501	14	525
Confl. Peds. (#/hr)			16			7			8			9
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.97	0.97	0.97	0.50	0.50	0.50	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	516	737	0	19	523	281	0	18	0	539	15	565
Turn Type	Prot			pm+pt		pm+ov	Perm			pm+pt		pm+ov
Protected Phases	1	6		5	2	3		4		3	8	1
Permitted Phases				2		2	4			8		8
Detector Phases	1	6		5	2	3	4	4		3	8	1
Minimum Initial (s)	8.0	15.0		5.0	15.0	5.0	19.0	19.0		5.0	19.0	8.0
Minimum Split (s)	13.0	22.4		10.0	22.4	10.0	24.5	24.5		10.0	24.5	13.0
Total Split (s)	18.0	41.5	0.0	10.0	33.5	14.0	24.5	24.5	0.0	14.0	38.5	18.0
Total Split (%)	20.0%	46.1%	0.0%	11.1%	37.2%	15.6%	27.2%	27.2%	0.0%	15.6%	42.8%	20.0%
Yellow Time (s)	3.5	3.7		3.5	3.7	3.5	3.7	3.7		3.5	3.7	3.5
All-Red Time (s)	1.5	1.7		1.5	1.7	1.5	1.8	1.8		1.5	1.8	1.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lag	Lag		Lead		Lead
Lead-Lag Optimize?		Yes		Yes		Yes	Yes	Yes		Yes		
Recall Mode	Min	C-Max		None	C-Max	None	Max	Max		None	Max	Min
Act Effct Green (s)	14.0	43.5		35.5	29.5	39.5		20.5		34.5	34.5	48.5
Actuated g/C Ratio	0.16	0.48		0.39	0.33	0.44		0.23		0.38	0.38	0.54
v/c Ratio	0.97	0.82		0.09	0.86	0.33		0.05		0.96	0.02	0.64
Control Delay	70.8	31.2		12.2	43.9	2.9		21.9		56.8	17.5	13.1
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Delay	70.8	31.2		12.2	43.9	2.9		21.9		56.8	17.5	13.1
LOS	E	C		B	D	A		C		E	B	B
Approach Delay		47.5			29.2			21.9			34.2	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			C			C			C		

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 38.0







Intersection LOS: D

Intersection Capacity Utilization 86.0%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 77: Mc Donough Blvd & Boulevard

 ø1	 ø2	 ø3	 ø4
18 s	33.5 s	14 s	24.5 s
 ø5	 ø6	 ø8	
10 s	41.5 s	38.5 s	




















Atlanta BeltLine
Sub-Area 3

BELTLINE 2020













SYNCHRO REPORT
(September 2008)

Atlanta BeltLine Master Plan Subarea 3
70: I-20 WB On & Boulevard

BeltLine 2020 AM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	0		0	280		280	150		0	0		0
Storage Lanes	0		0	1		2	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50	50	50	50			50	
Trailing Detector (ft)				0	0	0	0	0			0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	0	0	1681	1715	2787	3433	3539	0	0	4724	0
Flt Permitted				0.950	0.969		0.950					
Satd. Flow (perm)	0	0	0	1681	1715	2787	3433	3539	0	0	4724	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						239					168	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		281			1064			442			562	
Travel Time (s)		6.4			24.2			10.0			12.8	
Volume (vph)	0	0	0	331	76	565	738	1175	0	0	153	138
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.97	0.97	0.97	0.97	0.97	0.97	0.82	0.82	0.82
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	0	0	204	215	582	761	1211	0	0	355	0
Turn Type				Split		Perm	Prot					
Protected Phases				4	4		1 8	1 2 8			2	
Permitted Phases						4						
Detector Phases				4	4	4	1 8	1 2 8			2	
Minimum Initial (s)				12.0	12.0	12.0					14.0	
Minimum Split (s)				30.0	30.0	30.0					27.0	
Total Split (s)	0.0	0.0	0.0	30.0	30.0	30.0	59.6	115.0	0.0	0.0	55.4	0.0
Total Split (%)	0.0%	0.0%	0.0%	20.7%	20.7%	20.7%	41.1%	79.3%	0.0%	0.0%	38.2%	0.0%
Yellow Time (s)				3.6	3.6	3.6					3.7	
All-Red Time (s)				2.4	2.4	2.4					2.3	
Lead/Lag				Lag	Lag	Lag					Lag	
Lead-Lag Optimize?												
Recall Mode				None	None	None					C-Max	
Act Effct Green (s)				26.0	26.0	26.0	46.2	111.0			56.8	
Actuated g/C Ratio				0.18	0.18	0.18	0.32	0.77			0.39	
v/c Ratio				0.68	0.70	0.84	0.70	0.45			0.18	
Control Delay				68.0	69.0	45.1	29.9	2.3			15.1	
Queue Delay				0.0	0.0	0.0	0.2	1.1			0.0	
Total Delay				68.0	69.0	45.1	30.1	3.4			15.1	
LOS				E	E	D	C	A			B	
Approach Delay					54.9			13.7			15.1	

Lane Group	ø1	ø5	ø6	ø8
Lane Configurations				
Ideal Flow (vphpl)				
Lane Width (ft)				
Grade (%)				
Storage Length (ft)				
Storage Lanes				
Total Lost Time (s)				
Leading Detector (ft)				
Trailing Detector (ft)				
Turning Speed (mph)				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Growth Factor				
Heavy Vehicles (%)				
Bus Blockages (#/hr)				
Parking (#/hr)				
Mid-Block Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	5	6	8
Permitted Phases				
Detector Phases				
Minimum Initial (s)	11.0	7.0	14.0	12.0
Minimum Split (s)	16.2	12.2	27.0	30.0
Total Split (s)	21.6	12.2	64.8	38.0
Total Split (%)	15%	8%	45%	26%
Yellow Time (s)	3.6	3.6	3.7	3.6
All-Red Time (s)	1.6	1.6	2.3	2.4
Lead/Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?				
Recall Mode	Min	None	C-Max	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D						B			B		

Intersection Summary

Area Type: Other

Cycle Length: 145

Actuated Cycle Length: 145

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.25

Intersection Signal Delay: 26.2







Intersection LOS: C

Intersection Capacity Utilization 90.7%

ICU Level of Service E

Analysis Period (min) 15




















Splits and Phases: 70: I-20 WB On & Boulevard

#70  ø1	#70  ø2	#70 #71  ø8	#70 #71  ø4
21.6 s	55.4 s	38 s	30 s
#71  ø5	#71  ø6		
12.2 s	64.8 s		













Lane Group	ø1	ø5	ø6	ø8
Approach LOS				
Intersection Summary				

Atlanta BeltLine Master Plan Subarea 3
71: I-20 EB Off & Boulevard

BeltLine 2020 AM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	320		320	0		0	0		0	150		0
Storage Lanes	1		1	0		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50					50		50	50	
Trailing Detector (ft)	0	0	0					0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1681	1479	1504	0	0	0	0	3405	0	3433	3539	0
Flt Permitted	0.950	0.981								0.950		
Satd. Flow (perm)	1681	1479	1457	0	0	0	0	3405	0	3433	3539	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)								29				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1070			1567			170			442	
Travel Time (s)		24.3			35.6			3.9			10.0	
Volume (vph)	517	0	570	0	0	0	0	1379	375	115	370	0
Confl. Peds. (#/hr)			11			9			8			10
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.50	0.50	0.50	0.97	0.97	0.97	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	404	418	360	0	0	0	0	1809	0	120	385	0
Turn Type	Split		Perm							Prot		
Protected Phases	8	8						6		4 5	4 5 6	
Permitted Phases			8									
Detector Phases	8	8	8					6		4 5	4 5 6	
Minimum Initial (s)	12.0	12.0	12.0					14.0				
Minimum Split (s)	30.0	30.0	30.0					27.0				
Total Split (s)	38.0	38.0	38.0	0.0	0.0	0.0	0.0	64.8	0.0	42.2	107.0	0.0
Total Split (%)	26.2%	26.2%	26.2%	0.0%	0.0%	0.0%	0.0%	44.7%	0.0%	29.1%	73.8%	0.0%
Yellow Time (s)	3.6	3.6	3.6					3.7				
All-Red Time (s)	2.4	2.4	2.4					2.3				
Lead/Lag	Lead	Lead	Lead					Lag				
Lead-Lag Optimize?												
Recall Mode	None	None	None					C-Max				
Act Effct Green (s)	34.0	34.0	34.0					60.8		38.2	103.0	
Actuated g/C Ratio	0.23	0.23	0.23					0.42		0.26	0.71	
v/c Ratio	1.03	1.20	1.05					1.25		0.13	0.15	
Control Delay	105.6	162.8	115.6					155.2		21.6	1.6	
Queue Delay	42.6	59.0	0.0					0.0		0.0	0.0	
Total Delay	148.2	221.7	115.6					155.2		21.6	1.6	
LOS	F	F	F					F		C	A	
Approach Delay		164.3						155.2			6.4	

Lane Group	ø1	ø2	ø4	ø5
Lane Configurations				
Ideal Flow (vphpl)				
Lane Width (ft)				
Grade (%)				
Storage Length (ft)				
Storage Lanes				
Total Lost Time (s)				
Leading Detector (ft)				
Trailing Detector (ft)				
Turning Speed (mph)				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Growth Factor				
Heavy Vehicles (%)				
Bus Blockages (#/hr)				
Parking (#/hr)				
Mid-Block Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	2	4	5
Permitted Phases				
Detector Phases				
Minimum Initial (s)	11.0	14.0	12.0	7.0
Minimum Split (s)	16.2	27.0	30.0	12.2
Total Split (s)	21.6	55.4	30.0	12.2
Total Split (%)	15%	38%	21%	8%
Yellow Time (s)	3.6	3.7	3.6	3.6
All-Red Time (s)	1.6	2.3	2.4	1.6
Lead/Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?				
Recall Mode	Min	C-Max	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	F						F			A		

Intersection Summary

Area Type: Other

Cycle Length: 145

Actuated Cycle Length: 145

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.25

Intersection Signal Delay: 136.8







Intersection LOS: F

Intersection Capacity Utilization 90.7%

ICU Level of Service E

Analysis Period (min) 15


















Splits and Phases: 71: I-20 EB Off & Boulevard













#70 	#70 	#70 #71 	#70 #71 
ø1	ø2	ø8	ø4
21.6 s	55.4 s	38 s	30 s
#71 	#71 		
ø5	ø6		
12.2 s	64.8 s		

Lane Group	ø1	ø2	ø4	ø5
Approach LOS				
Intersection Summary				

Atlanta BeltLine Master Plan Subarea 3
73: Confederate Ave. & Boulevard

BeltLine 2020 AM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	80		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1812	0	1770	1554	0	0	1844	0	0	3495	0
Flt Permitted		0.655		0.742							0.574	
Satd. Flow (perm)	0	1220	0	1382	1554	0	0	1844	0	0	2024	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					90			5			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		792			1253			672			2707	
Travel Time (s)		18.0			28.5			15.3			61.5	
Volume (vph)	8	6	0	67	0	407	1	966	53	132	594	16
Confl. Peds. (#/hr)			4			4			14			2
Confl. Bikes (#/hr)												
Peak Hour Factor	0.62	0.62	0.62	0.82	0.82	0.82	0.88	0.88	0.88	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	23	0	82	496	0	0	1159	0	0	798	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Detector Phases	8	8		4	4		2	2		6	6	
Minimum Initial (s)	17.0	17.0		17.0	17.0		15.0	15.0		15.0	15.0	
Minimum Split (s)	22.3	22.3		22.3	22.3		20.2	20.2		20.2	20.2	
Total Split (s)	32.0	32.0	0.0	32.0	32.0	0.0	58.0	58.0	0.0	58.0	58.0	0.0
Total Split (%)	35.6%	35.6%	0.0%	35.6%	35.6%	0.0%	64.4%	64.4%	0.0%	64.4%	64.4%	0.0%
Yellow Time (s)	3.6	3.6		3.6	3.6		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.7	1.7		1.7	1.7		1.5	1.5		1.5	1.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Act Effct Green (s)		27.0		27.0	27.0			55.0			55.0	
Actuated g/C Ratio		0.30		0.30	0.30			0.61			0.61	
v/c Ratio		0.06		0.20	0.94			1.03			0.64	
Control Delay		22.5		24.4	52.7			53.9			14.5	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		22.5		24.4	52.7			53.9			14.5	
LOS		C		C	D			D			B	
Approach Delay		22.5			48.6			53.9			14.5	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			D			D			B		

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 40.1





Intersection LOS: D

Intersection Capacity Utilization 110.6%

ICU Level of Service H

















Analysis Period (min) 15













Splits and Phases: 73: Confederate Ave. & Boulevard

 ø2	 ø4
58 s	32 s
 ø6	 ø8
58 s	32 s

Atlanta BeltLine Master Plan Subarea 3
75: Atlanta Ave. & Boulevard

BeltLine 2020 AM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1745	0	0	1752	0	0	1844	0	0	3362	0
Flt Permitted		0.887			0.640			0.644			0.945	
Satd. Flow (perm)	0	1608	0	0	1133	0	0	1196	0	0	3177	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			5			1			116	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		806			1283			1444			1606	
Travel Time (s)		18.3			29.2			32.8			36.5	
Volume (vph)	102	4	26	85	0	14	188	899	18	5	461	230
Confl. Peds. (#/hr)	6			17			8			8		
Confl. Bikes (#/hr)												
Peak Hour Factor	0.75	0.75	0.75	0.74	0.74	0.74	0.92	0.92	0.92	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	176	0	0	134	0	0	1201	0	0	774	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			4			2			6	
Permitted Phases	3			4			2			6		
Detector Phases	3	3		4	4		2	2		6	6	
Minimum Initial (s)	19.0	19.0		10.0	10.0		35.0	35.0		35.0	35.0	
Minimum Split (s)	24.8	24.8		23.8	23.8		41.5	41.5		41.5	41.5	
Total Split (s)	24.8	24.8	0.0	23.8	23.8	0.0	96.4	96.4	0.0	96.4	96.4	0.0
Total Split (%)	17.1%	17.1%	0.0%	16.4%	16.4%	0.0%	66.5%	66.5%	0.0%	66.5%	66.5%	0.0%
Yellow Time (s)	3.2	3.2		3.2	3.2		3.8	3.8		3.8	3.8	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.7	2.7		2.7	2.7	
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?												
Recall Mode	Min	Min		None	None		Min	Min		Min	Min	
Act Effct Green (s)		20.8			19.1			92.4			92.4	
Actuated g/C Ratio		0.14			0.13			0.64			0.64	
v/c Ratio		0.74			0.87			1.57			0.37	
Control Delay		75.9			103.3			285.6			10.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		75.9			103.3			285.6			10.8	
LOS		E			F			F			B	
Approach Delay		75.9			103.3			285.6			10.8	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	E			F			F			B		

Intersection Summary

Area Type: Other

Cycle Length: 145

Actuated Cycle Length: 144.3

Natural Cycle: 145

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.57

Intersection Signal Delay: 165.7

Intersection LOS: F

Intersection Capacity Utilization 113.8%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 75: Atlanta Ave. & Boulevard

 ø2	 ø3	 ø4
96.4 s	24.8 s	23.8 s
 ø6		
96.4 s		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	1	0			0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	
Turning Speed (mph)	15	9	15			9
Satd. Flow (prot)	1770	1583	0	3514	3415	0
Flt Permitted	0.950			0.746		
Satd. Flow (perm)	1770	1583	0	2640	3415	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		67			80	
Link Speed (mph)	30			30	30	
Link Distance (ft)	3424			3251	1886	
Travel Time (s)	77.8			73.9	42.9	
Volume (vph)	66	62	163	994	451	105
Confl. Peds. (#/hr)						11
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Lane Group Flow (vph)	71	67	0	1244	631	0
Turn Type		Perm	Perm			
Protected Phases	4			2	6	
Permitted Phases		4	2			
Detector Phases	4	4	2	2	6	
Minimum Initial (s)	9.0	9.0	15.0	15.0	15.0	
Minimum Split (s)	21.2	21.2	22.7	22.7	22.7	
Total Split (s)	21.2	21.2	38.8	38.8	38.8	0.0
Total Split (%)	35.3%	35.3%	64.7%	64.7%	64.7%	0.0%
Yellow Time (s)	3.2	3.2	3.8	3.8	3.8	
All-Red Time (s)	2.0	2.0	1.9	1.9	1.9	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	
Act Effct Green (s)	10.4	10.4		45.2	45.2	
Actuated g/C Ratio	0.17	0.17		0.75	0.75	
v/c Ratio	0.23	0.20		0.63	0.24	
Control Delay	23.3	8.2		5.5	3.0	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	23.3	8.2		5.5	3.0	
LOS	C	A		A	A	
Approach Delay	16.0			5.5	3.0	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach LOS	B			A	A	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 5.4

Intersection LOS: A

Intersection Capacity Utilization 65.7%

ICU Level of Service C



















Analysis Period (min) 15













Splits and Phases: 76: Englewood Ave. & Boulevard

ø2 ø6 38.8 s	ø4 21.2 s
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Atlanta BeltLine Master Plan Subarea 3
77: Mc Donough Blvd & Boulevard

BeltLine 2020 AM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%		0%		0%		0%		0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	1766	0	0	1759	0	0	1747	0	1770	1530	0
Flt Permitted	0.215				0.982			0.483		0.743		
Satd. Flow (perm)	400	1766	0	0	1729	0	0	855	0	1384	1530	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		38			36			6			404	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1125			1642			628			3251	
Travel Time (s)		25.6			37.3			14.3			73.9	
Volume (vph)	404	235	70	26	590	318	3	5	3	132	32	376
Confl. Peds. (#/hr)			16			7			8			9
Confl. Bikes (#/hr)												
Peak Hour Factor	0.78	0.78	0.78	0.94	0.94	0.94	0.50	0.50	0.50	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	518	391	0	0	994	0	0	22	0	142	438	0
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	1	6			2			4			8	
Permitted Phases	6			2			4			8		
Detector Phases	1	6		2	2		4	4		8	8	
Minimum Initial (s)	8.0	15.0		15.0	15.0		19.0	19.0		19.0	19.0	
Minimum Split (s)	13.0	22.4		22.4	22.4		24.5	24.5		24.5	24.5	
Total Split (s)	23.0	95.5	0.0	72.5	72.5	0.0	24.5	24.5	0.0	24.5	24.5	0.0
Total Split (%)	19.2%	79.6%	0.0%	60.4%	60.4%	0.0%	20.4%	20.4%	0.0%	20.4%	20.4%	0.0%
Yellow Time (s)	3.5	3.7		3.7	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.5	1.7		1.7	1.7		1.8	1.8		1.8	1.8	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?												
Recall Mode	Min	C-Max		C-Max	C-Max		Max	Max		Max	Max	
Act Effct Green (s)	91.5	91.5			68.5			20.5		20.5	20.5	
Actuated g/C Ratio	0.76	0.76			0.57			0.17		0.17	0.17	
v/c Ratio	0.99	0.29			0.99			0.15		0.60	0.73	
Control Delay	54.6	4.5			51.9			36.5		55.3	16.8	
Queue Delay	0.0	0.0			0.0			0.0		0.0	0.0	
Total Delay	54.6	4.5			51.9			36.5		55.3	16.8	
LOS	D	A			D			D		E	B	
Approach Delay		33.0			51.9			36.5			26.2	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			D			D			C		

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 39.0


Intersection LOS: D

Intersection Capacity Utilization 110.3%







ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 77: Mc Donough Blvd & Boulevard

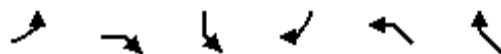
 ø1	 ø2	 ø4
23 s	72.5 s	24.5 s
 ø6		 ø8
95.5 s		24.5 s

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑	↘	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	150		0	500
Storage Lanes		0	1		1	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	50
Trailing Detector (ft)	0		0	0	0	0
Turning Speed (mph)		9	15		15	9
Satd. Flow (prot)	3518	0	1770	1863	1770	1583
Flt Permitted			0.186		0.950	
Satd. Flow (perm)	3518	0	346	1863	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	7					35
Link Speed (mph)	30			30	30	
Link Distance (ft)	1994			607	1361	
Travel Time (s)	45.3			13.8	30.9	
Volume (vph)	648	26	24	578	35	24
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.89	0.89	0.69	0.69
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Lane Group Flow (vph)	732	0	27	649	51	35
Turn Type			pm+pt			Perm
Protected Phases	6		5	2	4	
Permitted Phases			2			4
Detector Phases	6		5	2	4	4
Minimum Initial (s)	15.0		8.0	15.0	19.0	19.0
Minimum Split (s)	20.4		13.0	20.4	24.5	24.5
Total Split (s)	22.5	0.0	13.0	35.5	24.5	24.5
Total Split (%)	37.5%	0.0%	21.7%	59.2%	40.8%	40.8%
Yellow Time (s)	3.7		3.5	3.7	3.7	3.7
All-Red Time (s)	1.7		1.5	1.7	1.8	1.8
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?						
Recall Mode	Max		None	Max	None	None
Act Effct Green (s)	46.2		51.2	52.6	23.2	23.2
Actuated g/C Ratio	0.63		0.63	0.71	0.28	0.28
v/c Ratio	0.33		0.07	0.49	0.10	0.08
Control Delay	11.5		7.9	9.4	14.1	5.8
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	11.5		7.9	9.4	14.1	5.8
LOS	B		A	A	B	A
Approach Delay	11.5			9.4	10.7	

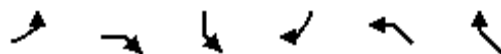
						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach LOS	B		A		B	
Intersection Summary						
Area Type:	Other					
Cycle Length: 60						
Actuated Cycle Length: 73.6						
Natural Cycle: 60						
Control Type: Actuated-Uncoordinated						
Maximum v/c Ratio: 0.49						
Intersection Signal Delay: 10.5				Intersection LOS: B		
Intersection Capacity Utilization 52.9%				ICU Level of Service A		
Analysis Period (min) 15						

Splits and Phases: 79: Mc Donough Blvd & Sawtell Avenue

← ø2	↖ ø4
35.5 s	24.5 s
↘ ø5	→ ø6
13 s	22.5 s



Lane Group	EBL	EBR	SBL	SBR	NWL	NWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%		0%	
Storage Length (ft)	0	0	0	0	0	80
Storage Lanes	1	0	1	0	0	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Turning Speed (mph)	15	9	15	9	15	9
Satd. Flow (prot)	1742	1504	1693	0	1770	1583
Flt Permitted	0.501		0.977		0.950	
Satd. Flow (perm)	909	1504	1693	0	1770	1583
Right Turn on Red		Yes		Yes		Yes
Satd. Flow (RTOR)	32	424	87			
Link Speed (mph)	30		30		30	
Link Distance (ft)	1263		336		1994	
Travel Time (s)	28.7		7.6		45.3	
Volume (vph)	118	351	78	85	443	291
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.77	0.77	0.98	0.98	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%		0%	
Lane Group Flow (vph)	185	424	167	0	515	338
Turn Type	Perm				pm+ov	
Protected Phases		2	4		6	4
Permitted Phases	2					6
Detector Phases	2	2	4		6	4
Minimum Initial (s)	35.0	35.0	14.0		35.0	14.0
Minimum Split (s)	40.7	40.7	19.2		40.7	19.2
Total Split (s)	40.8	40.8	19.2	0.0	40.8	19.2
Total Split (%)	68.0%	68.0%	32.0%	0.0%	68.0%	32.0%
Yellow Time (s)	3.7	3.7	3.4		3.7	3.4
All-Red Time (s)	2.0	2.0	1.8		2.0	1.8
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max	Max	None		Max	None
Act Effct Green (s)	36.8	36.8	15.2		36.8	60.0
Actuated g/C Ratio	0.61	0.61	0.25		0.61	1.00
v/c Ratio	0.32	0.39	0.34		0.47	0.21
Control Delay	6.4	1.8	11.8		8.1	0.3
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	6.4	1.8	11.8		8.1	0.3
LOS	A	A	B		A	A
Approach Delay	3.2		11.8		5.0	



Lane Group	EBL	EBR	SBL	SBR	NWL	NWR
Approach LOS	A		B		A	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.47

Intersection Signal Delay: 5.0




Intersection LOS: A

















Intersection Capacity Utilization 80.0%













ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 80: Mc Donough Blvd & Milton Ave.

 <p>ø2</p> <p>40.8 s</p>	 <p>ø4</p> <p>19.2 s</p>
 <p>ø6</p> <p>40.8 s</p>	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1793	0	0	1680	0	0	1857	0	0	1761	0
Flt Permitted		0.532			0.998			0.995			0.648	
Satd. Flow (perm)	0	982	0	0	1677	0	0	1849	0	0	1169	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			241			1			26	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		776			776			1683			518	
Travel Time (s)		17.6			17.6			38.3			11.8	
Volume (vph)	78	49	8	3	113	311	9	471	6	88	57	34
Confl. Peds. (#/hr)			4						3			7
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.77	0.77	0.77	0.87	0.87	0.87	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	142	0	0	555	0	0	558	0	0	195	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phases	4	4		8	8		2	2		6	6	
Minimum Initial (s)	9.0	9.0		16.0	16.0		30.0	30.0		14.0	14.0	
Minimum Split (s)	26.7	26.7		26.7	26.7		35.9	35.9		30.9	30.9	
Total Split (s)	29.0	29.0	0.0	29.0	29.0	0.0	36.0	36.0	0.0	36.0	36.0	0.0
Total Split (%)	44.6%	44.6%	0.0%	44.6%	44.6%	0.0%	55.4%	55.4%	0.0%	55.4%	55.4%	0.0%
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.5	2.5		2.5	2.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		20.9			20.9			32.1			32.1	
Actuated g/C Ratio		0.34			0.34			0.53			0.53	
v/c Ratio		0.42			0.76			0.57			0.31	
Control Delay		18.9			17.2			13.4			9.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		18.9			17.2			13.4			9.5	
LOS		B			B			B			A	
Approach Delay		18.9			17.2			13.4			9.5	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B			B			B			A		

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 61

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 14.9




Intersection LOS: B
















Intersection Capacity Utilization 93.8%










ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 85: Atlanta Ave. & Cherokee Ave.










 ø2	 ø4
36 s	29 s
 ø6	 ø8
36 s	29 s










												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Volume (veh/h)	0	0	0	0	0	221	0	1037	21	95	844	0
Peak Hour Factor	0.92	0.92	0.92	0.87	0.87	0.87	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	0	0	0	254	0	1103	22	101	898	0
Pedestrians						3						21
Lane Width (ft)						12.0						12.0
Walking Speed (ft/s)						4.0						4.0
Percent Blockage						0						2
Right turn flare (veh)												
Median type	None				None							
Median storage veh												
Upstream signal (ft)											170	
pX, platoon unblocked	0.97	0.97	0.97	0.97	0.97	0.97						
vC, conflicting volume	1927	2229	449	1768	2217	587	898				1129	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1924	2236	397	1761	2225	587	861				1129	
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	100	100	100	100	100	43	100				84	
cM capacity (veh/h)	14	34	583	45	34	444	751				613	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2							
Volume Total	254	735	390	400	599							
Volume Left	0	0	0	101	0							
Volume Right	254	0	22	0	0							
cSH	444	1700	1700	613	1700							
Volume to Capacity	0.57	0.43	0.23	0.16	0.35							
Queue Length 95th (ft)	87	0	0	15	0							
Control Delay (s)	23.4	0.0	0.0	4.8	0.0							
Lane LOS	C				A							
Approach Delay (s)	23.4	0.0	1.9									
Approach LOS	C											
Intersection Summary												
Average Delay	3.3											
Intersection Capacity Utilization	62.1%			ICU Level of Service			B					
Analysis Period (min)	15											

















						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	47	74	955	31	22	646
Peak Hour Factor	0.72	0.72	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	103	1038	34	24	702
Pedestrians	18					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	2					
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						672
pX, platoon unblocked	0.95					
vC, conflicting volume	1472	1073			1090	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1443	1073			1090	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	41	52			96	
cM capacity (veh/h)	111	213			626	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	168	1072	258	468		
Volume Left	65	0	24	0		
Volume Right	103	34	0	0		
cSH	156	1700	626	1700		
Volume to Capacity	1.07	0.63	0.04	0.28		
Queue Length 95th (ft)	217	0	3	0		
Control Delay (s)	151.4	0.0	1.5	0.0		
Lane LOS	F		A			
Approach Delay (s)	151.4	0.0	0.5			
Approach LOS	F					
Intersection Summary						
Average Delay		13.1				
Intersection Capacity Utilization		66.0%		ICU Level of Service		C
Analysis Period (min)		15				



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕		↕↕	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	192	465	441	496	157	167
Peak Hour Factor	0.86	0.86	0.89	0.89	0.90	0.90
Hourly flow rate (vph)	223	541	496	557	174	186
Pedestrians					13	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					1	
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		607	1125			
pX, platoon unblocked	0.60				0.64	0.60
vC, conflicting volume	1066				1504	787
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1110				1469	645
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	40				0	25
cM capacity (veh/h)	371				30	246
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	403	360	1053	360		
Volume Left	223	0	0	174		
Volume Right	0	0	557	186		
cSH	371	1700	1700	54		
Volume to Capacity	0.60	0.21	0.62	6.61		
Queue Length 95th (ft)	94	0	0	Err		
Control Delay (s)	24.2	0.0	0.0	Err		
Lane LOS	C			F		
Approach Delay (s)	12.8		0.0	Err		
Approach LOS				F		
Intersection Summary						
Average Delay		1658.2				
Intersection Capacity Utilization		101.6%		ICU Level of Service	G	
Analysis Period (min)		15				

						
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Yield	Stop		Free	
Grade		0%	0%		0%	
Volume (veh/h)	48	192	182	35	52	89
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	52	209	198	38	57	97
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	298	161	210	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	298	161	210	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	89	70	70	96	97	
cM capacity (veh/h)	473	705	663	1085	1623	
Direction, Lane #	NB 1	SB 1	SE 1			
Volume Total	261	236	153			
Volume Left	52	0	57			
Volume Right	0	38	97			
cSH	642	708	1623			
Volume to Capacity	0.41	0.33	0.03			
Queue Length 95th (ft)	49	37	3			
Control Delay (s)	14.4	12.6	2.9			
Lane LOS	B	B	A			
Approach Delay (s)	14.4	12.6	2.9			
Approach LOS	B	B				
Intersection Summary						
Average Delay		11.0				
Intersection Capacity Utilization		42.8%		ICU Level of Service		A
Analysis Period (min)		15				

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	21	71	325	84	132	92
Peak Hour Factor	0.74	0.74	0.90	0.90	0.89	0.89
Hourly flow rate (vph)	28	96	361	93	148	103
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	808	408			454	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	808	408			454	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	91	85			87	
cM capacity (veh/h)	303	643			1106	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	124	454	252			
Volume Left	28	0	148			
Volume Right	96	93	0			
cSH	512	1700	1106			
Volume to Capacity	0.24	0.27	0.13			
Queue Length 95th (ft)	24	0	12			
Control Delay (s)	14.3	0.0	5.7			
Lane LOS	B		A			
Approach Delay (s)	14.3	0.0	5.7			
Approach LOS	B					
Intersection Summary						
Average Delay		3.9				
Intersection Capacity Utilization		49.9%		ICU Level of Service		A
Analysis Period (min)		15				




















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Yield			Stop			Stop			Stop	
Volume (vph)	0	0	0	7	48	0	240	0	0	0	124	15
Peak Hour Factor	0.25	0.25	0.25	0.75	0.75	0.75	0.94	0.94	0.94	0.96	0.96	0.96
Hourly flow rate (vph)	0	0	0	9	64	0	255	0	0	0	129	16
Direction, Lane #	WB 1	WB 2	NB 1	SB 1								
Volume Total (vph)	31	43	255	145								
Volume Left (vph)	9	0	255	0								
Volume Right (vph)	0	0	0	16								
Hadj (s)	0.19	0.03	0.23	-0.03								
Departure Headway (s)	5.6	5.4	4.5	4.4								
Degree Utilization, x	0.05	0.06	0.32	0.18								
Capacity (veh/h)	595	614	782	795								
Control Delay (s)	7.7	7.6	9.6	8.3								
Approach Delay (s)	7.6		9.6	8.3								
Approach LOS	A		A	A								
Intersection Summary												
Delay			8.9									
HCM Level of Service			A									
Intersection Capacity Utilization			34.5%		ICU Level of Service					A		
Analysis Period (min)			15									















Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↕	↕	
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	0	6	849	189	14
Peak Hour Factor	0.92	0.92	0.88	0.88	0.84	0.84
Hourly flow rate (vph)	0	0	7	965	225	17
Pedestrians	14					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)				518		
pX, platoon unblocked	0.80					
vC, conflicting volume	1226	247	256			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1281	247	256			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	99			
cM capacity (veh/h)	146	791	1309			
Direction, Lane #	NB 1	SB 1				
Volume Total	972	242				
Volume Left	7	0				
Volume Right	0	17				
cSH	1309	1700				
Volume to Capacity	0.01	0.14				
Queue Length 95th (ft)	0	0				
Control Delay (s)	0.1	0.0				
Lane LOS	A					
Approach Delay (s)	0.1	0.0				
Approach LOS						
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			52.8%	ICU Level of Service		A
Analysis Period (min)			15			

Atlanta BeltLine Master Plan Subarea 3
70: I-20 WB On & Boulevard

BeltLine 2020 PM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	0		0	280		280	150		0	0		0
Storage Lanes	0		0	1		2	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50	50	50	50			50	
Trailing Detector (ft)				0	0	0	0	0			0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	0	0	1681	1690	2787	3433	3539	0	0	4912	0
Flt Permitted				0.950	0.955		0.950					
Satd. Flow (perm)	0	0	0	1681	1690	2787	3433	3539	0	0	4912	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						174					65	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		281			1064			442			562	
Travel Time (s)		6.4			24.2			10.0			12.8	
Volume (vph)	0	0	0	177	5	158	590	834	0	0	815	243
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.91	0.91	0.91	0.97	0.97	0.97	0.80	0.80	0.80
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	0	0	98	102	174	608	860	0	0	1323	0
Turn Type				Split		Perm	Prot					
Protected Phases				4	4		1 8	1 2 8			2	
Permitted Phases						4						
Detector Phases				4	4	4	1 8	1 2 8			2	
Minimum Initial (s)				12.0	12.0	12.0					14.0	
Minimum Split (s)				30.0	30.0	30.0					27.0	
Total Split (s)	0.0	0.0	0.0	30.0	30.0	30.0	48.7	105.0	0.0	0.0	56.3	0.0
Total Split (%)	0.0%	0.0%	0.0%	22.2%	22.2%	22.2%	36.1%	77.8%	0.0%	0.0%	41.7%	0.0%
Yellow Time (s)				3.6	3.6	3.6					3.7	
All-Red Time (s)				2.4	2.4	2.4					2.3	
Lead/Lag				Lag	Lag	Lag					Lag	
Lead-Lag Optimize?												
Recall Mode				None	None	None					C-Max	
Act Effct Green (s)				21.8	21.8	21.8	39.2	105.2			58.0	
Actuated g/C Ratio				0.16	0.16	0.16	0.29	0.78			0.43	
v/c Ratio				0.36	0.37	0.29	0.61	0.31			0.62	
Control Delay				52.9	53.3	7.6	31.6	1.8			30.4	
Queue Delay				0.0	0.0	0.0	0.0	0.4			0.0	
Total Delay				52.9	53.3	7.6	31.6	2.2			30.4	
LOS				D	D	A	C	A			C	
Approach Delay					31.9			14.4			30.4	

Lane Group	ø1	ø5	ø6	ø8
Lane Configurations				
Ideal Flow (vphpl)				
Lane Width (ft)				
Grade (%)				
Storage Length (ft)				
Storage Lanes				
Total Lost Time (s)				
Leading Detector (ft)				
Trailing Detector (ft)				
Turning Speed (mph)				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Growth Factor				
Heavy Vehicles (%)				
Bus Blockages (#/hr)				
Parking (#/hr)				
Mid-Block Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	5	6	8
Permitted Phases				
Detector Phases				
Minimum Initial (s)	11.0	7.0	14.0	12.0
Minimum Split (s)	16.2	12.2	27.0	30.0
Total Split (s)	17.7	12.2	61.8	31.0
Total Split (%)	13%	9%	46%	23%
Yellow Time (s)	3.6	3.6	3.7	3.6
All-Red Time (s)	1.6	1.6	2.3	2.4
Lead/Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?				
Recall Mode	Min	None	C-Max	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C						B			C		

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 135

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 23.2







Intersection LOS: C

Intersection Capacity Utilization 76.9%

ICU Level of Service D

Analysis Period (min) 15




















Splits and Phases: 70: I-20 WB On & Boulevard

#70  ø1	#70  ø2	#70 #71  ø8	#70 #71  ø4
17.7 s	56.3 s	31 s	30 s
#71  ø5	#71  ø6		
12.2 s	61.8 s		













Lane Group	ø1	ø5	ø6	ø8
Approach LOS				
Intersection Summary				

Atlanta BeltLine Master Plan Subarea 3
71: I-20 EB Off & Boulevard

BeltLine 2020 PM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	320		320	0		0	0		0	150		0
Storage Lanes	1		1	0		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50					50		50	50	
Trailing Detector (ft)	0	0	0					0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1681	1426	1504	0	0	0	0	3402	0	3433	3539	0
Flt Permitted	0.950	0.994								0.950		
Satd. Flow (perm)	1681	1426	1459	0	0	0	0	3402	0	3433	3539	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)								34				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1070			1567			170			442	
Travel Time (s)		24.3			35.6			3.9			10.0	
Volume (vph)	308	0	496	0	0	0	0	1109	319	286	697	0
Confl. Peds. (#/hr)			11			9			8			10
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.50	0.50	0.50	0.96	0.96	0.96	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	284	295	259	0	0	0	0	1487	0	329	801	0
Turn Type	Split		Perm							Prot		
Protected Phases	8	8						6		4 5	4 5 6	
Permitted Phases			8									
Detector Phases	8	8	8					6		4 5	4 5 6	
Minimum Initial (s)	12.0	12.0	12.0					14.0				
Minimum Split (s)	30.0	30.0	30.0					27.0				
Total Split (s)	31.0	31.0	31.0	0.0	0.0	0.0	0.0	61.8	0.0	42.2	104.0	0.0
Total Split (%)	23.0%	23.0%	23.0%	0.0%	0.0%	0.0%	0.0%	45.8%	0.0%	31.3%	77.0%	0.0%
Yellow Time (s)	3.6	3.6	3.6					3.7				
All-Red Time (s)	2.4	2.4	2.4					2.3				
Lead/Lag	Lead	Lead	Lead					Lag				
Lead-Lag Optimize?												
Recall Mode	None	None	None					C-Max				
Act Effct Green (s)	27.0	27.0	27.0					62.0		34.0	100.0	
Actuated g/C Ratio	0.20	0.20	0.20					0.46		0.25	0.74	
v/c Ratio	0.85	1.04	0.89					0.94		0.38	0.31	
Control Delay	74.6	114.8	83.2					47.1		56.3	2.3	
Queue Delay	0.0	0.0	0.0					0.0		0.0	0.2	
Total Delay	74.6	114.8	83.2					47.1		56.3	2.5	
LOS	E	F	F					D		E	A	
Approach Delay		91.4						47.1			18.2	

Lane Group	ø1	ø2	ø4	ø5
Lane Configurations				
Ideal Flow (vphpl)				
Lane Width (ft)				
Grade (%)				
Storage Length (ft)				
Storage Lanes				
Total Lost Time (s)				
Leading Detector (ft)				
Trailing Detector (ft)				
Turning Speed (mph)				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Growth Factor				
Heavy Vehicles (%)				
Bus Blockages (#/hr)				
Parking (#/hr)				
Mid-Block Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	2	4	5
Permitted Phases				
Detector Phases				
Minimum Initial (s)	11.0	14.0	12.0	7.0
Minimum Split (s)	16.2	27.0	30.0	12.2
Total Split (s)	17.7	56.3	30.0	12.2
Total Split (%)	13%	42%	22%	9%
Yellow Time (s)	3.6	3.7	3.6	3.6
All-Red Time (s)	1.6	2.3	2.4	1.6
Lead/Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?				
Recall Mode	Min	C-Max	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	F						D			B		

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 135

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 48.4







Intersection LOS: D

Intersection Capacity Utilization 76.9%

ICU Level of Service D

Analysis Period (min) 15


















Splits and Phases: 71: I-20 EB Off & Boulevard













#70  ø1	#70  ø2	#70 #71  ø8	#70 #71  ø4
17.7 s	56.3 s	31 s	30 s
#71  ø5	#71  ø6		
12.2 s	61.8 s		

Lane Group	ø1	ø2	ø4	ø5
Approach LOS				
Intersection Summary				

Atlanta BeltLine Master Plan Subarea 3
73: Confederate Ave. & Boulevard

BeltLine 2020 PM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	80		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1759	0	1770	1558	0	0	1852	0	0	3492	0
Flt Permitted		0.770		0.740							0.579	
Satd. Flow (perm)	0	1402	0	1378	1558	0	0	1852	0	0	2044	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			227			4			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		792			1253			672			2707	
Travel Time (s)		18.0			28.5			15.3			61.5	
Volume (vph)	13	3	3	23	1	233	0	656	21	225	802	15
Confl. Peds. (#/hr)			4			4			14			2
Confl. Bikes (#/hr)												
Peak Hour Factor	0.70	0.70	0.70	0.89	0.89	0.89	0.91	0.91	0.91	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	27	0	26	263	0	0	744	0	0	1133	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Detector Phases	8	8		4	4		2	2		6	6	
Minimum Initial (s)	17.0	17.0		17.0	17.0		15.0	15.0		15.0	15.0	
Minimum Split (s)	22.3	22.3		22.3	22.3		20.2	20.2		20.2	20.2	
Total Split (s)	22.3	22.3	0.0	22.3	22.3	0.0	47.7	47.7	0.0	47.7	47.7	0.0
Total Split (%)	31.9%	31.9%	0.0%	31.9%	31.9%	0.0%	68.1%	68.1%	0.0%	68.1%	68.1%	0.0%
Yellow Time (s)	3.6	3.6		3.6	3.6		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.7	1.7		1.7	1.7		1.5	1.5		1.5	1.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Act Effct Green (s)		18.3		18.3	18.3			43.7			43.7	
Actuated g/C Ratio		0.26		0.26	0.26			0.62			0.62	
v/c Ratio		0.07		0.07	0.46			0.64			0.89	
Control Delay		18.2		20.2	7.8			11.4			22.0	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		18.2		20.2	7.8			11.4			22.0	
LOS		B		C	A			B			C	
Approach Delay		18.2			8.9			11.4			22.0	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B			A			B			C		

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 16.6





Intersection LOS: B

Intersection Capacity Utilization 89.9%

ICU Level of Service E

















Analysis Period (min) 15













Splits and Phases: 73: Confederate Ave. & Boulevard

 ø2	 ø4
47.7 s	22.3 s
 ø6	 ø8
47.7 s	22.3 s

Atlanta BeltLine Master Plan Subarea 3
75: Atlanta Ave. & Boulevard

BeltLine 2020 PM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1711	0	0	1707	0	0	1842	0	0	3444	0
Flt Permitted		0.692			0.771			0.894			0.938	
Satd. Flow (perm)	0	1221	0	0	1338	0	0	1652	0	0	3233	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		31			16			5			34	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		806			1283			1444			1606	
Travel Time (s)		18.3			29.2			32.8			36.5	
Volume (vph)	150	0	96	15	0	11	31	539	38	15	690	149
Confl. Peds. (#/hr)	6			17			8			8		
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.69	0.69	0.69	0.89	0.89	0.89	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	270	0	0	38	0	0	684	0	0	899	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			4			2			6	
Permitted Phases	3			4			2			6		
Detector Phases	3	3		4	4		2	2		6	6	
Minimum Initial (s)	19.0	19.0		10.0	10.0		35.0	35.0		35.0	35.0	
Minimum Split (s)	24.8	24.8		23.8	23.8		41.5	41.5		41.5	41.5	
Total Split (s)	25.0	25.0	0.0	23.8	23.8	0.0	46.2	46.2	0.0	46.2	46.2	0.0
Total Split (%)	26.3%	26.3%	0.0%	25.1%	25.1%	0.0%	48.6%	48.6%	0.0%	48.6%	48.6%	0.0%
Yellow Time (s)	3.2	3.2		3.2	3.2		3.8	3.8		3.8	3.8	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.7	2.7		2.7	2.7	
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?												
Recall Mode	Min	Min		None	None		Min	Min		Min	Min	
Act Effct Green (s)		21.3			11.8			40.7			40.7	
Actuated g/C Ratio		0.27			0.14			0.52			0.52	
v/c Ratio		0.76			0.19			0.80			0.53	
Control Delay		42.3			25.3			26.3			14.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		42.3			25.3			26.3			14.7	
LOS		D			C			C			B	
Approach Delay		42.3			25.3			26.3			14.7	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			C			C			B		

Intersection Summary

Area Type: Other

Cycle Length: 95

Actuated Cycle Length: 78.8

Natural Cycle: 95

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 23.1





Intersection LOS: C

Intersection Capacity Utilization 80.4%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 75: Atlanta Ave. & Boulevard

 ø2	 ø3	 ø4
46.2 s	25 s	23.8 s
 ø6		
46.2 s		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	1	0			0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	
Turning Speed (mph)	15	9	15			9
Satd. Flow (prot)	1770	1583	0	3500	3472	0
Flt Permitted	0.950			0.641		
Satd. Flow (perm)	1770	1583	0	2269	3472	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		148			29	
Link Speed (mph)	30			30	30	
Link Distance (ft)	3424			3251	1886	
Travel Time (s)	77.8			73.9	42.9	
Volume (vph)	110	159	124	449	657	75
Confl. Peds. (#/hr)						11
Confl. Bikes (#/hr)						
Peak Hour Factor	0.78	0.78	0.89	0.89	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Lane Group Flow (vph)	141	204	0	643	813	0
Turn Type		Perm	Perm			
Protected Phases	4			2	6	
Permitted Phases		4	2			
Detector Phases	4	4	2	2	6	
Minimum Initial (s)	9.0	9.0	15.0	15.0	15.0	
Minimum Split (s)	21.2	21.2	22.7	22.7	22.7	
Total Split (s)	26.2	26.2	33.8	33.8	33.8	0.0
Total Split (%)	43.7%	43.7%	56.3%	56.3%	56.3%	0.0%
Yellow Time (s)	3.2	3.2	3.8	3.8	3.8	
All-Red Time (s)	2.0	2.0	1.9	1.9	1.9	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	
Act Effct Green (s)	11.6	11.6		40.4	40.4	
Actuated g/C Ratio	0.19	0.19		0.67	0.67	
v/c Ratio	0.41	0.48		0.42	0.35	
Control Delay	24.7	11.2		5.8	4.7	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	24.7	11.2		5.8	4.7	
LOS	C	B		A	A	
Approach Delay	16.7			5.8	4.7	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach LOS	B			A	A	

Intersection Summary



















Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle:	45
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.48
Intersection Signal Delay:	7.4
Intersection LOS:	A
Intersection Capacity Utilization	54.2%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 76: Englewood Ave. & Boulevard















Atlanta BeltLine Master Plan Subarea 3
77: Mc Donough Blvd & Boulevard

BeltLine 2020 PM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%		0%		0%		0%		0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	1855	0	0	1771	0	0	1741	0	1770	1526	0
Flt Permitted	0.226				0.983			0.891		0.744		
Satd. Flow (perm)	421	1855	0	0	1742	0	0	1575	0	1386	1526	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			33			6			424	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1125			1642			628			3251	
Travel Time (s)		25.6			37.3			14.3			73.9	
Volume (vph)	365	544	11	14	403	187	3	4	3	375	9	394
Confl. Peds. (#/hr)			16			7			8			9
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.97	0.97	0.97	0.50	0.50	0.50	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	397	603	0	0	622	0	0	20	0	403	434	0
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	1	6			2			4			8	
Permitted Phases	6			2			4			8		
Detector Phases	1	6		2	2		4	4		8	8	
Minimum Initial (s)	8.0	15.0		15.0	15.0		19.0	19.0		19.0	19.0	
Minimum Split (s)	13.0	22.4		22.4	22.4		24.5	24.5		24.5	24.5	
Total Split (s)	16.0	51.0	0.0	35.0	35.0	0.0	29.0	29.0	0.0	29.0	29.0	0.0
Total Split (%)	20.0%	63.8%	0.0%	43.8%	43.8%	0.0%	36.3%	36.3%	0.0%	36.3%	36.3%	0.0%
Yellow Time (s)	3.5	3.7		3.7	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.5	1.7		1.7	1.7		1.8	1.8		1.8	1.8	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?												
Recall Mode	Min	C-Max		C-Max	C-Max		Max	Max		Max	Max	
Act Effct Green (s)	47.0	47.0			31.0			25.0		25.0	25.0	
Actuated g/C Ratio	0.59	0.59			0.39			0.31		0.31	0.31	
v/c Ratio	0.88	0.55			0.89			0.04		0.93	0.57	
Control Delay	34.4	12.5			39.9			15.9		58.2	5.9	
Queue Delay	0.0	0.0			0.0			0.0		0.0	0.0	
Total Delay	34.4	12.5			39.9			15.9		58.2	5.9	
LOS	C	B			D			B		E	A	
Approach Delay		21.2			39.9			15.9			31.1	

77: Mc Donough Blvd & Boulevard

MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			D			B			C		

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 29.2

Intersection LOS: C

Intersection Capacity Utilization 100.4%







ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 77: Mc Donough Blvd & Boulevard

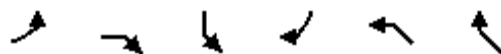
 ø1	 ø2	 ø4
16 s	35 s	29 s
 ø6		 ø8
51 s		29 s

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑	↘	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	150		0	500
Storage Lanes		0	1		1	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	50
Trailing Detector (ft)	0		0	0	0	0
Turning Speed (mph)		9	15		15	9
Satd. Flow (prot)	3525	0	1770	1863	1770	1583
Flt Permitted			0.195		0.950	
Satd. Flow (perm)	3525	0	363	1863	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	4					283
Link Speed (mph)	30			30	30	
Link Distance (ft)	1994			607	1361	
Travel Time (s)	45.3			13.8	30.9	
Volume (vph)	625	16	336	415	171	255
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.96	0.96	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Lane Group Flow (vph)	689	0	350	432	190	283
Turn Type			pm+pt			Perm
Protected Phases	6		5	2	4	
Permitted Phases			2			4
Detector Phases	6		5	2	4	4
Minimum Initial (s)	15.0		8.0	15.0	19.0	19.0
Minimum Split (s)	20.4		13.0	20.4	24.5	24.5
Total Split (s)	20.5	0.0	15.0	35.5	24.5	24.5
Total Split (%)	34.2%	0.0%	25.0%	59.2%	40.8%	40.8%
Yellow Time (s)	3.7		3.5	3.7	3.7	3.7
All-Red Time (s)	1.7		1.5	1.7	1.8	1.8
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?						
Recall Mode	Max		None	Max	None	None
Act Effct Green (s)	16.9		31.5	31.5	20.5	20.5
Actuated g/C Ratio	0.28		0.52	0.52	0.34	0.34
v/c Ratio	0.69		0.80	0.44	0.31	0.39
Control Delay	23.7		26.3	10.6	16.4	4.0
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	23.7		26.3	10.6	16.4	4.0
LOS	C		C	B	B	A
Approach Delay	23.7			17.6	9.0	

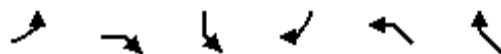
						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach LOS	C		B		A	
Intersection Summary						
Area Type:	Other					
Cycle Length: 60						
Actuated Cycle Length: 60						
Natural Cycle: 60						
Control Type: Actuated-Uncoordinated						
Maximum v/c Ratio: 0.80						
Intersection Signal Delay: 17.7				Intersection LOS: B		
Intersection Capacity Utilization 62.2%				ICU Level of Service B		
Analysis Period (min) 15						

Splits and Phases: 79: Mc Donough Blvd & Sawtell Avenue

← ø2	↖ ø4
35.5 s	24.5 s
↘ ø5	→ ø6
15 s	20.5 s



Lane Group	EBL	EBR	SBL	SBR	NWL	NWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%		0%	
Storage Length (ft)	0	0	0	0	0	80
Storage Lanes	1	0	1	0	0	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Turning Speed (mph)	15	9	15	9	15	9
Satd. Flow (prot)	1644	1504	1711	0	1770	1583
Flt Permitted	0.769		0.970		0.950	
Satd. Flow (perm)	1283	1504	1711	0	1770	1583
Right Turn on Red		Yes		Yes		Yes
Satd. Flow (RTOR)	172	293	51			
Link Speed (mph)	30		30		30	
Link Distance (ft)	1263		331		1994	
Travel Time (s)	28.7		7.5		45.3	
Volume (vph)	66	600	220	141	490	105
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.87	0.87	0.86	0.86	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%		0%	
Lane Group Flow (vph)	248	518	420	0	557	119
Turn Type	Perm				pm+ov	
Protected Phases		2	4		6	4
Permitted Phases	2					6
Detector Phases	2	2	4		6	4
Minimum Initial (s)	35.0	35.0	14.0		35.0	14.0
Minimum Split (s)	40.7	40.7	19.2		40.7	19.2
Total Split (s)	40.8	40.8	19.2	0.0	40.8	19.2
Total Split (%)	68.0%	68.0%	32.0%	0.0%	68.0%	32.0%
Yellow Time (s)	3.7	3.7	3.4		3.7	3.4
All-Red Time (s)	2.0	2.0	1.8		2.0	1.8
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max	Max	None		Max	None
Act Effct Green (s)	36.8	36.8	15.2		36.8	60.0
Actuated g/C Ratio	0.61	0.61	0.25		0.61	1.00
v/c Ratio	0.29	0.50	0.89		0.51	0.08
Control Delay	2.8	4.4	43.7		8.6	0.1
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	2.8	4.4	43.7		8.6	0.1
LOS	A	A	D		A	A
Approach Delay	3.9		43.7		7.1	



Lane Group	EBL	EBR	SBL	SBR	NWL	NWR
Approach LOS	A		D		A	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 14.1




Intersection LOS: B

















Intersection Capacity Utilization 89.2%













ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 80: Mc Donough Blvd & Milton Ave.

 <p>ø2</p> <p>40.8 s</p>	 <p>ø4</p> <p>19.2 s</p>
 <p>ø6</p> <p>40.8 s</p>	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1807	0	0	1729	0	0	1844	0	0	1800	0
Flt Permitted		0.861			0.991			0.979			0.828	
Satd. Flow (perm)	0	1581	0	0	1715	0	0	1809	0	0	1518	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			84			6			12	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		776			776			1683			518	
Travel Time (s)		17.6			17.6			38.3			11.8	
Volume (vph)	66	122	19	5	79	93	4	106	6	257	381	65
Confl. Peds. (#/hr)			4						3			7
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.86	0.86	0.86	0.85	0.85	0.85	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	217	0	0	206	0	0	137	0	0	733	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phases	4	4		8	8		2	2		6	6	
Minimum Initial (s)	9.0	9.0		16.0	16.0		30.0	30.0		14.0	14.0	
Minimum Split (s)	26.7	26.7		26.7	26.7		35.9	35.9		30.9	30.9	
Total Split (s)	26.7	26.7	0.0	26.7	26.7	0.0	43.3	43.3	0.0	43.3	43.3	0.0
Total Split (%)	38.1%	38.1%	0.0%	38.1%	38.1%	0.0%	61.9%	61.9%	0.0%	61.9%	61.9%	0.0%
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.5	2.5		2.5	2.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		18.5			18.5			39.8			39.8	
Actuated g/C Ratio		0.28			0.28			0.60			0.60	
v/c Ratio		0.49			0.38			0.13			0.80	
Control Delay		23.1			13.5			6.1			19.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		23.1			13.5			6.1			19.4	
LOS		C			B			A			B	
Approach Delay		23.1			13.5			6.1			19.4	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			B			A			B		

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 66.3

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 17.7





Intersection LOS: B
















Intersection Capacity Utilization 80.3%

ICU Level of Service D




Analysis Period (min) 15

Splits and Phases: 85: Atlanta Ave. & Cherokee Ave.

 ø2	 ø4
43.3 s	26.7 s
 ø6	 ø8
43.3 s	26.7 s










												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Volume (veh/h)	0	0	0	0	0	199	0	921	32	101	1104	0
Peak Hour Factor	0.92	0.92	0.92	0.84	0.84	0.84	0.87	0.87	0.87	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	0	0	0	237	0	1059	37	112	1227	0
Pedestrians						3						21
Lane Width (ft)						12.0						12.0
Walking Speed (ft/s)						4.0						4.0
Percent Blockage						0						2
Right turn flare (veh)												
Median type	None				None							
Median storage veh												
Upstream signal (ft)											170	
pX, platoon unblocked	0.92	0.92	0.92	0.92	0.92	0.92						
vC, conflicting volume	2238	2550	613	1918	2531	572	1227	1098				
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2258	2595	500	1911	2575	572	1163	1098				
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1	4.1				
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2	2.2				
p0 queue free %	100	100	100	100	100	48	100	82				
cM capacity (veh/h)	8	19	477	33	19	454	551	630				
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2							
Volume Total	237	706	390	521	818							
Volume Left	0	0	0	112	0							
Volume Right	237	0	37	0	0							
cSH	454	1700	1700	630	1700							
Volume to Capacity	0.52	0.42	0.23	0.18	0.48							
Queue Length 95th (ft)	74	0	0	16	0							
Control Delay (s)	21.2	0.0	0.0	4.8	0.0							
Lane LOS	C			A								
Approach Delay (s)	21.2	0.0		1.9								
Approach LOS	C											
Intersection Summary												
Average Delay	2.8											
Intersection Capacity Utilization	66.6%			ICU Level of Service			C					
Analysis Period (min)	15											




























Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	16	18	643	14	22	828
Peak Hour Factor	0.89	0.89	0.94	0.94	0.89	0.89
Hourly flow rate (vph)	18	20	684	15	25	930
Pedestrians	18					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	2					
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						672
pX, platoon unblocked	0.90					
vC, conflicting volume	1224	709			717	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1141	709			717	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	89	95			97	
cM capacity (veh/h)	168	371			867	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	38	699	335	620		
Volume Left	18	0	25	0		
Volume Right	20	15	0	0		
cSH	236	1700	867	1700		
Volume to Capacity	0.16	0.41	0.03	0.36		
Queue Length 95th (ft)	14	0	2	0		
Control Delay (s)	23.2	0.0	1.0	0.0		
Lane LOS	C		A			
Approach Delay (s)	23.2	0.0	0.3			
Approach LOS	C					
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization		48.7%		ICU Level of Service		A
Analysis Period (min)		15				



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕		↕↕	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	16	820	691	109	112	52
Peak Hour Factor	0.96	0.96	0.97	0.97	0.78	0.78
Hourly flow rate (vph)	17	854	712	112	144	67
Pedestrians					13	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					1	
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		607	1125			
pX, platoon unblocked	0.88				0.94	0.88
vC, conflicting volume	838				1242	782
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	816				934	752
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				40	78
cM capacity (veh/h)	704				239	307
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	301	569	825	210		
Volume Left	17	0	0	144		
Volume Right	0	0	112	67		
cSH	704	1700	1700	257		
Volume to Capacity	0.02	0.33	0.49	0.82		
Queue Length 95th (ft)	2	0	0	161		
Control Delay (s)	0.8	0.0	0.0	60.8		
Lane LOS	A			F		
Approach Delay (s)	0.3		0.0	60.8		
Approach LOS				F		
Intersection Summary						
Average Delay			6.8			
Intersection Capacity Utilization			59.2%		ICU Level of Service	B
Analysis Period (min)			15			

						
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Yield	Stop		Free	
Grade		0%	0%		0%	
Volume (veh/h)	42	170	212	41	37	99
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	46	185	230	45	40	108
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	294	134	188	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	294	134	188	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	90	75	67	96	98	
cM capacity (veh/h)	459	738	689	1085	1623	
Direction, Lane #	NB 1	SB 1	SE 1			
Volume Total	230	275	148			
Volume Left	46	0	40			
Volume Right	0	45	108			
cSH	659	732	1623			
Volume to Capacity	0.35	0.38	0.02			
Queue Length 95th (ft)	39	44	2			
Control Delay (s)	13.4	12.8	2.1			
Lane LOS	B	B	A			
Approach Delay (s)	13.4	12.8	2.1			
Approach LOS	B	B				
Intersection Summary						
Average Delay		10.6				
Intersection Capacity Utilization		43.1%		ICU Level of Service		A
Analysis Period (min)		15				

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	152	99	139	34	117	213
Peak Hour Factor	0.90	0.90	0.79	0.79	0.93	0.93
Hourly flow rate (vph)	169	110	176	43	126	229
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	678	197			219	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	678	197			219	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	55	87			91	
cM capacity (veh/h)	379	844			1350	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	279	219	355			
Volume Left	169	0	126			
Volume Right	110	43	0			
cSH	484	1700	1350			
Volume to Capacity	0.58	0.13	0.09			
Queue Length 95th (ft)	90	0	8			
Control Delay (s)	22.1	0.0	3.4			
Lane LOS	C		A			
Approach Delay (s)	22.1	0.0	3.4			
Approach LOS	C					
Intersection Summary						
Average Delay		8.6				
Intersection Capacity Utilization		51.5%		ICU Level of Service		A
Analysis Period (min)		15				

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Yield			Stop			Stop			Stop	
Volume (vph)	0	0	0	24	159	0	99	0	0	0	66	47
Peak Hour Factor	0.58	0.58	0.58	0.90	0.90	0.90	0.83	0.83	0.83	0.80	0.80	0.80
Hourly flow rate (vph)	0	0	0	27	177	0	119	0	0	0	82	59
Direction, Lane #	WB 1	WB 2	NB 1	SB 1								
Volume Total (vph)	86	118	119	141								
Volume Left (vph)	27	0	119	0								
Volume Right (vph)	0	0	0	59								
Hadj (s)	0.19	0.03	0.23	-0.22								
Departure Headway (s)	5.3	5.2	4.8	4.4								
Degree Utilization, x	0.13	0.17	0.16	0.17								
Capacity (veh/h)	643	667	714	783								
Control Delay (s)	7.9	8.0	8.7	8.2								
Approach Delay (s)	7.9		8.7	8.2								
Approach LOS	A		A	A								
Intersection Summary												
Delay			8.2									
HCM Level of Service			A									
Intersection Capacity Utilization			23.9%		ICU Level of Service				A			
Analysis Period (min)			15									






















Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↕	↕	
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	0	13	247	695	31
Peak Hour Factor	0.92	0.92	0.86	0.86	0.94	0.94
Hourly flow rate (vph)	0	0	15	287	739	33
Pedestrians	14					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)				518		
pX, platoon unblocked						
vC, conflicting volume	1087	770	786			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1087	770	786			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	98			
cM capacity (veh/h)	235	401	833			
Direction, Lane #	NB 1	SB 1				
Volume Total	302	772				
Volume Left	15	0				
Volume Right	0	33				
cSH	833	1700				
Volume to Capacity	0.02	0.45				
Queue Length 95th (ft)	1	0				
Control Delay (s)	0.7	0.0				
Lane LOS	A					
Approach Delay (s)	0.7	0.0				
Approach LOS						
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			41.8%	ICU Level of Service		A
Analysis Period (min)			15			













Atlanta BeltLine
Sub-Area 3

BELTLINE 2020
WITH IMPROVEMENTS

SYNCHRO REPORT
(September 2008)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	0		0	280		280	150		0	0		0
Storage Lanes	0		0	1		2	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50	50	50	50				50
Trailing Detector (ft)				0	0	0	0	0				0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	0	0	1681	1715	2787	3433	3539	0	0	4724	0
Flt Permitted				0.950	0.969		0.950					
Satd. Flow (perm)	0	0	0	1681	1715	2787	3433	3539	0	0	4724	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						154						168
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		281			1064			442			562	
Travel Time (s)		6.4			24.2			10.0			12.8	
Volume (vph)	0	0	0	331	76	565	738	1175	0	0	153	138
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.97	0.97	0.97	0.97	0.97	0.97	0.82	0.82	0.82
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	0	0	204	215	582	761	1211	0	0	355	0
Turn Type				Split		Perm	Prot					
Protected Phases				4	4		1	1 2			2	
Permitted Phases						4						
Detector Phases				4	4	4	1	1 2			2	
Minimum Initial (s)				12.0	12.0	12.0	11.0				14.0	
Minimum Split (s)				30.0	30.0	30.0	16.2				27.0	
Total Split (s)	0.0	0.0	0.0	35.8	35.8	35.8	37.4	74.2	0.0	0.0	36.8	0.0
Total Split (%)	0.0%	0.0%	0.0%	32.5%	32.5%	32.5%	34.0%	67.5%	0.0%	0.0%	33.5%	0.0%
Yellow Time (s)				3.6	3.6	3.6	3.6				3.7	
All-Red Time (s)				2.4	2.4	2.4	1.6				2.3	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?												
Recall Mode				None	None	None	Min				C-Max	
Act Effct Green (s)				31.8	31.8	31.8	28.7	70.2			37.5	
Actuated g/C Ratio				0.29	0.29	0.29	0.26	0.64			0.34	
v/c Ratio				0.42	0.43	0.64	0.85	0.54			0.21	
Control Delay				34.9	35.1	28.2	52.0	10.4			14.4	
Queue Delay				0.0	0.0	0.0	0.2	1.0			0.0	
Total Delay				34.9	35.1	28.2	52.2	11.4			14.4	
LOS				C	D	C	D	B			B	
Approach Delay					31.1			27.1			14.4	

Lane Group	ø5	ø6	ø8
Lane Configurations			
Ideal Flow (vphpl)			
Lane Width (ft)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Total Lost Time (s)			
Leading Detector (ft)			
Trailing Detector (ft)			
Turning Speed (mph)			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Volume (vph)			
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)			
Peak Hour Factor			
Growth Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Parking (#/hr)			
Mid-Block Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phases			
Minimum Initial (s)	7.0	14.0	12.0
Minimum Split (s)	12.2	27.0	30.0
Total Split (s)	12.2	62.0	35.8
Total Split (%)	11%	56%	33%
Yellow Time (s)	3.6	3.7	3.6
All-Red Time (s)	1.6	2.3	2.4
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Recall Mode	None	C-Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C						C			B		

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 26.9







Intersection LOS: C

Intersection Capacity Utilization 86.5%




















ICU Level of Service E

Analysis Period (min) 15













Splits and Phases: 70: I-20 WB On & Boulevard

#70  ø1 37.4 s		#70  ø2 36.8 s		#70  ø4 35.8 s	
#71  ø5 12.2 s		#71  ø6 62 s		#71  ø8 35.8 s	

Lane Group	ø5	ø6	ø8
Approach LOS			
Intersection Summary			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	320		320	0		0	0		0	150		0
Storage Lanes	1		1	0		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50					50		50	50	
Trailing Detector (ft)	0	0	0					0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1681	1483	1504	0	0	0	0	3408	0	3433	3539	0
Flt Permitted	0.950	0.981								0.950		
Satd. Flow (perm)	1681	1483	1464	0	0	0	0	3408	0	3433	3539	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)								47				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1070			1567			170			442	
Travel Time (s)		24.3			35.6			3.9			10.0	
Volume (vph)	517	0	570	0	0	0	0	1379	375	115	370	0
Confl. Peds. (#/hr)			11			9			8			10
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.50	0.50	0.50	0.97	0.97	0.97	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	404	418	360	0	0	0	0	1809	0	120	385	0
Turn Type	Split		Perm							Prot		
Protected Phases	8	8						6		5	5	6
Permitted Phases			8									
Detector Phases	8	8	8					6		5	5	6
Minimum Initial (s)	12.0	12.0	12.0					14.0		7.0		
Minimum Split (s)	30.0	30.0	30.0					27.0		12.2		
Total Split (s)	35.8	35.8	35.8	0.0	0.0	0.0	0.0	62.0	0.0	12.2	74.2	0.0
Total Split (%)	32.5%	32.5%	32.5%	0.0%	0.0%	0.0%	0.0%	56.4%	0.0%	11.1%	67.5%	0.0%
Yellow Time (s)	3.6	3.6	3.6					3.7		3.6		
All-Red Time (s)	2.4	2.4	2.4					2.3		1.6		
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?												
Recall Mode	None	None	None					C-Max		None		
Act Effct Green (s)	31.8	31.8	31.8					58.0		8.2	70.2	
Actuated g/C Ratio	0.29	0.29	0.29					0.53		0.07	0.64	
v/c Ratio	0.83	0.97	0.85					0.99		0.47	0.17	
Control Delay	52.8	77.3	57.0					45.6		37.4	16.2	
Queue Delay	0.0	0.0	0.0					0.0		0.0	0.0	
Total Delay	52.8	77.3	57.0					45.6		37.4	16.2	
LOS	D	E	E					D		D	B	
Approach Delay		62.7						45.6			21.2	

Lane Group	ø1	ø2	ø4
Lane Configurations			
Ideal Flow (vphpl)			
Lane Width (ft)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Total Lost Time (s)			
Leading Detector (ft)			
Trailing Detector (ft)			
Turning Speed (mph)			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Volume (vph)			
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)			
Peak Hour Factor			
Growth Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Parking (#/hr)			
Mid-Block Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phases			
Minimum Initial (s)	11.0	14.0	12.0
Minimum Split (s)	16.2	27.0	30.0
Total Split (s)	37.4	36.8	35.8
Total Split (%)	34%	33%	33%
Yellow Time (s)	3.6	3.7	3.6
All-Red Time (s)	1.6	2.3	2.4
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Recall Mode	Min	C-Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	E						D			C		

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 47.9







Intersection LOS: D

Intersection Capacity Utilization 86.5%




















ICU Level of Service E













Analysis Period (min) 15

Splits and Phases: 71: I-20 EB Off & Boulevard

#70  ø1 37.4 s		#70  ø2 36.8 s		#70  ø4 35.8 s	
#71  ø5 12.2 s		#71  ø6 62 s		#71  ø8 35.8 s	

Lane Group	ø1	ø2	ø4
Approach LOS			
Intersection Summary			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	80		0	0		0	0		0
Storage Lanes	0		0	0		1	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1812	0	0	1770	1583	1770	1840	0	1770	1854	0
Flt Permitted		0.851			0.742		0.416			0.046		
Satd. Flow (perm)	0	1585	0	0	1382	1549	775	1840	0	86	1854	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						105		4			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		792			1253			672			2707	
Travel Time (s)		18.0			28.5			15.3			61.5	
Volume (vph)	8	6	0	67	0	407	1	966	53	132	594	16
Confl. Peds. (#/hr)			4			4			14			2
Confl. Bikes (#/hr)												
Peak Hour Factor	0.62	0.62	0.62	0.82	0.82	0.82	0.88	0.88	0.88	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	23	0	0	82	496	1	1158	0	142	656	0
Turn Type	Perm			Perm		pm+ov	Perm			pm+pt		
Protected Phases		8			4	1		2		1	6	
Permitted Phases	8			4		4	2			6		
Detector Phases	8	8		4	4	1	2	2		1	6	
Minimum Initial (s)	17.0	17.0		17.0	17.0	5.0	15.0	15.0		5.0	15.0	
Minimum Split (s)	22.3	22.3		22.3	22.3	10.0	20.2	20.2		10.0	20.2	
Total Split (s)	22.3	22.3	0.0	22.3	22.3	21.0	86.7	86.7	0.0	21.0	107.7	0.0
Total Split (%)	17.2%	17.2%	0.0%	17.2%	17.2%	16.2%	66.7%	66.7%	0.0%	16.2%	82.8%	0.0%
Yellow Time (s)	3.6	3.6		3.6	3.6	3.5	3.7	3.7		3.5	3.7	
All-Red Time (s)	1.7	1.7		1.7	1.7	1.5	1.5	1.5		1.5	1.5	
Lead/Lag						Lead	Lag	Lag		Lead		
Lead-Lag Optimize?						Yes	Yes	Yes		Yes		
Recall Mode	None	None		None	None	None	C-Max	C-Max		None	C-Max	
Act Effct Green (s)		18.3			18.3	36.1	82.7	82.7		108.2	109.0	
Actuated g/C Ratio		0.14			0.14	0.28	0.64	0.64		0.83	0.84	
v/c Ratio		0.10			0.42	0.97	0.00	0.99		0.41	0.42	
Control Delay		50.1			58.4	68.5	9.0	47.3		27.7	4.5	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		50.1			58.4	68.5	9.0	47.3		27.7	4.5	
LOS		D			E	E	A	D		C	A	
Approach Delay		50.1			67.1			47.3			8.6	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			E			D			A		

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 39.7


Intersection LOS: D





















Intersection Capacity Utilization 103.9%













ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 73: Confederate Ave. & Boulevard

	ø1		ø2		ø4
21 s		86.7 s		22.3 s	
	ø6				ø8
107.7 s				22.3 s	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%		0%		0%		0%		0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	1619	0	1770	1583	0	1770	1857	0	1770	1770	0
Flt Permitted	0.745			0.731			0.226			0.095		
Satd. Flow (perm)	1372	1619	0	1319	1583	0	421	1857	0	177	1770	0
Right Turn on Red			Yes				Yes				Yes	
Satd. Flow (RTOR)			35				129				65	
Link Speed (mph)			30				30				30	
Link Distance (ft)			806				1283				1444	
Travel Time (s)			18.3				29.2				32.8	
Volume (vph)	102	4	26	85	0	14	188	899	18	5	461	230
Confl. Peds. (#/hr)	6			17			8			8		
Confl. Bikes (#/hr)												
Peak Hour Factor	0.75	0.75	0.75	0.74	0.74	0.74	0.92	0.92	0.92	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%				0%		0%				0%	
Lane Group Flow (vph)	136	40	0	115	19	0	204	997	0	6	768	0
Turn Type	Perm				Perm				Perm		Perm	
Protected Phases			4				8		2		6	
Permitted Phases	4				8		2				6	
Detector Phases	4	4		8	8		2	2		6	6	
Minimum Initial (s)	10.0	10.0		10.0	10.0		35.0	35.0		35.0	35.0	
Minimum Split (s)	23.8	23.8		23.8	23.8		41.5	41.5		41.5	41.5	
Total Split (s)	23.8	23.8	0.0	23.8	23.8	0.0	46.2	46.2	0.0	46.2	46.2	0.0
Total Split (%)	34.0%	34.0%	0.0%	34.0%	34.0%	0.0%	66.0%	66.0%	0.0%	66.0%	66.0%	0.0%
Yellow Time (s)	3.2	3.2		3.2	3.2		3.8	3.8		3.8	3.8	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.7	2.7		2.7	2.7	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)	14.9	14.9		14.9	14.9		50.2	50.2		50.2	50.2	
Actuated g/C Ratio	0.20	0.20		0.20	0.20		0.72	0.72		0.72	0.72	
v/c Ratio	0.48	0.11		0.43	0.04		0.67	0.75		0.05	0.59	
Control Delay	27.7	9.2		26.4	0.2		24.1	13.6		6.2	8.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	27.7	9.2		26.4	0.2		24.1	13.6		6.2	8.5	
LOS	C	A		C	A		C	B		A	A	
Approach Delay	23.5				22.7		15.4				8.5	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			C			B			A		

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 69.7

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 14.1





Intersection LOS: B













Intersection Capacity Utilization 99.9%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 75: Atlanta Ave. & Boulevard

 ø2	 ø4
46.2 s	23.8 s
 ø6	 ø8
46.2 s	23.8 s

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	1	1			0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	
Turning Speed (mph)	15	9	15			9
Satd. Flow (prot)	1770	1583	1770	1863	1802	0
Flt Permitted	0.950		0.334			
Satd. Flow (perm)	1770	1583	622	1863	1802	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		67			33	
Link Speed (mph)	30			30	30	
Link Distance (ft)	3424			3251	1886	
Travel Time (s)	77.8			73.9	42.9	
Volume (vph)	66	62	163	994	451	105
Confl. Peds. (#/hr)						11
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Lane Group Flow (vph)	71	67	175	1069	631	0
Turn Type		Perm	Perm			
Protected Phases	4			2	6	
Permitted Phases		4	2			
Detector Phases	4	4	2	2	6	
Minimum Initial (s)	9.0	9.0	15.0	15.0	15.0	
Minimum Split (s)	21.2	21.2	22.7	22.7	22.7	
Total Split (s)	21.2	21.2	48.8	48.8	48.8	0.0
Total Split (%)	30.3%	30.3%	69.7%	69.7%	69.7%	0.0%
Yellow Time (s)	3.2	3.2	3.8	3.8	3.8	
All-Red Time (s)	2.0	2.0	1.9	1.9	1.9	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	
Act Effct Green (s)	10.6	10.6	55.0	55.0	55.0	
Actuated g/C Ratio	0.15	0.15	0.79	0.79	0.79	
v/c Ratio	0.26	0.23	0.36	0.73	0.44	
Control Delay	28.8	9.6	6.0	9.7	4.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	28.8	9.6	6.0	9.7	4.5	
LOS	C	A	A	A	A	
Approach Delay	19.5			9.1	4.5	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach LOS	B			A	A	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 8.4

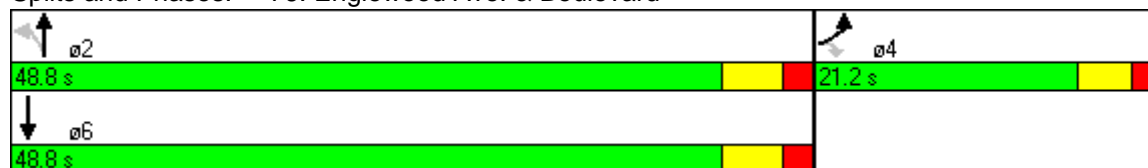
Intersection LOS: A

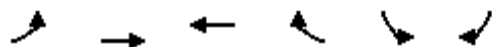
Intersection Capacity Utilization 66.5%

ICU Level of Service C

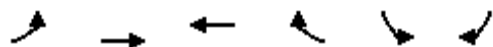
Analysis Period (min) 15

Splits and Phases: 76: Englewood Ave. & Boulevard





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	1			1	1	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Turning Speed (mph)	15			9	15	9
Satd. Flow (prot)	1770	1863	1863	1583	1770	1583
Flt Permitted	0.406				0.950	
Satd. Flow (perm)	752	1863	1863	1514	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				557		186
Link Speed (mph)		30	30		30	
Link Distance (ft)		607	1125		1436	
Travel Time (s)		13.8	25.6		32.6	
Volume (vph)	192	465	441	496	157	167
Confl. Peds. (#/hr)	7			13		
Confl. Bikes (#/hr)						
Peak Hour Factor	0.86	0.86	0.89	0.89	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Lane Group Flow (vph)	223	541	496	557	174	186
Turn Type	Perm			Perm		Perm
Protected Phases		6	2		4	
Permitted Phases	6			2		4
Detector Phases	6	6	2	2	4	4
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	39.0	39.0	39.0	39.0	21.0	21.0
Total Split (%)	65.0%	65.0%	65.0%	65.0%	35.0%	35.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	40.0	40.0	40.0	40.0	12.0	12.0
Actuated g/C Ratio	0.67	0.67	0.67	0.67	0.20	0.20
v/c Ratio	0.44	0.44	0.40	0.47	0.49	0.40
Control Delay	9.4	6.8	6.5	2.1	25.3	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.4	6.8	6.5	2.1	25.3	6.1
LOS	A	A	A	A	C	A
Approach Delay		7.5	4.2		15.4	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Approach LOS		A	A		B	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.49

Intersection Signal Delay: 7.2

Intersection LOS: A











Intersection Capacity Utilization 52.5%




















ICU Level of Service A

Analysis Period (min) 15













Splits and Phases: 78: Mc Donough Blvd & Gault St.

 ø2 39 s	 ø4 21 s
 ø6 39 s	

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	47	74	955	31	22	646
Peak Hour Factor	0.72	0.72	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	103	1038	34	24	702
Pedestrians	18					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	2					
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)					672	
pX, platoon unblocked	0.90					
vC, conflicting volume	1823	1073			1090	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1912	1073			1090	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	61			96	
cM capacity (veh/h)	64	264			631	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	168	1072	24	702		
Volume Left	65	0	24	0		
Volume Right	103	34	0	0		
cSH	119	1700	631	1700		
Volume to Capacity	1.41	0.63	0.04	0.41		
Queue Length 95th (ft)	289	0	3	0		
Control Delay (s)	294.5	0.0	10.9	0.0		
Lane LOS	F		B			
Approach Delay (s)	294.5	0.0	0.4			
Approach LOS	F					
Intersection Summary						
Average Delay		25.3				
Intersection Capacity Utilization		66.0%		ICU Level of Service		C
Analysis Period (min)		15				

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	0		0	280		280	150		0	0		0
Storage Lanes	0		0	1		2	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50	50	50	50			50	
Trailing Detector (ft)				0	0	0	0	0			0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	0	0	1681	1690	2787	3433	3539	0	0	4912	0
Flt Permitted				0.950	0.955		0.950					
Satd. Flow (perm)	0	0	0	1681	1690	2787	3433	3539	0	0	4912	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						174					94	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		281			1064			442			562	
Travel Time (s)		6.4			24.2			10.0			12.8	
Volume (vph)	0	0	0	177	5	158	590	834	0	0	815	243
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.91	0.91	0.91	0.97	0.97	0.97	0.80	0.80	0.80
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	0	0	98	102	174	608	860	0	0	1323	0
Turn Type				Split		Perm	Prot					
Protected Phases				4	4		1	1 2			2	
Permitted Phases						4						
Detector Phases				4	4	4	1	1 2			2	
Minimum Initial (s)				12.0	12.0	12.0	11.0				14.0	
Minimum Split (s)				30.0	30.0	30.0	16.2				27.0	
Total Split (s)	0.0	0.0	0.0	30.0	30.0	30.0	23.4	60.0	0.0	0.0	36.6	0.0
Total Split (%)	0.0%	0.0%	0.0%	33.3%	33.3%	33.3%	26.0%	66.7%	0.0%	0.0%	40.7%	0.0%
Yellow Time (s)				3.6	3.6	3.6	3.6				3.7	
All-Red Time (s)				2.4	2.4	2.4	1.6				2.3	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?												
Recall Mode				None	None	None	Min				C-Max	
Act Effct Green (s)				23.5	23.5	23.5	19.1	58.5			35.4	
Actuated g/C Ratio				0.26	0.26	0.26	0.21	0.65			0.39	
v/c Ratio				0.22	0.23	0.20	0.83	0.37			0.66	
Control Delay				26.4	26.6	4.6	51.4	7.9			23.3	
Queue Delay				0.0	0.0	0.0	0.0	0.2			0.0	
Total Delay				26.4	26.6	4.6	51.4	8.1			23.3	
LOS				C	C	A	D	A			C	
Approach Delay					16.3			26.0			23.3	

Lane Group	ø5	ø6	ø8
Lane Configurations			
Ideal Flow (vphpl)			
Lane Width (ft)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Total Lost Time (s)			
Leading Detector (ft)			
Trailing Detector (ft)			
Turning Speed (mph)			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Volume (vph)			
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)			
Peak Hour Factor			
Growth Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Parking (#/hr)			
Mid-Block Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phases			
Minimum Initial (s)	7.0	14.0	12.0
Minimum Split (s)	12.2	27.0	30.0
Total Split (s)	14.0	46.0	30.0
Total Split (%)	16%	51%	33%
Yellow Time (s)	3.6	3.7	3.6
All-Red Time (s)	1.6	2.3	2.4
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Recall Mode	None	C-Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B						C			C		

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 23.8

Intersection LOS: C

Intersection Capacity Utilization 75.0%




















ICU Level of Service D

Analysis Period (min) 15













Splits and Phases: 70: I-20 WB On & Boulevard

#70 	#70 	#70 
ø1	ø2	ø4
23.4 s	36.6 s	30 s
#71 	#71 	#71 
ø5	ø6	ø8
14 s	46 s	30 s

Lane Group	ø5	ø6	ø8
Approach LOS			
Intersection Summary			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	320		320	0		0	0		0	150		0
Storage Lanes	1		1	0		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50					50		50	50	
Trailing Detector (ft)	0	0	0					0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1681	1433	1504	0	0	0	0	3406	0	3433	3539	0
Flt Permitted	0.950	0.994								0.950		
Satd. Flow (perm)	1681	1433	1468	0	0	0	0	3406	0	3433	3539	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)								55				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1070			1567			170			442	
Travel Time (s)		24.3			35.6			3.9			10.0	
Volume (vph)	308	0	496	0	0	0	0	1109	319	286	697	0
Confl. Peds. (#/hr)			11			9			8			10
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.50	0.50	0.50	0.96	0.96	0.96	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	284	295	259	0	0	0	0	1487	0	329	801	0
Turn Type	Split		Perm							Prot		
Protected Phases	8	8						6		5	5	6
Permitted Phases			8									
Detector Phases	8	8	8					6		5	5	6
Minimum Initial (s)	12.0	12.0	12.0					14.0		7.0		
Minimum Split (s)	30.0	30.0	30.0					27.0		12.2		
Total Split (s)	30.0	30.0	30.0	0.0	0.0	0.0	0.0	46.0	0.0	14.0	60.0	0.0
Total Split (%)	33.3%	33.3%	33.3%	0.0%	0.0%	0.0%	0.0%	51.1%	0.0%	15.6%	66.7%	0.0%
Yellow Time (s)	3.6	3.6	3.6					3.7		3.6		
All-Red Time (s)	2.4	2.4	2.4					2.3		1.6		
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?												
Recall Mode	None	None	None					C-Max		None		
Act Effct Green (s)	23.5	23.5	23.5					43.5		11.0	58.5	
Actuated g/C Ratio	0.26	0.26	0.26					0.48		0.12	0.65	
v/c Ratio	0.65	0.79	0.68					0.89		0.78	0.35	
Control Delay	36.6	46.7	39.0					28.9		54.8	6.7	
Queue Delay	0.0	0.0	0.0					0.0		0.0	0.0	
Total Delay	36.6	46.7	39.0					28.9		54.8	6.7	
LOS	D	D	D					C		D	A	
Approach Delay		40.9						28.9			20.7	

Lane Group	ø1	ø2	ø4
Lane Configurations			
Ideal Flow (vphpl)			
Lane Width (ft)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Total Lost Time (s)			
Leading Detector (ft)			
Trailing Detector (ft)			
Turning Speed (mph)			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Volume (vph)			
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)			
Peak Hour Factor			
Growth Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Parking (#/hr)			
Mid-Block Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phases			
Minimum Initial (s)	11.0	14.0	12.0
Minimum Split (s)	16.2	27.0	30.0
Total Split (s)	23.4	36.6	30.0
Total Split (%)	26%	41%	33%
Yellow Time (s)	3.6	3.7	3.6
All-Red Time (s)	1.6	2.3	2.4
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Recall Mode	Min	C-Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D						C			C		

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 29.1

Intersection LOS: C

Intersection Capacity Utilization 75.0%




















ICU Level of Service D













Analysis Period (min) 15

Splits and Phases: 71: I-20 EB Off & Boulevard

#70  ø1	#70  ø2	#70  ø4
23.4 s	36.6 s	30 s
#71  ø5	#71  ø6	#71  ø8
14 s	46 s	30 s

Lane Group	ø1	ø2	ø4
Approach LOS			
Intersection Summary			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	80		0	0		0	0		0
Storage Lanes	0		0	0		1	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1759	0	0	1777	1583	1863	1850	0	1770	1856	0
Flt Permitted		0.857			0.803					0.112		
Satd. Flow (perm)	0	1560	0	0	1496	1556	1863	1850	0	209	1856	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				122		3			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		792			1253			672			2707	
Travel Time (s)		18.0			28.5			15.3			61.5	
Volume (vph)	13	3	3	23	1	233	0	656	21	225	802	15
Confl. Peds. (#/hr)			4			4			14			2
Confl. Bikes (#/hr)												
Peak Hour Factor	0.70	0.70	0.70	0.89	0.89	0.89	0.91	0.91	0.91	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	27	0	0	27	262	0	744	0	245	888	0
Turn Type	Perm			Perm		pm+ov	Perm			pm+pt		
Protected Phases		8			4	1		2		1	6	
Permitted Phases	8			4		4	2			6		
Detector Phases	8	8		4	4	1	2	2		1	6	
Minimum Initial (s)	17.0	17.0		17.0	17.0	5.0	15.0	15.0		5.0	15.0	
Minimum Split (s)	22.3	22.3		22.3	22.3	10.0	20.2	20.2		10.0	20.2	
Total Split (s)	22.3	22.3	0.0	22.3	22.3	12.0	35.7	35.7	0.0	12.0	47.7	0.0
Total Split (%)	31.9%	31.9%	0.0%	31.9%	31.9%	17.1%	51.0%	51.0%	0.0%	17.1%	68.1%	0.0%
Yellow Time (s)	3.6	3.6		3.6	3.6	3.5	3.7	3.7		3.5	3.7	
All-Red Time (s)	1.7	1.7		1.7	1.7	1.5	1.5	1.5		1.5	1.5	
Lead/Lag						Lead	Lag	Lag		Lead		
Lead-Lag Optimize?						Yes	Yes	Yes		Yes		
Recall Mode	None	None		None	None	None	C-Max	C-Max		None	C-Max	
Act Effct Green (s)		18.3			18.3	16.8		43.6		57.1	59.5	
Actuated g/C Ratio		0.26			0.26	0.24		0.62		0.82	0.85	
v/c Ratio		0.07			0.07	0.56		0.64		0.64	0.56	
Control Delay		18.0			20.2	14.2		16.0		19.8	7.3	
Queue Delay		0.0			0.0	0.0		0.0		0.0	0.0	
Total Delay		18.0			20.2	14.2		16.0		19.8	7.3	
LOS		B			C	B		B		B	A	
Approach Delay		18.0			14.8			16.0			10.0	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B			B			B			B		

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 12.8


Intersection LOS: B





















Intersection Capacity Utilization 79.8%













ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 73: Confederate Ave. & Boulevard

 ø1	 ø2	 ø4
12 s	35.7 s	22.3 s
 ø6	 ø8	
47.7 s	22.3 s	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	1583	0	1770	1583	0	1770	1844	0	1770	1812	0
Flt Permitted	0.747			0.689			0.155			0.303		
Satd. Flow (perm)	1376	1583	0	1247	1583	0	289	1844	0	562	1812	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		226			296			9			28	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		806			1283			1444			1606	
Travel Time (s)		18.3			29.2			32.8			36.5	
Volume (vph)	150	0	96	15	0	11	31	539	38	15	690	149
Confl. Peds. (#/hr)	6			17			8			8		
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.69	0.69	0.69	0.89	0.89	0.89	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	165	105	0	22	16	0	35	649	0	16	883	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phases	4	4		8	8		2	2		6	6	
Minimum Initial (s)	10.0	10.0		10.0	10.0		35.0	35.0		35.0	35.0	
Minimum Split (s)	23.8	23.8		23.8	23.8		41.5	41.5		41.5	41.5	
Total Split (s)	23.8	23.8	0.0	23.8	23.8	0.0	46.2	46.2	0.0	46.2	46.2	0.0
Total Split (%)	34.0%	34.0%	0.0%	34.0%	34.0%	0.0%	66.0%	66.0%	0.0%	66.0%	66.0%	0.0%
Yellow Time (s)	3.2	3.2		3.2	3.2		3.8	3.8		3.8	3.8	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.7	2.7		2.7	2.7	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)	15.4	15.4		15.4	15.4		46.8	46.8		46.8	46.8	
Actuated g/C Ratio	0.22	0.22		0.22	0.22		0.71	0.71		0.71	0.71	
v/c Ratio	0.54	0.20		0.08	0.03		0.17	0.50		0.04	0.69	
Control Delay	28.4	0.9		19.7	0.1		8.3	8.0		5.6	11.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	28.4	0.9		19.7	0.1		8.3	8.0		5.6	11.8	
LOS	C	A		B	A		A	A		A	B	
Approach Delay		17.7			11.4			8.0			11.7	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B			B			A			B		

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 66.3

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 11.2

Intersection LOS: B

Intersection Capacity Utilization 67.0%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 75: Atlanta Ave. & Boulevard

 ø2	 ø4
46.2 s	23.8 s
 ø6	 ø8
46.2 s	23.8 s



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	1	1			0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	
Turning Speed (mph)	15	9	15			9
Satd. Flow (prot)	1770	1583	1770	1863	1829	0
Flt Permitted	0.950		0.186			
Satd. Flow (perm)	1770	1583	346	1863	1829	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		200			16	
Link Speed (mph)	30			30	30	
Link Distance (ft)	3424			3251	1886	
Travel Time (s)	77.8			73.9	42.9	
Volume (vph)	110	159	124	449	657	75
Confl. Peds. (#/hr)						11
Confl. Bikes (#/hr)						
Peak Hour Factor	0.78	0.78	0.89	0.89	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Lane Group Flow (vph)	141	204	139	504	813	0
Turn Type		Perm	Perm			
Protected Phases	4			2	6	
Permitted Phases		4	2			
Detector Phases	4	4	2	2	6	
Minimum Initial (s)	9.0	9.0	15.0	15.0	15.0	
Minimum Split (s)	21.2	21.2	22.7	22.7	22.7	
Total Split (s)	21.2	21.2	38.8	38.8	38.8	0.0
Total Split (%)	35.3%	35.3%	64.7%	64.7%	64.7%	0.0%
Yellow Time (s)	3.2	3.2	3.8	3.8	3.8	
All-Red Time (s)	2.0	2.0	1.9	1.9	1.9	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	
Act Effct Green (s)	11.7	11.7	40.3	40.3	40.3	
Actuated g/C Ratio	0.20	0.20	0.67	0.67	0.67	
v/c Ratio	0.41	0.43	0.60	0.40	0.66	
Control Delay	24.5	6.9	21.5	6.0	9.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	24.5	6.9	21.5	6.0	9.4	
LOS	C	A	C	A	A	
Approach Delay	14.1			9.3	9.4	






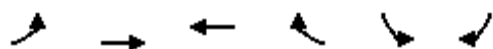
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach LOS	B			A		

Intersection Summary

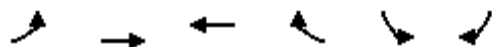
Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.66
Intersection Signal Delay:	10.3
Intersection LOS:	B
Intersection Capacity Utilization	69.2%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 76: Englewood Ave. & Boulevard

 ø2 38.8 s	 ø4 21.2 s
 ø6 38.8 s	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	1			1	1	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Turning Speed (mph)	15			9	15	9
Satd. Flow (prot)	1770	1863	1863	1583	1770	1583
Flt Permitted	0.255				0.950	
Satd. Flow (perm)	474	1863	1863	1514	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				112		67
Link Speed (mph)		30	30		30	
Link Distance (ft)		607	1125		1436	
Travel Time (s)		13.8	25.6		32.6	
Volume (vph)	16	820	691	109	112	52
Confl. Peds. (#/hr)	7			13		
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.97	0.97	0.78	0.78
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Lane Group Flow (vph)	17	854	712	112	144	67
Turn Type	Perm			Perm		Perm
Protected Phases		6	2		4	
Permitted Phases	6			2		4
Detector Phases	6	6	2	2	4	4
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	39.0	39.0	39.0	39.0	21.0	21.0
Total Split (%)	65.0%	65.0%	65.0%	65.0%	35.0%	35.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	44.2	44.2	44.2	44.2	10.8	10.8
Actuated g/C Ratio	0.74	0.74	0.74	0.74	0.18	0.18
v/c Ratio	0.05	0.62	0.52	0.10	0.45	0.20
Control Delay	4.5	8.6	6.9	1.3	25.8	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.5	8.6	6.9	1.3	25.8	7.3
LOS	A	A	A	A	C	A
Approach Delay		8.5	6.1		20.0	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Approach LOS		A	A		B	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 8.7

Intersection LOS: A











Intersection Capacity Utilization 56.0%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 78: Mc Donough Blvd & Gault St.

 ø2 39 s	 ø4 21 s
 ø6 39 s	

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	16	18	643	14	22	828
Peak Hour Factor	0.89	0.89	0.94	0.94	0.89	0.89
Hourly flow rate (vph)	18	20	684	15	25	930
Pedestrians	18					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	2					
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)					672	
pX, platoon unblocked	0.72					
vC, conflicting volume	1689	709			717	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1957	709			717	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	63	95			97	
cM capacity (veh/h)	48	427			871	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	38	699	25	930		
Volume Left	18	0	25	0		
Volume Right	20	15	0	0		
cSH	91	1700	871	1700		
Volume to Capacity	0.42	0.41	0.03	0.55		
Queue Length 95th (ft)	43	0	2	0		
Control Delay (s)	70.6	0.0	9.3	0.0		
Lane LOS	F		A			
Approach Delay (s)	70.6	0.0	0.2			
Approach LOS	F					
Intersection Summary						
Average Delay			1.7			
Intersection Capacity Utilization		53.6%		ICU Level of Service	A	
Analysis Period (min)		15				

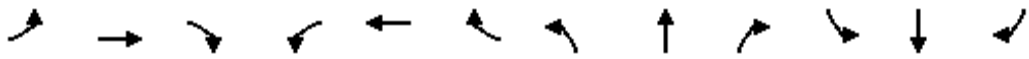
Atlanta BeltLine
Sub-Area 3

BELTLINE 2030

SYNCHRO REPORT
(September 2008)

Atlanta BeltLine Master Plan Subarea 3
70: I-20 WB On & Boulevard

BeltLine 2030 AM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	0		0	280		280	150		0	0		0
Storage Lanes	0		0	1		2	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50	50	50	50			50	
Trailing Detector (ft)				0	0	0	0	0			0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	0	0	1681	1715	2787	3433	3539	0	0	4724	0
Flt Permitted				0.950	0.969		0.950					
Satd. Flow (perm)	0	0	0	1681	1715	2787	3433	3539	0	0	4724	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						95					163	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		281			1064			442			562	
Travel Time (s)		6.4			24.2			10.0			12.8	
Volume (vph)	0	0	0	403	93	689	899	1433	0	0	186	169
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.97	0.97	0.97	0.97	0.97	0.97	0.82	0.82	0.82
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	0	0	249	262	710	927	1477	0	0	433	0
Turn Type				Split		Perm	Prot					
Protected Phases				4	4		1	1 2			2	
Permitted Phases						4						
Detector Phases				4	4	4	1	1 2			2	
Minimum Initial (s)				12.0	12.0	12.0	11.0				14.0	
Minimum Split (s)				30.0	30.0	30.0	16.2				27.0	
Total Split (s)	0.0	0.0	0.0	44.0	44.0	44.0	52.9	96.0	0.0	0.0	43.1	0.0
Total Split (%)	0.0%	0.0%	0.0%	31.4%	31.4%	31.4%	37.8%	68.6%	0.0%	0.0%	30.8%	0.0%
Yellow Time (s)				3.6	3.6	3.6	3.6				3.7	
All-Red Time (s)				2.4	2.4	2.4	1.6				2.3	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?												
Recall Mode				None	None	None	Min				C-Max	
Act Effct Green (s)				40.0	40.0	40.0	47.5	92.0			40.5	
Actuated g/C Ratio				0.29	0.29	0.29	0.34	0.66			0.29	
v/c Ratio				0.52	0.53	0.82	0.80	0.63			0.29	
Control Delay				46.6	47.0	49.3	48.5	12.1			24.5	
Queue Delay				0.0	0.0	0.0	35.5	10.8			0.0	
Total Delay				46.6	47.0	49.3	83.9	22.8			24.5	
LOS				D	D	D	F	C			C	
Approach Delay					48.2			46.4			24.5	

Lane Group	ø5	ø6	ø8
Lane Configurations			
Ideal Flow (vphpl)			
Lane Width (ft)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Total Lost Time (s)			
Leading Detector (ft)			
Trailing Detector (ft)			
Turning Speed (mph)			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Volume (vph)			
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)			
Peak Hour Factor			
Growth Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Parking (#/hr)			
Mid-Block Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phases			
Minimum Initial (s)	7.0	14.0	12.0
Minimum Split (s)	12.2	27.0	30.0
Total Split (s)	12.2	83.8	44.0
Total Split (%)	9%	60%	31%
Yellow Time (s)	3.6	3.7	3.6
All-Red Time (s)	1.6	2.3	2.4
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Recall Mode	None	C-Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D						D			C		

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.13

Intersection Signal Delay: 44.6







Intersection LOS: D

Intersection Capacity Utilization 101.9%

ICU Level of Service G

Analysis Period (min) 15




















Splits and Phases: 70: I-20 WB On & Boulevard

<div>#70</div> <div> ø1</div> <div>52.9 s</div>		<div>#70</div> <div> ø2</div> <div>43.1 s</div>		<div>#70</div> <div> ø4</div> <div>44 s</div>	
<div>#71</div> <div> ø5</div> <div>12.2 s</div>	<div>#71</div> <div> ø6</div> <div>83.8 s</div>			<div>#71</div> <div> ø8</div> <div>44 s</div>	













Lane Group	ø5	ø6	ø8
Approach LOS			
Intersection Summary			

Atlanta BeltLine Master Plan Subarea 3
71: I-20 EB Off & Boulevard

BeltLine 2030 AM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	320		320	0		0	0		0	150		0
Storage Lanes	1		1	0		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50					50		50	50	
Trailing Detector (ft)	0	0	0					0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1681	1479	1504	0	0	0	0	3406	0	3433	3539	0
Flt Permitted	0.950	0.981								0.950		
Satd. Flow (perm)	1681	1479	1458	0	0	0	0	3406	0	3433	3539	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)								41				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1070			1567			170			442	
Travel Time (s)		24.3			35.6			3.9			10.0	
Volume (vph)	631	0	695	0	0	0	0	1681	457	140	451	0
Confl. Peds. (#/hr)			11			9			8			10
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.50	0.50	0.50	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	463	478	412	0	0	0	0	2181	0	143	460	0
Turn Type	Split		Perm							Prot		
Protected Phases	8	8						6		5	5 6	
Permitted Phases			8									
Detector Phases	8	8	8					6		5	5 6	
Minimum Initial (s)	12.0	12.0	12.0					14.0		7.0		
Minimum Split (s)	30.0	30.0	30.0					27.0		12.2		
Total Split (s)	44.0	44.0	44.0	0.0	0.0	0.0	0.0	83.8	0.0	12.2	96.0	0.0
Total Split (%)	31.4%	31.4%	31.4%	0.0%	0.0%	0.0%	0.0%	59.9%	0.0%	8.7%	68.6%	0.0%
Yellow Time (s)	3.6	3.6	3.6					3.7		3.6		
All-Red Time (s)	2.4	2.4	2.4					2.3		1.6		
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?												
Recall Mode	None	None	None					C-Max		None		
Act Effct Green (s)	40.0	40.0	40.0					79.8		8.2	92.0	
Actuated g/C Ratio	0.29	0.29	0.29					0.57		0.06	0.66	
v/c Ratio	0.96	1.13	0.99					1.11		0.71	0.20	
Control Delay	82.4	129.3	90.8					88.0		58.6	20.6	
Queue Delay	26.4	48.8	0.0					25.2		0.0	0.0	
Total Delay	108.8	178.2	90.8					113.2		58.6	20.6	
LOS	F	F	F					F		E	C	
Approach Delay		127.8						113.2			29.7	

Lane Group	ø1	ø2	ø4
Lane Configurations			
Ideal Flow (vphpl)			
Lane Width (ft)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Total Lost Time (s)			
Leading Detector (ft)			
Trailing Detector (ft)			
Turning Speed (mph)			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Volume (vph)			
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)			
Peak Hour Factor			
Growth Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Parking (#/hr)			
Mid-Block Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phases			
Minimum Initial (s)	11.0	14.0	12.0
Minimum Split (s)	16.2	27.0	30.0
Total Split (s)	52.9	43.1	44.0
Total Split (%)	38%	31%	31%
Yellow Time (s)	3.6	3.7	3.6
All-Red Time (s)	1.6	2.3	2.4
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Recall Mode	Min	C-Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	F						F			C		

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.13

Intersection Signal Delay: 105.8







Intersection LOS: F

Intersection Capacity Utilization 101.9%

ICU Level of Service G

Analysis Period (min) 15




















Splits and Phases: 71: I-20 EB Off & Boulevard













#70  ø1 52.9 s		#70  ø2 43.1 s		#70  ø4 44 s	
#71  ø5 12.2 s		#71  ø6 83.8 s		#71  ø8 44 s	

Lane Group	ø1	ø2	ø4
Approach LOS			
Intersection Summary			

Atlanta BeltLine Master Plan Subarea 3
73: Confederate Ave. & Boulevard

BeltLine 2030 AM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	80		0	0		0	0		0
Storage Lanes	0		0	0		1	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1814	0	0	1770	1583	1770	1839	0	1770	1854	0
Flt Permitted		0.858			0.784		0.370			0.043		
Satd. Flow (perm)	0	1598	0	0	1460	1547	689	1839	0	80	1854	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						65		3			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		792			1253			672			2707	
Travel Time (s)		18.0			28.5			15.3			61.5	
Volume (vph)	9	8	0	82	0	496	2	1178	65	161	723	19
Confl. Peds. (#/hr)			4			4			14			2
Confl. Bikes (#/hr)												
Peak Hour Factor	0.62	0.62	0.62	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	28	0	0	89	539	2	1308	0	169	781	0
Turn Type	Perm			Perm		pm+ov	Perm			pm+pt		
Protected Phases		8			4	1		2		1	6	
Permitted Phases	8			4		4	2			6		
Detector Phases	8	8		4	4	1	2	2		1	6	
Minimum Initial (s)	17.0	17.0		17.0	17.0	5.0	15.0	15.0		5.0	15.0	
Minimum Split (s)	22.3	22.3		22.3	22.3	10.0	20.2	20.2		10.0	20.2	
Total Split (s)	29.0	29.0	0.0	29.0	29.0	27.0	94.0	94.0	0.0	27.0	121.0	0.0
Total Split (%)	19.3%	19.3%	0.0%	19.3%	19.3%	18.0%	62.7%	62.7%	0.0%	18.0%	80.7%	0.0%
Yellow Time (s)	3.6	3.6		3.6	3.6	3.5	3.7	3.7		3.5	3.7	
All-Red Time (s)	1.7	1.7		1.7	1.7	1.5	1.5	1.5		1.5	1.5	
Lead/Lag						Lead	Lag	Lag		Lead		
Lead-Lag Optimize?						Yes	Yes	Yes		Yes		
Recall Mode	None	None		None	None	None	C-Max	C-Max		None	C-Max	
Act Effct Green (s)		18.9			18.9	48.0	90.0	90.0		123.1	123.1	
Actuated g/C Ratio		0.13			0.13	0.32	0.60	0.60		0.82	0.82	
v/c Ratio		0.14			0.48	0.99	0.00	1.18		0.43	0.51	
Control Delay		59.8			70.3	78.3	12.0	121.3		33.2	5.6	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		59.8			70.3	78.3	12.0	121.3		33.2	5.6	
LOS		E			E	E	B	F		C	A	
Approach Delay		59.8			77.2			121.1			10.5	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	E			E			F			B		

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.18

Intersection Signal Delay: 75.0






Intersection LOS: E

Intersection Capacity Utilization 121.3%

ICU Level of Service H





















Analysis Period (min) 15













Splits and Phases: 73: Confederate Ave. & Boulevard

 ø1	 ø2	 ø4
27 s	94 s	29 s
 ø6		 ø8
121 s		29 s

Atlanta BeltLine Master Plan Subarea 3
75: Atlanta Ave. & Boulevard

BeltLine 2030 AM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	1622	0	1770	1583	0	1770	1857	0	1770	1770	0
Flt Permitted	0.742			0.724			0.186			0.064		
Satd. Flow (perm)	1362	1622	0	1295	1583	0	346	1857	0	119	1770	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43			111			3			65	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		806			1283			1444			1606	
Travel Time (s)		18.3			29.2			32.8			36.5	
Volume (vph)	124	5	32	104	0	17	229	1096	22	6	562	280
Confl. Peds. (#/hr)	6			17			8			8		
Confl. Bikes (#/hr)												
Peak Hour Factor	0.75	0.75	0.75	0.74	0.74	0.74	0.92	0.92	0.92	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	165	50	0	141	23	0	249	1215	0	7	935	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phases	4	4		8	8		2	2		6	6	
Minimum Initial (s)	10.0	10.0		10.0	10.0		35.0	35.0		35.0	35.0	
Minimum Split (s)	23.8	23.8		23.8	23.8		41.5	41.5		41.5	41.5	
Total Split (s)	23.8	23.8	0.0	23.8	23.8	0.0	66.2	66.2	0.0	66.2	66.2	0.0
Total Split (%)	26.4%	26.4%	0.0%	26.4%	26.4%	0.0%	73.6%	73.6%	0.0%	73.6%	73.6%	0.0%
Yellow Time (s)	3.2	3.2		3.2	3.2		3.8	3.8		3.8	3.8	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.7	2.7		2.7	2.7	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)	16.6	16.6		16.6	16.6		62.3	62.3		62.3	62.3	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.72	0.72		0.72	0.72	
v/c Ratio	0.63	0.15		0.57	0.06		1.00	0.91		0.08	0.73	
Control Delay	43.9	12.1		41.5	0.3		77.5	23.6		7.0	11.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	43.9	12.1		41.5	0.3		77.5	23.6		7.0	11.5	
LOS	D	B		D	A		E	C		A	B	
Approach Delay		36.5			35.7			32.8			11.4	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			D			C			B		

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 86.9

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 26.0





Intersection LOS: C

Intersection Capacity Utilization 111.7%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 75: Atlanta Ave. & Boulevard

 ø2	 ø4
66.2 s	23.8 s
 ø6	 ø8
66.2 s	23.8 s



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	1	1			0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	
Turning Speed (mph)	15	9	15			9
Satd. Flow (prot)	1770	1583	1770	1863	1800	0
Flt Permitted	0.950		0.289			
Satd. Flow (perm)	1770	1583	538	1863	1800	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		82			33	
Link Speed (mph)	30			30	30	
Link Distance (ft)	3424			3251	1886	
Travel Time (s)	77.8			73.9	42.9	
Volume (vph)	81	76	199	1211	550	127
Confl. Peds. (#/hr)						11
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Lane Group Flow (vph)	87	82	214	1302	769	0
Turn Type		Perm	Perm			
Protected Phases	4			2	6	
Permitted Phases		4	2			
Detector Phases	4	4	2	2	6	
Minimum Initial (s)	9.0	9.0	15.0	15.0	15.0	
Minimum Split (s)	21.2	21.2	22.7	22.7	22.7	
Total Split (s)	21.2	21.2	68.8	68.8	68.8	0.0
Total Split (%)	23.6%	23.6%	76.4%	76.4%	76.4%	0.0%
Yellow Time (s)	3.2	3.2	3.8	3.8	3.8	
All-Red Time (s)	2.0	2.0	1.9	1.9	1.9	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	
Act Effct Green (s)	11.6	11.6	74.1	74.1	74.1	
Actuated g/C Ratio	0.13	0.13	0.82	0.82	0.82	
v/c Ratio	0.38	0.30	0.48	0.85	0.52	
Control Delay	40.6	11.2	8.2	14.6	4.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	40.6	11.2	8.2	14.6	4.9	
LOS	D	B	A	B	A	
Approach Delay	26.3			13.7	4.9	






Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach LOS	C			B	A	

Intersection Summary



















Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.85
Intersection Signal Delay:	11.8
Intersection LOS:	B
Intersection Capacity Utilization	77.9%
ICU Level of Service	D
Analysis Period (min)	15













Splits and Phases: 76: Englewood Ave. & Boulevard

 ø2 68.8 s	 ø4 21.2 s
 ø6 68.8 s	

Atlanta BeltLine Master Plan Subarea 3
77: Mc Donough Blvd & Boulevard

BeltLine 2030 AM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	1761	0	0	1757	0	0	1754	0	1770	1553	0
Flt Permitted	0.174				0.976			0.458		0.818		
Satd. Flow (perm)	324	1761	0	0	1717	0	0	813	0	1524	1553	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37			31			6			319	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1125			1642			628			3251	
Travel Time (s)		25.6			37.3			14.3			73.9	
Volume (vph)	493	287	86	32	719	388	3	6	3	161	40	458
Confl. Peds. (#/hr)			16			7			8			9
Confl. Bikes (#/hr)												
Peak Hour Factor	0.78	0.78	0.78	0.94	0.94	0.94	0.50	0.50	0.50	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	632	478	0	0	1212	0	0	24	0	173	535	0
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	1	6			2			4			8	
Permitted Phases	6			2			4			8		
Detector Phases	1	6		2	2		4	4		8	8	
Minimum Initial (s)	8.0	15.0		15.0	15.0		19.0	19.0		19.0	19.0	
Minimum Split (s)	13.0	22.4		22.4	22.4		24.5	24.5		24.5	24.5	
Total Split (s)	32.0	125.0	0.0	93.0	93.0	0.0	25.0	25.0	0.0	25.0	25.0	0.0
Total Split (%)	21.3%	83.3%	0.0%	62.0%	62.0%	0.0%	16.7%	16.7%	0.0%	16.7%	16.7%	0.0%
Yellow Time (s)	3.5	3.7		3.7	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.5	1.7		1.7	1.7		1.8	1.8		1.8	1.8	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?												
Recall Mode	Min	C-Max		C-Max	C-Max		Max	Max		Max	Max	
Act Effct Green (s)	121.0	121.0			89.0			21.0		21.0	21.0	
Actuated g/C Ratio	0.81	0.81			0.59			0.14		0.14	0.14	
v/c Ratio	1.19	0.33			1.18			0.20		0.81	1.09	
Control Delay	130.2	4.2			118.3			50.9		90.2	89.6	
Queue Delay	0.0	0.0			0.0			0.0		0.0	0.0	
Total Delay	130.2	4.2			118.3			50.9		90.2	89.6	
LOS	F	A			F			D		F	F	
Approach Delay		75.9			118.3			50.9			89.7	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	E			F			D			F		

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.19

Intersection Signal Delay: 95.7






Intersection LOS: F

Intersection Capacity Utilization 132.1%

ICU Level of Service H

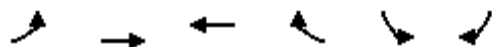
Analysis Period (min) 15

Splits and Phases: 77: Mc Donough Blvd & Boulevard

 ø1	 ø2	 ø4
32 s	93 s	25 s
 ø6		 ø8
125 s		25 s



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	1			1	1	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Turning Speed (mph)	15			9	15	9
Satd. Flow (prot)	1770	1863	1863	1583	1770	1583
Flt Permitted	0.329				0.950	
Satd. Flow (perm)	610	1863	1863	1514	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				680		226
Link Speed (mph)		30	30		30	
Link Distance (ft)		607	1125		1436	
Travel Time (s)		13.8	25.6		32.6	
Volume (vph)	234	567	538	605	192	203
Confl. Peds. (#/hr)	7			13		
Confl. Bikes (#/hr)						
Peak Hour Factor	0.86	0.86	0.89	0.89	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Lane Group Flow (vph)	272	659	604	680	213	226
Turn Type	Perm			Perm		Perm
Protected Phases		6	2		4	
Permitted Phases	6			2		4
Detector Phases	6	6	2	2	4	4
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	39.0	39.0	39.0	39.0	21.0	21.0
Total Split (%)	65.0%	65.0%	65.0%	65.0%	35.0%	35.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	39.1	39.1	39.1	39.1	12.9	12.9
Actuated g/C Ratio	0.65	0.65	0.65	0.65	0.22	0.22
v/c Ratio	0.69	0.54	0.50	0.56	0.56	0.44
Control Delay	20.8	8.5	7.9	2.6	26.2	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.8	8.5	7.9	2.6	26.2	5.9
LOS	C	A	A	A	C	A
Approach Delay		12.1	5.1		15.7	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Approach LOS		B	A		B	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 9.3

Intersection LOS: A

Intersection Capacity Utilization 61.9%







ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 78: Mc Donough Blvd & Gault St.

 ø2	 ø4
39 s	21 s
 ø6	
39 s	

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑	↘	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	150		0	500
Storage Lanes		0	1		1	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	50
Trailing Detector (ft)	0		0	0	0	0
Turning Speed (mph)		9	15		15	9
Satd. Flow (prot)	3518	0	1770	1863	1770	1583
Flt Permitted			0.178		0.950	
Satd. Flow (perm)	3518	0	332	1863	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	7					43
Link Speed (mph)	30			30	30	
Link Distance (ft)	1994			607	1361	
Travel Time (s)	45.3			13.8	30.9	
Volume (vph)	790	31	30	705	43	30
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.89	0.89	0.69	0.69
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Lane Group Flow (vph)	893	0	34	792	62	43
Turn Type			pm+pt			Perm
Protected Phases	6		5	2	4	
Permitted Phases			2			4
Detector Phases	6		5	2	4	4
Minimum Initial (s)	15.0		8.0	15.0	19.0	19.0
Minimum Split (s)	20.4		13.0	20.4	24.5	24.5
Total Split (s)	22.5	0.0	13.0	35.5	24.5	24.5
Total Split (%)	37.5%	0.0%	21.7%	59.2%	40.8%	40.8%
Yellow Time (s)	3.7		3.5	3.7	3.7	3.7
All-Red Time (s)	1.7		1.5	1.7	1.8	1.8
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?						
Recall Mode	Max		None	Max	None	None
Act Effct Green (s)	44.9		49.3	51.1	23.0	23.0
Actuated g/C Ratio	0.63		0.62	0.72	0.28	0.28
v/c Ratio	0.40		0.09	0.59	0.12	0.09
Control Delay	13.0		8.1	12.0	14.3	5.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	13.0		8.1	12.0	14.3	5.5
LOS	B		A	B	B	A
Approach Delay	13.0			11.9	10.7	

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach LOS	B		B		B	
Intersection Summary						
Area Type:	Other					
Cycle Length: 60						
Actuated Cycle Length: 71.4						
Natural Cycle: 60						
Control Type: Actuated-Uncoordinated						
Maximum v/c Ratio: 0.59						
Intersection Signal Delay: 12.4				Intersection LOS: B		
Intersection Capacity Utilization 59.6%				ICU Level of Service B		
Analysis Period (min) 15						

Splits and Phases: 79: Mc Donough Blvd & Sawtell Avenue

← ø2	↖ ø4
35.5 s	24.5 s
↘ ø5	→ ø6
13 s	22.5 s



Lane Group	EBL	EBR	SBL	SBR	NWL	NWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%		0%	
Storage Length (ft)	0	0	0	0	0	80
Storage Lanes	1	0	1	0	0	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Turning Speed (mph)	15	9	15	9	15	9
Satd. Flow (prot)	1770	1504	1693	0	1770	1583
Flt Permitted	0.329		0.977		0.950	
Satd. Flow (perm)	613	1504	1693	0	1770	1583
Right Turn on Red		Yes		Yes		Yes
Satd. Flow (RTOR)		556	87			
Link Speed (mph)	30		30		30	
Link Distance (ft)	1263		336		1994	
Travel Time (s)	28.7		7.6		45.3	
Volume (vph)	143	428	95	103	539	355
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.77	0.77	0.98	0.98	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%		0%	
Lane Group Flow (vph)	186	556	202	0	627	413
Turn Type	Perm				pm+ov	
Protected Phases		2	4		6	4
Permitted Phases	2					6
Detector Phases	2	2	4		6	4
Minimum Initial (s)	35.0	35.0	14.0		35.0	14.0
Minimum Split (s)	40.7	40.7	19.2		40.7	19.2
Total Split (s)	40.8	40.8	19.2	0.0	40.8	19.2
Total Split (%)	68.0%	68.0%	32.0%	0.0%	68.0%	32.0%
Yellow Time (s)	3.7	3.7	3.4		3.7	3.4
All-Red Time (s)	2.0	2.0	1.8		2.0	1.8
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max	Max	None		Max	None
Act Effct Green (s)	36.8	36.8	15.2		36.8	60.0
Actuated g/C Ratio	0.61	0.61	0.25		0.61	1.00
v/c Ratio	0.49	0.49	0.41		0.58	0.26
Control Delay	12.1	2.2	13.8		9.6	0.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	12.1	2.2	13.8		9.6	0.4
LOS	B	A	B		A	A
Approach Delay	4.7		13.8		6.0	



Lane Group	EBL	EBR	SBL	SBR	NWL	NWR
Approach LOS	A		B		A	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 6.3

Intersection LOS: A

















Intersection Capacity Utilization 80.7%













ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 80: Mc Donough Blvd & Milton Ave.

 ø2 40.8 s	 ø4 19.2 s
 ø6 40.8 s	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1795	0	0	1680	0	0	1857	0	0	1761	0
Flt Permitted		0.417			0.999			0.993			0.551	
Satd. Flow (perm)	0	770	0	0	1679	0	0	1845	0	0	994	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			185			1			26	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		776			776			1683			518	
Travel Time (s)		17.6			17.6			38.3			11.8	
Volume (vph)	95	60	9	3	137	378	11	574	8	107	69	42
Confl. Peds. (#/hr)			4						3			7
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.77	0.77	0.77	0.87	0.87	0.87	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	172	0	0	673	0	0	682	0	0	237	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phases	4	4		8	8		2	2		6	6	
Minimum Initial (s)	9.0	9.0		16.0	16.0		30.0	30.0		14.0	14.0	
Minimum Split (s)	26.7	26.7		26.7	26.7		35.9	35.9		30.9	30.9	
Total Split (s)	29.0	29.0	0.0	29.0	29.0	0.0	36.0	36.0	0.0	36.0	36.0	0.0
Total Split (%)	44.6%	44.6%	0.0%	44.6%	44.6%	0.0%	55.4%	55.4%	0.0%	55.4%	55.4%	0.0%
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.5	2.5		2.5	2.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		23.5			23.5			32.1			32.1	
Actuated g/C Ratio		0.37			0.37			0.50			0.50	
v/c Ratio		0.60			0.91			0.73			0.46	
Control Delay		25.7			33.2			18.9			13.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		25.7			33.2			18.9			13.2	
LOS		C			C			B			B	
Approach Delay		25.7			33.2			18.9			13.2	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			C			B			B		

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 63.6

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 24.2



Intersection LOS: C
















Intersection Capacity Utilization 106.1%











ICU Level of Service G










Analysis Period (min) 15

Splits and Phases: 85: Atlanta Ave. & Cherokee Ave.

 ø2	 ø4
36 s	29 s
 ø6	 ø8
36 s	29 s

















													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Sign Control	Stop			Stop			Free			Free			
Grade	0%			0%			0%			0%			
Volume (veh/h)	0	0	0	0	0	269	0	1264	25	116	1029	0	
Peak Hour Factor	0.92	0.92	0.92	0.87	0.87	0.87	0.94	0.94	0.94	0.94	0.94	0.94	
Hourly flow rate (vph)	0	0	0	0	0	309	0	1345	27	123	1095	0	
Pedestrians						3						21	
Lane Width (ft)						12.0						12.0	
Walking Speed (ft/s)						4.0						4.0	
Percent Blockage						0						2	
Right turn flare (veh)													
Median type	None				None								
Median storage veh													
Upstream signal (ft)											170		
pX, platoon unblocked	0.95	0.95	0.95	0.95	0.95	0.95							
vC, conflicting volume	2344	2716	547	2155	2702	710	1095			1374			
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	2362	2753	472	2163	2739	710	1048			1374			
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1			
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2			
p0 queue free %	100	100	100	100	100	16	100			75			
cM capacity (veh/h)	2	14	512	20	14	369	627			494			
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2								
Volume Total	309	896	475	488	730								
Volume Left	0	0	0	123	0								
Volume Right	309	0	27	0	0								
cSH	369	1700	1700	494	1700								
Volume to Capacity	0.84	0.53	0.28	0.25	0.43								
Queue Length 95th (ft)	192	0	0	24	0								
Control Delay (s)	49.2	0.0	0.0	7.2	0.0								
Lane LOS	E			A									
Approach Delay (s)	49.2	0.0		2.9									
Approach LOS	E												
Intersection Summary													
Average Delay	6.5												
Intersection Capacity Utilization	74.2%			ICU Level of Service			D						
Analysis Period (min)	15												

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free		Free	Free
Grade	0%		0%			0%
Volume (veh/h)	58	91	1165	38	27	788
Peak Hour Factor	0.72	0.72	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	81	126	1266	41	29	857
Pedestrians	18					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	2					
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)					672	
pX, platoon unblocked	0.85					
vC, conflicting volume	2220	1305			1326	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2431	1305			1326	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	34			94	
cM capacity (veh/h)	28	193			513	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	207	1308	29	857		
Volume Left	81	0	29	0		
Volume Right	126	41	0	0		
cSH	58	1700	513	1700		
Volume to Capacity	3.55	0.77	0.06	0.50		
Queue Length 95th (ft)	Err	0	5	0		
Control Delay (s)	Err	0.0	12.4	0.0		
Lane LOS	F		B			
Approach Delay (s)	Err	0.0	0.4			
Approach LOS	F					
Intersection Summary						
Average Delay		862.2				
Intersection Capacity Utilization		79.1%		ICU Level of Service		D
Analysis Period (min)		15				

						
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Yield	Stop		Free	
Grade		0%	0%		0%	
Volume (veh/h)	59	234	221	43	64	108
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	64	254	240	47	70	117
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	365	198	257	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	365	198	257	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	83	62	61	96	96	
cM capacity (veh/h)	383	668	620	1085	1623	
Direction, Lane #	NB 1	SB 1	SE 1			
Volume Total	318	287	187			
Volume Left	64	0	70			
Volume Right	0	47	117			
cSH	581	666	1623			
Volume to Capacity	0.55	0.43	0.04			
Queue Length 95th (ft)	83	54	3			
Control Delay (s)	18.5	14.4	2.9			
Lane LOS	C	B	A			
Approach Delay (s)	18.5	14.4	2.9			
Approach LOS	C	B				
Intersection Summary						
Average Delay		13.3				
Intersection Capacity Utilization		50.0%		ICU Level of Service		A
Analysis Period (min)		15				



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	R	T	R	L	R
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	26	86	396	103	161	112
Peak Hour Factor	0.74	0.74	0.90	0.90	0.89	0.89
Hourly flow rate (vph)	35	116	440	114	181	126
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	985	497			554	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	985	497			554	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	84	80			82	
cM capacity (veh/h)	226	573			1016	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	151	554	307			
Volume Left	35	0	181			
Volume Right	116	114	0			
cSH	423	1700	1016			
Volume to Capacity	0.36	0.33	0.18			
Queue Length 95th (ft)	40	0	16			
Control Delay (s)	18.2	0.0	6.2			
Lane LOS	C		A			
Approach Delay (s)	18.2	0.0	6.2			
Approach LOS	C					
Intersection Summary						
Average Delay		4.6				
Intersection Capacity Utilization		58.6%		ICU Level of Service		B
Analysis Period (min)		15				




















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Yield			Stop			Stop			Stop	
Volume (vph)	0	0	0	9	59	0	293	0	0	0	152	18
Peak Hour Factor	0.25	0.25	0.25	0.75	0.75	0.75	0.94	0.94	0.94	0.96	0.96	0.96
Hourly flow rate (vph)	0	0	0	12	79	0	312	0	0	0	158	19
Direction, Lane #	WB 1	WB 2	NB 1	SB 1								
Volume Total (vph)	38	52	312	177								
Volume Left (vph)	12	0	312	0								
Volume Right (vph)	0	0	0	19								
Hadj (s)	0.19	0.03	0.23	-0.03								
Departure Headway (s)	5.8	5.7	4.6	4.5								
Degree Utilization, x	0.06	0.08	0.40	0.22								
Capacity (veh/h)	568	586	766	770								
Control Delay (s)	8.0	8.0	10.6	8.8								
Approach Delay (s)	8.0		10.6	8.8								
Approach LOS	A		B	A								
Intersection Summary												
Delay			9.6									
HCM Level of Service			A									
Intersection Capacity Utilization			39.0%		ICU Level of Service					A		
Analysis Period (min)			15									















Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↕	↕	
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	0	7	1035	230	17
Peak Hour Factor	0.92	0.92	0.88	0.88	0.84	0.84
Hourly flow rate (vph)	0	0	8	1176	274	20
Pedestrians	14					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)				518		
pX, platoon unblocked	0.70					
vC, conflicting volume	1490	298	308			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1697	298	308			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	99			
cM capacity (veh/h)	71	742	1253			
Direction, Lane #	NB 1	SB 1				
Volume Total	1184	294				
Volume Left	8	0				
Volume Right	0	20				
cSH	1253	1700				
Volume to Capacity	0.01	0.17				
Queue Length 95th (ft)	0	0				
Control Delay (s)	0.2	0.0				
Lane LOS	A					
Approach Delay (s)	0.2	0.0				
Approach LOS						
Intersection Summary						
Average Delay		0.2				
Intersection Capacity Utilization		63.4%		ICU Level of Service		B
Analysis Period (min)		15				

Atlanta BeltLine Master Plan Subarea 3
70: I-20 WB On & Boulevard

BeltLine 2030 PM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	0		0	280		280	150		0	0		0
Storage Lanes	0		0	1		2	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50	50	50	50			50	
Trailing Detector (ft)				0	0	0	0	0			0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	0	0	1681	1690	2787	3433	3539	0	0	4912	0
Flt Permitted				0.950	0.955		0.950					
Satd. Flow (perm)	0	0	0	1681	1690	2787	3433	3539	0	0	4912	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						211					80	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		281			1064			442			562	
Travel Time (s)		6.4			24.2			10.0			12.8	
Volume (vph)	0	0	0	216	6	192	720	1017	0	0	993	296
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.91	0.91	0.91	0.97	0.97	0.97	0.80	0.80	0.80
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	0	0	119	125	211	742	1048	0	0	1611	0
Turn Type				Split		Perm	Prot					
Protected Phases				4	4		1	1 2			2	
Permitted Phases						4						
Detector Phases				4	4	4	1	1 2			2	
Minimum Initial (s)				12.0	12.0	12.0	11.0				14.0	
Minimum Split (s)				30.0	30.0	30.0	16.2				27.0	
Total Split (s)	0.0	0.0	0.0	31.0	31.0	31.0	31.8	79.0	0.0	0.0	47.2	0.0
Total Split (%)	0.0%	0.0%	0.0%	28.2%	28.2%	28.2%	28.9%	71.8%	0.0%	0.0%	42.9%	0.0%
Yellow Time (s)				3.6	3.6	3.6	3.6				3.7	
All-Red Time (s)				2.4	2.4	2.4	1.6				2.3	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?												
Recall Mode				None	None	None	Min				C-Max	
Act Effct Green (s)				27.0	27.0	27.0	27.0	75.0			44.0	
Actuated g/C Ratio				0.25	0.25	0.25	0.25	0.68			0.40	
v/c Ratio				0.29	0.30	0.25	0.88	0.43			0.80	
Control Delay				36.0	36.2	5.3	59.8	7.7			31.5	
Queue Delay				0.0	0.0	0.0	0.0	0.5			0.0	
Total Delay				36.0	36.2	5.3	59.8	8.2			31.5	
LOS				D	D	A	E	A			C	
Approach Delay					21.9			29.6			31.5	

Lane Group	ø5	ø6	ø8
Lane Configurations			
Ideal Flow (vphpl)			
Lane Width (ft)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Total Lost Time (s)			
Leading Detector (ft)			
Trailing Detector (ft)			
Turning Speed (mph)			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Volume (vph)			
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)			
Peak Hour Factor			
Growth Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Parking (#/hr)			
Mid-Block Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phases			
Minimum Initial (s)	7.0	14.0	12.0
Minimum Split (s)	12.2	27.0	30.0
Total Split (s)	17.2	61.8	31.0
Total Split (%)	16%	56%	28%
Yellow Time (s)	3.6	3.7	3.6
All-Red Time (s)	1.6	2.3	2.4
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Recall Mode	None	C-Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C						C			C		

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 29.5

Intersection LOS: C

Intersection Capacity Utilization 87.8%

ICU Level of Service E

Analysis Period (min) 15




















Splits and Phases: 70: I-20 WB On & Boulevard

#70  ø1	#70  ø2	#70  ø4
31.8 s	47.2 s	31 s
#71  ø5	#71  ø6	#71  ø8
17.2 s	61.8 s	31 s













Lane Group	ø5	ø6	ø8
Approach LOS			
Intersection Summary			

Atlanta BeltLine Master Plan Subarea 3
71: I-20 EB Off & Boulevard

BeltLine 2030 PM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	320		320	0		0	0		0	150		0
Storage Lanes	1		1	0		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50					50		50	50	
Trailing Detector (ft)	0	0	0					0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1681	1430	1504	0	0	0	0	3400	0	3433	3539	0
Flt Permitted	0.950	0.994								0.950		
Satd. Flow (perm)	1681	1430	1464	0	0	0	0	3400	0	3433	3539	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)								51				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1070			1567			170			442	
Travel Time (s)		24.3			35.6			3.9			10.0	
Volume (vph)	375	0	605	0	0	0	0	1351	389	348	850	0
Confl. Peds. (#/hr)			11			9			8			10
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.50	0.50	0.50	0.96	0.96	0.96	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	346	360	315	0	0	0	0	1812	0	400	977	0
Turn Type	Split		Perm							Prot		
Protected Phases	8	8						6		5	5	6
Permitted Phases			8									
Detector Phases	8	8	8					6		5	5	6
Minimum Initial (s)	12.0	12.0	12.0					14.0		7.0		
Minimum Split (s)	30.0	30.0	30.0					27.0		12.2		
Total Split (s)	31.0	31.0	31.0	0.0	0.0	0.0	0.0	61.8	0.0	17.2	79.0	0.0
Total Split (%)	28.2%	28.2%	28.2%	0.0%	0.0%	0.0%	0.0%	56.2%	0.0%	15.6%	71.8%	0.0%
Yellow Time (s)	3.6	3.6	3.6					3.7		3.6		
All-Red Time (s)	2.4	2.4	2.4					2.3		1.6		
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?												
Recall Mode	None	None	None					C-Max		None		
Act Effct Green (s)	27.0	27.0	27.0					57.8		13.2	75.0	
Actuated g/C Ratio	0.25	0.25	0.25					0.53		0.12	0.68	
v/c Ratio	0.84	1.03	0.88					1.00		0.97	0.40	
Control Delay	58.5	96.6	65.8					47.3		81.2	7.2	
Queue Delay	0.6	4.6	0.0					2.9		0.0	0.3	
Total Delay	59.1	101.2	65.8					50.2		81.2	7.5	
LOS	E	F	E					D		F	A	
Approach Delay		76.0						50.2			28.9	

Lane Group	ø1	ø2	ø4
Lane Configurations			
Ideal Flow (vphpl)			
Lane Width (ft)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Total Lost Time (s)			
Leading Detector (ft)			
Trailing Detector (ft)			
Turning Speed (mph)			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Volume (vph)			
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)			
Peak Hour Factor			
Growth Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Parking (#/hr)			
Mid-Block Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phases			
Minimum Initial (s)	11.0	14.0	12.0
Minimum Split (s)	16.2	27.0	30.0
Total Split (s)	31.8	47.2	31.0
Total Split (%)	29%	43%	28%
Yellow Time (s)	3.6	3.7	3.6
All-Red Time (s)	1.6	2.3	2.4
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Recall Mode	Min	C-Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	E						D			C		

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 49.5

Intersection LOS: D

Intersection Capacity Utilization 87.8%

ICU Level of Service E

Analysis Period (min) 15




















Splits and Phases: 71: I-20 EB Off & Boulevard













#70  ø1	#70  ø2	#70  ø4
31.8 s	47.2 s	31 s
#71  ø5	#71  ø6	#71  ø8
17.2 s	61.8 s	31 s

Lane Group	ø1	ø2	ø4
Approach LOS			
Intersection Summary			

Atlanta BeltLine Master Plan Subarea 3
73: Confederate Ave. & Boulevard

BeltLine 2030 PM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	80		0	0		0	0		0
Storage Lanes	0		0	0		1	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1761	0	0	1779	1583	1863	1850	0	1770	1856	0
Flt Permitted		0.829			0.781					0.077		
Satd. Flow (perm)	0	1514	0	0	1455	1554	1863	1850	0	143	1856	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				114		3			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		792			1253			672			2707	
Travel Time (s)		18.0			28.5			15.3			61.5	
Volume (vph)	16	3	3	28	2	284	0	799	26	274	978	18
Confl. Peds. (#/hr)			4			4			14			2
Confl. Bikes (#/hr)												
Peak Hour Factor	0.70	0.70	0.70	0.89	0.89	0.89	0.91	0.91	0.91	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	31	0	0	33	319	0	907	0	298	1083	0
Turn Type	Perm			Perm		pm+ov	Perm			pm+pt		
Protected Phases		8			4	1		2		1	6	
Permitted Phases	8			4		4	2			6		
Detector Phases	8	8		4	4	1	2	2		1	6	
Minimum Initial (s)	17.0	17.0		17.0	17.0	5.0	15.0	15.0		5.0	15.0	
Minimum Split (s)	22.3	22.3		22.3	22.3	10.0	20.2	20.2		10.0	20.2	
Total Split (s)	22.3	22.3	0.0	22.3	22.3	16.0	51.7	51.7	0.0	16.0	67.7	0.0
Total Split (%)	24.8%	24.8%	0.0%	24.8%	24.8%	17.8%	57.4%	57.4%	0.0%	17.8%	75.2%	0.0%
Yellow Time (s)	3.6	3.6		3.6	3.6	3.5	3.7	3.7		3.5	3.7	
All-Red Time (s)	1.7	1.7		1.7	1.7	1.5	1.5	1.5		1.5	1.5	
Lead/Lag						Lead	Lag	Lag		Lead		
Lead-Lag Optimize?						Yes	Yes	Yes		Yes		
Recall Mode	None	None		None	None	None	C-Max	C-Max		None	C-Max	
Act Effct Green (s)		18.3			18.3	22.3		58.1		77.1	79.5	
Actuated g/C Ratio		0.20			0.20	0.25		0.65		0.86	0.88	
v/c Ratio		0.10			0.11	0.67		0.76		0.76	0.66	
Control Delay		27.4			30.5	24.1		19.7		34.8	8.0	
Queue Delay		0.0			0.0	0.0		0.0		0.0	0.0	
Total Delay		27.4			30.5	24.1		19.7		34.8	8.0	
LOS		C			C	C		B		C	A	
Approach Delay		27.4			24.7			19.7			13.8	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			C			B			B		

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 17.4

Intersection LOS: B

Intersection Capacity Utilization 89.2%

ICU Level of Service E





















Analysis Period (min) 15













Splits and Phases: 73: Confederate Ave. & Boulevard

 ø1	 ø2	 ø4
16 s	51.7 s	22.3 s
 ø6		 ø8
67.7 s		22.3 s

Atlanta BeltLine Master Plan Subarea 3
75: Atlanta Ave. & Boulevard

BeltLine 2030 PM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%		0%		0%		0%		0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	1583	0	1770	1583	0	1770	1844	0	1770	1812	0
Flt Permitted	0.745			0.652			0.080			0.242		
Satd. Flow (perm)	1370	1583	0	1177	1583	0	149	1844	0	451	1812	0
Right Turn on Red			Yes				Yes				Yes	
Satd. Flow (RTOR)		184			250			9			28	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		806			1283			1444			1606	
Travel Time (s)		18.3			29.2			32.8			36.5	
Volume (vph)	183	0	117	18	0	13	38	657	46	18	841	181
Confl. Peds. (#/hr)	6			17			8			8		
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.69	0.69	0.69	0.89	0.89	0.89	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	201	129	0	26	19	0	43	790	0	19	1076	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	4		8		8		2		6		6	
Permitted Phases	4			8			2			6		
Detector Phases	4	4		8	8		2	2		6	6	
Minimum Initial (s)	10.0	10.0		10.0	10.0		35.0	35.0		35.0	35.0	
Minimum Split (s)	23.8	23.8		23.8	23.8		41.5	41.5		41.5	41.5	
Total Split (s)	23.8	23.8	0.0	23.8	23.8	0.0	56.2	56.2	0.0	56.2	56.2	0.0
Total Split (%)	29.8%	29.8%	0.0%	29.8%	29.8%	0.0%	70.3%	70.3%	0.0%	70.3%	70.3%	0.0%
Yellow Time (s)	3.2	3.2		3.2	3.2		3.8	3.8		3.8	3.8	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.7	2.7		2.7	2.7	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)	16.9	16.9		16.9	16.9		49.2	49.2		49.2	49.2	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.66	0.66		0.66	0.66	
v/c Ratio	0.65	0.26		0.10	0.03		0.43	0.64		0.06	0.89	
Control Delay	37.4	2.8		24.6	0.2		23.8	10.7		5.6	22.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	37.4	2.8		24.6	0.2		23.8	10.7		5.6	22.0	
LOS	D	A		C	A		C	B		A	C	
Approach Delay	23.9		14.3		11.4		21.7					

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			B			B			C		

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 74.2

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 18.1





Intersection LOS: B













Intersection Capacity Utilization 78.7%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 75: Atlanta Ave. & Boulevard

 ø2	 ø4
56.2 s	23.8 s
 ø6	 ø8
56.2 s	23.8 s

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	1	1			0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	
Turning Speed (mph)	15	9	15			9
Satd. Flow (prot)	1770	1583	1770	1863	1828	0
Flt Permitted	0.950		0.155			
Satd. Flow (perm)	1770	1583	289	1863	1828	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		190			16	
Link Speed (mph)	30			30	30	
Link Distance (ft)	3424			3251	1886	
Travel Time (s)	77.8			73.9	42.9	
Volume (vph)	134	194	151	547	801	91
Confl. Peds. (#/hr)						11
Confl. Bikes (#/hr)						
Peak Hour Factor	0.78	0.78	0.89	0.89	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Lane Group Flow (vph)	172	249	170	615	991	0
Turn Type		Perm	Perm			
Protected Phases	4			2	6	
Permitted Phases		4	2			
Detector Phases	4	4	2	2	6	
Minimum Initial (s)	9.0	9.0	15.0	15.0	15.0	
Minimum Split (s)	21.2	21.2	22.7	22.7	22.7	
Total Split (s)	21.2	21.2	58.8	58.8	58.8	0.0
Total Split (%)	26.5%	26.5%	73.5%	73.5%	73.5%	0.0%
Yellow Time (s)	3.2	3.2	3.8	3.8	3.8	
All-Red Time (s)	2.0	2.0	1.9	1.9	1.9	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	
Act Effct Green (s)	13.8	13.8	58.2	58.2	58.2	
Actuated g/C Ratio	0.17	0.17	0.73	0.73	0.73	
v/c Ratio	0.56	0.58	0.81	0.45	0.74	
Control Delay	37.2	14.0	42.5	6.2	11.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	37.2	14.0	42.5	6.2	11.5	
LOS	D	B	D	A	B	
Approach Delay	23.5			14.0	11.5	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach LOS	C			B	B	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 14.7

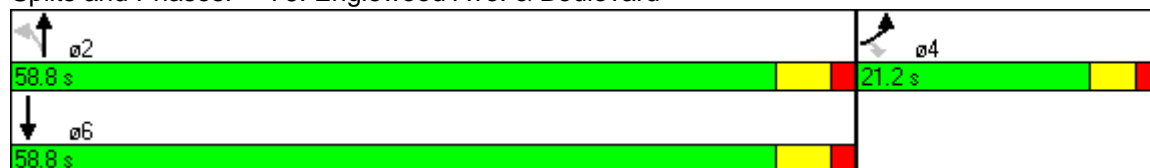
Intersection LOS: B

Intersection Capacity Utilization 77.8%

ICU Level of Service D



















Analysis Period (min) 15

Splits and Phases: 76: Englewood Ave. & Boulevard















Atlanta BeltLine Master Plan Subarea 3
77: Mc Donough Blvd & Boulevard

BeltLine 2030 PM Peak
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%		0%		0%		0%		0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	1854	0	0	1766	0	0	1733	0	1770	1534	0
Flt Permitted	0.197				0.975			0.773		0.744		
Satd. Flow (perm)	367	1854	0	0	1724	0	0	1360	0	1386	1534	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			19			6			461	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1125			1642			628			3251	
Travel Time (s)		25.6			37.3			14.3			73.9	
Volume (vph)	445	663	13	17	492	228	3	4	3	457	11	481
Confl. Peds. (#/hr)			16			7			8			9
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.97	0.97	0.97	0.50	0.50	0.50	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	484	735	0	0	760	0	0	20	0	491	529	0
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	1	6			2			4			8	
Permitted Phases	6			2			4			8		
Detector Phases	1	6		2	2		4	4		8	8	
Minimum Initial (s)	8.0	15.0		15.0	15.0		19.0	19.0		19.0	19.0	
Minimum Split (s)	13.0	22.4		22.4	22.4		24.5	24.5		24.5	24.5	
Total Split (s)	29.0	96.0	0.0	67.0	67.0	0.0	54.0	54.0	0.0	54.0	54.0	0.0
Total Split (%)	19.3%	64.0%	0.0%	44.7%	44.7%	0.0%	36.0%	36.0%	0.0%	36.0%	36.0%	0.0%
Yellow Time (s)	3.5	3.7		3.7	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.5	1.7		1.7	1.7		1.8	1.8		1.8	1.8	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?												
Recall Mode	Min	C-Max		C-Max	C-Max		Max	Max		Max	Max	
Act Effct Green (s)	92.0	92.0			63.0			50.0		50.0	50.0	
Actuated g/C Ratio	0.61	0.61			0.42			0.33		0.33	0.33	
v/c Ratio	1.05	0.65			1.03			0.04		1.06	0.65	
Control Delay	82.7	21.9			83.5			26.7		106.7	10.1	
Queue Delay	0.0	0.0			0.0			0.0		0.0	0.0	
Total Delay	82.7	21.9			83.5			26.7		106.7	10.1	
LOS	F	C			F			C		F	B	
Approach Delay		46.0			83.5			26.7			56.6	

77: Mc Donough Blvd & Boulevard

MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			F			C			E		

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.06

Intersection Signal Delay: 58.9





Intersection LOS: E

Intersection Capacity Utilization 118.7%

ICU Level of Service H

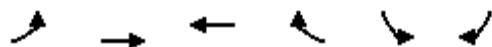
Analysis Period (min) 15

Splits and Phases: 77: Mc Donough Blvd & Boulevard

 ø1	 ø2	 ø4
29 s	67 s	54 s
 ø6		 ø8
96 s		54 s



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	1			1	1	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Turning Speed (mph)	15			9	15	9
Satd. Flow (prot)	1770	1863	1863	1583	1770	1583
Flt Permitted	0.177				0.950	
Satd. Flow (perm)	330	1863	1863	1511	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				137		82
Link Speed (mph)		30	30		30	
Link Distance (ft)		607	1125		1436	
Travel Time (s)		13.8	25.6		32.6	
Volume (vph)	19	1000	842	133	137	64
Confl. Peds. (#/hr)	7			13		
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.97	0.97	0.78	0.78
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Lane Group Flow (vph)	20	1042	868	137	176	82
Turn Type	Perm			Perm		Perm
Protected Phases		6	2		4	
Permitted Phases	6			2		4
Detector Phases	6	6	2	2	4	4
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	44.0	44.0	44.0	44.0	21.0	21.0
Total Split (%)	67.7%	67.7%	67.7%	67.7%	32.3%	32.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	47.8	47.8	47.8	47.8	12.2	12.2
Actuated g/C Ratio	0.74	0.74	0.74	0.74	0.19	0.19
v/c Ratio	0.08	0.76	0.63	0.12	0.53	0.23
Control Delay	5.6	13.8	9.4	1.3	28.9	7.1
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0
Total Delay	5.6	13.9	9.4	1.3	28.9	7.1
LOS	A	B	A	A	C	A
Approach Delay		13.8	8.3		21.9	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Approach LOS		B	A		C	

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 12.3




Intersection LOS: B







Intersection Capacity Utilization 66.9%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 78: Mc Donough Blvd & Gault St.

 ø2	 ø4
44 s	21 s
 ø6	
44 s	

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑	↘	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	150		0	500
Storage Lanes		0	1		1	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	50
Trailing Detector (ft)	0		0	0	0	0
Turning Speed (mph)		9	15		15	9
Satd. Flow (prot)	3525	0	1770	1863	1770	1583
Flt Permitted			0.178		0.950	
Satd. Flow (perm)	3525	0	332	1863	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	4					346
Link Speed (mph)	30			30	30	
Link Distance (ft)	1994			607	1361	
Travel Time (s)	45.3			13.8	30.9	
Volume (vph)	761	20	410	506	209	311
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.96	0.96	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Lane Group Flow (vph)	840	0	427	527	232	346
Turn Type			pm+pt			Perm
Protected Phases	6		5	2	4	
Permitted Phases			2			4
Detector Phases	6		5	2	4	4
Minimum Initial (s)	15.0		8.0	15.0	19.0	19.0
Minimum Split (s)	20.4		13.0	20.4	24.5	24.5
Total Split (s)	22.5	0.0	18.0	40.5	24.5	24.5
Total Split (%)	34.6%	0.0%	27.7%	62.3%	37.7%	37.7%
Yellow Time (s)	3.7		3.5	3.7	3.7	3.7
All-Red Time (s)	1.7		1.5	1.7	1.8	1.8
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?						
Recall Mode	Max		None	Max	None	None
Act Effct Green (s)	19.0		36.5	36.5	20.5	20.5
Actuated g/C Ratio	0.29		0.56	0.56	0.32	0.32
v/c Ratio	0.81		0.88	0.50	0.42	0.47
Control Delay	29.7		35.0	10.8	20.3	4.6
Queue Delay	0.0		0.0	0.0	0.0	0.1
Total Delay	29.7		35.0	10.8	20.3	4.7
LOS	C		D	B	C	A
Approach Delay	29.7			21.7	11.0	



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach LOS	C		C		B	

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 65

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 21.9

Intersection LOS: C

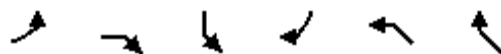
Intersection Capacity Utilization 70.2%

ICU Level of Service C

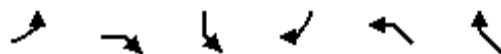
Analysis Period (min) 15

Splits and Phases: 79: Mc Donough Blvd & Sawtell Avenue





Lane Group	EBL	EBR	SBL	SBR	NWL	NWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%		0%	
Storage Length (ft)	0	0	0	0	0	80
Storage Lanes	1	0	1	0	0	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Turning Speed (mph)	15	9	15	9	15	9
Satd. Flow (prot)	1657	1504	1711	0	1770	1583
Flt Permitted	0.571		0.970		0.950	
Satd. Flow (perm)	965	1504	1711	0	1770	1583
Right Turn on Red		Yes		Yes		Yes
Satd. Flow (RTOR)	150	292	51			
Link Speed (mph)	30		30		30	
Link Distance (ft)	1263		331		1994	
Travel Time (s)	28.7		7.5		45.3	
Volume (vph)	81	731	268	172	598	128
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.87	0.87	0.86	0.86	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%		0%	
Lane Group Flow (vph)	243	690	512	0	680	145
Turn Type	Perm				pm+ov	
Protected Phases		2	4		6	4
Permitted Phases	2					6
Detector Phases	2	2	4		6	4
Minimum Initial (s)	35.0	35.0	14.0		35.0	14.0
Minimum Split (s)	40.7	40.7	19.2		40.7	19.2
Total Split (s)	41.0	41.0	24.0	0.0	41.0	24.0
Total Split (%)	63.1%	63.1%	36.9%	0.0%	63.1%	36.9%
Yellow Time (s)	3.7	3.7	3.4		3.7	3.4
All-Red Time (s)	2.0	2.0	1.8		2.0	1.8
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max	Max	None		Max	None
Act Effct Green (s)	37.0	37.0	19.8		37.0	64.8
Actuated g/C Ratio	0.57	0.57	0.31		0.57	1.00
v/c Ratio	0.40	0.70	0.92		0.67	0.09
Control Delay	5.2	10.1	44.5		14.0	0.1
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	5.2	10.1	44.5		14.0	0.1
LOS	A	B	D		B	A
Approach Delay	8.8		44.5		11.5	



Lane Group	EBL	EBR	SBL	SBR	NWL	NWR
Approach LOS	A		D		B	

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 64.8

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 17.9



Intersection LOS: B

















Intersection Capacity Utilization 97.7%













ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 80: Mc Donough Blvd & Milton Ave.

 ø2	 ø4
41 s	24 s
 ø6	
41 s	




												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	1804	0	0	1729	0	0	1844	0	0	1802	0
Flt Permitted		0.702			0.990			0.975			0.817	
Satd. Flow (perm)	0	1287	0	0	1713	0	0	1801	0	0	1499	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			61			6			11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		776			776			1683			518	
Travel Time (s)		17.6			17.6			38.3			11.8	
Volume (vph)	80	148	24	6	96	114	5	130	8	313	465	79
Confl. Peds. (#/hr)			4						3			7
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.86	0.86	0.86	0.85	0.85	0.85	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	265	0	0	252	0	0	168	0	0	892	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phases	4	4		8	8		2	2		6	6	
Minimum Initial (s)	9.0	9.0		16.0	16.0		30.0	30.0		14.0	14.0	
Minimum Split (s)	26.7	26.7		26.7	26.7		35.9	35.9		30.9	30.9	
Total Split (s)	28.0	28.0	0.0	28.0	28.0	0.0	62.0	62.0	0.0	62.0	62.0	0.0
Total Split (%)	31.1%	31.1%	0.0%	31.1%	31.1%	0.0%	68.9%	68.9%	0.0%	68.9%	68.9%	0.0%
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.5	2.5		2.5	2.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		22.2			22.2			58.0			58.0	
Actuated g/C Ratio		0.25			0.25			0.66			0.66	
v/c Ratio		0.81			0.53			0.14			0.90	
Control Delay		50.4			25.7			6.2			27.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		50.4			25.7			6.2			27.8	
LOS		D			C			A			C	
Approach Delay		50.4			25.7			6.2			27.8	
















												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			C			A			C		











Intersection Summary










Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 88.2	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 29.0	Intersection LOS: C
Intersection Capacity Utilization 112.5%	ICU Level of Service H
Analysis Period (min) 15	










Splits and Phases: 85: Atlanta Ave. & Cherokee Ave.

















 ø2	 ø4
62 s	28 s
 ø6	 ø8
62 s	28 s

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Volume (veh/h)	0	0	0	0	0	243	0	1122	39	123	1345	0
Peak Hour Factor	0.92	0.92	0.92	0.84	0.84	0.84	0.87	0.87	0.87	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	0	0	0	289	0	1290	45	137	1494	0
Pedestrians						3						21
Lane Width (ft)						12.0						12.0
Walking Speed (ft/s)						4.0						4.0
Percent Blockage						0						2
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (ft)												170
pX, platoon unblocked	0.88	0.88	0.88	0.88	0.88	0.88						
vC, conflicting volume	2723	3105	747	2336	3083	691	1494	1337				
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2824	3260	572	2383	3234	691	1424	1337				
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1	4.1				
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2	2.2				
p0 queue free %	100	100	100	100	100	24	100	73				
cM capacity (veh/h)	1	6	406	12	6	379	416	510				
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2							
Volume Total	289	860	475	635	996							
Volume Left	0	0	0	137	0							
Volume Right	289	0	45	0	0							
cSH	379	1700	1700	510	1700							
Volume to Capacity	0.76	0.51	0.28	0.27	0.59							
Queue Length 95th (ft)	155	0	0	27	0							
Control Delay (s)	39.3	0.0	0.0	7.5	0.0							
Lane LOS	E			A								
Approach Delay (s)	39.3	0.0		2.9								
Approach LOS	E											
Intersection Summary												
Average Delay	5.0											
Intersection Capacity Utilization	79.7%			ICU Level of Service			D					
Analysis Period (min)	15											

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	20	22	784	17	27	1009
Peak Hour Factor	0.89	0.89	0.94	0.94	0.89	0.89
Hourly flow rate (vph)	22	25	834	18	30	1134
Pedestrians	18					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	2					
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)					672	
pX, platoon unblocked	0.23					
vC, conflicting volume	2055	861			870	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	5568	861			870	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	93			96	
cM capacity (veh/h)	0	350			763	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	47	852	30	1134		
Volume Left	22	0	30	0		
Volume Right	25	18	0	0		
cSH	0	1700	763	1700		
Volume to Capacity	377.49	0.50	0.04	0.67		
Queue Length 95th (ft)	Err	0	3	0		
Control Delay (s)	Err	0.0	9.9	0.0		
Lane LOS	F		A			
Approach Delay (s)	Err	0.0	0.3			
Approach LOS	F					
Intersection Summary						
Average Delay		228.8				
Intersection Capacity Utilization		63.1%		ICU Level of Service		B
Analysis Period (min)		15				

						
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Yield	Stop		Free	
Grade		0%	0%		0%	
Volume (veh/h)	52	208	258	50	46	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	57	226	280	54	50	130
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	360	165	230	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	360	165	230	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	85	68	57	95	97	
cM capacity (veh/h)	367	705	649	1085	1623	
Direction, Lane #	NB 1	SB 1	SE 1			
Volume Total	283	335	180			
Volume Left	57	0	50			
Volume Right	0	54	130			
cSH	595	694	1623			
Volume to Capacity	0.47	0.48	0.03			
Queue Length 95th (ft)	64	66	2			
Control Delay (s)	16.4	14.9	2.2			
Lane LOS	C	B	A			
Approach Delay (s)	16.4	14.9	2.2			
Approach LOS	C	B				
Intersection Summary						
Average Delay		12.6				
Intersection Capacity Utilization		50.4%		ICU Level of Service		A
Analysis Period (min)		15				

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	185	120	170	41	143	260
Peak Hour Factor	0.90	0.90	0.79	0.79	0.93	0.93
Hourly flow rate (vph)	206	133	215	52	154	280
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	828	241			267	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	828	241			267	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	32	83			88	
cM capacity (veh/h)	300	798			1297	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	339	267	433			
Volume Left	206	0	154			
Volume Right	133	52	0			
cSH	398	1700	1297			
Volume to Capacity	0.85	0.16	0.12			
Queue Length 95th (ft)	204	0	10			
Control Delay (s)	48.3	0.0	3.6			
Lane LOS	E		A			
Approach Delay (s)	48.3	0.0	3.6			
Approach LOS	E					
Intersection Summary						
Average Delay		17.3				
Intersection Capacity Utilization		60.6%		ICU Level of Service		B
Analysis Period (min)		15				

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Yield			Stop			Stop			Stop	
Volume (vph)	0	0	0	29	194	0	121	0	0	0	80	57
Peak Hour Factor	0.58	0.58	0.58	0.90	0.90	0.90	0.83	0.83	0.83	0.80	0.80	0.80
Hourly flow rate (vph)	0	0	0	32	216	0	146	0	0	0	100	71
Direction, Lane #	WB 1	WB 2	NB 1	SB 1								
Volume Total (vph)	104	144	146	171								
Volume Left (vph)	32	0	146	0								
Volume Right (vph)	0	0	0	71								
Hadj (s)	0.19	0.03	0.23	-0.22								
Departure Headway (s)	5.5	5.3	5.0	4.5								
Degree Utilization, x	0.16	0.21	0.20	0.21								
Capacity (veh/h)	624	646	688	753								
Control Delay (s)	8.3	8.5	9.2	8.8								
Approach Delay (s)	8.4		9.2	8.8								
Approach LOS	A		A	A								
Intersection Summary												
Delay			8.7									
HCM Level of Service			A									
Intersection Capacity Utilization			31.0%		ICU Level of Service				A			
Analysis Period (min)			15									






















Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↕	↕	
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	0	16	301	847	37
Peak Hour Factor	0.92	0.92	0.86	0.86	0.94	0.94
Hourly flow rate (vph)	0	0	19	350	901	39
Pedestrians	14					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)				518		
pX, platoon unblocked						
vC, conflicting volume	1322	935	954			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1322	935	954			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	97			
cM capacity (veh/h)	168	322	720			
Direction, Lane #	NB 1	SB 1				
Volume Total	369	940				
Volume Left	19	0				
Volume Right	0	39				
cSH	720	1700				
Volume to Capacity	0.03	0.55				
Queue Length 95th (ft)	2	0				
Control Delay (s)	0.8	0.0				
Lane LOS	A					
Approach Delay (s)	0.8	0.0				
Approach LOS						
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			50.2%	ICU Level of Service		A
Analysis Period (min)			15			













Atlanta BeltLine
Sub-Area 3

BELTLINE 2030
WITH IMPROVEMENTS

SYNCHRO REPORT
(September 2008)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	0		0	280		280	150		0	0		0
Storage Lanes	0		0	1		2	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50	50	50	50				50
Trailing Detector (ft)				0	0	0	0	0				0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	0	0	1681	1715	2787	3433	3539	0	0	4724	0
Flt Permitted				0.950	0.969		0.950					
Satd. Flow (perm)	0	0	0	1681	1715	2787	3433	3539	0	0	4724	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						123						204
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		281			1064			442			562	
Travel Time (s)		6.4			24.2			10.0			12.8	
Volume (vph)	0	0	0	403	93	689	899	1433	0	0	186	169
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.97	0.97	0.97	0.97	0.97	0.97	0.82	0.82	0.82
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	0	0	249	262	710	927	1477	0	0	433	0
Turn Type				Split		Perm	Prot					
Protected Phases				4	4		1	1 2			2	
Permitted Phases						4						
Detector Phases				4	4	4	1	1 2			2	
Minimum Initial (s)				12.0	12.0	12.0	11.0				14.0	
Minimum Split (s)				30.0	30.0	30.0	16.2				27.0	
Total Split (s)	0.0	0.0	0.0	30.0	30.0	30.0	46.8	90.0	0.0	0.0	43.2	0.0
Total Split (%)	0.0%	0.0%	0.0%	25.0%	25.0%	25.0%	39.0%	75.0%	0.0%	0.0%	36.0%	0.0%
Yellow Time (s)				3.6	3.6	3.6	3.6				3.7	
All-Red Time (s)				2.4	2.4	2.4	1.6				2.3	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?												
Recall Mode				None	None	None	Min				C-Max	
Act Effct Green (s)				26.0	26.0	26.0	42.8	86.0			39.2	
Actuated g/C Ratio				0.22	0.22	0.22	0.36	0.72			0.33	
v/c Ratio				0.68	0.70	1.01	0.76	0.58			0.26	
Control Delay				54.0	54.9	76.4	40.3	8.5			15.7	
Queue Delay				0.0	0.0	0.0	8.2	2.3			0.0	
Total Delay				54.0	54.9	76.4	48.5	10.8			15.7	
LOS				D	D	E	D	B			B	
Approach Delay					67.2			25.3			15.7	

Lane Group	ø5	ø6	ø8
Lane Configurations			
Ideal Flow (vphpl)			
Lane Width (ft)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Total Lost Time (s)			
Leading Detector (ft)			
Trailing Detector (ft)			
Turning Speed (mph)			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Volume (vph)			
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)			
Peak Hour Factor			
Growth Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Parking (#/hr)			
Mid-Block Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phases			
Minimum Initial (s)	7.0	14.0	12.0
Minimum Split (s)	12.2	27.0	30.0
Total Split (s)	12.2	77.8	30.0
Total Split (%)	10%	65%	25%
Yellow Time (s)	3.6	3.7	3.6
All-Red Time (s)	1.6	2.3	2.4
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Recall Mode	None	C-Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	E						C			B		

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 36.9







Intersection LOS: D

Intersection Capacity Utilization 101.9%

ICU Level of Service G

Analysis Period (min) 15




















Splits and Phases: 70: I-20 WB On & Boulevard

 #70 ø1 46.8 s		 #70 ø2 43.2 s	 #70 ø4 30 s	
 #71 ø5 12.2 s	 #71 ø6 77.8 s		 #71 ø8 30 s	













Lane Group	ø5	ø6	ø8
Approach LOS			
Intersection Summary			

Atlanta BeltLine Master Plan Subarea 3
71: I-20 EB Off & Boulevard

BeltLine 2030 AM Peak With Improvements
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	320		320	0		0	0		0	150		0
Storage Lanes	1		1	0		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50					50		50	50	
Trailing Detector (ft)	0	0	0					0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1681	1581	1504	0	0	0	0	3407	0	3433	3539	0
Flt Permitted	0.950	0.960								0.950		
Satd. Flow (perm)	1681	1581	1462	0	0	0	0	3407	0	3433	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7	460					53				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1070			1567			170			442	
Travel Time (s)		24.3			35.6			3.9			10.0	
Volume (vph)	631	0	695	0	0	0	0	1681	457	140	451	0
Confl. Peds. (#/hr)			11			9			8			10
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.50	0.50	0.50	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	346	354	653	0	0	0	0	2181	0	143	460	0
Turn Type	Split		Perm							Prot		
Protected Phases	8	8						6		5	5	6
Permitted Phases			8									
Detector Phases	8	8	8					6		5	5	6
Minimum Initial (s)	12.0	12.0	12.0					14.0		7.0		
Minimum Split (s)	30.0	30.0	30.0					27.0		12.2		
Total Split (s)	30.0	30.0	30.0	0.0	0.0	0.0	0.0	77.8	0.0	12.2	90.0	0.0
Total Split (%)	25.0%	25.0%	25.0%	0.0%	0.0%	0.0%	0.0%	64.8%	0.0%	10.2%	75.0%	0.0%
Yellow Time (s)	3.6	3.6	3.6					3.7		3.6		
All-Red Time (s)	2.4	2.4	2.4					2.3		1.6		
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?												
Recall Mode	None	None	None					C-Max		None		
Act Effct Green (s)	26.0	26.0	26.0					73.8		8.2	86.0	
Actuated g/C Ratio	0.22	0.22	0.22					0.62		0.07	0.72	
v/c Ratio	0.95	1.02	0.96					1.03		0.61	0.18	
Control Delay	83.1	98.6	41.3					51.1		37.7	12.1	
Queue Delay	9.4	15.8	0.0					8.9		0.0	0.0	
Total Delay	92.5	114.4	41.3					60.0		37.7	12.1	
LOS	F	F	D					E		D	B	
Approach Delay		73.5						60.0			18.2	

Lane Group	ø1	ø2	ø4
Lane Configurations			
Ideal Flow (vphpl)			
Lane Width (ft)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Total Lost Time (s)			
Leading Detector (ft)			
Trailing Detector (ft)			
Turning Speed (mph)			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Volume (vph)			
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)			
Peak Hour Factor			
Growth Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Parking (#/hr)			
Mid-Block Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phases			
Minimum Initial (s)	11.0	14.0	12.0
Minimum Split (s)	16.2	27.0	30.0
Total Split (s)	46.8	43.2	30.0
Total Split (%)	39%	36%	25%
Yellow Time (s)	3.6	3.7	3.6
All-Red Time (s)	1.6	2.3	2.4
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Recall Mode	Min	C-Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	E						E			B		

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 58.3







Intersection LOS: E

Intersection Capacity Utilization 101.9%





















ICU Level of Service G













Analysis Period (min) 15

Splits and Phases: 71: I-20 EB Off & Boulevard

 #70 ø1 46.8 s		 #70 ø2 43.2 s		 #70 ø4 30 s	
 #71 ø5 12.2 s		 #71 ø6 77.8 s		 #71 ø8 30 s	

Lane Group	ø1	ø2	ø4
Approach LOS			
Intersection Summary			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%		0%		0%		0%		0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	0		1	0		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	1761	0	0	1859	1583	0	1754	0	1770	1863	1583
Flt Permitted	0.056				0.963			0.946		0.820		
Satd. Flow (perm)	104	1761	0	0	1794	1536	0	1679	0	1527	1863	1527
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		38				248		6				492
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1125			1642			628			3251	
Travel Time (s)		25.6			37.3			14.3			73.9	
Volume (vph)	493	287	86	32	719	388	3	6	3	161	40	458
Confl. Peds. (#/hr)			16			7			8			9
Confl. Bikes (#/hr)												
Peak Hour Factor	0.78	0.78	0.78	0.94	0.94	0.94	0.50	0.50	0.50	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	632	478	0	0	799	413	0	24	0	173	43	492
Turn Type	pm+pt			Perm		Perm	Perm			Perm		Perm
Protected Phases	1	6			2			4			8	
Permitted Phases	6			2		2	4			8		8
Detector Phases	1	6		2	2	2	4	4		8	8	8
Minimum Initial (s)	8.0	15.0		15.0	15.0	15.0	19.0	19.0		19.0	19.0	19.0
Minimum Split (s)	13.0	22.4		22.4	22.4	22.4	24.5	24.5		24.5	24.5	24.5
Total Split (s)	54.0	125.5	0.0	71.5	71.5	71.5	24.5	24.5	0.0	24.5	24.5	24.5
Total Split (%)	36.0%	83.7%	0.0%	47.7%	47.7%	47.7%	16.3%	16.3%	0.0%	16.3%	16.3%	16.3%
Yellow Time (s)	3.5	3.7		3.7	3.7	3.7	3.7	3.7		3.7	3.7	3.7
All-Red Time (s)	1.5	1.7		1.7	1.7	1.7	1.8	1.8		1.8	1.8	1.8
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?												
Recall Mode	Min	C-Max		C-Max	C-Max	C-Max	Max	Max		Max	Max	Max
Act Effct Green (s)	121.5	121.5			67.5	67.5		20.5		20.5	20.5	20.5
Actuated g/C Ratio	0.81	0.81			0.45	0.45		0.14		0.14	0.14	0.14
v/c Ratio	0.99	0.33			0.99	0.50		0.10		0.83	0.17	0.78
Control Delay	75.0	4.0			70.0	13.0		47.2		92.9	59.2	14.1
Queue Delay	0.0	0.0			0.0	0.0		0.0		0.0	0.0	0.0
Total Delay	75.0	4.0			70.0	13.0		47.2		92.9	59.2	14.1
LOS	E	A			E	B		D		F	E	B
Approach Delay		44.4			50.6			47.2			36.1	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			D			D			D		

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 45.0







Intersection LOS: D




















Intersection Capacity Utilization 94.7%

ICU Level of Service F













Analysis Period (min) 15

Splits and Phases: 77: Mc Donough Blvd & Boulevard

		
ø1	ø2	ø4
54 s	71.5 s	24.5 s
		
ø6		ø8
125.5 s		24.5 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	0		0	280		280	150		0	0		0
Storage Lanes	0		0	1		2	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50	50	50	50			50	
Trailing Detector (ft)				0	0	0	0	0			0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	0	0	1681	1690	2787	3433	3539	0	0	4912	0
Flt Permitted				0.950	0.955		0.950					
Satd. Flow (perm)	0	0	0	1681	1690	2787	3433	3539	0	0	4912	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						211					80	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		281			1064			442			562	
Travel Time (s)		6.4			24.2			10.0			12.8	
Volume (vph)	0	0	0	216	6	192	720	1017	0	0	993	296
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.91	0.91	0.91	0.97	0.97	0.97	0.80	0.80	0.80
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	0	0	119	125	211	742	1048	0	0	1611	0
Turn Type				Split		Perm	Prot					
Protected Phases				4	4		1	1 2			2	
Permitted Phases						4						
Detector Phases				4	4	4	1	1 2			2	
Minimum Initial (s)				12.0	12.0	12.0	11.0				14.0	
Minimum Split (s)				30.0	30.0	30.0	16.2				27.0	
Total Split (s)	0.0	0.0	0.0	31.0	31.0	31.0	31.8	79.0	0.0	0.0	47.2	0.0
Total Split (%)	0.0%	0.0%	0.0%	28.2%	28.2%	28.2%	28.9%	71.8%	0.0%	0.0%	42.9%	0.0%
Yellow Time (s)				3.6	3.6	3.6	3.6				3.7	
All-Red Time (s)				2.4	2.4	2.4	1.6				2.3	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?												
Recall Mode				None	None	None	Min				C-Max	
Act Effct Green (s)				27.0	27.0	27.0	27.0	75.0			44.0	
Actuated g/C Ratio				0.25	0.25	0.25	0.25	0.68			0.40	
v/c Ratio				0.29	0.30	0.25	0.88	0.43			0.80	
Control Delay				36.0	36.2	5.3	59.8	7.7			31.5	
Queue Delay				0.0	0.0	0.0	0.0	0.5			0.0	
Total Delay				36.0	36.2	5.3	59.8	8.2			31.5	
LOS				D	D	A	E	A			C	
Approach Delay					21.9			29.6			31.5	

Lane Group	ø5	ø6	ø8
Lane Configurations			
Ideal Flow (vphpl)			
Lane Width (ft)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Total Lost Time (s)			
Leading Detector (ft)			
Trailing Detector (ft)			
Turning Speed (mph)			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Volume (vph)			
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)			
Peak Hour Factor			
Growth Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Parking (#/hr)			
Mid-Block Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	5	6	8
Permitted Phases			
Detector Phases			
Minimum Initial (s)	7.0	14.0	12.0
Minimum Split (s)	12.2	27.0	30.0
Total Split (s)	17.2	61.8	31.0
Total Split (%)	16%	56%	28%
Yellow Time (s)	3.6	3.7	3.6
All-Red Time (s)	1.6	2.3	2.4
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Recall Mode	None	C-Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C						C			C		

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 29.5

Intersection LOS: C

Intersection Capacity Utilization 87.8%

ICU Level of Service E

Analysis Period (min) 15




















Splits and Phases: 70: I-20 WB On & Boulevard

#70  ø1 31.8 s		#70  ø2 47.2 s		#70  ø4 31 s	
#71  ø5 17.2 s		#71  ø6 61.8 s		#71  ø8 31 s	













Lane Group	ø5	ø6	ø8
Approach LOS			
Intersection Summary			

Atlanta BeltLine Master Plan Subarea 3
71: I-20 EB Off & Boulevard

BeltLine 2030 PM Peak With Improvements
MG

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	320		320	0		0	0		0	150		0
Storage Lanes	1		1	0		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50					50		50	50	
Trailing Detector (ft)	0	0	0					0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1681	1430	1504	0	0	0	0	3400	0	3433	3539	0
Flt Permitted	0.950	0.994								0.950		
Satd. Flow (perm)	1681	1430	1464	0	0	0	0	3400	0	3433	3539	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)								51				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1070			1567			170			442	
Travel Time (s)		24.3			35.6			3.9			10.0	
Volume (vph)	375	0	605	0	0	0	0	1351	389	348	850	0
Confl. Peds. (#/hr)			11			9			8			10
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.50	0.50	0.50	0.96	0.96	0.96	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	346	360	315	0	0	0	0	1812	0	400	977	0
Turn Type	Split		Perm							Prot		
Protected Phases	8	8						6		5	5	6
Permitted Phases			8									
Detector Phases	8	8	8					6		5	5	6
Minimum Initial (s)	12.0	12.0	12.0					14.0		7.0		
Minimum Split (s)	30.0	30.0	30.0					27.0		12.2		
Total Split (s)	31.0	31.0	31.0	0.0	0.0	0.0	0.0	61.8	0.0	17.2	79.0	0.0
Total Split (%)	28.2%	28.2%	28.2%	0.0%	0.0%	0.0%	0.0%	56.2%	0.0%	15.6%	71.8%	0.0%
Yellow Time (s)	3.6	3.6	3.6					3.7		3.6		
All-Red Time (s)	2.4	2.4	2.4					2.3		1.6		
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?												
Recall Mode	None	None	None					C-Max		None		
Act Effct Green (s)	27.0	27.0	27.0					57.8		13.2	75.0	
Actuated g/C Ratio	0.25	0.25	0.25					0.53		0.12	0.68	
v/c Ratio	0.84	1.03	0.88					1.00		0.97	0.40	
Control Delay	58.5	96.6	65.8					47.3		81.2	7.2	
Queue Delay	0.6	4.6	0.0					2.9		0.0	0.3	
Total Delay	59.1	101.2	65.8					50.2		81.2	7.5	
LOS	E	F	E					D		F	A	
Approach Delay		76.0						50.2			28.9	

Lane Group	ø1	ø2	ø4
Lane Configurations			
Ideal Flow (vphpl)			
Lane Width (ft)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Total Lost Time (s)			
Leading Detector (ft)			
Trailing Detector (ft)			
Turning Speed (mph)			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Volume (vph)			
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)			
Peak Hour Factor			
Growth Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Parking (#/hr)			
Mid-Block Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	1	2	4
Permitted Phases			
Detector Phases			
Minimum Initial (s)	11.0	14.0	12.0
Minimum Split (s)	16.2	27.0	30.0
Total Split (s)	31.8	47.2	31.0
Total Split (%)	29%	43%	28%
Yellow Time (s)	3.6	3.7	3.6
All-Red Time (s)	1.6	2.3	2.4
Lead/Lag	Lead	Lag	
Lead-Lag Optimize?			
Recall Mode	Min	C-Max	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	E						D			C		

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 49.5

Intersection LOS: D

Intersection Capacity Utilization 87.8%





















ICU Level of Service E













Analysis Period (min) 15

Splits and Phases: 71: I-20 EB Off & Boulevard

#70  ø1	#70  ø2	#70  ø4
31.8 s	47.2 s	31 s
#71  ø5	#71  ø6	#71  ø8
17.2 s	61.8 s	31 s

Lane Group	ø1	ø2	ø4
Approach LOS			
Intersection Summary			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%		0%		0%		0%		0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	0		1	0		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	1855	0	0	1859	1583	0	1740	0	1770	1863	1583
Flt Permitted	0.130				0.964			0.958		0.744		
Satd. Flow (perm)	242	1855	0	0	1796	1547	0	1692	0	1386	1863	1542
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				235		6				517
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1125			1642			628			3251	
Travel Time (s)		25.6			37.3			14.3			73.9	
Volume (vph)	445	663	13	17	492	228	3	4	3	457	11	481
Confl. Peds. (#/hr)			16			7			8			9
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.97	0.97	0.97	0.50	0.50	0.50	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	484	735	0	0	525	235	0	20	0	491	12	517
Turn Type	pm+pt			Perm		Perm	Perm			Perm		Perm
Protected Phases	1	6			2			4			8	
Permitted Phases	6			2		2	4			8		8
Detector Phases	1	6		2	2	2	4	4		8	8	8
Minimum Initial (s)	8.0	15.0		15.0	15.0	15.0	19.0	19.0		19.0	19.0	19.0
Minimum Split (s)	13.0	22.4		22.4	22.4	22.4	24.5	24.5		24.5	24.5	24.5
Total Split (s)	24.0	54.7	0.0	30.7	30.7	30.7	35.3	35.3	0.0	35.3	35.3	35.3
Total Split (%)	26.7%	60.8%	0.0%	34.1%	34.1%	34.1%	39.2%	39.2%	0.0%	39.2%	39.2%	39.2%
Yellow Time (s)	3.5	3.7		3.7	3.7	3.7	3.7	3.7		3.7	3.7	3.7
All-Red Time (s)	1.5	1.7		1.7	1.7	1.7	1.8	1.8		1.8	1.8	1.8
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?												
Recall Mode	Min	C-Max		C-Max	C-Max	C-Max	Max	Max		Max	Max	Max
Act Effct Green (s)	50.7	50.7			26.7	26.7		31.3		31.3	31.3	31.3
Actuated g/C Ratio	0.56	0.56			0.30	0.30		0.35		0.35	0.35	0.35
v/c Ratio	1.02	0.70			0.98	0.38		0.03		1.02	0.02	0.59
Control Delay	71.4	18.8			68.8	5.3		15.8		77.1	19.5	5.2
Queue Delay	0.0	0.0			0.0	0.0		0.0		0.0	0.0	0.0
Total Delay	71.4	18.8			68.8	5.3		15.8		77.1	19.5	5.2
LOS	E	B			E	A		B		E	B	A
Approach Delay		39.7			49.2			15.8			40.0	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			D			B			D		

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 42.0



Intersection LOS: D

Intersection Capacity Utilization 104.5%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 77: Mc Donough Blvd & Boulevard

		
ø1	ø2	ø4
24 s	30.7 s	35.3 s
		
ø6		ø8
54.7 s		35.3 s