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Appendix

ASAP Amendments and Zoning Recommendations

The table presented in the Future Land Use and Circulation section presents the recommended amendments to the City’s Future Land Use Map to allow the development of Subarea 5 as envisioned by the community and presented in this Master Plan. If a rezoning is also required to allow the recommended development, a potentially compatible zoning category is included in the table. This section explains the assumptions made to determine this compatibility. Zoning compatibility and recommended zoning changes were only made for parcels that are changes between the City’s 15-Year Plan and the SubArea 5 Land Use Recommendations.

In general, land use recommendation compatibility with current zoning was determined using the Zoning Compatibility Table presented on the following page.

However, in the case where several parcels have been assembled and large developments are proposed, the compatibility table may suggest that the current zoning is incompatible with the proposed land use. Although land use recommendations are based on the land use proposals for those developments, the overall zoning for the assembled property may be more intense than the proposed use on a parcel within the assemblage. In these cases, it was determined that the zoning is compatible with the proposed land use given the context of the overall development proposal. This is especially relevant in the area around the proposed North Avenue Park where multiple redevelopment proposals have been approved and are under construction.

When a parcel is recommended for future park space, zoning is considered to be compatible since there is no specific zoning code for park space.

When the land use category Mixed-Use 1-4 Stories is proposed on a major corridor, the compatible zoning is increased from MRC-1 to MRC-2. This same increase in intensity is also proposed for Mixed-Use 5-9 Stories along major corridors, where the recommended zoning category is increased from MRC-2 to MRC-3.

When multiple zoning categories are shown to be compatible with the proposed land use category, the table field will contain the most intense zoning category from the Zoning Compatibility Table.

Due to the flexible nature of each zoning district and its various special-use permitted uses, some recent developments do not strictly adhere to the suggested zoning codes in the Zoning Compatibility Table, even if the built development meets the SubArea 5 recommended land use category. In these cases, current zoning is determined to be compatible. Sager Lofts is one example of this scenario.

The rationale for the recommended zoning district for each land use category is described below.

Residential 1-4 stories: Zoning Districts R-3 through R-5, RG-1 and RG-2, MR-1 and MR-2, and MR-4A were selected to be compatible. Districts R-1 through R-2B were eliminated because it is believed that the lot size requirements preclude them from being applicable in the SubArea 5 study area given property values and the desire of the City to promote transit supportive density. MR-1 is described as being single-family with a zero lot line on one side. MR-2 is included because even though it is multi-family, the building height is limited to 3 stories. MR-4B is included because it is often used for townhome developments.

Residential 5-9 Stories: Zoning Districts RG-3 through RG-5, MR-3, and MR-4A. The RG-3 district allows for Floor to Area Ratios that on smaller lots could potentially meet the recommended number of stories in the land use category. RG-4 and RG-5 allow for traditionally medium density multi-family intensities. MR-3 and MR-4A both have an 8 story height limit.
Residential 10+ Stories: Zoning Districts RG-6, MR-5A and B, and MR-6. RG-6 allows a 6.4 Floor to Area Ratio, that with the City’s required open space would result in structures greater than 10 stories. MR-5A and B have 15 story maximums, and MR-6 has a 6.4 Floor Area ratio with a 22 story maximum.

Mixed-Use 1-4 Stories: The Mixed Use land use categories were the most difficult to determine compatibility because so many of the City’s zoning districts allow mixed use by right. The zoning districts most closely following the scale of the least intense mixed use category are RL-C, LW, and MRC-1

Mixed-Use 5-9 Stories: MRC-2 is the compatible zoning code for this land use category. When this land use category is located on a major corridor, the recommended zoning category is bumped up to MRC-3

Mixed-Use 10+ Stories: MRC-3 is the compatible zoning code for this land use category. Meant to be used on developments with regional attraction, the areas recommended for this zoning district are located in close proximity to the proposed transit stations. In most cases, properties are already zoned to this category.

Low Density Commercial: NC and C-1 were determined to be the most compatible with this land use category. Although C-2 allows similar uses to C-1, its permitted building scale and intensity of these uses is determined to be too intense for this land use category, especially within the SubArea 5 study area.

Within the SubArea 5 study Area, no recommendations for single-use office, industrial, high density commercial or community facilities are being made. Therefore, the Zoning Compatibility Table does not include recommended zoning categories. In addition, open space does not require a specific zoning code, so no recommendations are being made for Proposed Park Space.
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Green boxes indicate compatible zoning within the land use category. These are generalizations. Height limitations suggested by land use should be adhered to.
ASAP POLICY RECOMMENDATIONS

Four overarching themes will guide the Subarea 5 Master Plans

• Redevelopment should be at a density sufficient to support public transit;
• Design should celebrate the distinct character of the area through the BeltLine Trail and public art opportunities;
• The layout of streets should promote cross-BeltLine connectivity; and
• Redevelopment should respect the existing historic context and promote the preservation of historic resources, wherever possible.

The Atlanta Strategic Action Plan (ASAP) supports these existing themes. The following analysis identifies areas of overlap between the draft ASAP, which is still being developed, and the Subarea 5 plan and identifies additional ASAP policies to promote specific elements of the Subarea 5 vision. The policies in italics are those that would be supported with the implementation of the Master Plan.

Housing

The land use plan envisioned for Subarea 5 supports ASAP housing policies, such as preserving existing neighborhoods, while providing mixed-income housing development. The City’s fair share housing policy recommends that all parts of the City incorporate a fair share of affordable and special needs housing. The Subarea 5 plan accommodates the need for mixed-income housing development by specifying a wide range of housing types at a variety of densities. The ASAP housing policies also encourage the development of affordable housing in or near the City’s major employment and activity centers, including along the BeltLine.

Below is a list of General Housing Policies from the ASAP, with policies that are particularly relevant to the Subarea 5 Land Use and Circulation Plan underlined:

General Housing Policies:
1. Promote opportunities for mixed-income housing developments throughout the City.
2. Maintain, rehabilitate and replace the existing housing stock where appropriate.
3. Increase opportunities for home ownership for low and moderate-income residents.
4. Promote housing affordability in order to minimize the number of households that must pay more than 30 percent of their income in rent or mortgage payments.
5. Promote the creation of new housing in appropriate locations.
6. Increase public, private funds to help construct, acquire and rehabilitate housing.
7. Promote full implementation of all fair housing laws.
8. Promote a wide range of housing types to meet different housing needs and income levels within the BeltLine Corridors and along major employment centers: Downtown, Midtown and Buckhead.

Community Facilities

The ASAP Community Facilities policies for parks and recreation are particularly relevant to Subarea 5, given the proposal for a major new park. The policies reflect the City’s desire to expand its park lands, improve park accessibility, and strengthen protection for environmentally sensitive lands. The vision for the planned North Avenue Park is fully consistent with these goals.

The ASAP could further enhance policies by more fully addressing the appropriate interface between development and adjacent park land. Development along park frontage should encourage visibility and surveillance of the park, as well as provide convenient pedestrian access to and from the adjacent green space.

Below is a list of Community Facilities policies regarding parks from the ASAP, with policies that are particularly relevant to the Subarea 5 Land Use and Circulation Plan underlined:
Policies for Parks, Open Space, and Greenways:

1. Meet or surpass a goal of 10 acres of core parkland per 1,000 persons by the year 2020.
2. Unify the City by developing multi-use greenway trails.
3. Preserve, enhance, and expand the undeveloped flood plain as public open space.
4. Permanently protect 20% of the City’s land area with an emphasis on sensitive lands such as flood plains, wet lands, and public open spaces.
5. Create a special events venue.
6. Acquire neighborhood park sites, meeting the City’s adopted park design standards. Acquisitions will focus on sections of the City that are currently underserved.
7. Provide core park sites within a .5 mile travel distance for every child.
8. Provide incentives for the development of community open spaces within development projects.
9. Evaluate existing park sites against the park planning guidelines.
10. Protect Atlanta’s tree canopy through appropriate policies and procedures.
11. Establish measurements and reporting for public open space within projects receiving city funding or incentives.

Policies for Maintenance and Management of Parks:

1. Maximize efficiency of staff and management by providing needed job training.
2. Ensure the efficient maintenance of existing park land and facilities by providing an adequate dedicated revenue stream.
3. Increase staff and equipment as new park land and facilities are acquired to ensure efficient maintenance.
4. Maximize efficient utility of park components by adopting uniform standards for play equipment and park furniture.
5. Utilize Park Planning Guidelines in the design of all parks and public open spaces.
6. Clearly post park rules and regulations in all parks.
7. Produce park management plans that include staffing, maintenance schedules, equipment, training, quality control, and annual cost.
8. Locate new block, neighborhood, and community parks only in areas that are highly visible from surrounding residential streets.
9. Include park rules and regulations as part of the City’s law enforcement code, so that police may enforce observance of these regulations.
10. Utilize greenway trails to increase activity and visibility in parks and neighborhoods.
11. As part of police training, educate all police on park regulations, as specified in the City Code, so that they will know to enforce such regulations.
12. Include cleanup costs in the fees charged for special events.
13. Close parks with security problems after dark. When parks are open at night, provide adequate lighting and park personnel. House caretakers on site where appropriate.

Policies for Funding Park Acquisition:

1. Finance parkland acquisition by acquiring large tracts of open space and sell appropriate residential home sites to overlook a centralized park. Use the resulting revenues to pay for the open space acquisition.
2. Utilize conservation easements for greenway acquisition.
3. Use special taxes and districts such as community improvement districts (CIDs), special tax districts (STDs), and tax allocation districts (TADs) to increase the quantity and improve the maintenance of parks and public open space.
4. Utilize the existing Planned Development (PD) zoning regulations as a means to maximize public open space potential.
5. Pursue city objectives to acquire and manage land adjacent to streams for both water quality and outdoor recreation.
**Cultural Resources**

The ASAP document extensively addresses the importance of preserving the City's cultural and historic resources. The existing resources policy is to preserve buildings associated with the cultural, social, economic, and architectural history of the City. The plan emphasizes the City's desire to see existing transportation corridors transformed into greenways that reflect the industrial and rail heritage of the City. Clearly, this goal aligns fully with the vision of the BeltLine to protect and interpret these historic resources.

Below is a list of Cultural Resources policies from the ASAP, with policies that are particularly relevant to the Subarea 5 Land Use and Circulation Plan underlined:

Policies from the City’s Historic Preservation Ordinance:

1. Effect and accomplish the protection, enhancement and perpetuation of such buildings, sites and districts, which represent or reflect special elements of the City’s cultural, social, economic and architectural history.
2. Safeguard the City’s historic aesthetic and cultural heritage, as embodied and reflected in such buildings, sites and districts.
3. Stabilize and improve property values of such buildings, sites and districts.
4. Foster civic pride in the beauty and noble accomplishments of the past.
5. Protect and enhance the City’s attractions to tourists and visitors and thereby support and stimulate business and industry.
6. Strengthen the economy of the City.
7. Promote the use of such buildings, sites and districts for the education, pleasure and general welfare of the people of the City.
8. Promote attention to sound design principles in areas of new development and redevelopment.
9. Raise the level of community understanding and expectation for quality in the built environment
10. Implement the City's comprehensive development plan.

Policies from the Atlanta Parks, Open Space and Greenways Plan:

1. Protect archeological sites, such as Civil War trenches, from artifact hunters.
2. Promote the recognition of the Civil War battlefield on Copenhill, in Freedom Park, as a national battlefield site.
3. Promote the portion of Freedom Park that lays west of Moreland Avenue as a national park that links the Carter Presidential Center with the Copenhill Civil War battlefield and the Martin Luther King Jr. National Historic Site.
4. Support the expansion and improvement of the M. L. King Jr. National Historic Site.
5. Promote the redevelopment of the linear parks in the Druid Hills Neighborhood consistent with the Olmsted Park Master Plan.
6. Develop historic rail corridors, such as the CSX line from Washington Park to I-75/85, as historic greenway trails. Remnants of abandoned rail corridors should be preserved and their former transportation function memorialized by developing them into multi-use trails.
7. Encourage festivals that use significant sites to highlight the history of the neighborhood.

City Preservation Policies for Historic Resources:

1. Utilize economic incentives to encourage historic preservation.
2. Utilize the Zoning Code to support preservation policies.
3. Incorporate historic resource opportunities into the open space framework plan.
4. Develop mechanisms for supporting historic resource-sensitive development along the BeltLine corridor.
5. Promote historic sites and corridors in order to enhance their economic benefits.
6. Generate additional support for historic resources through educational programs.
7. Promote the development of Master Plans for all historic parks that will protect the resources and guide the enhancement of their appearance and recreational potential.
8. Adopt suitable legislation to prevent the further destruction of any parks containing Civil War trenches or archaeological sites.

9. Develop historic transportation corridors, abandoned railroad and trolley lines similar to the BeltLine for use as heritage corridor greenways and promote use of these corridors during cultural festivals.

10. Change the current historic preservation regulations regarding non-contributing buildings in Landmark Districts to eliminate the need for the review of their demolition.

11. Regularly update the City's official inventory of historic resources.

12. Improve the nomination and regulation processes provided for by the Historic Preservation Ordinance.

13. Expand working relations with other groups and agencies responsible for Atlanta's historic resources, including the Atlanta Preservation Center, the Georgia Trust for Historic Preservation, the Atlanta History Center, the State of Georgia Division of Historic Preservation, the National Park Service, and citizen-based advocacy groups.

**Transportation**

ASAP Transportation policies include a wide range of strategies necessary to support the BeltLine, such as a multimodal approach to transportation; linking transportation investments to land use, employment, and recreation; increasing and improving bicycle facilities; increasing and improving pedestrian facilities and pedestrian safety; promoting pedestrian connections to MARTA; promoting transit-oriented developments and mixed use around transit stations; promoting on-street parking; encouraging greater street connectivity; promoting shared parking; activating the first floor of parking decks; and limiting the amount of surface parking provided in transit areas.

Although the ASAP includes several policies regarding transit-oriented development, the document could further reinforce the link between adequate residential densities in proximity to transit stations and strong ridership.

Below is a partial list of Transportation policies regarding overall goals, pedestrian facilities, bicycle facilities, transit facilities, parking, and streets from the ASAP, with policies that are particularly relevant to the Subarea 5 Land Use and Circulation Plan underlined:

**Overarching principles that guide City transportation planning:**

1. Enhance accessibility and mobility within City
2. Support regional access and connectivity
3. Create an affordable and walkable city
4. Link development to transportation infrastructure
5. Exceed standards for air, water, and environmental quality
6. Maintain and optimize existing transportation infrastructure
7. Ensure a balanced multi-modal transportation approach
8. Link transportation strategies to jobs, land use, recreational, and environmental systems
9. Identify funding, and other resources, to realize priorities

**Policies for Bicycle Facilities:**

1. Increase bicycle ridership as a viable mode of transportation by providing a network of on-street bikeways that is accessible to all neighborhoods and serves residents, commuters and visitors.
2. Include on-street bicycle facilities with resurfacing, reconstruction, and capacity-adding roadway projects on all arterials and collectors.
4. Provide efficient and effective maintenance
of all on-street bike facilities, thereby providing optimal commuting and recreational opportunities.

5. Promote the provision of pedestrian and bicycle transportation facilities in redevelopments and new mixed use, commercial and residential developments.

6. Develop a system of multi-use recreational trails within the open space and greenways system, for use by all ages.

Policies for Pedestrian Facilities:

1. Require sidewalks for all new development and sidewalk repair for new construction.

2. Incorporate sidewalks into design plans for all transportation improvements when feasible and provide pedestrian crossing signals.

3. Reduce vehicular travel speeds city-wide and re-time traffic signals to slow traffic in support of pedestrian crossing needs and safety.

4. Rebuild intersections in high pedestrian traffic areas to reduce crossing distances and improve visual quality; install ADA accessible refuge islands where feasible.

5. Discourage pedestrian bridges and tunnels, except over limited access/grade separated highways, railway corridors and other public rights-of-way where pedestrians are prohibited, to emphasize pedestrian safety and encourage pedestrian activity at the street level.

6. Minimize the number of curb cuts and encourage the use of private alleys or drives to access parking and loading areas.

7. Encourage curb cut consolidation to minimize pedestrian and automobile conflicts.

Policies for Surface Streets:

1. Support the efficient movement of traffic with sensitivity to all modes of transportation and neighborhood integrity.

2. Support pedestrian activity as a preferred mode of transportation in densely developed areas with accommodation for the handicapped.

3. Support on-street metered parking where feasible.

4. Use traffic signalization improvements and intersection improvements to slow traffic and improve the safety and quality of the pedestrian environment.

5. Assure compatibility of freight operations with existing neighborhoods and streets.

6. Promote the paving of all city streets to control dust pollution and reduce city maintenance costs.

7. Promote and plan for greater street connectivity in major travel corridors.

8. Promote street repaving and expand street cleaning program to improve traffic operations and safety, and enhance the visual environment.

Policies for Mass Transit:

1. Encourage and support further expansion of MARTA rail and bus systems.

2. Support the accessibility of transit to city residents at a reasonable cost.

3. Develop a grid of frequent surface transit including streetcars, arterial BRT, and enhanced bus services.

4. Increase the exposure and accessibility of MARTA rail stations through improved signage, additional entrances, and connecting non-motorized facilities.

5. Establish mixed-use zoning around all transit stations addressing minimum development density, maximum parking, bicycle and pedestrian facilities requirements, and urban design guidelines.

6. Promote transit investments oriented to development of walkable communities around station nodes over transit in highway corridors that require a vehicle to access.

Policies for Parking Facilities:

1. Encourage additional on-street parking throughout Downtown, Midtown and other centers as appropriate.

2. Encourage the redevelopment of surface parking lots into higher-density, mixed-use developments.

3. Encourage mixed-use developments with
shared parking amongst the different uses.

4. Encourage the construction of parking decks with retail/commercial, office, or residential uses at the ground level.

5. Encourage participation in Transportation Management Associations to encourage alternative modes of travel, promote shared parking, and reduce traffic congestion and the demand for parking.

6. Limit off-street parking ratios for certain uses within transit station areas.

7. Consider requiring the cost of parking to be unbundled from rent and charged separately in activity centers.

8. Reduce parking requirements for developments providing car sharing.

**Urban Design**

The Urban Design policies of the ASAP provide extensive guidance on the BeltLine and associated developments interaction with the design goals of the City. The Urban Design policies seek to reinforce the distinct identity of the City, to create or enhance a network of public gathering places, enhance the aesthetics and appearance of the City and its neighborhoods, and promote public art and cultural facilities into the public realm.

Below is the list of overall Urban Design goals, with goals that are particularly relevant to the Subarea 5 Land Use and Circulation Plan underlined:

1. Preservation of neighborhoods.
2. Preservation of cultural, historic and natural resources.
3. Strengthening of Downtown Atlanta as a regional center.
4. Expansion of Atlanta’s role as an international city.
5. Encouraging pedestrian, bicycle, and mass transportation.
6. Providing opportunities for human association.
7. Enhancing the visual quality of Atlanta.
8. Implementing the BeltLine
9. Preserving a continuous corridor along the BeltLine route of sufficient dimension for the implementation of transit, multi-use trails and greenspace;
10. Preserving opportunities for connecting trails that reach out beyond the BeltLine to create a broad network of trails throughout the City;
11. Encouraging a grid of smaller blocks and connected streets to improve access to the BeltLine, reduce congestion, and further the urban character of the area;
12. Preserving the historic physical character of the industrial districts that follow 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;
13. Promoting opportunities for parks, open space, and cultural and institutional buildings in the BeltLine district;
14. Encouraging opportunities for public art and promote the concept of a cultural ring to unify the city’s cultural institutions.
15. Ensuring that new construction is compatible with the scale and character of adjacent single family neighborhoods;
16. Creating new mixed use and commercial nodes at BeltLine station areas that are pedestrian and transit-oriented;
17. Maximizing air and water quality, including that which supports the planting of trees, greenspace and watershed protection, and bicycle parking.

**Land Use**

The ASAP Land Use section includes several layers of policies, including the ARC’s Regional Development Plan, ten major land use policies, and neighborhood planning unit or NPU policies.

**ARC’s Regional Development Plan Land Use Policies**

The ASAP includes a number of land use policies adopted from the Atlanta Regional Commission’s Regional Development Plan that are relevant to the BeltLine and Subarea 5, including: guiding development towards areas with existing infrastructure; promoting transit-oriented
development, mixed use, and infill development; promoting a variety of housing types and choices; integrating greenspace and parks into new developments; and connecting and expanding greenspaces throughout the region.

Citywide Land Use Policies
The City has ten major land use policies that build upon the ARC’s Regional Development Plan. Some of these policies reinforce the ARC’s Regional Development Plan by emphasizing issues such as preserving established neighborhoods and encouraging development in areas with adequate infrastructure. In addition, City policies promote nodal development patterns and discourage strip development patterns. The ASAP explicitly calls for transit-oriented development patterns and increased residential densities near transit stations and along major arterials. These policies support the overall theme of transit-supportive residential densities near BeltLine transit stations.

Below is a list of major Land Use goals, with goals that are particularly relevant to the Subarea 5 Land Use and Circulation Plan underlined:

1. Promote Neighborhood Conservation
2. Encourage Nodal Development
3. Discourage Strip Commercial Development
4. Promote Residential Density Near Available Infrastructure
5. Promote Appropriate for Urban Areas and Minimize Urban Sprawl
6. Develop Transit Station Areas
7. Retain Industrial Land Uses
8. Enhance the Pedestrian System
9. Promote Interjurisdictional Land Use Compatibility
10. Plan Land Use Transition Areas

Below is the list of ASAP Land Use policies regarding residential density:

1. Encourage the development of very high-density uses in nodal development areas around certain transit stations, as is specified in the Urban Framework Plan.
2. Encourage the development of high-density housing along major arterial routes that have transit service available to MARTA stations. Assure that adjacent neighborhoods are not adversely impacted and that development guidelines for the area are followed.

3. Encourage the development of low- and medium-density multifamily residential uses on vacant or under-utilized tracts wherever they are compatible with surrounding uses

NPU Policies
NPU policies usually suggest appropriate actions for specifically delineated areas within each NPU, including appropriate land uses, scale, and character of development. NPU policies relevant for BeltLine Subarea 5 mostly call for the preservation of single family neighborhoods and mixed-use redevelopment in areas adjacent to the BeltLine. Overall, these NPU policies are supportive of the proposed plan for Subarea 5.

Below are some of the NPU policies for specific areas within Subarea 5:

NPU-M:
• M-9 Encourage the reuse or redevelopment of vacant, under-utilized, obsolescent, and/or structurally deteriorated industrial and commercial properties that are associated with the historic railroad corridors bordering the Butler Street/Auburn Avenue and Old Fourth Ward neighborhoods. Promote mixed-use developments that would increase compatibility with the surrounding residential land uses while generating modern industries, businesses, and employment opportunities for center-city residents.

NPU-N:
• N-3 Prohibit the expansion of industrial and commercial uses along DeKalb Avenue through Inman Park and prohibit the expansion of commercial uses at Hurt & Edgewood, at Austin & Elizabeth, at N. Highland & Bernina, at Highland & Colquitt and at Waddell & Edgewood into the existing surrounding residually zoned areas.
- N-4 Encourage non-invasive, community sensitive mixed use, development and/or re-development of formerly industrial and commercial property along the DeKalb Avenue corridor through Inman Park, enhancing and encouraging compatibility with the “small-town/downtown” character of the neighborhood.
- N-5 Promote the re-zoning of commercial properties along DeKalb Avenue (from Clifton Road east to Ridgecrest) to Neighborhood Commercial in order to encourage destination-oriented and pedestrian-friendly activity through mixed-use development.
- N-11 Discourage the development of new surface parking lots within the Poncey-Highland neighborhood district.
- N-12 Encourage the use of existing neighborhood alleys for parking access to private homes, trash pickup and utility lines. Where and when appropriate, encourage and support such expanded use.

Critique of BeltLine Overlay District

The planning team reviewed the existing BeltLine Overlay District Regulations to assess their suitability for the unique conditions and resources of Subarea 5. The overall finding of this review is that the overlay regulations are appropriate for Subarea 5 and will contribute significantly to an improved public realm as the area redevelops.

One general area of concern, however, is that many of the provisions in the Overlay District Regulations assume that development adjacent to the BeltLine will be at grade. Subarea 5 has significant areas with large grade differences immediately adjacent to the corridor, a challenging design and planning condition that requires more thorough treatment. The regulations should more explicitly address how the public realm engages development when unavoidable vertical separation occurs. The remaining analysis identifies this particular challenge along with other specific overlay provisions that may be enhanced.

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

Provisions from these sections of the BeltLine Overlay District Regulations are all standard elements that are applicable to the entire BeltLine and are appropriate and suitable for Subarea 5.

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

These sections outline the requirements for a Special Administrative Permit (SAP) within the BeltLine Overlay District and provide for exemptions and administrative variations from the permitting process. Specifically, existing lots of record that are zoned R-1 through R-5 are not required to obtain a Special Area Permit.

It is recommended that the City of Atlanta consider extending this provision to other small-scale buildings, as well as single-family residential. In order to encourage redevelopment at a variety of scales and sizes, and to promote the adaptive reuse of historic structures, small projects making use of existing buildings should face fewer substantial constraints related to new open space, landscaping, and public rights-of-way. Subarea 5 contains a variety of underutilized smaller structures, including many former residential and industrial structures that have been adapted to new uses. The area also features many small and irregularly shaped lots that cannot fully conform to the Overlay District provisions without costly reconfiguration. Broadening the exemption process beyond residential development to include other small scale development would facilitate desired redevelopment activity in the BeltLine District, while maximizing the preservation of existing structures in the district.

Sec. 16-36.009. Transitional uses and yards.

Transition uses and yards are a critical provision for the Overlay District as they support suitable land use transitions between newer, more intensive development and existing single family areas.
In some cases, however, the development permitted in the Overlay District is of no higher density or intensity that the development permitted in adjacent areas outside the Overlay District. In such cases, it should be possible to waive such transitional yard provisions and allow existing zoning setbacks and side yards to serve in their stead.

Sec. 16-36.010. Open space requirements and incentives.
The various incentives and requirements for open space are especially vital to Subarea 5. In particular, the area requires new streets new streets to re-establish access across the divisions created by the BeltLine corridor. The Street Framework Plan envisions a series of new connecting roadways criss-crossing the corridor, and much of the right-of-way for these roadways currently resides upon private lands. The open space requirements and incentives in the Overlay District will provide private land owners with the necessary incentive to dedicate the land for new streets that will reconnect the various neighborhoods of Subarea 5. Supplemental zones will also play a key role in transitioning between private properties and public space and in providing adequate surveillance for the BeltLine corridor and the proposed North Avenue Park. Plazas, walkways, terraces, and other semi-private transitional spaces will be essential in weaving together the network of public and private elements in this Subarea of the BeltLine.

Sec. 16-36.011. Site limitations.
Likewise, the site limitations section also addresses the interface between the public and private realms along the BeltLine. Subarea 5 has a critical need for “eyes on the park” as the area is currently in transition with a mix of new development and still abandoned and underutilized parcels.

While all of the elements in this section are positive, additional provision and incentives to encourage balconies, doors, and windows facing along planned parks could further enhance security and visibility. Currently, the overlay only requires a visible entrance facing planned parks. Buildings along park frontages should be required to engage the resulting public realm as fully as those buildings facing public streets.

One additional issue of concern is whether a public street that is required by the BeltLine Street Framework Plan must also have an adjacent 20-foot landscaped buffer. Land dedication requirements for both a public street and a 20-foot landscaped buffer could be onerous for smaller-scale properties. The overlay regulations should clarify the relationship between these requirements for parcels adjacent to the BeltLine right-of-way.

Sec. 16-36.012. Sidewalks.
Sidewalks are a key element of the public right-of-way throughout the BeltLine area. Regular street trees, street lights, and related street furniture are essential in realizing a quality, uniform public realm as envisioned for Subarea 5.

Sec. 16-36.013. Supplemental zone.
The BeltLine Overlay District provisions for supplemental zones are well developed and largely appropriate for the Subarea 5 context. These provisions address the need for continuous pedestrian connections through the supplemental zones and connecting to public rights-of-way. These links are essential for weaving the fabric of private developments with the public realm in the BeltLine area, including the corridor, public streets, and public parks. Regulations limiting the use of fences and walls also promote greater visibility and surveillance between private and public spaces.

One area where the provisions covering supplemental zones might be enhanced is with regard to areas with substantial changes in grade. Subarea 5 contains many substantial changes in grade with the BeltLine right-of-way often much higher and/or lower than adjacent parcels. The BeltLine Overlay District regulations should give further guidance to desirable visual or pedestrian connections when the supplemental zone is significantly below or above the BeltLine. It is critical for example to maintain permeability between the BeltLine and its surroundings, creating a visual link in
the absence of direct physical adjacency. Clearly demarcated and regularly spaced gateways at major street intersections can also create a more seamless user experience when the neighborhoods are vertically separated from the actual corridor.

Sec. 16-36.014. Relationship of building to street.
The various provisions of the BeltLine Overlay District governing the relationship of the building to the street should be effective for the conditions in Subarea 5. It is important for buildings throughout Subarea 5 to face public streets and the BeltLine to activate these public spaces. Encouraging developments to have adequate access to the BeltLine right-of-way is particularly valuable in Subarea 5 because often the BeltLine will provide the most direct access between residential and commercial areas. Subarea 5 is home to several major concentrations of commercial development, and providing adequate access to the BeltLine right-of-way will encourage the use of transit, pedestrian, and bicycle trips to these nearby destinations.

Other provisions regarding the relationship of buildings to the street are also valuable and pertinent to the Subarea. Regulations ensure that fencing plays a proper role in property demarcation, but does not establish a “bunker mentality” of isolated, inaccessible, and visually impermeable pockets. Fenestration requirements also promote a more secure and animated public realm by putting eyes on the street.

Sec. 16.36.016. Loading areas, loading dock entrances and building mechanical and accessory features.
These provisions are appropriate for the Subarea 5 district and will enhance the quality of urban design.

Sec. 16-36.017. Driveway curb cuts, driveways and parking structures.
Provisions relating to driveways and parking structures contribute to an improved level of urban design in Subarea 5. Restrictions on curb cuts and driveways will serve to protect the pedestrian-oriented atmosphere and appropriately balance the needs of vehicular and pedestrian access for parcels within the Subarea. Parking deck architectural delineation is required, minimizing the risk of blank walls that create large “dead” zones.

Sec. 16-36.018. Lighting, security, and maintenance requirements.
The plan for Subarea 5 has a variety of land uses in close proximity, requiring sensitivity to the potential impacts of compact mixed use development. Provisions in this section to promote cut-off fixtures that minimize the spill of lighting onto single family areas are necessary to preserve the quality of life in single family areas in or near the BeltLine Overlay Districts.

Sec. 16-36.019. Minimum landscaping requirements for surface parking lots.
While landscaping requirements can amenitize what would otherwise be large and unattractive parking areas, the historical industrial developments typical in the BeltLine area tend to have minimal and simple landscaping. For Subarea 5’s many small and irregularly shaped parcels less flexible landscaping requirements may act as an obstacle that discourages redevelopment and reuse.

Sec. 16-36.020. Off-street parking and loading requirements.
In order to encourage alternative modes of transportation, plans should minimize surplus off-street parking throughout Subarea 5. The BeltLine Overlay District includes reasonable provisions for off-street parking and loading, including parking maximums to effectively cap the off-street supply.

The regulations, however, could revisit the provision that requires all parking lots to be an accessory use. For-hire parking lots can separate the demand for parking from a specific site, freeing up small and awkward sites for development. Small, well-located, and/or well landscaped parking lots can provide a valuable amenity to emerging neighborhood commercial nodes. Rather than requiring all parking lots to
be accessory uses, the Overlay could limit the size, location, and visibility for for-hire parking lots.

Sec. 16-36.021. Off-street bicycle parking.
In order to promote bicycle travel along the BeltLine, adequate and conveniently sited bicycle parking is a must. While the supplemental zone can accommodate some bicycle parking, it may also be appropriate for larger developments to permit bicycle parking within an accessory parking lot and or deck.

Sec. 16-36.022. Pedestrian bridges and tunnels.
This provision of the BeltLine Overlay District encourages pedestrian and vehicular crossings of the BeltLine to occur at grade where possible. Though certain topographic challenges in Subarea 5 may require a variance from this requirement, maintaining at-grade crossings supports activation of a continuous public realm and encourages public safety through enhanced visibility.
Public Involvement Summary

Process Description

Community input played an integral role in the development of the Subarea 5 and North Avenue Park Master Plans. The Freedom Parkway Study Area and North Avenue Park Master Plans were developed with input from the Northeast BeltLine Study Group, as well as a Planning Committee established exclusively to review and guide Subarea 5 planning activities. Additionally, information regarding the planning effort was periodically presented at citywide forums such as the BeltLine Quarterly Briefing, an Open House event devoted to the BeltLine Parks, and the BeltLine website.

The BeltLine is divided into five Study Groups for public involvement activities: Northeast, Northside, Southeast, Southwest and Westside. These groups provide input on the planning and implementation of the project within a specific geographic area. Study Group boundaries are based on recognized neighborhood boundaries and major physical dividers such as interstate highways, and include neighborhoods and business districts. The BeltLine Study Groups are open to all members of the community. To ensure Neighborhood Planning Unit (NPU) participation in the activities of the BeltLine Study Groups, each NPU was asked to designate a liaison and an alternate liaison to the BeltLine Study Group(s) in its area.

To augment the Study Groups, a Planning Committee was created. Planning Committee representatives provided more detailed involvement and continual input throughout the subarea planning process. Membership included participants from the BeltLine Study Groups, but was augmented to draw from multiple stakeholder groups required to inform the planning and design process fully. The Subarea 5 Planning Committee included neighborhood residents, arts community representatives, development community interests and other key stakeholders.

Consultants supported the overall Citizen Participation Framework outlined in the 5-year Work Plan and approved by Atlanta City Council on July 2006. Specifically, consultant team members, under the direction of project managers from Atlanta BeltLine Inc., attended both Study Group and Planning Committee meetings and led discussions of land use and circulation, mobility and park master planning. There were five Planning Committee meetings and four Study Group meetings held over the course of the Freedom Parkway Subarea and North Avenue Park Master Planning Process. The agendas and meeting notes for each of these meetings are included within the Appendix. The following list includes the meeting date and topic of all Northeast Study Group and Planning Committee meetings held during the planning process.

a.) July 18, 2007: Planning Committee Meeting, Kickoff Meeting
b.) August 22, 2007: Study Group Meeting, North Avenue Park Existing Conditions
c.) September 10, 2007: Planning Committee Meeting, Development of Goals and Objectives
d.) September 26, 2007: Planning Committee Meeting, Study Area Existing Conditions, Refine Goals and Objectives
e.) October 23, 2007: Planning Committee Meeting, Study Area Master Plan Concepts
f.) October 29, 2007: Study Group, Study Area Master Plan Draft
g.) December 20, 2007: Study Group Meeting, North Avenue Park Master Plan Final Draft
h.) April 21, 2008: Planning Committee Meeting, Study Area Master Plan Final Draft
i.) May 8, 2008: Study Group Meeting, Study Area Master Plan Final Draft

Major Themes and Issues

The planning process for the Freedom Parkway Subarea Master Plan and the North Avenue Park Master Plan progressed with few major issues. The community has been actively involved throughout the process and agreeable to most of the recommendations produced by staff and the consultant team. This success may be attributed
to the strong leadership provided by the Planning Committee members.

Input into the design of the North Avenue Park was instrumental in shaping the park design, programming, and, especially, the stormwater feature. Community input regarding the stormwater feature advocated for soft landscaped edges to the pond, with as few railings as possible, a walkway all the way around the pond, no streets bisecting the pond, and most participants preferred a single, larger pond over two, smaller ponds. All of those comments were incorporated into the design.

In terms of programming, the following features were recommended for inclusion in the North Avenue Park, which ended up being included in the master plan:

- Dog park
- Night time activities such as concerts (the park includes an amphitheater)
- Festival space
- ADA accessible
- Walkway around the water feature
- Picnic area
- Amphitheater
- Skate park
- Play area
- Interactive water feature
- Large passive areas
- A walking circuit around the entire park
- Strong pedestrian connections to the BeltLine
- Park will have clearly defined edges
- Incorporates public art

While recommended, tennis courts and a recreation center were not included in the master plan. The City’s greenspace plan identified tennis courts as the only facility of which the City has an adequate supply. As well, there are several tennis court complexes in the area including Central Park, Piedmont Park, and Candler Park. A recreation center/community meeting space was not included because the City has a policy of no new recreation or community centers. Additionally, the Old Fourth Ward neighborhood already has a recently renovated recreation center with community meeting space.

Recognizing that the area around the park is developing as condo and rental attached units, several aspects of the park program were recommended specifically help meet their needs directly. This included:

- Passive open lawn areas
- Dog parks
- Community gardens
- Playground(s)

The recommended future land use plan, open space plan, public art strategy, and historic resources inventory received the consensus support of the Planning Committee and broad public support. Their development was the result of extensive comment and “tweaking,” but without any significant issues or challenges.

The Planning Committee and the Study Group discussed many of the conceptual and proposed street connections. Most participants supported closing all streets that would run through the North Avenue Park, which the plan supports, including Dallas Street, Morgan St, Rankin St, and Angier St. Several streets brought up at the conceptual planning stage were removed from consideration, per public comment, including:

- A new north-south street within the BeltLine right-of-way between Elizabeth St and Ponce de Leon
- A street along Freedom Parkway between Highland and East Ave
- An extension of Sampson St one block to the North between East Ave and Willoughby Way

One street that received mixed public input is a new north-south street through the Kroger Redevelopment extending Ponce Place to North Ave. The Planning Committee, backed enthusiastically by the Poncey-Highlands Neighborhood Association, supported the connection and it has remained in the plan.

**Ongoing Engagement Activities**

Several proposed projects should include ongoing
engagement activities as each progress from the planning stage to implementation. These projects include the following:

a. North Avenue Park  
b. Improvements and “Road Diet” on North Avenue  
c. BeltLine Transit Planning  
d. New north-south street through the Kroger property  
e. DeKalb Avenue Transportation and Streetscape Enhancements

Each of these proposed projects has generated considerable interest from Study Group participants and/or Planning Committee members. All projects were recommended for inclusion in the final plan by the Study Group and Planning Committee members, but will require additional public input as plans are mor
Support Documents

Supporting documents include meeting agendas, meeting summaries, key handout material and other public engagement materials. Each of these are grouped together by meeting date.

*July 18, 2007*

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**Agenda**

**BeltLine Master Plan**

Freedom Parkway Study Area Steering Committee  
July 18, 2007; 6:00 – 7:30 pm  
Morningside Recreation Center

1. Welcome – Nate Conable
3. BeltLine Redevelopment Plan Review – Nate Conable
4. Steering Committee Issues Discussion/Identification – Adelee LeGrand
Sub-Area Five Master Plan Steering Committee Kickoff Meeting
July 18, 2007
Morningside Recreation Center

Proceedings
- Meeting started at 6:05 p.m.

Introduction of Master Planning Efforts
- N. Conable introduced the steering committee to the current master planning efforts, which include transportation, land use and park plans.
- The steering committee accepted the meeting dates presented by ABI, and the group requested that ABI try to avoid the third Wednesday of each month.
- The development of a storm water retention system in the proposed Ponce Park was presented, and the committee agreed it should be an amenity as well as functional.
- J. Lewis established that community input would heavily influence the current master planning effort.
- J. Lewis familiarized the group with the current city planning efforts (ASAP, CTP) as they pertained to the Beltline. Lewis stated that the development of the ASAP would be updated to include Beltline Supportive Land Uses. It was also acknowledged that the study would prioritize cycling and pedestrian uses, as well as look at the need for new streets.

Proposed Future Meeting Spaces
- City Hall East
- Inman Park Trolley Barn
- Auburn Ave. Library
- Inman Middle School
- Druid Hills Presbyterian Church

EDA W Presentation

What do you think is the value of the Beltline? Why are you here?
1. To speak up about how much value can be added using public art to aid in the creation of public spaces.
2. To make sure that the development around the area is context sensitive to surrounding areas.
3. To ensure that the beltline development does not act as any type of barrier; it should be fairly easy to traverse. We are supposedly working to improve connectivity throughout the area.
4. To find out what measures would be taken to mitigate traffic issues due to the population coming before the public transportation, specifically mentioned traffic calming and connectivity.
5. To look into the opportunity to enhance Freedom Park using connectivity to the proposed new North Ave. Park.
6. Looking at previous studies should be an important step in developing the master plan, so we would like to see integration between the Ponce and Moreland Task Forces.

7. The Storm water issue is the result of existing infrastructure problems, which need to be cured. It is very important to make sure that the storm water feature is not just an “engineering solution” but an amenity as well. One idea called for public art to be included from the start, not added on at the end.

8. -NPU M feels overwhelmingly underserved by the city as it pertains to planning issues. The present party proceeded to raise concerns about being underserved in regards to integration, and housing affordability.

9. Little 5 Points is primarily concerned about integration and connectivity issues from the core to the fringe of the study area.

10. The representative from Ponce Park stated that his project would be as flexible as possible where it made sense in an effort to optimize the integration of the development into the Beltline.

11. One of the running themes of the committee’s commentary was the preservation of historical values and character within the neighborhoods.

12. Members felt that development should be context sensitive and that area history should be a core element in the development of area plans. They felt each transit station should have character sensitive to the neighborhood in which it is located.

13. Sustainability should be a core theme to the project, and we should look to incorporate it throughout the process.

How do you use this process to reconnect?

1. The committee hoped to identify existing problematic areas in the near future, in an effort prioritize planning concentrations in the future. The two main areas of concern were the storm water facility and street connectivity.

2. The committee would like to set up some sort of informational exchange network with other groups and committees (NPU’s, Land Use Committees, etc.)

3. Work to identify how the different groups will be impacted by this project and disseminate the findings to the different committees.

4. Many of the committee members felt that the beltline was the most important planning effort of their lifetime, and the project should be developed in a way that we maximize the benefits to all populations.

5. Reconnect the entire area not just individual neighborhoods using a branding measure. We need to come up with something that can really capture what the beltline is about, some sort of identity and character.

6. Make sure to emphasize or overemphasize pedestrian connectivity and links. This is of the utmost importance.

7. Develop an informational network for those without web access, so they are not alienated from the process.

8. We would ideally develop libraries, and public spaces, where we could get together and hang out.

Questions and Concerns
1. The issue of boundary lines was brought up due to concerns over not involving both sides of the boundary streets in Sub-Area Five (DeKalb/Decatur St., Ponce De Leon).
2. NPU M is concerned about the project as it relates to the redevelopment of Boulevard. The concerns were specifically focused on the development of multi-family housing in the area and the traffic effects it will have in the future.
3. One of the prevalent concerns was a flexible and adaptive redevelopment of City Hall East.
4. One of the main concerns was the lack of centralization due to all of the interested parties. Many of the requested ABI make an effort to make the process as transparent as possible, due to the large amounts of information available. Members felt that this effort should start with City Council members Kwanza Hall and Anne Fauver.

How can we integrate the Study Areas?
1. Steering Committee can communicate with each other outside of committee meetings.
2. Work with other groups that are not at the steering committee meetings.
3. Remember that it is not a stand-alone study. Other studies and plans have been done and these efforts will continue, so there should be some integration between the beltline and these studies.
Master Planning: Overview

Master Planning will provide detailed land use, transportation and open space plans for BeltLine

- BeltLine project area sub-divided into 10 study Areas for Master Planning

- Provide an opportunity for comprehensive community engagement

- Complete detailed technical analysis for transportation, land use and parks

- Deliver additional implementation tools
Master Planning:
Community Involvement

Provides an opportunity for comprehensive community engagement

- Steering Committee will meet 10 times
  - 4 meetings will be public (Study Group) meetings

- Stakeholder meetings and interviews as needed
Master Planning: Technical Analysis 1

Detailed technical analysis of transportation, land use and parks

- Transportation connectivity and infrastructure needs including
  - Circulation planning
  - Streetscapes
  - Detailed traffic analysis
  - New roads, pedestrian and bicycle facilities

- Confirmation of land use – based on BeltLine Redevelopment Plan and small area plans - including
  - Parks opportunities
  - Land Use Plan Updates
  - Survey of existing buildings
  - Potential historical and cultural features
  - Public and cultural arts opportunities
  - Zoning recommendations

Master Planning: Technical Analysis 2

Detailed technical analysis of transportation, land use and parks

- Parks master planning for the North Ave park
  - Site inventory and analysis
  - Program development
  - Preparation of concept plan
  - Regional stormwater facility siting
  - Preparation of park master plan document
Delivers additional implementation tools

- Atlanta Strategic Action Plan (formerly Comprehensive Development Plan) will be updated to include BeltLine Supportive Land Uses

- Establish an ideal street grid to support the BeltLine, so that it can be constructed by both the public and private sectors

- Detail and prioritize the pedestrian, roadway and bicycle projects needed to provide access to the BeltLine and maintain mobility ($21 M in TAD funding available next 5 yrs)

Resources from Previous BeltLine Studies:
North Avenue/Freedom Parkway Area
Agenda
NE Study Group Meeting
September 26, 2007

Welcome
BeltLine Status Update
Existing Conditions Land Use Findings
Existing Conditions Transportation Findings
Subarea Goals and Objectives
Next Steps
Goals and Objectives
Freedom Park Sub Area

Agenda

- Introductions
- BeltLine Status Update
- Land Use Findings
- Transportation Findings
- Goals and Objectives
- Questions and Answers
Existing Plans

Historic & Cultural Resources

- 12 churches
- 1 elementary school
- 5 community facilities
- 1 medical facility
- 7 parks
- 2 municipal
- 2 MARTA stations
- MARTA rail
- 1 broadcast tower
- MLK National Hist. Site
- The Carter Center
- 8 historical school buildings
- No natural hydrological resources
- No steep slopes

Source: Atlanta Urban Design Commission 2007
Environment & Natural Features

- Potential Brownfield sites in various states of activity
  - 20 sites; 55 acres
- Prevalent Tree canopy in residential neighborhoods
- Tree canopy breaks along industrial areas and along the BeltLine
- Existing Parks include:
  - Bass Recreation Center
  - Delta Park
  - Freedom Park
  - Inman Park
  - Inman Park Trolley Barn
  - J.D. Sims Recreation Center
  - M.L.K. Natatorium
  - Morgan-Boulevard Park
  - Springvale Park

Source: Emerald Necklace Report - Atlanta Development Authority, City of Atlanta Brownfield Study

Proposed Land Use Plans

- Single-family and low density residential is located in the Inman Park, Poncey-Highland and Old Fourth Ward neighborhoods
- Commercial uses are located either along major corridors or concentrated in commercial districts
- Concentration of industrial uses south of DeKalb Avenue
- Mixed-use adaptive reuse projects and new construction concentrated along the BeltLine, Ponce and DeKalb Ave

Source: City of Atlanta Bureau of Planning, 15 year Future Land Use Plan & Atlanta Development Authority, BeltLine Redevelopment Plan (2005)
**Existing Zoning**

- Landmark District Zoning Designation:
  - Martin Luther King, Jr. Land Mark District
- Special Public Interest Districts:
  - SPI-5 (Poncey Highland Neighborhood)
  - SPI-6 (Inman Park Neighborhood)
- Primarily Conventional and Quality of Life Zoning Designations utilized in this sub-area

Source: City of Atlanta Bureau of Planning 2007

**Proposed Land Use Plans**

- Single-family and low density residential is located in the Inman Park, Poncey-Highland and Old Fourth Ward neighborhoods
- Commercial uses are located either along major corridors or concentrated in commercial districts
- Concentration of industrial uses south of DeKalb Avenue
- Mixed-use adaptive reuse projects and new construction concentrated along the BeltLine, Ponce and DeKalb Ave

Source: City of Atlanta Bureau of Planning, 15 year Future Land Use Plan & Atlanta Development Authority, BeltLine Redevelopment Plan (2005)
Population and Employment

1.6% Annual Population Growth Rate
0.82% Annual Employment Growth Rate

Source: ARC Envision & Forecasts - broader census track area

Population and Employment

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Population and Employment Growth

---

Population and Employment

Broader Subarea Population and Employment Summary

<table>
<thead>
<tr>
<th>Analysis Year</th>
<th>Population</th>
<th>Employment</th>
<th>Employment/Population Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>19,282</td>
<td>20,623</td>
<td>1.07</td>
</tr>
<tr>
<td>2005</td>
<td>21,609</td>
<td>19,268</td>
<td>0.89</td>
</tr>
<tr>
<td>2010</td>
<td>23,078</td>
<td>19,775</td>
<td>0.86</td>
</tr>
<tr>
<td>2015</td>
<td>24,514</td>
<td>20,818</td>
<td>0.85</td>
</tr>
<tr>
<td>2020</td>
<td>25,596</td>
<td>21,713</td>
<td>0.85</td>
</tr>
<tr>
<td>2025</td>
<td>27,269</td>
<td>22,582</td>
<td>0.83</td>
</tr>
<tr>
<td>2030</td>
<td>29,108</td>
<td>23,901</td>
<td>0.82</td>
</tr>
</tbody>
</table>

Annual Increase: 1.4% for Population, 0.49% for Employment, Average: 0.85

Source: Using ARC Envision & Forecasts and organizes data by Census tracts (8 tracts for Subarea 5), which extend beyond study area boundary.
**Existing Employment Type**

<table>
<thead>
<tr>
<th></th>
<th>Number of Businesses</th>
<th>Percent of Total</th>
<th>Total Jobs</th>
<th>Percent of Total</th>
<th>Jobs per Business</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Services</td>
<td>60</td>
<td>10.4%</td>
<td>2,517</td>
<td>33.2%</td>
<td>51.46</td>
</tr>
<tr>
<td>Other Services</td>
<td>219</td>
<td>28.5%</td>
<td>902</td>
<td>11.9%</td>
<td>4.12</td>
</tr>
<tr>
<td>Motion Pictures &amp; Amusements</td>
<td>47</td>
<td>6.1%</td>
<td>277</td>
<td>3.7%</td>
<td>5.89</td>
</tr>
<tr>
<td>Education Institutions &amp; Libraries</td>
<td>8</td>
<td>1.0%</td>
<td>131</td>
<td>1.7%</td>
<td>16.38</td>
</tr>
<tr>
<td>Automotive Services</td>
<td>12</td>
<td>1.6%</td>
<td>80</td>
<td>1.1%</td>
<td>6.67</td>
</tr>
<tr>
<td>Legal Services</td>
<td>16</td>
<td>2.1%</td>
<td>45</td>
<td>0.6%</td>
<td>2.81</td>
</tr>
<tr>
<td>Hotels &amp; Lodging</td>
<td>4</td>
<td>0.5%</td>
<td>28</td>
<td>0.4%</td>
<td>7.0</td>
</tr>
<tr>
<td><strong>Summary</strong></td>
<td><strong>386</strong></td>
<td><strong>50.2%</strong></td>
<td><strong>3,580</strong></td>
<td><strong>52.5%</strong></td>
<td><strong>10.31</strong></td>
</tr>
</tbody>
</table>

Total All Industries | 7,576 | 100% |


---

**Household & Income 2007-2012**

**Income Implications**

- 18.5% of 2007 sub-area households will earn < $15,000 per year
- 16.1% of 2012 sub-area households will earn < $15,000 per year
- 46.9% of 2007 sub-area households will earn < $50,000 per year
- 55.0% of 2012 sub-area households will earn < $50,000 per year

- Elderly households are at highest risk of being in poverty and as such, unable to afford sub-area housing
- Young adults (< 25 years) and mature seniors (65 +) income may be more stressed by housing costs

Source: Statistics from ESRI, nearly two-thirds of the population of the Census tract data
Home Values
Change in Housing Unit Values 2000-2007

<table>
<thead>
<tr>
<th>Year</th>
<th>Subarea</th>
<th>Median Home Value</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td></td>
<td>$219,464</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td></td>
<td>$294,275</td>
<td>29%</td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td>$328,517</td>
<td>21%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Subarea</th>
<th>Median Household Income</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td></td>
<td>$32,529</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td></td>
<td>$40,695</td>
<td>26%</td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td>$57,239</td>
<td>41%</td>
</tr>
</tbody>
</table>

Housing Unit Value
- $0 - $99,999
- $100,000 - $199,999
- $200,000 - $299,999
- $300,000+

Figure 5: Housing Unit Values Over Time

½ Mile Walk Population Density

- 4,333 persons (53%) are within ½ mile of stations
- Density within ½ mile of stations is 8.0 persons per acre

Source: ArcGIS Network Analyst & Census 2000
½ Mile Walk Employment Density

- 2,741 jobs (37%) are within ½ mile of stations
- Density within ½ mile of stations is 5.1 employees per acre

Source: ArcGIS Network Analyst & Census 2000

Block size analysis

- A network comprised mostly of curvilinear streets
- Pockets of grid network (orange examples)
- Variety of block sizes in grid areas

**Block size analysis**

<table>
<thead>
<tr>
<th></th>
<th>Fairlie-Poplar</th>
<th>Midtown</th>
<th>Beltline Subarea 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Perimeter</td>
<td>669 ft.</td>
<td>1371 ft.</td>
<td>234 ft.</td>
</tr>
<tr>
<td>Max. Perimeter</td>
<td>1,151 ft.</td>
<td>2,281 ft.</td>
<td>7,467 ft.</td>
</tr>
<tr>
<td>Mean Perimeter</td>
<td>994 ft.</td>
<td>1,731 ft.</td>
<td>2,235 ft.</td>
</tr>
<tr>
<td>Min. Area</td>
<td>0.5 acres</td>
<td>0.11 acres</td>
<td>0.05 acres</td>
</tr>
<tr>
<td>Max. Area</td>
<td>1.9 acres</td>
<td>7.5 acres</td>
<td>38.2 acres</td>
</tr>
<tr>
<td>Mean Area</td>
<td>1.4 acres</td>
<td>4.3 acres</td>
<td>5.95 acres</td>
</tr>
</tbody>
</table>

- Wider range of block sizes than other neighborhoods (Fairlie-Poplar, Midtown)
- Larger mean block size

**Block Size Analysis**

- Superblocks
- Mean block perimeter in study area: 2,118 feet
- Superblock has perimeter of 3,206 feet or greater (at least one std. dev. above mean)
- 16 Superblocks (brown)
- Most boundaries curvilinear
- 8 are adjacent to rail right of way
- 5 contain sections of Freedom Park
- 2 are entirely residential

Source: ArcGIS Analysis
Transportation Improvements

- Transportation Improvements include:
- Roadway Enhancements
- Park and Facility Improvement
- Connections to MARTA
- Additional Roadways

Source: City of Atlanta

Physical Constraints

- Pedestrian movements and BeltLine Trail/Transit access is compromised by several physical constraints:
  - Bridges
  - At Grade Crossings
  - Underpasses
  - Deadend Roadways
  - Infrastructure and Utilities
  - Park Space
  - Historic & Cultural Resources

Source: City of Atlanta
Traffic Volumes

- Ponce De Leon carries >34,000 VPD
- Freedom Parkway serves >25,500 VPD
- Krog volume is >20,300 VPD
- Boulevard >16,500 VPD

Source: GDOT 2006

Origin & Destination for Vehicle Trips

- Northwest Suburbs
- Northwest City
- Northeast Suburbs
- North Beltline
- Downtown
- South Beltline
- South City
- Southern Suburbs

Source: GDOT 2006
Crash Data

- Higher concentration along Ponce de Leon Avenue, Boulevard, North Avenue & Dekalb Avenue
- Other routes such as Glenn Iris also have reported incidents of some significance

Source: GDOT

Transportation
Crash Rates

<table>
<thead>
<tr>
<th>Description</th>
<th>2002 - 2007 Accident Rate Per 100 Million VMT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All Accidents</td>
</tr>
<tr>
<td>Ponce De Leon from just west of Parkway Drive to Frederica Street</td>
<td>1,580.7</td>
</tr>
<tr>
<td>North Avenue from Parkway Drive to Clifton Terrace</td>
<td>657.0</td>
</tr>
<tr>
<td>Freedom Parkway from Boulevard to SR 42 Connector</td>
<td>118.9</td>
</tr>
<tr>
<td>SR 42 Connector from Freedom Parkway to Moreland Avenue</td>
<td>465.3</td>
</tr>
<tr>
<td>Edgewood Avenue from Just west of Jackson Street to Hurt Street</td>
<td>970.0</td>
</tr>
<tr>
<td>Decatur St/DeKalb Ave from W St to Binders Street to Moreland Avenue</td>
<td>657.6</td>
</tr>
<tr>
<td>Boulevard from Ponce De Leon to Decatur Street</td>
<td>2,097.4</td>
</tr>
<tr>
<td>Glenn Iris Drive/Randolph Street from Ponce De Leon to Edgewood Avenue</td>
<td>1,746.7</td>
</tr>
<tr>
<td>Total Average</td>
<td>1,194.3</td>
</tr>
</tbody>
</table>

- Boulevard has the highest crash rate for all accidents, almost double the average
- Boulevard also has the highest rate of injury accidents at 12 times the average
- Decatur Street/DeKalb Avenue has the highest rate of fatal accidents at almost five times the average

Source: GDOT
Transportation

Crash Rates

<table>
<thead>
<tr>
<th>Description</th>
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<tbody>
<tr>
<td></td>
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</tr>
<tr>
<td>Ponce De Leon from just west of Parkway Drive to Frederica Street</td>
<td>Yes</td>
</tr>
<tr>
<td>North Avenue from Parkway Drive to Colburne Terrace</td>
<td>Yes</td>
</tr>
<tr>
<td>Freedom Parkway from Boulevard to SR 42 Connector</td>
<td>No</td>
</tr>
<tr>
<td>SR 42 Connector from Freedom Parkway to Moreland Avenue</td>
<td>No</td>
</tr>
<tr>
<td>Edgewood Avenue from just west of Jackson Street to Huff Street</td>
<td>Yes</td>
</tr>
<tr>
<td>Decatur St/DeKab Ave from Van. H. Borders Street to Moreland Avenue</td>
<td>n/a</td>
</tr>
<tr>
<td>Boulevard from Ponce De Leon to Decatur Street</td>
<td>Yes</td>
</tr>
<tr>
<td>Glen Iris Drive/Randolph Street from Ponce De Leon to Edgewood Avenue</td>
<td>Yes</td>
</tr>
<tr>
<td>Total/Average</td>
<td>Yes</td>
</tr>
</tbody>
</table>

- Ponce De Leon is over the statewide rate for all, fatal, and injury accidents
- Freedom Parkway and the SR 42 Connector are the only two facilities that are lower than the statewide rate for all, fatal, and injury accidents
- Decatur Street/DeKalb Avenue is classified as a local street, therefore no statewide comparison data is available

Source: GDOT

Sidewalk Inventory

Early Observations

- Preliminary sidewalk assessment
- Subarea broken into four (4) quadrants for purposes of analysis
- Early observations collected on streets shown in purple (210 sidewalk segments):
  - 11% no sidewalk
  - 15% width < 5 ft.
  - 22% non-continuous
- Condition:
  - 14% Optimal
  - 35% Good
  - 28% Acceptable
  - 23% Poor
  - 10% of segments have obstacles

Source: Field Analysis
Bike Suitability Map

- 2 of 5 proposed beltline stations intersect roads with "medium" bicycle conditions
- 1 proposed station intersects a road with "difficult" conditions

Source: ARC Bicycle and Pedestrian Plan 2007

Existing Public Transportation

- MARTA Stations serving the subarea:
  - King Memorial
  - Inman Park/Reynolds Town
- (8) Active bus routes with connections to MARTA stations and access to downtown and midtown cultural, educational and business district points of interest

Source: MARTA
Goals

What we’ve heard so far

- Parks and Greenspace
- Land Use and Design
- Mobility and Transit
- Circulation/Connectivity

Parks & Greenspace

- Create linear park system
- Maximize greenspace opportunities
- Include active and passive activities for people of all ages at all times
- Ensure parks are safe
- Create tree-filled parks and greenspaces
- Expand connections to parks and schools
- Storm water pond a feature not just an engineering solution
**Land Use & Design**

- Put highest density development close to transit stops
- Protect existing single family neighborhoods
- Protect historic structures and artifacts
- Promote public art
- Emphasize quality design
- Improve environmental quality

**Mobility & Transit**

- Foster transit-supportive economic development along the BeltLine
- Maximize accessibility to BeltLine transit
- Minimize impacts of the BeltLine transit
- Mitigate traffic impacts of BeltLine redevelopment
Circulation/Connectivity

- Create a network of sidewalks and trails
- Enhance street grid and improve street connectivity
- Provide disabled accessibility
- Minimize trail intrusion on existing neighborhoods
- Provide connectivity to all neighborhoods
- Emphasize pedestrian connectivity

Goals

Study area goal example:
- Develop a context sensitive master plan that maximizes green space, identifies appropriate land uses, and provides multimodal transportation solutions to support the study areas’ projected increase in density and growth.
Objectives

- Parks and Greenspace
  - Create linear park system
  - Create tree-filled parks and greenspaces
  - Expand connections to parks and schools

Objectives

- Land Use and Design
  - Protect existing single family neighborhoods
  - Protect historic structures and artifacts
  - Improve environmental quality
Objectives

- Mobility and Transit
  - Mitigate traffic impacts of BeltLine redevelopment
  - Foster transit-supportive economic development
  - Maximize accessibility to BeltLine transit

Objectives

- Circulation/Connectivity
  - Create network of sidewalks and trails
  - Enhance street grid and improve street connectivity
  - Emphasize pedestrian connectivity
Goals and Objectives

Break-out Session
Welcome

Overview of Three Park Master Plan Concepts

Small Group Breakout to Discuss Park Concepts
BeltLine Subarea Five Study Group Meeting
Northeast Study Group
October 23, 2007

1. Welcome

2. Overview of Three Park Master Plan Concepts

3. Small Group Breakout to Discuss Park Concepts

Lewis began the meeting with a few opening remarks and allowed time for introductions. Lewis also reviewed the agenda before turning it over to Eric Bishop from EDAW. Bishop greeted the group and stated that EDAW would present the concept master plans for the new park. He described the purpose of the group exercise that was to come after the presentation of the handouts.

Bishop walked the community through the plans that were given as handouts upon arrival. The park’s appearance differed drastically on each plan in terms of layout, and features. Bishop then discussed different elements that the community previously requested to be present in the park. Some of the elements included soft edges to the pond, large lawn space, handicapped accessibility and native plant species.

After the brief presentation, the group was then broken up into two breakout groups. Bishop led one of the teams and Samantha Castro,
who also works for EDAW, led the other. The groups then spent the remainder of the meeting discussing what they liked about the park and what they did not like. EDAW’s team stated that the comments and recommendations would be taken back and evaluated as they continue to develop the master plan.

The meeting was adjourned at 8pm.
Park Elements Requested by the Community

Landscape Elements:
- Soft edge to pond (prevent people from directly accessing water)
- Interesting water features (both visual and interactive)
- Large lawn space
- Safety
- Prevent homeless from taking over
- Allow for handicapped accessibility
- Fencing (as a controlled access, rather than a deterrent)
- Elements that relate to the culture and character of the surrounding neighborhoods
- Neighborhoods involved in planting
- Selection of native/Southern plant species

Program Elements:
- Dog park (in a clearly delineated space, that is less desirable for other activities)
- Multi-use trails (ie. pedestrian, bicycle, in-line skating, etc.)
- Community facility (ie. meeting rooms, event spaces, library, etc.)
- Restaurants
- Retail space
- Concession kiosks (ie. ice cream, balloons, etc.)
- Public restrooms
- Amphitheater (with both permanent and additional flexible seating options)
- Outdoor events space
- Market space (area for temporary tents/booths)
- Picnic areas
- Pavilions
- Children’s playground
- Multi-purpose fields
- Tennis Courts
- Beach Volleyball
- Skate Park
- Associated parking
- Interpretive signage
- Brick donation trail (to raise additional funds for the park)
- Wireless access throughout

Underserved Park Elements Identified by the City of Atlanta Department of Planning

Over 1,200 people were surveyed within the Metro-Atlanta area, and the information was then divided into study areas. For the purpose of this exercise we will discuss only the results associated with the Northeast planning area. The following are elements that the Northeast community felt they would like to see more of:

Landscape Elements:
- Public art (within parks, streetscapes, public plazas, and community gateways)
- Inclusion of historic and cultural facilities where applicable
- Small neighborhood/pocket parks
- Large community parks
- Multi-use trails (ie. pedestrian, bicycle, nature, etc.)

Program Elements:
- Tennis courts
- Amphitheater
- Picnic areas
- Pavilions/shelters
- Community gardens
Concept A

SAMPLE of Form Used at Mtg.

PLEASE EMAIL FEEDBACK to jlewis@atlantaga.gov

Please send comments by

November 16th, 2007

Dislikes

Concept B

Likes

Dislikes

Concept C

Likes

Dislikes
Welcome

Review and Discuss Draft Land Use Transportation Concept Plan

Next Steps
THIS MAP WAS UPDATED TO REFLECT INITIAL FEEDBACK FROM THE STEERING COMMITTEE. IT IS MORE CURRENT THAN THE VERSIONS IN THE POWERPOINT PRESENTATION.

PLEASE PROVIDE COMMENTS BASED ON THIS MAP.

COMMENTS SHOULD BE SENT TO Jonathan Lewis at jlewis@atlantaga.gov BY NOVEMBER 16, 2007.
Sub-area 5 Study Area Concept Plan Presentation

October 29, 2007

OVERVIEW

Background and Context
- BeltLine Land Use and Circulation Goals

Existing Conditions

Land Use Concept

Circulation Concept
KEY ELEMENTS OF THE BELTLINE

- Parks: ~1300 new acres
- Trails: 33 miles
- Transit: 22-mile loop
- Jobs and Economic Development: 20 areas, 30k jobs
- Workforce Housing: $240M ~5,600 units
- Historic Preservation
- Streetscapes and Transportation Infrastructure
- Environmental Clean-up

MASTER PLANNING Overview

City of Atlanta
Delta Northwest BeltLine Planning Area

Detailed interdisciplinary planning for focused study area

- Builds on previous plans and studies
- Provides an opportunity for comprehensive community engagement
- Technical analysis for transportation, land use and parks
- Interdisciplinary consulting team support

-3-

-4-
Redevelopment Plan

Proposed Park

Areas of focus
- DeKalb Avenue
- Ponce / Ralph McGill
- BeltLine Right-of-Way

OVERVIEW

Background and Context

Existing Conditions

Concept Plan
- DeKalb Avenue / Edgewood Avenue
- Ponce / Ralph McGill
- BeltLine ROW

Next Steps
CONCEPT PLAN
DeKalb Avenue

Land Use – Options
Focus density near transportation infrastructure
  • MARTA
  • DeKalb Avenue
  • Boulevard
Provide mixed-use activity near major intersections and MARTA
CONCEPT PLAN
DeKalb Avenue

Land Use – Options
- Step down intensity towards Inman Park neighborhood
- Provide low-rise mixed use and low density residential east of Krog Street
- Redevelop Inman Park MARTA Station parking lot into Transit Oriented Development

CONCEPT PLAN
Edgewood Avenue

Land Use – Options
- Keep “Main Street” feel of Edgewood Avenue
- Provide residential units above street level shops
- Step down intensity near MLK Center and single-family residential
CONCEPT PLAN
Edgewood Avenue

Land Use – Options

• Keep “Main Street” feel of Edgewood Avenue
• Provide residential units above street level shops
• Step down intensity near MLK Center and single-family residential

Concept Plan
Ponce / Ralph McGill

Land Use – Options

• Focus density on major corridors and intersections
• Increase utilization of North Avenue
• Provide mixed use on Beltline and major corridors like North Avenue
• Centrally located park to offset density
Concept Plan
Ponce / Ralph McGill

Land Use – Options

- Focus density on major corridors and intersections
- Increase utilization of North Avenue
- Provide mixed use on Beltline and major corridors like North Avenue
- Centrally located park to off-set density

CONCEPT PLAN
Ponce / Ralph McGill

Land Use – Options

- Re-use existing buildings where possible
- Preserve industrial and post-industrial appearance where appropriate
CONCEPT PLAN
Ponce / Ralph McGill

Land Use – Options
- Step down intensity near single-family residential
- Provide compatible development near single-family

Concept Plan
BeltLine ROW

Land Use – Options
- Focus intensity on Beltline and major corridors
- Provide mixed use on major corridors and areas with good road connectivity
CONCEPT PLAN
BeltLine ROW

Land Use – Options
- Requires relocating rail
- Medium density residential compatible with surrounding development

CONCEPT PLAN
BeltLine ROW

Land Use – Options
- Focus intensity on Beltline and major corridors
- Provide mixed use on major corridors and areas with good road connectivity
CONCEPT PLAN
BeltLine ROW

Land Use – Options
- Preserve historic industrial structures
- Utilize as mixed use and live/work
- Re-use existing buildings when possible
- New construction compatible with surrounding development

CONCEPT PLAN
DeKalb Avenue/ Edgewood Avenue

Transportation – Options
- Provide local street alternatives to major corridors
- Maintain existing alleys when possible
- Minimize curb cuts on major corridors by requiring use of local streets when possible
Concept Plan
Ponce / Ralph McGill

Transportation – Options

- Provide east-west connections across beltline
- Provide north-south road adjacent to Beltline where possible
- Increase north-south local connections over Freedom Parkway

Concept Plan
Ponce / Ralph McGill

Transportation – Options

- Break up super-blocks with new local streets
- Provide local alternatives to Glen Iris and Ralph McGill
- Provide wider sidewalks on major corridors, at least 10 feet wide
- Provide on-street parking for new developments
Concept Plan
Ponce / Ralph McGill

Transportation – Options

- Provide on-street bike lanes on Ralph McGill to Jackson Street
- Improve trail connections to Freedom Parkway

Concept Plan
BeltLine ROW

Transportation – Options

- New east-west connections across Beltline
- Provide north-south roads adjacent to Beltline
- Provide alternatives to major corridors
Concept Plan
Edgewood Avenue

Transportation connectivity and infrastructure needs including

- Provide local street alternatives to major corridors
- Maintain existing alleys when possible
- Minimize curb cuts on major corridors by requiring use of local streets when possible

Concept Plan
Edgewood Avenue

Transportation connectivity and infrastructure needs including

- On-street parking where possible
- Streetscapes
- On-street bike lane
CONCEPT PLAN
Ponce / Ralph McGill

Transportation connectivity and infrastructure needs including

- Provide east-west connections across beltline
- Provide north-south road adjacent to Beltline where possible
- Increase north-south local connections over Freedom Parkway

CONCEPT PLAN
Ponce / Ralph McGill

Transportation connectivity and infrastructure needs including

- Break up super-blocks with new local streets
- Provide local alternatives to Glen Iris and Ralph McGill
- Provide wider sidewalks on major corridors, at least 10 feet wide
- Provide on-street parking for new developments
CONCEPT PLAN
Ponce / Ralph McGill

Transportation connectivity and infrastructure needs including
- Provide on-street bike lanes on Ralph McGill to Jackson Street
- Improve trail connections,
  - Connect Freedom Path to Beltline Trail
  - Connect Freedom Path trails on south side of Freedom Parkway

CONCEPT PLAN
BeltLine ROW

Transportation connectivity and infrastructure needs including
- New east-west connections across Beltline
- Provide north-south roads adjacent to Beltline
- Provide alternatives to major corridors
CONCEPT PLAN

BeltLine ROW

Transportation connectivity and infrastructure needs including

- Provide wide path along Beltline
- Increase connectivity with existing paths
- Provide multi-modal access to future transit stations

OVERVIEW

Background and Context

Existing Conditions

Concept Plans

Next Steps
Draft Park Master Plan
Draft Study Area Master Plan
Next Steps

Upcoming Work Steps

• Prepare Draft Park Master Plan for the new park on North Avenue
• Revise Land Use Plan for the Subarea
• Conduct Traffic Analysis for the Subarea

Upcoming Study Group Meetings (public meetings)

• December 20: Review and Discuss Draft Park Master Plan
• February 4: Review and Discuss the Draft Subarea Master Plan

Both meetings will be from 6:30 to 8:30PM in the MLK Recreation Center, 2nd Floor Meeting Room on Boulevard.

• For MARTA access take the #3 bus.
• Ample parking is around the corner behind the church and King National Park. The gate stays open. You can cut through the courtyard past the Ghandhi Statue.

Sub-area 5 Study Area Concept Plan Presentation

October 29, 2007
December 20, 2007

Agenda
NE Study Group Meeting
December 20, 2007

Welcome

Announcements and BeltLine Update

Presentation of the Park Master Plan for the New Park on North Avenue

Discussion of the Park Master Plan

Next Steps
Northeast Study Group  
December 20, 2007

1. Welcome
2. Announcement and BeltLine Update
3. Presentation of the Park Master Plan for the Park on North Avenue
4. Discussion of Park Master Plan
5. Next Steps

Lewis started the meeting with a few opening remarks and allowed time for introductions. Lewis also reviewed the agenda and introduced Eric Bishop of EDAW as he walked through a presentation of the new park on North Avenue Master Plan.

Bishop’s discussion of the Master Plan focused on comments and recommendations from the Steering Committee and Study Group Meetings in October. At the meeting on October 23, the Steering Committee Reviewed three plans and came to a consensus on one. This option was then presented at the Study Group meeting on 10/29. At this meeting the community was asked to give feedback on likes and dislikes of the plan. The Study Group stated the following:

• Circulation routes
• Flexibility of programming
• Proximity of playground to splash pad
• Separation of active and passive uses
• Flexible space for festivals
• Opportunities for public art throughout the park
• Variety or parking options
• Single pond concept as a bold statement

The community did not like the following aspects of the park:
• Lack of playground in the more active southern half
• No public restrooms
• Lots of tennis and no skate park
Bishop went on to illustrate how the community's concerns were addressed in the skate park. Shortly after the presentation, EDAW staff asked the Study Group what it would like to see incorporated into the new park, and the responses were as follows:

**Programmatic Feature Requested by the Community:**

- There is an area demand for Tennis
- There should be programming for seniors
  - Specifically Shuffleboard
- Incorporate Functional Art
  - Use Local Art
  - Also feature design competitions
- Adult Fitness
  - Fitness Stations along paths/trails
- Good Park for Kids
  - Programmatic Features for all Ages
    - Skate Park
    - Splash Pad
    - Workout Circuit
- Design the walls that are going to be located in the park
- Rethink Edith Street
- Revisit Tennis Courts idea
- Try to acquire land out to Glen Iris
- Event Space
  - Weddings, Fund Raisers, etc.
- Activate the Roof of the Parking Deck
- Conservancy is under development

**The meeting ended at approximately 8:30 pm**
North Avenue Park Final Master Plan
Subarea 5 Study Group Meeting

December 20, 2007

OVERVIEW

Welcome and Announcements

Final Park Master Plan

Discussion
OVERVIEW

Welcome and Announcements

Final Park Master Plan

Discussion

Concept Master Plan – Version B
Steering Committee Comments (10/23)

**Likes**
- Minimal grading for a split pond
- Splash pad
- Festival space
- Feels like two separate parks... one active and one passive
- Traffic circulation on eastern side

**Dislikes**
- Disconnection of Cox property leaves it hard to maintain and keep safe
- Not enough sports fields and associated parking
- Splitting the pond in two
- Number of street crossings
- Isolation of the Cox property
- Amount of park space fronting Ralph McGill, and the isolation of the festival space
**Concept Master Plan – Version B**

**Steering Committee Comments (10/23)**

**Likes**
- Minimal grading for a split pond
- Splash pad
- Festival space
- Feels like two separate parks... one active and one passive
- Traffic circulation on eastern side

**Dislikes**
- Disconnection of Cox property leaves it hard to maintain and keep safe
- Not enough sports fields and associated parking
- Splitting the pond in two
- Number of street crossings
- Isolation of the Cox property
- Amount of park space fronting Ralph McGill, and the isolation of the festival space

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**Concept Master Plan – Version C**

**Steering Committee Comments (10/23)**

**Likes**
- Separation and location of the dog park
- Trails surrounding the pond
- Grouping of playground, picnic space and associated parking
- Length of the pond
- Compact nature of the park
- Grand promenade from North to Ralph McGill

**Dislikes**
- Connections to the east are not optimal
- Discontinuous flow of the park
- Entrance on Ralph McGill isn’t grand enough
- Issues with the pond elevation, and the amount of space it takes up
- Not as much programming
### Concept Master Plan – General Steering Committee Comments (10/23)

**Likes**
- Use of a splash pad rather than a public pool
- Open programmable festival space
- Multiple parking lots associated with different park programming
- A mixture of passive and active uses
- Flow from Elizabeth to North Avenue works well

**Dislikes**
- No strong western entrance to the park from Glenn Iris and the neighborhood
- Street going through the park... even a temporary road could become permanent
- Use of a tall fence around the pond creating a visual and physical barrier to the water
- Some of the parcels seem remote and may be more difficult to maintain and keep safe
- Not enough thought about the needs of an aging population
- No designated community meeting space

**Comments**
- Pedestrian access to the park crossing Ralph McGill should put the pedestrian as the priority
- Splash park and playgrounds should be adjacent to one another
- Make sure that the festival space is accessible for loading and unloading

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### Draft Master Plan Steering Committee Comments (11/29)

**Likes**
- Hierarchy of circulation routes
- Flexibility and quantity of programming
- Proximity or playground to splash pad
- Separation of active and passive uses
- Flexible space for festivals, markets, etc. as gateway to Ralph McGill
- Opportunities for public art throughout the park
- Variety or parking options
- Single pond concept as an opportunity for a bold statement

**Dislikes**
- Lack of playground in the more active southern half
- No public restrooms
- Lots of tennis and no skate park
Park Framework – Active Uses

View North to Active Uses
Park Framework – Passive Uses

Park Framework – Circulation
View East towards BeltLine

Public Art
Rolling Meadows

Primary Paths / Tree Allées
Sunken Garden

Pond Edges
Climbing / Bouldering Walls

Amphitheater
Park Master Plan – Additional Considerations

- BeltLine Arboretum
- Freedom Park Uses
- City of Atlanta’s Project Greenspace
- BeltLine Cultural Master Plan
- Nighttime uses/security
- Gateways
- BeltLine Parking Study
- Materials/amenities/furnishing

OVERVIEW

Welcome and Announcements

Final Park Master Plan

Discussion
Agenda
BeltLine Master Plan
Subarea 5 Steering Committee Meeting
April 21, 2008
MLK Recreation Center

1. Opening Remarks
2. Introductions
3. Draft Plan Review
4. Questions and Discussion

For questions or additional information, please contact:

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BeltLine Subarea Five Planning Committee Meeting
Draft Plan Review
April 21, 2009
MLK Recreation Center

Agenda Items Covered:

1. Opening Remarks
2. Introduction
3. Draft Plan Review
4. Questions and Comments

Jonathan Lewis started the meeting with a few opening remarks. Lewis specifically focused his introduction on the standardization of the Northeast Study Group Meeting Schedule. Lewis stated the meeting would take place at Hillside and would be the second Thursday of every month. He stated while there are two master plans running concurrently, the study group meeting agenda would be determined by which master plan possessed the greatest need for immediate attention.

Questions & Concerns regarding EDAW’s presentation of the Draft Plan:

One community member stated that EDAW’s plan needs to make mention of all of the plans in referenced, specifically area plans focused along the Boulevard and Ponce De Leon Ave. Corridors.

Q: Is it within the scope of the project to look at parks operations and maintenance?
A: Those issues are being discussed in ongoing conversations between Atlanta BeltLine Inc., BeltLine Partnership, and the Parks Department.

Q: Does the planning effort take into account the recent property rezonings/site plans that have been laid forth by individual property owners?
A: Yes, we will illustrate later with the land use map.
Q: Are street improvements being discussed?
A: Yes and we will present them during our traffic analysis portion of the presentation.

Q: Did the city adopt the redevelopment plan?
A: Yes, the City Council did adopt the 2005 Redevelopment Plan, but they did not amend the Future Land Use Plan (the ASAP map) at that time. These plans will go through the formal land use approval process. It may not all be one undertaking but the plan is to have these plans formally adopted. There will probably not be any proactive rezonings, but there will likely be proactive land use plan amendments.

Comment: Some of these densities could seem greater due to the topographic issues in the Subarea.
Response: The plan takes topography into considerations as well as transitions to single family homes.

Q: What determines the locations of the transit stops?
A: These stops are still not final. We have just come up with conceptual ones based on the density and park space. The final stops will come out of a later study done by Atlanta BeltLine Inc., the Draft Environmental Impact Study.

Q: What will determine the transit alignment?
A: The draft Environmental Impact Study has begun, with MARTA, to investigate this issue.

Comment: The community has different ideas for the Somerset Terrace area of your plan. We planned a commercial hub, so I don’t think we would support just residential in the area. We envision a lot of retail and residential on both sides of the street. We also envision a street connection down to Ralph McGill from that area. We envision a street connecting from Ponce all the way down to Ralph McGill as a way to relieve some of the traffic congestion through neighborhood streets.

Q: How will you go about converting the streets into multi-use trails?
A: We will use and narrow the existing paved area. It is a common practice in park design to convert these to pedestrian and cyclist paths. The only street that is planned to connect through the park is Ralph McGill.

Q: Earlier concept maps showed additional connections across Freedom Parkway in addition to the Elizabeth St. connection. What happened to the others?
Q: Where does the Elizabeth Street Connection end up?
A: Willoughby Way, Alaska Avenue, and Ensley St.
Comment – There needs to be a conversation about the trail use hours due to the fact that a lot of parks close at 11pm and many of the businesses along these parks will be open until midnight or later.

Q: What other North-South pedestrian/cycling connections should we explore? Everything is centered on East – West and the BeltLine.
A: The Old Fourth Ward Plan is developing a North – South cyclist concept for Parkway. Freedom Parkway also offers a North – South trail connection.

Q: Who is designing the storm water feature?
A: HDR (An engineering and design firm).

Comment - A key component of this plan needs to be area signage. If you are not from the area, you have no idea how to get anywhere from the subarea.

Comment – All of the underpasses should be focal points for public art. It should also be noted that Freedom Park is now a home to temporary and permanent art exhibitions.

Comment – Ford Factory needs local designation from the Urban Design Commission.

Add Stoveworks as an addition to the significant resources priority list.

The city should look into prioritizing the bridges and tunnels along the BeltLine in regards to local historic designation.

Traffic:

North Avenue Recommendations:
- A traffic light along North Ave. at Somerset.
- Parallel parking on North Ave. from Bonaventure on down, due to the lack of traffic along such a wide street.
- Expand the median from the BeltLine bridges.

There should be some serious improvements to pedestrian conditions along Auburn Avenue if the BeltLine plans to run a trail down the street. It is a very dangerous pedestrian environment right now.

There should be better lighting at the Krog St. tunnel than there is now, even during the daytime.
There should also be a lot of attention paid to the pedestrian situation at Freedom Parkway and Boulevard right now.

The meeting ended at approximately 9:15 pm
Study Purpose

The Master Plan builds on previous BeltLine planning efforts to establish framework for implementation.

Creates neighborhood-based vehicle for ongoing input on transit and trail planning.

Strategic recommendations for:
- Land Use
- Parks and open space
- Public art
- Historic preservation
- Urban design
- Mobility, circulation
Planning Process

Process includes a Park Master Plan and a Study Area Master Plan

Steering Committee Meeting Dates:
- July 18, 2007 - Process, Schedule and Background
- September 10, 2007 - Study area existing conditions
- October 23, 2007 - Concept Master Park Plan
- October 29, 2007 - Concept Master Park Plan
- November 28, 2007 - Draft Park Master Plan
- April 21, 2008 - Draft Study Area Master Plan

Study Group Public Meeting Dates:
- August 22, 2007 - Park existing conditions and visioning
- September 26, 2007 - Goals and Objectives
- December 20, 2007 - Final Park Master Plan
- May 8, 2008 - Final Study Area Master Plan

Subarea 5 Study Area

- 1/2 mile buffer on either side of the BeltLine
- Northern limit: Ponce de Leon Avenue
- Southern limit: DeKalb Avenue
Goals

Land Use Goals:
- Put highest density development close to transit stops
- Respect existing neighborhoods when it comes to redevelopment and promote historic preservation wherever possible
- Emphasize quality design
- Create framework for public art

Goals

Mobility and Transit:
- Maximize accessibility to BeltLine
- Provide appropriate connectivity across BeltLine and other constraints
- Mitigate traffic impacts of development
- Promote pedestrian and bicycle circulation
Context

Historic neighborhoods:
- Inman Park
- Old Fourth Ward (includes the Martin Luther King, Jr. Historic District)
- Poncey-Highland

National cultural centers:
- Martin Luther King, Jr. Historic Sites
- Jimmy Carter Presidential Library

Historic structures

Two Focus Areas

Focus areas where:
- Redevelopment is most likely to occur
- Additional connectivity is needed

North Avenue
Freedom Parkway
Land Use Change Types

Parcel show change under two conditions:
- Redevelopment has already occurred or is underway
- The Master Planning process has identified a different land use category or intensity more appropriate for subarea goals

North Avenue Focus Area

- Proposed park with stormwater facility
- Focuses intensity and activity around proposed transit stops
- New development parcels within BeltLine right-of-way
- Steps down intensity near established neighborhoods
- Redevelopment near historic sites should maintain historic integrity
North Avenue Focus Area

North Avenue Park

City of Atlanta Future Land Use Plan:
- Mixed Use

BeltLine Redevelopment Plan:
- Park Space

Proposed Future Land Use:
- Park Space

North Avenue Focus Area

Dallas Street to Angier Avenue

City of Atlanta Future Land Use Plan:
- Mixed Use

BeltLine Redevelopment Plan:
- Medium Density Residential

Proposed Future Land Use:
- Medium Density Residential
- Low Density Residential
North Avenue Focus Area

Ralph McGill/ Glen Iris Drive intersection

City of Atlanta Future Land Use Plan:
- Low Density Commercial
- Mixed Use

BeltLine Redevelopment Plan:
- Low Density Residential
- Low Density Commercial

Proposed Future Land Use:
- Mixed Use (1-4 Stories)
- Residential (5-9 Stories)

North Avenue Focus Area

BeltLine Right-of-Way

City of Atlanta Future Land Use Plan:
- TCU (Transportation/ Communication/ Utilities)

BeltLine Redevelopment Plan:
- Mid-rise Mixed Use
- Low-rise Mixed Use

Proposed Future Land Use:
- Mixed Use (5-9 Stories)
- Mixed Use (10+ Stories)
- Residential (5-9 Stories)
North Avenue Focus Area

Post Office Property & Warehouses

City of Atlanta Future Land Use Plan:
- Mixed Use

BeltLine Redevelopment Plan:
- Low-rise Mixed Use

Proposed Future Land Use:
- Mixed Use (5-9 Stories)

North Avenue Focus Area

2 Blocks North of Post Office

City of Atlanta Future Land Use Plan:
- Mixed Use

BeltLine Redevelopment Plan:
- Low-rise Mixed Use

Proposed Future Land Use:
- Residential (5-9 Stories)
- Residential (1-4 Stories)
• Interior streets converted to pedestrian/multimodal paths

• Exterior Park-lining streets maintain neighborhood mobility

• Connectivity improvements across BeltLine

Ralph McGill Boulevard Park Crossing

Insert Before/After of Ralph McGill
Freedom Parkway Focus Area

- Active uses within park near proposed transit station
- New development parcels within BeltLine right-of-way
- Preservation of culturally significant industrial structures like Virginia Docks and Irwin Street Water Tower

Freedom Parkway Focus Area

WSB-TV Property

City of Atlanta Future Land Use Plan:
- Mixed Use

BeltLine Redevelopment Plan:
- Park Space

Proposed Future Land Use:
- Residential (5-9 Stories)
Freedom Parkway Focus Area

Prospect Street & East Avenue

City of Atlanta Future Land Use Plan:
- Medium Density Residential

BeltLine Redevelopment Plan:
- Medium Density Residential

Proposed Future Land Use:
- Residential (5-9 Stories)
- Residential (1-4 Stories)

Freedom Parkway Focus Area

U-Haul Storage Facility

City of Atlanta Future Land Use Plan:
- Low Density Commercial

BeltLine Redevelopment Plan:
- Low-rise Mixed Use

Proposed Future Land Use:
- Mixed Use (1-4 Stories)
Freedom Parkway Focus Area

Irwin Street Tower

City of Atlanta Future Land Use Plan:
- Low Density Commercial

BeltLine Redevelopment Plan:
- N/A

Proposed Future Land Use:
- Park Space

Gunby Street/ DeKalb Avenue Area

City of Atlanta Future Land Use Plan:
- Low Density Commercial
- High Density Commercial
- Mixed Use

BeltLine Redevelopment Plan:
- Low-rise Mixed Use

Proposed Future Land Use:
- Mixed Use (1-4 Stories)
- Residential (5-9 Stories)
- Residential (1-4 stories)
- Greenspace
Freedom Parkway Focus Area

- Improved street and trail connection under Freedom Parkway
- Cross-BeltLine streets

Freedom Parkway Underpass

- Elizabeth Street to connect under Freedom Parkway to Willoughby Way
- Two tracks of transit and trail
- BeltLine transit stop at southeast corner of North Avenue Park
Alternative Mode Circulation

Transit stations proposed in 5 places within study area:
- Ponce de Leon Avenue at City Hall East/ Ford Factory Lofts
- Dallas Street
- North Avenue Park near Freedom Parkway
- Irwin Street
- Gunby Street/ Edgewood Avenue

Proposed transit link to Inman Park/ Reynoldstown MARTA Station

Krog Street Tunnel
BeltLine Trail Connectivity

Additional trail connections along:
- Ralph McGill from Freedom Parkway to the future site of the North Avenue Park
- The northern side of Freedom Parkway
- Bernina Avenue

Additional bike/pedestrian connections along:
- Angier Avenue
- Ralph McGill from the future site of the North Avenue Park towards downtown
- Irwin Street down to Auburn Avenue

Final Vision for the proposed North Avenue Park
North Avenue Park

Major elements
- Stormwater pond
- Trails
- Dog parks
- Community garden
- Picnic areas
- Splash pad
- Festival space
- Amphitheater
- Climbing walls
- Playground
- Multi-use fields
- Skate park

North Avenue Park
Additional Greenspace Opportunities

Bass Park Soccer fields along Moreland Avenue
- Enhance presence along Austin Avenue with gateway treatment and circulation improvements

Irwin Street Historic Water Tower
- Pocket park with iconic tower
- Location for connection between BeltLine transit stop and Sweet Auburn Trolley stop

Corner of Arlene St and DeKalb Ave
- Pocket park
- Location for BeltLine transit connection at DeKalb Avenue

Public Art Opportunities

Potential areas for public art were considered if they had one or more of the following traits:
- Highly trafficked area of a major road or trail
- Easily visible and accessible to the public
- Serves to anchor and activate a site
- Enhances the overall public realm
- Enhances the streetscape experience
- Creates a place of congregation and activity
- Establishes landmarks and neighborhood gateways
- Wayfinding
Public Art Opportunities

Public art opportunities:

- **System wide** - creates a sense of continuity throughout corridor
- **Temporary/Portable Art**
  - artwork for current or special events
- **Site-Specific, Permanent Installations**
  - sculptures, murals
  - neighborhood specific
- **Infrastructure-based**
  - overpasses, sidewalks, streetscapes, bridges
- **Functional objects**
  - drinking fountains, bike racks, benches, lighting, transit shelters, signs
Public Art Opportunities

Urban Design & Historic Resources

The Subarea includes many of the historic resources identified by the:
- Atlanta Urban Design Commission (AUDC)
- National Register of Historic Places

BeltLine Historic Resources Survey, GSU study recommends many additions including:
- The water tower on Irwin Street
- Creomulsion building
- The Virginia Docks

Insert updated Historic Resources Map with data received today from Urban Design Commission

Insert images of resources
Mobility Analysis

- Evaluated existing and future traffic conditions under multiple scenarios:
  - Year 2020
  - Year 2030
  - Worst Case Scenario
    - No trip reduction due to transit
  - Best Case Scenario
    - Beltline transit provides a 26 percent trip reduction
  - Both Scenarios
    - 10 percent reduction in trips on mixed use parcels

- Developed and used a traffic computer model of major roads in the study area

- Included predicted new trips from future development

Traffic Study Area

- Ponce de Leon Avenue
- North Avenue
- Glen Iris
- Freedom Pkwy
- N. Highland Ave
- Moreland Avenue
- DeKalb Avenue

[Map of the study area]
## Mobility Results A.M. Peak

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Avenue Street Type

- Intended for higher-activity areas
- 10 foot lanes support higher volumes at speeds between 25-35 mph
- On-street parking
- Wider tree-planting and furniture zone
- Wider sidewalks

Three street types for new and redeveloped streets:
- Avenue Street
- Park-lining Street
- Neighborhood Street

Park-lining Street Type

- Create hard edge to proposed park
- On-street parking on park-side of street
- Wider sidewalks on park-side of street
- Standard sidewalks on opposite side of street

Three street types for new and redeveloped streets:
- Avenue Street
- Park-lining Street
- Neighborhood Street
Neighborhood Street Type

- 9 foot lanes
- No on-street parking required
- 5-foot wide tree-planting zone
- 5-foot wide sidewalks

Three street types for new and redeveloped streets:
- Avenue Street
- Park-lining Street
- Neighborhood Street

Mobility & Circulation

Additional Transportation Recommendations:
- North Avenue
- Intersection A
- Intersection B
May 8, 2008

Agenda
BeltLine Master Plan
Northeast Study Group
May 8, 2008; 6:30 – 8:30 pm
Hillside, 690 Courtenay Drive NE, Atlanta, GA 30306

1. Welcome & Introductions
2. Community Participation Advocate Update
3. Overview of Tonight’s Agenda
4. Overview of Subarea 5 Master Plan and Recommendations
5. Stormwater Feature Project Introduction & Background
6. Walk-through of Draft Stormwater Feature Design
7. Individual Breakout Groups for Subarea Plan and Stormwater Feature
8. Conclusion

REMINDER: The next Study Group Meeting will be held on June 12th for Subarea 6

For questions or additional information, please contact:

Jonathan Lewis
Project Manager
jlewis@atlantaga.gov
404.865.8593

Rukiya Eaddy
Citizen Participation Advocate
readdy@atlbeltline.org
404.614.8285
BeltLine Subarea Seven Study Group Meeting
Atlanta Memorial Trail Concept Review
May 5, 2008 - 6:30 p.m.
AGL Resources Building - Annex

Agenda Items Covered:

1. Welcome & Introductions
2. Community Participation Advocate Update
3. Overview of Tonight’s Agenda
4. Overview of Subarea 5 Master Plan and Recommendations
5. Stormwater Feature Project Introduction & Background
6. Walk-through of Draft Stormwater Feature Design
7. Individual Breakout Groups for Subarea Plan and Stormwater Feature
8. Conclusion

The meeting began with a few opening remarks by Rukiya Eaddy. Eaddy invited everyone out to the Transit Supportive Development Discussion that is taking place May 21st at 6 p.m. The discussion will occur at Tree Atlanta, which is located at 225 Chester Ave.

After Eaddy concluded, Tina Arbes, Chief Operation Officer of Atlanta BeltLine Inc. discussed the work done by the Boston Consulting Group (BCG). BCG has worked to clarify the decision making process in regards to the myriad of decisions ABI has and will have to make in the future. Arbes stated that this information will go public towards the end of the month after a meeting with their Board of Directors.

Liz Drake from EDAW then followed up with a presentation of the Subarea 4 Draft Master Plan.

EDAW noted that the connection of Elizabeth St. and East Ave. were two of the more critical connections in the subarea. The need to connect the Inman Park Neighborhood with the Old Fourth Ward was the driving factor.
During the presentation of the streets that line the park, there was concern over the width of the sidewalk. The graphic illustrated a 5' sidewalk and community members stated this should be beefed up to a 10' standard and a 6' minimum.

Statement – Ponce De Leon has the 2nd highest pedestrian fatality rate in the entire state. Any plans to increase the level of safety on Ponce should be presented to GDOT (Georgia Department of Transportation) for possible state funding since Ponce is a state road. The NPU has also worked to establish sidewalk minimums, so they should be reflected in these plans.

K.C. Boyce and representatives from HDR then presented the Clear Creek Combined Sewer Basin Relief Project Design Scheme.

The group then broke out into breakout groups. Shortly afterwards the community members had a chance to discuss the projects in breakout groups, the meeting was adjourned.
Northeast Study Group Meeting

CCCSBR

May 8, 2008

Schedule

• 2008
  – March – April
    • Information Gathering
    • Engineering
  – May – June
    • Design / Landscape Architecture
      – May 8: Design Concept Review at NE Study Group
      – June 12: Final Design Presentation at NE Study Group
  – July – August
    • Construction Drawing Production
      – August 31: Design and Engineering Completed
      – Construction Begins
  – September – December
    • Construction

• 2009
  – January – September
    • Construction
      – Construction completed September 2009
• From Previous Stakeholder Engagement
  - Create a safe and secure environment (‘eyes on the park’)
  - Minimize railing and maximize feeling of being next to the water
  - Provide amenities shown in the master plan (amphitheater, bouldering, picnic shelters)
  - Maximize view within and external to the facility
  - Protect as many existing mature trees on the western side of the facility as possible without impairing functionality
  - Ensure ease of maintenance in order to minimize downtime after storm events
  - Close Dallas and Morgan Streets to through traffic
  - Design for ‘dual use’ as a park and a capacity relief project

• Technical Requirements
  - Provide storage for 22 acre feet of water
  - Provide demonstrable capacity relief to the Clear Creek Combined Sewer
  - Complete facility construction by September 2009
  - Complete facility within budget
**Storm Events VENUE PARK**

**Access Points**

- Pedestrian Site Access
  - A – North Entrance
  - B – Beltline Entrance
  - C – Edith Street Entrance
  - D – South Entrance
  - E – Rankin Street Entrance
  - F – Parking Lot Entrance
  - G – Morgan Street Entrance

- Pedestrian Sunken Garden Access
  - 1. North Plaza
  - 2. North Plaza
  - 3. Interpretive Plaza
  - 4. South Plaza
  - 5. Amphitheatre
  - 6. Sculpture Plaza
  - 7. Parking Lot Ramp
    - ADA Accessible

- Vehicular
  - Roads
  - Parking
- Southern Quadrant
  - South side of Park Site
  - Sightlines to Atlanta skyline and City Hall East

- Northern Quadrant
  - North Side of Park Site
  - Entry from North Avenue

- Western Quadrant
  - West Side of Park Site
  - Common entry for Residents of Old Fourth Ward
  - Existing Trees to Remain on Site

- Eastern Quadrant
  - East Side of Park Site
  - Future Beltline Connection
BeltLine Subarea Five Planning Committee Meeting
Northeast Study Group
November 13, 2008

1. Opening Remarks

2. Overview/Background – Fred Yalouris; ABI

3. Park Plan Review – Samantha Castro; EDAW

4. Questions and Discussion

Jonathan Lewis, Senior Project Manager for the Atlanta BeltLine began the meeting with a few opening remarks and allowed time for introductions. Lewis also reviewed the agenda before stating that the Subarea 5 Master Plan was in the final editing phases. Atlanta BeltLine Inc. hopes to start the adoption process by presenting to the NPU’s in January.

Lewis then turned the meeting over to Fred Yalouris who serves as the Director of Design for Atlanta BeltLine Inc. Yalouris stated that the park was redesigned after Atlanta BeltLine Inc. worked with a developer to change the configuration of the northern edge of the park. Yalouris stated that the northern end of the park had been widened by about 100 feet after working with a developer on the northwestern edge. Yalouris noted that the northern end had certain cross sections that originally only measured about 40 ft in width, but now measure over 100 ft.
Yalouris stated that during the process of redesigning the park that Atlanta BeltLine had to limit some acquisition efforts due to a myriad of reasons. Some of those reasons included but were not limited to unwilling sellers, inflated asking prices, etc. Yalouris feels that the final design does a great job of providing connectivity to both portions of the park via a tree lined street and the BeltLine right-of-way.

Yalouris felt that the change to the east of the park showing a connection down from the BeltLine via a new Dallas St. was a vast improvement on the previous design in terms of gaining access to the park from the BeltLine. Yalouris also pointed out that the connections of the streets to the western side of the park have noticeably better connections than on the original plan. The park designers felt that the park has a more defined edge because of the updated design, which would make the park more inviting for those surrounding the park. Yalouris also noted that in the end the total acreage is still planned to be about 34 acres when the park is built out.

Yalouris noted that park had a lot of open space that was without active programming. He stated that this was done intentionally so that the park would have the programming revisited after it was built out. He stated that the intention was not to remove all the programming, but rather, to concentrate on getting the park built and assembled, and then focus on the programming.

After Yalouris walked through the plan, Samantha Castro of EDAW took over and gave another review of the park. She stated that the park also had to re-address the Stormwater pond that is centrally located in the park. Castro stated that the engineering for the pond had been completed, and it required them to rework some of the
designs in order to ensure that circulation near the pond made sense. Castro also pointed out that some of the community’s favorite aspects of programming were still in the park’s design. The elements included the playground, splash pad and the play lawns.

Castro stated that much of the some of the open space would function like Piedmont Park’s Great Lawn. Castro also stated that the park received a couple of entryway upgrades in the Artifact plaza off North Ave. and the greenway connection from the BeltLine. She echoed the sentiments of Yalouris by stating that the connectivity created by this addition creates a great benefit to the park. Once Castro concluded her presentation of the redesigned park, the floor was opened for questions and discussion.

One planning committee member stated that the rain gardens and the artifact plaza were incredible amenities to the park. He did have some concern about the parking for the park as two parking lots were removed, but ABI staff pointed out the large amount of on street parking that would be available with the current design.

There was also some concern about the amount of frontage on Ralph McGill, but it was stated the previous alignment of the street to the north of Ralph McGill was incorrectly shown on the map. The site plan for the 660 Ralph McGill project was estimated on the map, and now it is illustrated correctly. Another committee member stated that he really liked the more defined park edges.

The question was then asked if there was any more effort to acquire the entire parcel to the east that shows the greenway, instead of just that sliver. Yalouris responded that funds for acquisition are currently
maxed, but it was also noted that ABI assumed the rest of the parcel would be developed.

The meeting was adjourned at 7:30 pm.
Atlanta BeltLine Master Plan

SUBAREA 5
FREEDOM PARKWAY
Inventory and Assessment Report

Prepared for
Atlanta BeltLine, Inc.
by EDAW, Inc., Arcadis & APD

Adopted by the Atlanta City Council March 16, 2009
Many stakeholders participated in the engagement process and contributed to development of the vision for Subarea 5 and the recommendations of this Master Plan.

The Honorable Mayor Shirley Franklin

**ATLANTA CITY COUNCIL**

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Elizabeth “Liz” Coyle, Atlanta City Council Appointee - Community Representative

**SUBAREA 5 PLANNING COMMITTEE**

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Jimmy Barry, NE Corridor Joint Venture (Barry Realty)
Saskia Benjamin, Georgia Conservancy and MLK District Resident
Bob Bridges, The Simpson Organization
Chris Carrigan, Historical Concepts architectural firm
Dorothy Clayton, First Tabernacle Church
Anna Copello, NPU N
Judy Forte, National Park Service
Joan Garner, Historic District Development Corporation
David Hamilton, MPAC
Matt Hicks, Fourth Ward Alliance
David Laube, Ponce Park
Angie Laurie, Downtown TMA/Central Atlanta Progress
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Jim McMehel, Poncey-Highland Neighborhood Association
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John Perlman, Ponce Park
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Introduction

The Subarea 5 Master Plan covers a land area of approximately 1,110 acres and is bounded by DeKalb Avenue to the south and Ponce de Leon Avenue on the north. The eastern and western boundaries form a half-mile buffer on either side of the BeltLine as shown in Figure 01. The subarea is made up of distinct neighborhoods such as Inman Park, Poncey-Highland, and Old Fourth Ward which are rich in residential density, historic and cultural resources, and mobility options. Its diverse mix of housing types and socio-economic characteristics make the neighborhoods unique.

The subarea contains a mixture of uses, with the majority of the land area used as residential. When looking at the properties within the BeltLine Tax Allocation District (TAD), the land use mix differs greatly from the surrounding subarea, with the majority of land being used for industrial, light commercial and mixed use developments.

In addition to a review of the existing land use and zoning in the subarea, an assessment of the population and employment base contributes to a robust understanding of the subarea. The analysis shows that the BeltLine project may have already begun influencing the subarea's population and employment base. In the future, the subarea's population is projected to grow at a greater pace than the employment base, shifting the area's balance toward a residential rather than employment focus.

The urban design element of the subarea focusing on the built and natural environment, is also rapidly changing, especially in the area surrounding the North Avenue Park and the Old Fourth Ward. It is important to identify the area's historic and cultural resources to assure that the redevelopment reflects the community's history and values, and so that the community has access to services. Subarea 5 is home to a wealth of historic and cultural resources important to the area, including, most notably, the Martin Luther King, Jr. National Historic Site and the Carter Center and Presidential Library. The subarea also has a number of churches, community centers and parks to serve the local population. Other facilities that serve the subarea entail a medical facility, several fire stations, and a police precinct located at City Hall East.

The TAD properties lack the quality urban design elements, such as tree cover and sidewalk connectivity that characterize the rest of the subarea. Established neighborhoods in the area display a beautiful and valuable tree canopy, while many of the TAD properties are barren cleared sites or large industrial buildings with little space for trees. Also, most of the highly-traveled corridors like DeKalb Avenue and Ponce de Leon Avenue are developed as low-density commercial, creating an urban design pattern catered to the automobile and contributing both to the reduced tree canopy and an unfriendly pedestrian environment.

This disparity between the entire subarea and the TAD properties is also seen in the mobility options for pedestrians. The sidewalk network within the subarea is well connected and relatively consistent. The sidewalks in the TAD area are in poor condition or are all together lacking. Bicycle routes and facility conditions are also evaluated providing a snapshot of travel conditions in the subarea.

In addition to contributing to the urban design environment, transportation is another key element to the Subarea 5 Master Plan. The subarea relies heavily on east-west traffic flow. This is mostly seen on arterials such as Ponce de Leon Avenue where volume is high during peak hours. Freedom Parkway is another facility that experiences heavy volumes of traffic.

Transit options are available in the subarea providing further mobility options in an area that must tackle congestion issues. With an abundance of mobility options available, the consideration of safety within the subarea is examined. Discussion on existing crash data is provided in addition to
comparisons with statewide crash data. Bicycle and pedestrian crashes associated with the subarea’s roadway networks are also considered due to the walkability and bicycle usage in the area. Supported through the utilization of demographic and model data from the Atlanta Regional Commission, the analysis of existing conditions with respect to transportation presents a solid overview of mobility within the subarea.

Apart from the extensive transportation analysis, a connectivity ratio was developed. Findings show that despite the connectivity ratio being high for Subarea 5 due to its vast mobility options, the subarea still contains some limitations with respect to physical barriers and ease of access. However, recommendations are provided as opportunities to mitigate such issues and enhance connectivity among all modes of travel.

As part of the Subarea 5 Master Plan, this report discusses existing conditions in the subarea and the possible challenges ahead with respect to development and infrastructure improvements. In preparation for the inventory and assessment report, an assessment of previous studies and existing plans were conducted. This assessment entailed an overview of subarea boundaries and recommendations. The goal was to ensure that overlaps among studies did not conflict and that recommendations were integrated as final results were presented. With respect to existing studies and plans, the goal is to ensure that the recommendations set forth by these studies are incorporated into the subarea analysis and final recommendations.
Land Use

Land Use

Land Use is the way land is developed and used by people in a community. General land use categories can be as broad as “rural” or “urban”, while most communities prefer more specific categories such as “residential” or “industrial”. In highly developed cities, like Atlanta, these categories are further refined to express the intensity of use. For example, the category of “high density residential” describes both the activity that the land is being used for (residential), and the type of development patterns, or structures, that must be built to accommodate that use (ten stories or greater). During the existing conditions analysis existing and proposed were reviewed to document the future character of the subarea.

Subarea 5 consists of a diverse mix of land uses. Lower density residential uses are concentrated south of Freedom Parkway and major commercial centers are mostly located to the north and east along major arterial corridors. Even with these variations of use, there is a clear pattern of open space and industrial/commercial frontage along the BeltLine. The subarea land uses are displayed in Figure 02.

Data Sources and Methodology

Land Use and parcel data were obtained by the City of Atlanta and reviewed using Geographic Information Systems (GIS). A windshield survey of the Tax Allocation District (TAD) parcels was conducted and the original data updated to reflect current development activity, building conditions, and occupancy status as previously completed in the 2005 Tax Allocation District (TAD) Feasibility Study. This was a cursory windshield survey to verify and update existing GIS files.

Field surveys were conducted using the standardized methodology developed for the TAD Feasibility Study. The assessment ranked building conditions into five categories:

0. Vacant: Property has no physical habitable structure on site. Property may not always be typical Open Space, but can also include parking lots, fences, and other non-habitable structures.

1. Standard: The structure is relatively sound with no visible defects in siding, roofing or foundation. Properties under construction are classified as Standard.

2. Substandard: The structure requires some level of basic repair such as new shingles and replacement windows. These structures should need only minor rehabilitation that requires a modest monetary investment.

3. Deteriorated: The structure requires major repairs such as a new roof, new siding, and major repairs to foundations. These rehabilitations will require significant monetary investment.

4. Dilapidated: The structure is an obvious health and safety hazard where the structure is most likely beyond repair. Little or no roof covering, caved in walls, burned interiors/exteriors and missing foundations are typical of dilapidated structures.

Figure 02 shows the existing land use map using the updated GIS layer. Most changes in building conditions are located in close proximity to the BeltLine and represent development activity. Some lots that were vacant during the survey
are now residential structures, like those along Woodall Avenue. Many properties near the proposed North Avenue Park are in phases of construction, like the large parcel at the intersection of North Angier Avenue and North Avenue.

Some structures in vicinity of the proposed park have continued to deteriorate, such as the metal and cinder block buildings at the intersection of North Angier Avenue and Dallas Street. Since 2005, some properties along DeKalb Avenue have improved as once deteriorated structures are redeveloped into residential lofts and mixed-use properties. Some lots at DeKalb and Gunby Street have redeveloped into residential townhomes, again indicative of redevelopment activity already occurring along the BeltLine.

Residential

Residential land uses within Subarea 5 consist of a mix of single-family and multi-family dwellings. Single-family houses are located in the neighborhoods of Inman Park, Poncey-Highland and Old Fourth Ward. These craftsman-style houses built in the 1880s have great historical and architectural value. The multi-family dwellings also include new construction and conversion loft-style units and condominiums. Examples of such residential types are located along DeKalb Avenue, Freedom Parkway and Ralph McGill Boulevard. Some recent examples of new lofts are the “Block Lofts” and the “Copenhill Lofts” constructed in 2000, both located near the Carter Center. Loft conversions like Bass Lofts on Euclid Avenue (conversion of a 1920s High School) in the Little Five Points area, and Stoveworks on Krog Street, are good examples of adaptive reuse.

Commercial

Commercial uses are located either along major corridors or concentrated in commercial districts. The density of commercial use is consistently low, and the character of commercial uses within the subarea varies significantly. The retail corridor along Ponce de Leon Avenue is mostly in the form of traditional street-oriented buildings and low-density, automobile-oriented uses with accompanying parking areas. The relatively new Midtown Place Shopping Plaza on Ponce de Leon across from City Hall East includes local and chain retail supported by large anchor stores.

Although not entirely within the subarea, commercial land uses along Moreland Avenue are largely nodal representing a mixture of auto and street-oriented buildings varying in age. The Edgewood Retail District represents an integration
Figure 02 - Existing Land Use

*Collected and revised as of November 2007
of big box uses into an urban fabric just south of the subarea. Little Five Points is the most street-oriented node and is comprised of eclectic retail boutiques, restaurants, bars, and local art venues that have become a popular weekend shopping and entertainment destination for the younger urban crowd. Edgewood and DeKalb Avenues are the remaining corridors within the subarea that have older, historic storefronts with new retail uses including restaurants, coffee shops, galleries and retail.

**Mixed-use**

Mixed-use adaptive reuse projects of older industrial warehouses and commercial buildings that have been converted into residential and office spaces are popular in this subarea. Examples of buildings functional for different uses include Krog Street (Stoveworks Lofts), Ponce de Leon Avenue (Ford Factory Lofts), and Ralph McGill Boulevard (Telephone Factory Lofts).

**Office/Institutional**

Dominating the Office/Institutional use in the subarea is City Hall East, spanning an entire block between North Avenue and Ponce de Leon Avenue. Located directly adjacent to the BeltLine, this parcel is planned for redevelopment by the City of Atlanta and a private developer for a mixed-use project. The Carter Center, located on Freedom Parkway, is another major institution adjacent to the BeltLine. Faith-based institutions are located mostly in residential neighborhoods.

**Industrial**

Industrial and warehousing facilities are located in the area between North Avenue and Ralph McGill Boulevard. In addition, there is also a former industrial building on Angier Avenue in Old Fourth Ward.
concentration of industrial uses south of DeKalb Avenue, just outside of the subarea.

**Parks**

Parks within the subarea are contained within the residential neighborhoods of Inman Park, Old Fourth Ward and Poncey-Highland. The parks and the programmed facilities are listed in Table 01 and shown in Figure 03.

**Zoning**

The City of Atlanta regulates the development of property through the use of zoning districts. Under district control are height, use, setbacks, parking, etc. They are the implementation tools of the 15-Year Future Land Use Plan and should support the desired future land uses. Since such tools directly shape development, zoning has a profound impact on the built environment. More than any other element, zoning affects how a community looks and functions for decades. Figure 04 shows the various zoning categories.

**Key Findings**

- Subarea's residential land uses consist of single family and multifamily dwellings
- The density of commercial use in the subarea is consistently low
- The conversion of commercial and industrial buildings into residential and office spaces is popular in the subarea

### Table 01 - Parks within Subarea 5 Boundary

<table>
<thead>
<tr>
<th>NAME</th>
<th>ADDRESS</th>
<th>FACILITIES</th>
<th>ACRES</th>
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<tr>
<td>Bass Recreation Center</td>
<td>326 Moreland Ave. NE</td>
<td>Playground, Basketball, Recreation Center</td>
<td>1.0</td>
</tr>
<tr>
<td>Delta Park</td>
<td>Edgewood Ave./Delta Place, NE</td>
<td>Open Space</td>
<td>0.2</td>
</tr>
<tr>
<td>Freedom Parkway</td>
<td>Moreland Ave at North Ave NE</td>
<td>Open Space</td>
<td>188.6</td>
</tr>
<tr>
<td>Inman Park</td>
<td>Euclid Ave./Edgewood Ave. NE</td>
<td>Open Space</td>
<td>0.3</td>
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<tr>
<td>Inman Park Trolley Barn</td>
<td>963 Edgewood Ave NE</td>
<td>Rental Facility</td>
<td>0.7</td>
</tr>
<tr>
<td>J.D. Sims Recreation Center</td>
<td>544 Angier Ave. NE</td>
<td>Playground, Basketball, Recreation Center</td>
<td>0.8</td>
</tr>
<tr>
<td>M.L.K. Natatorium</td>
<td>70 Boulevard NE</td>
<td>Swimming Pool</td>
<td>10.4</td>
</tr>
<tr>
<td>Morgan-Boulevard Park</td>
<td>521 Boulevard NE</td>
<td>Playground, Basketball</td>
<td>0.4</td>
</tr>
<tr>
<td>Springvale Park</td>
<td>Euclid Ave. at Waverly Way NE</td>
<td>Playground</td>
<td>4.6</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td></td>
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<td>207</td>
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Figure 03 - Existing Park Space
Figure 04 - Existing Zoning
Transportation

The existing transportation system within Subarea 5 includes a network of state and local roadways that fall into four Georgia Department of Transportation (GDOT) classifications (Principal Arterial, Minor Arterial, Collector Road, and Local Street) serving residential, business and regional transportation needs.

Ponce de Leon Avenue (US 29 and 273), is a regional east/west arterial running along the northern boundary of the subarea. Connecting Midtown and Downtown to Decatur. Ponce de Leon Avenue is a major arterial and experiences heavy regional through traffic. With three travel lanes in each direction, Ponce de Leon Avenue is lined with neighborhood and regional retail that benefits from the high traffic volumes.

Moreland Avenue (SR 42) is a minor arterial within the subarea. Although Moreland Avenue is a state road, the roadway consists of two to three travel lanes in each direction and has preserved its neighborhood character with historic buildings, street trees, and streetscapes. The other minor arterials in the subarea include North Avenue, Glen Iris Drive, Boulevard, Randolph Street, Edgewood Avenue and Auburn Avenue. Collector roads in the subarea are Freedom Parkway, Jackson Street, Irwin Street, Highland Avenue and North Highland Avenue. All other roads are classified as local streets.

Existing Traffic Volumes

Traffic volume data provides an incomplete assessment of conditions in the subarea as it measures travel demand but does not account for the supply of transportation capacity. However, this data does provide insight as to travel demand in Subarea 5 and indicates where potential improvements will serve the highest number of travelers.

Data Sources and Methodology

Traffic volume data in the form of average annual daily traffic (AADT) counts were obtained from Georgia DOT’s State Traffic and Report Statistics (STARS) at 18 locations in Subarea 5. This data was then entered into a GIS for further analysis. The latest volume data available, for 2006, is used for this analysis. Figure 05 is a map of the count locations that graphically represents volumes.

Key Findings

Travel demand is highest in the subarea from east to west, with two important facilities carrying significant amounts of traffic:

- Ponce De Leon Avenue carries the most traffic of any facility in the subarea, with an AADT of 37,360 vehicles per day between Parkway Drive and Boulevard and 34,800 from Freedom Parkway to Barnett Street
- Freedom Parkway serves the second highest number of vehicles, with an AADT of 25,530 just west of Ashley Avenue and 26,330 east of Ashley Avenue

North-South travel demand in the subarea is also substantial:

- Krog Street between Edgewood and DeKalb Avenues serve the fifth highest number of vehicles in the subarea, with an AADT of 20,380
- Boulevard also carries a large number of vehicles with an AADT of 18,470 vehicles per day between Ponce De Leon Avenue and North Avenue, 18,760 just north of Wabash Avenue, and 16,560 between Chamberlain Street and Gartrell Street

Other facilities carrying over 10,000 vehicles per day include:

- SR 42 Connector with a volume of 15,720 west of North Highland Avenue
- DeKalb Avenue serves 15,700 vehicles per day between Degress and Haralson Avenues
- North Avenue carries 13,040 vehicles per day between Linwood Avenue and Cleburne Terrace
Crash Data

Existing Crashes
Crash data was analyzed to determine the relative safety of corridors within the subarea and to identify facilities with higher than average crash rates. Additionally, pedestrian and bicycle crashes were analyzed to determine areas dangerous to those transportation system users.

Data Sources and Methodology
Crash data were obtained from Georgia DOT’s Office of Traffic Safety & Design Safety Management Section for Subarea 5. This data was then entered into a GIS for further analysis. Crash data for the last five years, from 2002 to 2007 was used in this analysis. Figure 06 is a map of the crash locations that graphically represents frequency.

All Crashes
From 2002 to 2007, there were 4,121 total crashes involving 8,389 vehicles in Subarea 5. There were 902 injury accidents with 1,317 total injuries. 22% of crashes in the subarea resulted in one or more injuries. During the same time period, 2 fatal accidents and 2 total fatalities were recorded in Subarea 5.

In addition to an area wide analysis, an examination of crash data was undertaken for the following key subarea corridors:

- Ponce De Leon from just west of Parkway Drive to Frederica Street
- North Avenue from Parkway Drive to Cleburne Terrace
- Freedom Parkway from Boulevard to SR 42 Connector
- SR 42 Connector from Freedom Parkway to Moreland Avenue
- Edgewood Avenue from just west of Jackson Street to Hurt Street
- Decatur Street/DeKalb Avenue from William H. Borders Street to Moreland Avenue
- Boulevard from Ponce De Leon to Decatur Street
- Glen Iris Drive/Randolph Street from Ponce De Leon to Edgewood Avenue

Within Subarea 5, 77% of all crashes happened along the above corridors for a total of 3,166. The highest number of crashes and injuries occurred on Ponce De Leon Avenue, with 1,347 total crashes resulting in 403 injuries. Boulevard had the second highest with 803 crashes and 246 injuries. Each of the remaining corridors had fewer than 310 accidents and fewer than 100 injuries.

Generally, the total number of crashes is higher on facilities carrying heavier volumes. To identify corridors with high crash rates, the total number of crashes was normalized by vehicle miles traveled on the facility. Crash rates along Subarea 5 corridors are shown in Table 02.

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>2002 - 2007 ACCIDENT RATE PER 100 MILLION VMT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ALL ACCIDENTS</td>
</tr>
<tr>
<td>Ponce De Leon from just west of Parkway Drive to Frederica Street</td>
<td>1,960</td>
</tr>
<tr>
<td>North Avenue from Parkway Drive to Cleburne Terrace</td>
<td>657</td>
</tr>
<tr>
<td>Freedom Parkway from Boulevard to SR 42 Connector</td>
<td>119</td>
</tr>
<tr>
<td>SR 42 Connector from Freedom Parkway to Moreland Avenue</td>
<td>495</td>
</tr>
<tr>
<td>Edgewood Avenue from just west of Jackson Street to Hurt Street</td>
<td>979</td>
</tr>
<tr>
<td>Decatur Street/DeKalb Avenue from William H. Borders Street to Moreland Avenue</td>
<td>658</td>
</tr>
<tr>
<td>Boulevard from Ponce De Leon to Decatur Street</td>
<td>2,097</td>
</tr>
<tr>
<td>Glen Iris Drive/Randolph Street from Ponce De Leon to Edgewood Avenue</td>
<td>1,747</td>
</tr>
<tr>
<td>TOTAL / AVERAGE</td>
<td>8,712 / 1,089</td>
</tr>
</tbody>
</table>
Figure 05 - Existing Traffic Volumes
Figure 06 - Crash Data based on locations and intensity
Although Ponce De Leon Avenue has the highest number of crashes in Subarea 5, Boulevard has the highest crash rate, making it the most dangerous corridor in the subarea. The Decatur Street/DeKalb Avenue corridor has the highest rate of fatal accidents at almost five times higher than the average for all corridors, despite being fifth in terms of total crash rate.

Crash rates of the subarea corridors were then compared with average statewide rates for similar facility types to determine which facilities are more dangerous than average. Table 03 summarizes corridors and whether or not they are over the average statewide accident rate for similar facilities for all, fatal, and injury accidents.

**Pedestrian and Bicycle Crashes**

Due to the urban nature of Subarea 5 and ongoing development trends towards increased walkability in the subarea, an analysis of pedestrian and bicycle crashes was performed.

From 2002 to 2007, there were 76 crashes in Subarea 5 involving pedestrians, which is 1.8% of subarea crashes. None of these crashes were fatal to the pedestrian. In contrast, there were 60 injury crashes, or 79% of the total, which resulted in 62 injured pedestrians.

Slightly less than half, or 41%, of subarea pedestrian crashes were along Ponce De Leon with a total of 31. A total of 21 pedestrian crashes, or 28%, happened on Boulevard. Together, these two corridors account for over two thirds of the subarea pedestrian crashes.

From 2002 to 2007, there were 16 crashes in Subarea 5 involving bicyclists, or 0.4% of all crashes. Fatality and injury data are not available for bicycle crashes. However, by overlaying fatal crashes with bicycle crashes, it was observed that no fatalities occurred at the same sites as bicycle crashes. While 5 bicycle crashes occurred in the Ponce De Leon Avenue corridor, the rest are evenly distributed throughout the subarea.

**Key Findings**

- Ponce De Leon Avenue, Boulevard, and Glenn Iris Drive/Randolph Street are the three most dangerous corridors in Subarea 5 based on accidents per 100 million vehicle miles traveled (VMT)
  - Boulevard has the highest crash rate for all accidents at 2,097 per 100 million VMT, almost double the Subarea 5 average of 1,089
  - Boulevard also has the highest rate of injuries, 643 per hundred million VMT – this is approximately 12 times the average rate

**Table 03 - Study Area Corridor Comparison to Statewide Crash Rates**

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>OVER STATEWIDE RATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ponce De Leon from just west of Parkway Drive to Frederica Street</td>
<td>Over Yes</td>
</tr>
<tr>
<td>North Avenue from Parkway Drive to Cleburne Terrace</td>
<td>Over Yes, No, Yes</td>
</tr>
<tr>
<td>Freedom Parkway from Boulevard to SR 42 Connector</td>
<td>Over No, No, No</td>
</tr>
<tr>
<td>SR 42 Connector from Freedom Parkway to Moreland Avenue</td>
<td>Over No, No, No</td>
</tr>
<tr>
<td>Edgewood Avenue from just west of Jackson Street to Hurt Street</td>
<td>Over Yes, No, Yes</td>
</tr>
<tr>
<td>Decatur Street/DeKalb Avenue from Wm. H. Borders Street to Moreland Avenue</td>
<td>Over n/a, n/a, n/a</td>
</tr>
<tr>
<td>Boulevard from Ponce De Leon to Decatur Street</td>
<td>Over Yes, No, Yes</td>
</tr>
<tr>
<td>Glen Iris Drive/Randolph Street from Ponce De Leon to Edgewood Avenue</td>
<td>Over Yes, No, Yes</td>
</tr>
<tr>
<td>Total/Average</td>
<td>Over Yes, No, No</td>
</tr>
</tbody>
</table>
Ponce De Leon is over the statewide rate for total accidents, fatalities, and injuries on similar facilities with 1,960 total per 100 million VMT, 1.45 fatalities per 100 million VMT, and 586 injuries per 100 million VMT compared to statewide averages of 363, 1.4, and 151, respectively.

- Freedom Parkway and the SR 42 Connector are the only two facilities that are lower than the statewide rate for all, fatal, and injury accidents
- Decatur Street/DeKalb Avenue has the highest rate of fatal accidents, with 2.1 per 100 million VMT, which is almost four times the Subarea 5 average of 0.5
- Pedestrian and bicycle crashes, while small in percentage terms cause a disproportionate number of injuries
  - 1.8% of all crashes in Subarea 5 involved pedestrians with 62 injuries, or 4.7% of all subarea injuries
  - Crashes involving bicycles made up 0.4% of all crashes in the subarea
- Pedestrian crashes occur throughout the subarea, but are primarily concentrated on Ponce De Leon Avenue and Boulevard
  - 41% total pedestrian crashes occurred on Ponce De Leon Avenue
  - On Boulevard, there were 21 pedestrian related incidents

### Bicycle Routes

Bicycle facilities are being integrated into transportation systems to ensure a wide range of mobility options for commuters. Bicycle facilities can take three major forms:

**Off-street facilities**

Off-street facilities are normally at least 12 foot wide paved areas that permit bicycle travel in two directions. Lanes may or may not be striped. Usually, these facilities are built in conjunction with greenways.

**Bicycle lanes**

Bicycle lanes are striped one-way on-street facilities. They are usually located next to the curb and designed for bicyclists to travel in the same direction of traffic flow where the average vehicular speed is greater than 25 miles per hour.

Dedicated bicycle facilities in the subarea are limited to Edgewood and Freedom Parkway, which contains a multi-use trail. Most local streets consist of traffic traveling at minimal speeds to safely accommodate bikes within the vehicular lanes. Bicycle routes are illustrated in Figure 07 below. Ponce de Leon is not a bike friendly environment, as speeds and, sometimes, volumes exceed what would be comfortable for bicyclists.

#### Signed bicycle routes

Appropriate signage for bicycle routes guide bicyclists to adequate bicycle facilities, promotes connectivity, and further enhances safety directing bicyclists away from vehicular traffic. Signage directing bicyclists to multi-use trails such as the ones maintained by the PATH Foundation enable cyclists to use dedicated facilities away from automobile traffic. Appropriate signage on roadways for dedicated bicycle facilities are also necessary to accommodate cyclists when traveling on roadways with greater automobile presence.

### Data Source and Methodologies

Bicycle routes and suitability measurements were extracted from the Atlanta Regional Bicycle and Pedestrian Plan recently updated in 2007. These routes were mapped using GIS and a gap analysis was performed with consideration given to the type of road, including volumes and lane configuration, the number and type of crashes, and the type of bike facility (see Figure 07).

#### Key Findings

- Bicycle facilities include Freedom Parkway and Edgewood
- Roads like Ponce de Leon are not bicycle friendly due to the high speeds and traffic volumes
Figure 07 - Existing Bike Mobility and Potential for Improvement
Public Transit

A central goal of the Atlanta BeltLine is to provide multi-modal access to a greater number of Atlanta residents, and the Subarea 5 Study Area is fortunate to be well served by public transit. Metropolitan Atlanta Rapid Transit Authority (MARTA) has two rail stations located in the subarea as well as multiple bus routes.

Data Sources and Methodology

The rail and bus routes were collected from the City of Atlanta. Together with ridership data from MARTA, and site visits to the various stops, the following existing conditions analysis was completed.

MARTA Rail

Two transit rail stations (King Memorial Station and the Inman Park/Reynoldstown Station) serve the subarea. In comparison to other rail stations throughout the MARTA system, these two stations may appear to have low ridership numbers but are comparative to other stations on the East-West line with respect to average monthly ridership. These stations are located primarily in areas where lower ridership would be expected. Higher ridership numbers would be expected at stations that serve as major transfer points or are end of the line stations. Examples include the Five Points station as a major transfer point or the Indian Creek station at the end of the East-West line which carries passengers commuting in from areas outside the MARTA service area.

The Inman Park/Reynoldstown Station (on the east-west MARTA rail line) is accessible to pedestrians on the north and south sides of the freight and MARTA rail lines with some challenges. The greatest accessibility challenge is the access point at the Reynoldstown entrance and the pedestrian bridge leading to the inter-modal bus facility. Its location creates a barrier and increases the walking distance between the station and areas to the east towards Moreland Avenue. The station also lacks visibility from Moreland Avenue and the Edgewood Retail District further compromising its usability and patron-friendly environment.

The King Memorial MARTA station is located on the western edge of Subarea-5 and is also on the east-west MARTA rail line. Accessible to the Oakland Cemetery, the Martin Luther King Historical Sites, the Atlanta Housing Authority’s new Capital Gateway residential development, and Grady Homes, the King Memorial MARTA station is elevated and visible/accessible from Decatur Street.

The ridership information for both transit stations is provided in Tables 04 and 05.

MARTA Bus Routes

The bus service in the Subarea 5 is provided by MARTA. The map of bus service and stops illustrates that the subarea is served by eight routes. The following is the list for routes in the area:

Route #2 – Ponce de Leon, crosses at Ponce de Leon Avenue and connects to Midtown, Decatur, and the neighborhoods of Druid Hills, Poncey-Highland, Virginia-Highland and Old Fourth Ward.

Route #3 – Auburn Avenue/M.L. King Drive, crosses

Table 04 - Average Daily Rail Ridership

<table>
<thead>
<tr>
<th>STATION</th>
<th>JAN ’07</th>
<th>FEB ’07</th>
<th>MAR ’07</th>
<th>APR ’07</th>
<th>MAY ’07</th>
<th>JUN ’07</th>
<th>JUL ’07</th>
<th>AUG ’07</th>
<th>AVERAGE 12-MONTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inman Park</td>
<td>2,963</td>
<td>2,923</td>
<td>3,129</td>
<td>3,111</td>
<td>3,122</td>
<td>3,153</td>
<td>3,002</td>
<td>3,120</td>
<td>3,065</td>
</tr>
<tr>
<td>King Memorial</td>
<td>1,841</td>
<td>1,961</td>
<td>2,099</td>
<td>2,126</td>
<td>2,099</td>
<td>2,288</td>
<td>2,078</td>
<td>2,145</td>
<td>2,080</td>
</tr>
</tbody>
</table>

SOURCE: MARTA DATA YIELD APRIL 28 - AUGUST 17, 2007

Table 05 - Average Daily Bus Ridership

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>2</th>
<th>3</th>
<th>6</th>
<th>16</th>
<th>17</th>
<th>27</th>
<th>45</th>
<th>48</th>
<th>99</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Daily</td>
<td>2,128</td>
<td>2,078</td>
<td>1,888</td>
<td>1,806</td>
<td>1,793</td>
<td>2,127</td>
<td>534</td>
<td>1,118</td>
<td>674</td>
<td>313</td>
</tr>
</tbody>
</table>

SOURCE: MARTA DATA YIELD APRIL 28 - AUGUST 17, 2007
at Euclid/McLendon Avenues and connects to Downtown and the neighborhoods of Old Fourth Ward, Inman Park and Candler Park.

Route #16 – Noble, crosses at North Highland Avenue and connects to Downtown, and the neighborhoods of Old Fourth Ward, Inman Park, Poncey-Highland, Inman Park and Morningside.

Route #17 – Inman Park/Lakewood, operates from Lakewood and connects to Turner Field, Georgia State, Five Points and Inman Park.

Route #27 – Monroe Drive/Lindbergh Station, crosses at Boulevard/Monroe Drive and connects to the Ansley Park neighborhood, Cheshire Bridge Road, and the Lindbergh MARTA rail station.

Route #48 – Thomasville, operates from the Inman Park/Reynoldstown MARTA rail station to Constitution Road and connects the neighborhoods of Inman Park, Edgewood, Reynoldstown, East Atlanta, Ormewood Park, Brownwood Park and Thomasville.

Route #99 – North Ave./Grady Hospital, operates from the North Avenue MARTA rail station to Boulevard serving Atlanta Medical Center and connecting service to Grady Hospital.

Route #100 – Atlanta Tourist Loop Downtown, operates from the North Avenue MARTA rail station and circles Downtown stopping at key tourist attractions along corridors including the Auburn Avenue District, Peachtree Street, and Centennial Olympic Park Drive to name a few.

Compared to many MARTA bus routes, weekday headways on route #2 are frequent at every 20 minutes during peak hours and every 40 minutes during off-peak hours. Routes 3, 17, 27 and 100 are moderately frequent with an average of 30 to 35 minute headways during peak hours and 30 minutes during off-peak hours. Weekday headways are less frequent on routes 48 and 99 averaging 40 and 60 minute headways during peak and off-peak hours. The most frequent route serving the subarea is route 16, with bus service available every 15 minutes during peak hours and every 30 minutes during off-peak hours. Current transit routes in the subarea are displayed in Figure 08.

The user-friendliness of existing bus routes within the subarea is compromised by the lack of shelters, posted schedules, maps, or lighting. As a result, patrons are exposed to the elements and new riders are uninformed of the bus schedule. Existing bus service is also compromised by delays due to frequent stops along the routes (one on almost every block), red-lights, and congestion, all of which contribute to unreliable service. The lack of patron amenities and delays are clear deterrents for choice riders.

The exiting bus ridership is listed in Table 05.

**Key Findings**

- There are two heavy rail stations in the subarea: Inman Park and King Memorial
- Ridership at both stations has increased over the last year
- There are 8 bus routes in the subarea with peak frequencies between 15 minutes and 60 minutes
- Infrequent service of several routes makes the bus system unreliable

**Population and Employment**

To understand a place, you must understand the people that live and work there. The data gathered for Subarea 5 speaks of a place rich in diversity, and one that supports many types of housing opportunities. The population, housing and employment data were analyzed to identify these strengths as well as possible weaknesses and threats. Using this information, the community can set goals and begin to determine the feasibility for future transit investment in the area.

**Data Source and Methodologies**

Data were compared in order to check for the reasonableness of population and employment estimates and forecasts. It should be noted that the geography of the subarea differs from the geography used by the ARC, whose population and employment estimates and projections
are based on the U.S. Census Bureau’s census tracts. As such, the Subarea 5 boundaries cut across multiple census tract boundaries, and the subarea’s population and employment are assumed to be contained within the total population and employment of the combined census tracts. Additionally, it is assumed that geographic boundaries of the Georgia Power data are identical or, at the least approximate, to those of the Subarea 5 boundaries.

As shown by Table 06, Georgia Power data indicate that an estimated 8,300 people lived within the subarea in the year 2000. These 8,300 people comprise approximately 42% of the broader subarea population made up of the census tracts encompassing the Subarea 5 boundaries (census tracts 13, 14, 15, 16, 17, 29, 30, and 33).

According to the collected data, the ARC expects that the population within the census tracts hosting Subarea 5 will increase at a steady rate of 1.4% annually between 2000 and 2030. This modest but steady growth rate was derived from an analysis of population estimates from years 2000 and 2005 along with the forecasts for 2010 through 2030. ARC forecasts that the broader subarea will have 29,100 people residing within it. This is a change of approximately 51% over the year 2000. Table 07 presents this more clearly.

By 2030, there will be more jobs in the subarea than there were in 2000. However, population growth will far outpace employment growth, and analysis of the data clearly shows that the broader subarea is becoming more attractive as a residential community versus an employment destination. Figure 09 shows the difference between population and employment, and their expected change over time. It also shows that

### Table 06 - Year 2000 Population Subarea 5 Geography vs. Census Tracts

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>SUBAREA 5 (GEORGIA POWER)</th>
<th>ARC*</th>
<th>SUBAREA 5’S % OF AREA CENSUS TRACTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>8,314</td>
<td>19,929</td>
<td>41.7%</td>
</tr>
</tbody>
</table>

* INCLUDES TOTAL OF CENSUS TRACTS 13, 14, 15, 16, 17, 29, 30 & 33

### Table 07 - Population and Employment Estimates and Projections of Census Tracts Hosting Subarea

<table>
<thead>
<tr>
<th>ARC DATA</th>
<th>POPULATION</th>
<th>EMPLOYMENT</th>
<th>JOBS/POPULATION BALANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>19,292</td>
<td>20,623</td>
<td>1.07</td>
</tr>
<tr>
<td>2005</td>
<td>21,609</td>
<td>19,268</td>
<td>0.89</td>
</tr>
<tr>
<td>2010</td>
<td>23,078</td>
<td>19,775</td>
<td>0.86</td>
</tr>
<tr>
<td>2015</td>
<td>24,514</td>
<td>20,918</td>
<td>0.85</td>
</tr>
<tr>
<td>2020</td>
<td>25,596</td>
<td>21,713</td>
<td>0.85</td>
</tr>
<tr>
<td>2025</td>
<td>27,269</td>
<td>22,582</td>
<td>0.83</td>
</tr>
<tr>
<td>2030</td>
<td>29,108</td>
<td>23,901</td>
<td>0.82</td>
</tr>
</tbody>
</table>

* INCLUDES TOTAL OF CENSUS TRACTS 13, 14, 15, 16, 17, 29, 30 & 33

* SOURCE: ATLANTA REGIONAL COMMISSION: ENVISION 6 FORECASTS
even though there were more jobs than people located within the broader subarea in year 2000, opportunities for the broader subarea residents to stay within the subarea to work decrease steadily through year 2030. Therefore, for planning purposes only, if it were assumed that all of the broader subarea's residents desired to work within the subarea, on average only 88% of them would be able to find employment. The remaining 12% would have to find employment outside of the subarea as there are not enough jobs to accommodate the entirety of the subarea's population. Despite this, the jobs-to-population balance is fairly strong compared to the Atlanta region in general, and the opportunities to capture the subarea's employment trips internally are greater.

Since two different data sources addressing dissimilar geographies were used in this analysis, it is believed that the best “story” could be told by performing a comparison of ARC data and information provided by Georgia Power specifically for the Subarea 5 boundaries. In order to do this, ARC population and employment estimates and forecasts had to be interpolated for the year 2007 and 2012 so that they matched the Georgia Power dataset's analysis years. Georgia Power’s dataset is based on information purchased from ESRI.

Population estimates for 2007 and 2012 indicate that more than half of the broader subarea's population will reside within the Subarea 5 boundaries. Subarea 5's forecasted share of the broader subarea's

Table 08 - Subarea 5 Year 2006 Population Estimate - Subarea 5 Geography vs. Census Tracts

<table>
<thead>
<tr>
<th>YEAR</th>
<th>POPULATION SUBAREA 5</th>
<th>POPULATION ARC</th>
<th>AREA CENSUS TRACTS SUBAREA 5’S %</th>
<th>AREA CENSUS TRACTS ARC</th>
<th>EMPLOYMENT SUBAREA 5</th>
<th>EMPLOYMENT ARC</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>11,863</td>
<td>22,305</td>
<td>53.2%</td>
<td>7,577</td>
<td>38.7%</td>
<td>19,586</td>
</tr>
<tr>
<td>2012</td>
<td>14,174</td>
<td>23,821</td>
<td>59.5%</td>
<td>7,893</td>
<td>39.3%</td>
<td>20,101</td>
</tr>
</tbody>
</table>

1 INCLUDES TOTAL OF CENSUS TRACTS 13, 14, 15, 16, 17, 29, 30 & 33
2 PROJECTED POPULATION FROM NEAREST ARC ANALYSIS YEAR
3 PROJECTED 2012 EMPLOYMENT
4 PROJECTED EMPLOYMENT FROM NEAREST ARC ANALYSIS YEAR

Table 09 - 2000 Civilian Population 16+ by Employment Status

<table>
<thead>
<tr>
<th></th>
<th>SUBAREA TOTAL</th>
<th>PERCENT OF POP. 16+</th>
<th>PERCENT OF TOTAL SUBAREA POP.</th>
</tr>
</thead>
<tbody>
<tr>
<td>In Labor Force</td>
<td>5,277</td>
<td>72.7%</td>
<td>63.5%</td>
</tr>
<tr>
<td>Civilian Employed</td>
<td>4,885</td>
<td>67.3%</td>
<td>58.8%</td>
</tr>
<tr>
<td>Civilian Unemployed</td>
<td>392</td>
<td>5.4%</td>
<td>4.7%</td>
</tr>
<tr>
<td>Not in Labor Force</td>
<td>1,982</td>
<td>27.3%</td>
<td>23.8%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>7,259</strong></td>
<td><strong>87.3%</strong></td>
<td><strong>87.3%</strong></td>
</tr>
</tbody>
</table>

Table 10 - 2007 Civilian Population 16+ in Labor Force

<table>
<thead>
<tr>
<th></th>
<th>SUBAREA TOTAL</th>
<th>PERCENT OF POP. 16+</th>
<th>PERCENT OF TOTAL SUBAREA POP.</th>
</tr>
</thead>
<tbody>
<tr>
<td>In Labor Force</td>
<td>7,375</td>
<td>91.8%</td>
<td>57.1%</td>
</tr>
<tr>
<td>Civilian Employed</td>
<td>6,770</td>
<td>91.8%</td>
<td>57.1%</td>
</tr>
<tr>
<td>Civilian Unemployed</td>
<td>605</td>
<td>8.2%</td>
<td>5.1%</td>
</tr>
</tbody>
</table>
population is expected to increase population from 53.2% in 2007 and to 59.5% in 2012, up from the 41.7% observed in 2000. Additionally, employment forecasts for the same years show that 39% of the broader subarea’s total jobs will be located within the Subarea 5 boundaries. The growth of the Subarea 5 population suggests that the subarea is becoming more attractive as a residential location in comparison to the broader context. Additionally, Subarea 5’s share of the broader study area’s population and employment suggest that the subarea’s density is also increasing.

The employment characteristics of Subarea 5 can best be described in two parts (See Tables 9-11):

- Employment characteristics of the Subarea 5 residents, and
- Characteristics of jobs within the subarea

Tables 9, 10 and 11 display the employment characteristics. Georgia Power data for Subarea 5 indicates that in 2000 approximately 7,300 persons residing in Subarea 5 were age 16 or older. This represents 87.3% of the total Subarea 5 year 2000 population. Of these 7,300 persons, 5,300 were identified as being in the civilian labor force. 67.3% (4,900 persons) of the total population age 16 or older were employed in year 2000. This equates to 59% of the subarea’s total population. By contrast, 5.3% (400) persons age 16 or older were classified as unemployed, and represented 4.6% of the total Subarea 5 population. 2,000 persons (27.3%) age 16 or older were not in the civilian labor force at all, and represent 23.8% of the total Subarea 5 population.

The percentage total employed subarea residents age 16 or older in 2007 is estimated to decrease slightly, from 59% of the subarea’s year 2000 total population to 57%. This, however, does not equate to a loss of jobs, and in fact an additional 1,900 Subarea 5 residents age 16 or older gained employment. This is a change of 28.3% from 2000. The number of unemployed persons is estimated to increase by 200 persons as well, from 400 in 2000, to 600 in 2007 an increase of 57%. However, the percentage of total Subarea 5 residents classified as unemployed remained below 5%.

2007 estimates show that of the 6,800 employed persons residing in the subarea, fully 72.5% work in a job classified as “white collar.” Of these, 30.5% are considered professional while 21.4% are considered management/business, or financial. Service sector employees comprise 16.5% of Subarea 5’s total employed population while 11% of the subarea’s employed residents hold jobs classified as “blue collar.”

Estimates for 2007 show that there are 7,600 jobs represented by 8 types of jobs in Subarea 5, as seen in Table 12. Service jobs represent more than half of these jobs (4,000 - 52.5%). Government
made up of rental units. The housing units commonly associated with renters tend to be apartments or other multi-family styles, however within the subarea there are other rental options, such as single family homes. Table 14 provides additional information about the occupancy status and tenure of Subarea 5’s housing units.

The number of housing units in 2007 is estimated to have increased by 2,600 total units or 52.9% over 2000. Between 2007 and 2012, the total number of housing units added to the Subarea 5 housing stock is forecast to increase by an additional 20.8% (1,500 units). This is a forecast total net change of 4,100 housing units between 2000 and 2012, an increase of 84.7%.

As Table 15 shows, the number of total occupied units increased markedly between 2000 and 2007, and between 2000 and 2012. However, the percentage of occupied housing units between 2000 and 2007 is estimated to have decreased by 4.8% to 83.5%. The change in the subarea's vacancy rate between 2007 and 2012 is forecast...
Single Family Residences, such as the above in Inman Park, are quickly becoming unaffordable to those living within the subarea to increase by 0.5%, to 17.0%. This is a total substantive change in the subarea’s vacancy rate of 6.3% from 2000.

Over time, the affordability of the housing stock is expected to decrease. Table 16 and Figure 10 shows that between 2000 and 2012, the number of housing units valued between $100,000 and $200,000 will increase by less than 200 units. In contrast, the number of housing units valued at $300,000 or greater will increase by more than 1,000 units between 2000 and 2012. Housing units valued at under $100,000 decrease while housing units valued between $300,000 and $400,000 increased slightly between 2000 and 2007 and then will decrease between 2007 and 2012.

Overall median household incomes within the subarea will increase over time. Figure 11 illustrates that persons between the age of 25 and 54 had the highest median household incomes in 2000. They will continue to have the highest median household incomes in 2007 and 2012. The largest change in median household income is seen in the 55-64 age cohort. This forecast change reflects the aging of the subarea’s population where higher income households identified in younger cohorts for previous years are identified in the latter cohort in the analysis’s out years. The most vulnerable of the cohorts in terms of median household income are the elderly, persons age 75 and older. The median household incomes for these persons increased less than $10,000 between 2000 and 2012 while all other age groups saw significant increases in the median household incomes. It could be surmised that at some point, given the increases in the subarea’s housing unit values, that certain income groups may not be able to afford housing within the subarea.

### Density and Transit

Demographics within Subarea 5 are one indicator of potential
demand for transit. General rules of thumb regarding minimum transit supportive population and employment densities are as follows:

- 18 persons per acre is the minimum population density to support bus transit
- 32 to 66 persons per acre are required for higher capacity systems like bus rapid transit or rail
- 25 employees per acre is the minimum employment density to support bus transit
- At least 50 jobs per acre are required for rail

**Data Sources and Methodology**

Population data at the census block level was obtained from the 2000 census. Employment data at the TAZ level was obtained from the ARC travel demand model. As census block and TAZ geometry was not coterminous with the subarea boundary, the block and TAZ layers were clipped to the subarea boundary. The area for each block split by the subarea boundary and falling within Subarea 5 was then recalculated. The recalculated area was divided by the original area to determine a step down ratio. This ratio was then applied to the population and employment figures to determine population and employment in the clipped blocks and TAZs, respectively. Figures 12-13 show the population and employment density in Subarea 5.

**Key Findings**

- Total Subarea population is approximately 8,300
- Total Subarea employment is approximately 7,300
- Currently, population and employment densities in the subarea as a whole are not transit supportive
  - Population density in Subarea 5 is 7.4 persons per acre, with the 19 blocks denser than 18 persons per acre and 2 blocks denser than 32 persons per acre
  - Employment density across the subarea is 6.6 jobs per acre, with the highest density TAZ having 20.4 jobs per acre
- However, the current prevailing trend in the subarea is away from single family homes and toward higher densities, such as the recently completed and under construction multi-family for sale product along North Highland Avenue adjacent to the railroad right-of-way and a potential BeltLine station

**Half Mile Demographics**

Demographics within one half mile of the BeltLine facilities are an indicator of potential demand for transit. One half mile is the generally accepted maximum walking distance.
Figure 12 - Population Density in Subarea 5
Figure 13 - Employment Density in Subarea 5
Data Sources and Methodology

Five proposed BeltLine stations indicated in the MARTA Inner Core Study are located within Subarea 5 and used for this analysis. The proposed stations are Ponce De Leon, Copenhill-McGill, Highland, Irwin, and Edgewood. There are also three existing MARTA stations in the subarea such as King Memorial, Inman Park/Reynoldstown and Edgewood Candler Park. In addition to obtaining information from a MARTA Transit System Planning Map dated January 2007, ARC ARIS GIS data was also used.

The proposed stations indicated in the Inner Core Study do not fully align with the BeltLine trail plan. Its differences exist within Subarea 5 mostly due to physical constraints at Hulsey Yard. The Inner Core Study shows an alignment to Edgewood Avenue similar to the BeltLine trail plan. However, the Inner Core alignment heads eastbound to the Inman Park MARTA station, continues southbound onto Moreland Avenue, and then westbound on Wylie Street to reconnect to the BeltLine trail corridor. The BeltLine trail plan calls for a continuous trail through Hulsey Yard through areas where transit operations are infeasible. The gap between the BeltLine trail and the Inner Core Study alignment presents issues in the discontinuity of the BeltLine trail and transit service.

The same data sources previously mentioned in the Study Area Demographics section were used for this analysis.

To determine the portion of the subarea within ½-mile of BeltLine facilities, the ArcGIS and the Network Analyst extension were used to measure the actual ½-mile service area along the street network, as opposed to drawing a ½-mile radius circle around the facilities. This methodology was used to provide a more accurate assessment of demographics within a half mile of the facilities by accounting for network connectivity issues. A process similar to the one used in Study Area Demographics was used to determine the population and employment within the ½-mile service area, where the service area split blocks and TAZs.

Key Findings

- While roughly half the land area in Subarea 5 as a whole is within ½-mile of BeltLine facilities, slightly more than half of the subarea population is concentrated within ½-mile of BeltLine facilities.
- 49% of the total area in Subarea 5 is within ½-mile of BeltLine facilities
- Total population within ½-mile of BeltLine facilities is 4,333 persons, or 53% of the total Subarea 5 population
- The population density of 8.0 persons per acre within ½-mile of BeltLine facilities is slightly higher than 7.4 persons per acre in all of Subarea 5
- In contrast to population, employment in Subarea 5 is denser outside of the ½-mile service area of the BeltLine facilities
- Total employment within ½-mile of BeltLine facilities is 2,741
- 37% of Subarea 5 employment is within ½-mile of BeltLine
- Employment density within ½-mile
of BeltLine is of 5.1 jobs per acre as compared to 6.6 jobs per acre in Subarea 5.

**Origin Destination Trips**

Origin destination (OD) of trips helps us understand the flow of trips heading to and coming from Subarea 5.

**Data Sources and Methodology**

We extracted socio-economic characteristic data for Subarea 5 from Atlanta Regional Commission’s 20-county travel demand model. To better understand the flow of trips, the twenty county model area was broken into the following ten districts, displayed in Figure 14, and listed below:

1. Subarea 5
2. North BeltLine (North of I-20 & Subarea 5 )
3. South BeltLine (south of I-20 and Subarea 5)
4. Inside BeltLine (includes downtown and portion of Midtown inside the BeltLine)
5. Northwest City: Northwest of the BeltLine

![Figure 15 - Desire Lines for Subarea 5 trips.](image)

**Table 17 - Origin and Destination Trips from Subarea 5 to other districts**

<table>
<thead>
<tr>
<th>District</th>
<th>Subarea 5</th>
<th>North</th>
<th>South</th>
<th>Inside</th>
<th>Northeast</th>
<th>West</th>
<th>South</th>
<th>Northwest</th>
<th>Northeast</th>
<th>Southern</th>
<th>Suburbs</th>
<th>Northwest</th>
<th>Northeast</th>
<th>Southern</th>
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<td>2,042</td>
<td>2,264</td>
<td>1,177</td>
<td>6,522</td>
<td>1,354</td>
<td>6,077</td>
<td>2,407</td>
<td>2,263</td>
<td>2,512</td>
<td>3,724</td>
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<tr>
<td>North BeltLine</td>
<td>2,343</td>
<td>30,193</td>
<td>4,283</td>
<td>26,923</td>
<td>23,140</td>
<td>30,728</td>
<td>10,342</td>
<td>20,367</td>
<td>19,586</td>
<td>18,161</td>
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<tr>
<td>South BeltLine</td>
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<td>11,345</td>
<td>13,020</td>
<td>4,334</td>
<td>8,563</td>
<td>17,335</td>
<td>7,014</td>
<td>5,586</td>
<td>14,720</td>
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<tr>
<td>Inside BeltLine</td>
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<td>27,151</td>
<td>12,568</td>
<td>84,441</td>
<td>22,238</td>
<td>38,963</td>
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<td>2,472,335</td>
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</tbody>
</table>

Table 17 - Origin and Destination Trips from Subarea 5 to other districts
but inside I-285 and bounded by I-20 and GA-400


7. South City: South of BeltLine and I-20

8. Northwest Suburbs: Suburbs outside of I-285, north of I-20 and west of GA-400


10. Southern Suburbs: Suburbs outside of I-285 and south of I-20

The daily trip table was aggregated into these 10 districts to study the district to district flow of trips. Figure 15 shows daily traffic flows for the above mentioned districts. Table 17 illustrates the desire lines for Subarea 5 trips.

**Key Findings**

A majority (about 78%) of the trips originating from Subarea 5 stay within the perimeter. A detailed summary of trips originating in Subarea 5 is given below:

- 21% trips destined for the BeltLine subarea
  - 7% within Subarea 5
  - 7% North BeltLine district
  - 4% South BeltLine district
- 21% trips destined for the Inside BeltLine district
- 20% trips destined for the Northeast City district
- 12% trips destined for the Southern Suburbs district
- 4% trip destined for the Northwest City district
- 7 to 8% destined for each of the remaining districts

Similarly about 62% of the trips destined for Subarea 5 originate within the perimeter. A detailed summary of trips destined for Subarea 5 is given below:

- 21% trips originated in the BeltLine subarea
  - 7% within Subarea 5
  - 8% North BeltLine district
  - 4% South BeltLine district
- 17% trips originated in the Inside BeltLine district
  - 20% trips originated in the Northeast City district
  - 13% trips originated in the Southern Suburbs district
  - 4% trips originated in the Northwest City district
  - 8 to 9% originated in each of the remaining districts
Block Size Analysis

**Grid Network**
This section provides an analysis of the city blocks contained in Subarea 5. Block sizes are important from a transportation perspective because they provide an indicator of the characteristics of the area street network to determine important measures such as mobility and connectivity.

**Data Source and Methodologies**
A combination of the existing street network GIS layer provided by the City of Atlanta and aerial photography were used to identify grid patterns within the subarea and in other parts of the City. Because a super-block is defined by the context of street patterns around it, the super-block analysis in Subarea 5 was defined as a block with a perimeter larger than one standard deviation from the mean block perimeter. The mean block perimeter in the Study Area is 2,118 feet and the standard deviation is 1,088 feet. Therefore, for the purposes of this analysis, any block with a perimeter greater than 3,206 feet is considered a super-block.

The Subarea 5 Study Area is largely characterized by curvilinear streets that create numerous large, oblong blocks. As such, compact rectangular grid street networks are rarely found in the subarea. Those that exist are located in the corridor along Glen Iris Drive and Boulevard, and between Edgewood Avenue and Dekalb Avenue. In these areas of the grid network, there are a variety of block sizes. The block sizes vary in these areas of the grid network. Some blocks are 325’ x 650’ (perimeter =1,950 feet). Others are 450’ x 550’ (perimeter = 2,000 feet) or 425’ x 375’ (perimeter = 1,600 feet).

Block sizes in Subarea 5 are, on average, larger than those found in Atlanta’s ‘gridded’ areas such as Fairlie-Poplar and Midtown. For the purpose of comparing the block sizes in Subarea 5 with other parts of Atlanta, the block sizes in the Fairlie-Poplar and Midtown neighborhoods of Atlanta were measured. Fairlie-Poplar block sizes are generally 250’ x 250’ (perimeter =1,000 feet). The longest block in Fairlie-Poplar is 300 feet in length. Midtown block sizes are larger, generally 440’ x 480’ (perimeter =1,840 feet). Some oblong Midtown residential blocks are as long as 720 feet on one side.

Table 18 summarizes the characteristics of the city blocks located in the Subarea 5 Study Area and the grid networks found in other neighborhoods in Atlanta. On average, the 202 blocks located in the subarea are larger than the blocks found in the Fairlie-Poplar and Midtown neighborhoods. There is also a wider range of block sizes in the subarea, as its minimum and maximum block perimeters are the smallest and largest found, respectively, in any of the neighborhoods.

In addition to comparing the blocks in Subarea 5 to the rectangular grid networks found in Fairlie-Poplar and Midtown, they were also compared to the blocks found in four nearby neighborhoods. Table 19 displays the grid comparisons. These include Virginia-Highland, Poncey-Highland,
Cabbagetown, and Reynoldstown. While the street networks in these neighborhoods are also not perfect grids, they each include small sections of grid network. The table below compares Subarea 5 to these nearby neighborhoods.

As can be seen in Figure 16, the pockets of grid network found in Subarea 5 are most similar to those found in Poncey-Highland and Reynoldstown. They are generally smaller than the blocks found in Cabbagetown and along St. Charles Avenue in Virginia-Highland.

Super-blocks
This section provides an assessment of the characteristics of the ‘super-blocks’ found in Subarea 5. Super-blocks are city blocks that are larger than the average city block of the surrounding neighborhood. For example, while city blocks are typically 400 feet on a side, superblocks may be twice that length or more. There is, however, no strict definition of a super-block. They are defined by the degree to which their size differs from the other city blocks in their area.

Super-blocks can have negative transportation, safety, and land use impacts on the surrounding neighborhood. These include:

- Longer trip times due to reduced connectivity (fewer route options)
- Poor accommodation of pedestrians and bicyclists due to reduced visibility and increased trip length
- Deteriorated safety due to reduced pedestrian activity and reduced visibility of the street and sidewalk
- Less diversity of land uses
- Poor aesthetics due to the disproportionately large super-blocks

Figure 17 shows the eighteen super-blocks in the Subarea 5 Study Area.

Over half of the super-blocks (10 of 18) in the Subarea 5 Study Area are adjacent to the abandoned rail right of way. Some contain solely industrial land use, while others are a mix of residential, commercial, and green space.

The most visible super-block adjacent to the BeltLine right of way is likely the block containing City Hall East, to the west of the railroad tracks between Ponce de Leon Avenue and North Avenue. City Hall East is not only the largest building in Subarea 5, it is the largest building in the state of Georgia, with 2 million square feet of space. A redevelopment of this site is planned to create a mixed-use residential, office, and commercial area. The redevelopment project will not improve vehicle connectivity with new streets, but will enhance pedestrian connectivity with a new walkway splitting the block north-south to connect Ponce de Leon Avenue and North Avenue.

Another significant portion of the super-blocks (5 of 18) are sections of Freedom Parkway. These sections are green spaces connected by trails and are occasionally crossed by the local street network. They are not adjacent to the BeltLine.

The remaining super-blocks include residential, residential/commercial, and industrial land uses. They are all bounded by curvilinear streets and, as a result, are oddly shaped.

Several of the identified super-blocks have road segments that enter them but do not pass all the way through. An example is Ensley Street off of Ralph McGill Boulevard. There are opportunities to extend existing roads to break up super-blocks.
and enhance connectivity in the subarea.

**Key Findings**

- Subarea 5 is largely characterized by curvilinear streets that create numerous large, oblong block. Compact rectangular grid street networks are rarely found in the subarea.
- Block sizes in the subarea, on average, are larger than those found in Atlanta gridded areas, such as Fairlie-Poplar and Midtown.
- There are 18 superblocks in the subarea, with the 16 either adjacent to the abandoned rail right-of-way or adjacent to Freedom Parkway.
Connectivity Analysis

Connectivity is a measure of how well a street network provides alternate routes between destinations in an area. A network with a high degree of connectivity offers many short links, numerous intersections, and few dead-end streets to maximize the route options available to users. A grid network composed of many small blocks, for example, offers good connectivity. On the other hand, a street network comprised of cul-de-sacs or other streets with infrequent intersections offers poor connectivity. As connectivity increases, travel time generally decreases because route options increase, allowing direct travel between destinations.

Data Source and Methodologies

Using GIS, the number of roadway links and intersections was calculated. The connectivity of the Subarea was measured using a connectivity ratio, which are calculated by dividing the number of roadway links by the number of roadway nodes within a subarea. Links are the road segments between intersection and nodes are the intersections. Connectivity ratios typically fall between 0 and 2. As the connectivity ratio increases, the number of route choices available to drivers, bicyclists, and pedestrians also increases.

BeltLine Subarea 5 has a connectivity ratio of 1.7. This high connectivity ratio indicates that travelers within the subarea have a high number of route choices available. This is not surprising due to the subarea's large number of small block sizes and numerous street intersections. See Figure 18 for a map of the subarea displaying the street network with intersections highlighted.

For comparison, a street network surrounding one four-sided block has a connectivity ratio of 1.0 (four street segments / four intersections = 1.0). A street grid composed of four blocks has a connectivity ratio of 1.33 (12 street segments / nine intersections = 1.33). Finally, a street network composed of nine blocks has a connectivity ratio of 1.5 (24 street segments / 16 intersections = 1.5). These examples demonstrate how a grid network with frequent street intersections results in a higher connectivity ratio due to its ability to provide a variety of route options to users.

Physical Constraints / Constraint to Mobility

Mobility is the degree to which users of a transportation network are able to move around easily. Increases in miles and/or speed traveled are indicators of improved mobility. Accessibility, on the other hand, is the degree to which key destinations such as employment centers can be reached by those using the transportation network. It is measured by the distance or time it takes to reach a destination. Enhancing mobility is one way of improving accessibility. This section assesses the existing transportation network for locations where mobility and accessibility are constrained due to existing features.

The major constraints to mobility and accessibility within Subarea 5 are Freedom Parkway and two sets of rail lines: the abandoned BeltLine rail and active freight rail. The BeltLine rail disrupts connectivity by physically separating the neighborhoods on either side of it. In the approximately 1.4 mile-long subarea, there are only eight streets that connect the areas on either side.
side of the tracks. These streets are: Ponce de Leon Avenue, North Avenue, Ralph McGill Boulevard, Freedom Parkway, Highland Avenue, Lake Avenue (Irwin Street), Edgewood Avenue, and Dekalb Avenue. To the north, the BeltLine is above-grade over Ponce de Leon Avenue, North Avenue, and Ralph McGill Boulevard. To the south, the BeltLine is below-grade under Freedom Parkway, Highland Avenue, and Edgewood Avenue. There are two at-grade crossings: Lake Avenue (Irwin Street) and Dekalb Avenue.

Additionally, there is a disconnect in the BeltLine itself which creates a physical constraint to the implementation of a continuous transit, path, and trail loop. At the southern border of Subarea 5, the BeltLine rail hooks west and joins the freight tracks at Dekalb Avenue. However, the abandoned BeltLine rail in the subarea to the south approaches the freight yard approximately one-half mile to the east. This is a major challenge to the continuous loop-shaped connectivity of both the proposed transit route and the multi-use trail. (See Figure 20)

While the freight tracks just to the south of Subarea 5 are located in a separate Subarea, they impose a constraint on mobility and accessibility in Subarea 5 by limiting north-south connections between the two Sub-Areas. Currently there are only three street connections under the freight tracks between Subarea 5 and the neighborhood to the south, at Boulevard, Krog Street, and Moreland Avenue. All other streets in Subarea 5 end at Dekalb Avenue, where travelers of all modes are

Figure 18 - Connectivity Analysis

Krog Street Tunnel's limited access make it into a barrier between Study Area's 4 and 5
forced to head east or west.

The MARTA heavy transit rail is also located in the freight right of way. However, the tracks are elevated, thereby imposing no constraint on mobility and accessibility, save for the location of the tracks' support pillars.

Freedom Parkway causes similar disruption to mobility and accessibility in the subarea. Freedom Parkway is a four-lane divided Urban Principal Arterial that connects I-75/I-85 to the west with Ponce de Leon Avenue NE to the northeast. Access to the 1.75-mile-long Freedom Parkway is limited, as it only provides connections to Boulevard, Highland Avenue, Moreland Avenue, Ralph McGill Boulevard, and North Avenue. Constructed years after the surrounding street network, Freedom Parkway cuts off a number of through streets and creates dead ends. Similarly, it provides an obstacle to project implementation today, especially the creation of new inter-neighborhood street connections.

Freedom Parkway alternates between being at-grade, below-grade, and above-grade. It is situated at-grade from Ponce de Leon Avenue to roughly Ralph McGill Boulevard. It is above-grade from that point over the BeltLine right-of-way, then dives below-grade under several streets until returning to grade near Boulevard. Because of this, it likely constrains improvements to the transportation network surrounding the BeltLine but likely does not constrain the implementation of project activities directly along and adjacent to the rail line.

Despite Subarea 5’s relatively high connectivity ratio, it is hampered by the physical barriers created by Freedom Parkway and, to a lesser extent, the abandoned BeltLine rail line. These two transportation corridors create disconnects by slicing through the street network. Additionally, Freedom Parkway generally does not intersect with the surrounding street network, thereby reducing connectivity. The MARTA line along Dekalb Avenue, which forms the southern border of the subarea, also hinders roads from crossing between Sub-Areas 4 and 5.

There are several opportunities to enhance connectivity for vehicles within Subarea 5 by intersecting or bypassing existing physical barriers. Most opportunities are locations where the existing road network could be extended across the BeltLine right-of-way with underpasses, overpasses, or at-grade crossings. Dallas Street, for example, could be extended across the BeltLine right-of-way and connect with the street network to the east. Additional opportunities for increasing connectivity are available where the street network could be extended across Freedom Parkway. For example, Sampson Street could be extended to provide an additional north-south connection between Highland Avenue and East Avenue.

Natural Features Constraints

I. Water
There are no floodplains or wetlands registered in the National Wetlands Inventory (NWI) in the subarea. However, the NWI data should be used for planning purposes only and a more detailed analysis of area wetlands and floodplains can only be identified through field surveys. There are no active above-ground streams or rivers. There are three artificial lakes: one at the Carter Center, Crystal Lake in Springvale Park and one at the Martin Luther King, Jr. National Historic Site. These are all relatively small and entirely contained onsite.

II. Slope
The City Hall East site represents the lowest point in the subarea, at 885 meters above sea level. The highest elevations in the subarea are 985 meters above sea level. The natural slopes connecting these high and low points are generally gradual. The steepest slope in the subarea is west of City Hall East, where North Avenue slopes downhill from Boulevard Avenue to the basin in which City Hall East is located. This average slope is approximately 8.8%, which poses no inherent constraint to project implementation. The BeltLine rail does not gain or lose significant elevation along its route through the subarea.
Water collects on Dallas Street at one of the lowest points in the Study Area.

Figure 19 shows more localized slope information. Throughout the subarea, there are no widespread areas that impose constraints on the development of transportation alternatives. There are few natural barriers to connectivity in the subarea. Subarea 5 benefits from gradually changing topography and an absence of water bodies or steep grades that impede or prohibit the construction of transportation facilities. One of the few exceptions includes the area of the BeltLine right-of-way that divides Old Fourth Ward and Poncey-Highland just south of North Avenue.

Because the street network in Subarea 5 is already established, creative connections may be added to improve bicycle and pedestrian connectivity. These links provide connectivity for pedestrians and bicyclists where automobile connectivity has been eliminated. In Subarea 5, this has been done with paths connecting dead-end streets to the multi-use PATH trail, such as at Kendall Street off Alaska Avenue. Pedestrian and bicycle connectivity to the PATH trail is also offered from streets that are not dead-ends, such as Highland Avenue and John Wesley Dobbs Avenue. There are additional opportunities to connect bicyclists and pedestrians to the proposed BeltLine multi-use path from the existing street network.

Key Findings

- Subarea 5 has a high connectivity ratio that allows for several connection choices for the traveler
- Physical constraints are due to the barriers created by the Freedom Parkway and the BeltLine rail alignment
- There are opportunities to enhance vehicular connectivity by intersecting or bypassing the physical barriers
Figure 20 – Existing Constraints to Development
Urban Design and Environment

Urban Design reflects the way in which the placement and massing of buildings work together to form a space greater than the individual buildings while taking into account the public experience. The subarea consists of four prominent urban patterns. The interior of the subarea contains mostly small block, narrow streets, single family homes and large tree canopies. The periphery of the subarea to the north and east is made up of commercial uses varying from street-oriented buildings and low-density, to automobile-oriented big box uses. The third is the open space fabric dominated by Freedom Parkway located in the heart of the subarea. Finally, there is the area directly adjacent to the BeltLine corridor which is made up large superblocks of industrial or underused land.

Data Source and Methodologies

The City of Atlanta provided a GIS shapefile of potential Brownfields and parks. The tree canopy information was gathered by utilizing current aerial photography and a GIS function. The park data and tree canopy were verified on a site visit. Other elements of urban design such as building setbacks and massing were gathered by using some zoning data, but mostly collected on various site visits.

The majority of public spaces within the subarea consist of streets and sidewalks. Sidewalks are inconsistent and discontinuous throughout the subarea with varying condition, planting, clear, and supplemental zones.

Building setbacks and their relationship to adjacent buildings is another element of urban design. For newer residential developments, setbacks are consistent within the developments, but do not necessarily relate to surrounding buildings. Little Five Points, portions of Ponce de Leon Avenue, Boulevard, Edgewood Avenue and Auburn Avenue overall have good spatial form, with buildings facing the street and similar building massing. In addition, some of the retail buildings along these corridors have integrated areas for outdoor dining and community gathering.

Some of the urban design challenges facing

There are large portions of the subarea that remain vacant and could be better incorporated into the urban fabric

View towards one of the few stands of mature trees within Old Fourth Ward
Subarea 5 specifically along the major corridors include:

- Auto-oriented corridors and lack of sufficient pedestrian buffering from fast-moving cars
- Lack of enclosure in commercial areas
- Discontinuous sidewalks in need of repair
- Overhead utilities contributing to visual blight

The environmental features are an important balance to developed areas by providing habitats for native and migratory animals, buffer incompatible land uses, provide recreational opportunities and prevent flooding by capturing stormwater and other runoff.

Tree Canopies
Representative of most of Atlanta, the tree cover in the subarea is contained mostly to the residential neighborhoods. The arterials and commercial nodes are poorly planted with limited tree canopies to buffer the large amounts of impervious parking. Ponce de Leon Avenue is a prime example of a treeless arterial, while portions of Boulevard, North Avenue and Moreland Avenue have tree canopies in the residential segments.

Brownfields
As noted on Figure 21, potential contaminated brownfields are mostly limited to sites along the BeltLine. These sites include former gas stations, coal and steel yards, suspected leaking underground storage tanks, scrap metal yards, and auto repair facilities. Many of these sites are inactive, or are active with reason to suspect contamination or have been redeveloped and/or converted to other uses.

Historic and Cultural Resources

Historic Resources
There are a number of historic resources present in the subarea contained within four historic districts. Those historic districts are as follows:

- Inman Park Historic District
- North Avenue/Ralph McGill Boulevard
- Old Fourth Ward
- Poncey Highland

With the exception of the Inman Park Historic District which is on the National Register of Historic Places, the other three districts are listed as significant resources by the Atlanta Urban Design Commission.

Additionally, there are a number of other significant historic resources located within the subarea. According to the Atlanta Urban Design Commission, they are as follows:

- Clermont Motor Hotel
- Empire Manufacturing Company
- Ford Factory
- Griffith School of Music (Payne-Griffith House)
- Highland School (J.S. Candler School)
- Kriegshaber, Victor H. House (The Wrecking Bar)
- NuGrape
- Sears-Roebuck (City Hall East)
- Southern Dairies
- Telephone Factory
- Troy Peerless Laundry
Figure 21 - Existing Environmental Features
The most prominent historic resource in the subarea listed on the National Register of Historic Places is the Martin Luther King, Jr. National Historic Site located in the southwest corner of the subarea. Its campus consists of a park, a museum, the King Center for Nonviolent Change, and other components. Adjacent to the site is also Old Fire Station Number 6 which serves as a museum and bookstore. (See Figure 22)

Community Resources
There are several cultural sites in the subarea.

I. Churches - There are at least twelve churches in the subarea. They are as follows:
   • Druid Hills Church of Christ
   • Fort Street Memorial United Methodist Church
   • Sylvester Baptist Church
   • Tabernacle Baptist Church
   • East Atlanta Primitive Baptist Church
   • Mount Zion Second Baptist Church
   • New Birth Fellowship Church
   • Inman Park United Methodist Church
   • Lizzie Chapel Baptist Church
   • Ebenezer Baptist Church
   • Our Lady of Lourdes Catholic Church
   • Garden of Prayer Church

II. Schools - There is only one active school in the subarea, John Hope Elementary School located on Boulevard Avenue at Irwin Street.

III. Community Services - There are several community service facilities in the subarea. They include:
   • Southern Christian Home for Children
   • Martin Luther King Junior Community Center
   • Martin Luther King Junior Branch Atlanta-Fulton Public Library
   • Martin Luther King Junior Center for Nonviolent Social Change
   • MLK Natatorium

IV. Hospitals - There is one medical facility in the subarea, the Inner City Community Health Center. The Atlanta Medical Center on Boulevard is just outside the subarea boundaries.

V. Parks - There are seven parks in the subarea. Six of them are small neighborhood pocket parks. These include:
   • Springvale Park
   • Morgan-Boulevard Park
   • Old Fourth Ward Park
   • Inman Park
   • Delta Park
   • Bass Recreation Center

In addition to the pocket parks, Freedom Parkway occupies a substantial portion of the subarea. In this area, its hub is the Carter Center, with stretches of park east-west along Freedom Parkway and a swathe running north-south between Ponce de Leon Avenue to the north and the Inman...
Park-Reynoldstown MARTA Station to the south. Freedom Parkway also contains a multi-use trail.

VI. Municipal - There are limited municipal facilities in the subarea. City Hall East currently contains some city hall functions and a police precinct, though the building has been sold and is slated for mixed-use redevelopment in the near future. There are two fire stations in the subarea. Fire Station Number 12 is located on Dekalb Avenue between Elmore Place and Candler Street.

VII. Media - The WSB news station and tower is located just north of Freedom Parkway approximately one-quarter mile west of the BeltLine right of way.

Data Sources and Methodology
The City of Atlanta has an active Urban Design Commission (UDC), which provided all BeltLine planning teams with a GIS source file of both existing identified historic structures and potential historic sites. In order to generate a list of significant historic resources for each subarea, the UDC conducted a detailed field survey to collect an inventory of historic sites and structures in the City of Atlanta along and adjacent to the TAD boundary. An analysis and evaluation of the inventory was then conducted in addition to a review of structures and districts of significance. Some of the next steps towards developing a more finalized list will be the formation of a panel of architecture, historic, and cultural experts that will review and finalize the inventory list for federal listing.

Another layer provided by the UDC included cultural resources and other points of interest. In addition, the Urban Design Commission provided a shapefile of existing City and National historic districts. This data was reviewed for accuracy during a windshield survey performed by the planning team.

Key Finding
• Public spaces in the subarea consist of streets and sidewalks. However, the quality of the sidewalks vary throughout
• Urban design challenges facing Subarea 5 include lack of sufficient pedestrian buffering and discontinuous sidewalks in need of repair
• The MLK Jr. Center for Nonviolence and Social Change is a community resources of national significance in the subarea.
Figure 22 - Existing Historic and Cultural Resources
Previous Plans and Studies

The City of Atlanta currently has several planning initiatives impacting Subarea 5. The subarea has undergone its share of studies and plans ranging from Corridor Studies, Livable Center Initiatives, and the BeltLine Redevelopment Plan. Due to recent development interests, circulation challenges, and economic generators east of Downtown Atlanta, there has been an overlap in boundaries as the plans and studies were developed. Fortunately, the plans were successful in integrating recommendations from previous plans and recognized the community vision previously established. The previous plans and studies containing specific geographic boundaries (not including City-wide plans) that impact Subarea 5 are illustrated in Figure 23. The following are existing studies and plans affecting Subarea 5.

Data Source and Methodology

Previous plans and studies were obtained from the project sponsors who conducted planning studies from 1999 to 2007. These plans are grouped into three categories:

1. City-wide
2. BeltLine Related
3. Local

City-Wide Plans

City of Atlanta Greenspace Plan (under development)

The purpose of Project Greenspace is to produce a world-class greenspace system in Atlanta that connects people to parks, recreational facilities, natural areas, outdoor gathering places, streetscapes, and greenways. Greenspace is a system of parks, natural areas, open spaces, outdoor gathering places, and streetscape and greenway connections that perform vital environmental, economic, and social functions essential to Atlanta's quality of life and community health. Project Greenspace builds on prior park and greenspace initiatives in the City of Atlanta, including the 1993 Parks, Open Space and Greenways Plan, the 2005 Atlanta Park System Agenda, the BeltLine Initiative, and others. There are four major categories that make up the framework of the Greenspace Plan: Parks and Recreation, Natural Resources, Community, and Economic Development. There are two recurring themes of the cities greenspace plan: growing and maintaining the greenspace system.

City of Atlanta BeltLine Brownfield Survey (January 2005)

In January 2005, MACTEC completed a preliminary environmental evaluation of the BeltLine corridor. The purpose was to evaluate potential environmental issues and sites. The study identified 146 properties having potential environmental impact. The Brownfield Initiative is the assessment of real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Of the 146, there are nine potential Brownfield sites in Subarea 5. One of the major sites is located in the Old Fourth Ward where there is major redevelopment opportunity for parks, new housing, commercial space and new greenways. There are a number of sites that have been identified within the Brownfield Survey, but the majority of them are in the planning and consulting stages. There has also been a development of a Property Nomination Form to be used by the general public to nominate potential sites for the program.

Mayor’s Economic Development Plan (July 2005)

The New Century Economic Development Plan for the City of Atlanta was adopted in 2004 and updated on July 14, 2005 after the completion of a mid-year review. The major changes with respect to Subarea 5 involve the BeltLine expansion with new projects. There has also been a concern for parks and greenspace. Moving forward with the BeltLine Plans, developing and maintaining the city’s parks and greenspace is a major initiative within the economic development plan. Creating standards for greenspace and identifying potential sources of funding to grow dedicated greenspace...
and parks are just two of the recommendations within the Mayor’s Economic Development Plan. Creating an inventory and tracking private greenspace through public and private initiatives are major concerns as well.

Atlanta Strategic Action Plan (formerly known as the Comprehensive Development Plan) (2005, 2007)
The Strategic Plan is a comprehensive development plan of the City of Atlanta prepared and maintained to be used as a guide for the growth and development of the City and which it will identify its present and planned physical, social and economic development. This plan shall set forth the comprehensive development goals, policies and objectives for both the entire City and for individual geographic areas and communities within the City. In addition, the plan addresses the development goals, objectives and policies; identify the general location, character, and extent of streets and thoroughfares, parks, recreation facilities; sites for public buildings and structures; City and privately-owned utilities; transportation systems and facilities; housing; community facilities; and future land use for all components. A comprehensive plan was compiled in 2005, and updated in 2007. The comprehensive plan brings together and addresses all aspects of community and economic functions with the objective of sustaining and improving these functions in the future. The comprehensive plan addresses, but is not limited to the following issues of current concern for Atlanta such as rapid population growth and suburban sprawl, environmental protection, affordable housing, lack of open space, transportation and quality of life.

Park Program Initiatives
The PATH Foundation
The PATH Foundation has indicated that they have no plans to actively develop any trails in the Subarea 5 subarea outside of those that are identified in the BeltLine Redevelopment Plan. The organization has stated that they will be an active partner in trail facility planning for the BeltLine, even though they may not actively fund or construct any of the trails.

Park Pride
A review of the Park Pride website and the organization's FY 2007 work plan indicates that while the organization has conducted several park planning sessions in the past, and is either currently conducting or planning to conduct additional park planning sessions specifically related to BeltLine corridor parks, they have not stated plans to perform any planning exercises within the Subarea 5 subarea. It is likely that Park Pride will become involved in future planning efforts for the parks within the Subarea 5 subarea that have been identified within the BeltLine Redevelopment Plan, the Emerald Necklace Plan, and the many corridor and LCI plans.

Master Plans
Imagine Downtown (November 2005)
The eastern limits of the Imagine Downtown Plan are within the boundary of the subarea. The plan is a compilation of several other plan documents that, as a whole, address Downtown Atlanta. These plan documents include: Butler/Auburn Redevelopment Plan, City Center Livable Centers Initiative, and the JSA-McGill Livable Centers Initiative.

Imagine Downtown presents a development framework, a transportation network plan, a plan for public spaces, neighborhood and district plans, and an implementation plan. Developed through a very public and collaborative process between Atlanta’s Downtown business community, residents, and employees, the Imagine Downtown plan lays out a compelling vision of how people will work, play, and travel in the future. It also ties together several different, but related concepts revolving around culture and entertainment.

The Imagine Downtown plan did not specifically identify shortcomings and/or deficiencies. However, it identified several concepts and projects which can be found in subsequent planning work associated with the BeltLine project.
Figure 23 - Previous Plans and Studies
Transportation Studies

*North Highland Avenue Transportation and Parking Study (December 1999)*

The North Highland Avenue Transportation and Parking Study is an effort to address the issues associated with growth as they affect the North Highland Avenue corridor of the Virginia-Highland community. The study looked at how sprawl within the larger metropolitan area affected the area being studied, and focused on recommendations addressing those issues by taking into consideration the quality of life for the corridor's residents.

The North Highland Transportation and Parking Study is one of numerous corridors studied by the City of Atlanta, and focuses on transportation, parking and pedestrian issues along North Highland Avenue. The study also presents recommendations to preserve the “character” of adjacent neighborhoods, manage new growth and encroachment, and to conserve critical resources.

Redevelopment Plans

*BeltLine TAD Redevelopment Plan and FY 2006-2010 Work Program (November 2006)*

A direct result of the BeltLine Tax Allocation District (TAD) Feasibility Study, the BeltLine Redevelopment plan performed a detailed evaluation of land use, transportation, greenspace/public space, public infrastructure, urban design, historic preservation, and cultural resources. In addition to these elements, the redevelopment plan sometimes considered issues such as environmental contamination of land, affordable housing, social services, and retail/commercial opportunities.

The redevelopment plan established a framework to guide the implementation of the BeltLine project, and established a multi-year work program to guide funding priorities for the TAD. TAD bond funds will be used to cover the capital costs associated with the development of public infrastructure as well as subsidizing other public policy objectives such as:

- Affordable/workforce housing
- Development incentives for underserved communities, and
- Transportation system improvements for BeltLine adjacent neighborhoods

The redevelopment plan breaks the BeltLine into smaller study areas and subareas for which plans are being developed through a public planning process. These smaller subarea plans are being done to refine and identify priority areas for projects. However, the overall redevelopment plan identifies several specific projects to be undertaken, project cost estimates, and prioritizes them in light of the overall redevelopment plan. Projects identified in Subarea 5 have been programmed into a multi-year work program, and will likely change as the detailed plans for the subarea are completed.

*BeltLine Street Framework Plan (September 2006)*

A product of the BeltLine Redevelopment Plan, the BeltLine Street Framework is an attempt to inject context sensitivity into the traditional hierarchy of functionally classified streets. The Street Framework addresses roadway design at the urban design level and provides generalized guidance about the features of the roadway. The design of these features is defined by the predominant zoning category that is adjacent to the roadway segment. Establishing this sort of framework enables land use to generally inform the streets design so that the available features of the roadway which are supportive of the land use might be made available. Ideally, the functional classification of the street would also inform the land use decision-making process by assisting in the determination of appropriate land uses which would work best along a given segment of roadway given the roadway's overall function. In theory, this would create an iterative feedback loop in which a balance between land use and transportation is achieved. The BeltLine Street Framework stops short of creating this feedback loop, and instead gives priority to land use as the determining factor in a roadway segment's design. All possible ranges of land use are allowed along each of the Street Framework's functional street
A separate BeltLine Design Guidelines document provides design requirements for trails, greenspace and public spaces, transit access, development site design limitations, building form and design expressions, parking, work force housing, mixed use development, historic preservation, and environmental protection considerations. Finally, the land use plan element of the BeltLine Redevelopment Plan provides guidance about density and generally allowable land uses. A more precise determination of allowable land uses will be identified in the subarea plans for the BeltLine project. Specific uses are defined in the redevelopment district’s (analogous to the TAD) zoning and/or subdivision regulations.

In short, each of these plan elements works hand-in-hand with the other, and the Street Framework is just one component of a larger mix of available tools.

BeltLine Emerald Necklace (December 2004)

A precursor to the BeltLine TAD Feasibility Study and the Redevelopment Plan, the BeltLine Emerald Necklace study conducted by the Trust for Public Land constructed a unified vision for the development of greenspace and transportation along the proposed BeltLine corridor. The Emerald Necklace looked at opportunities and constraints, available resources, and proposed not only a vision for greenspace and transportation along the corridor, but also proposed an action plan for achieving the vision. This action plan was subsequently acted upon and led to the establishment of both a Tax Allocation District and a detailed redevelopment plan. Proposals from this plan document have supplied not only the BeltLine plans, but also the LCI plan and corridor plan documents as well.

Old Fourth Ward Redevelopment Plan (under development)

This planning study has not been provided by the City of Atlanta or Atlanta BeltLine, Inc. and is currently being updated, with completion expected in 2008.

Livable Centers Initiatives

Ponce de Leon Corridor Plan/Moreland Avenue Corridor Plan Update, and Moreland Livable Centers Initiative (August 2005)

This plan document, assembled by the City of Atlanta’s Department of Planning and Community Development, is a combination of three separate planning studies. They are:

- Ponce de Leon Corridor Plan
- Moreland Avenue Corridor Plan
- Moreland Livable Centers Initiative (grandfathered)

These documents effectively address the northern and eastern boundaries of Subarea 5. A variety of issues were identified in each of these plans. These included concerns about transportation barriers, deteriorating and inadequately maintained public facilities, lack of greenspace and public spaces, inconsistent urban design along corridors, transportation system operations, the need for additional retail and housing opportunities, and neighborhood encroachment to name a few. Each of these concerns and more were addressed through a land use plan and a detailed transportation implementation strategy developed for each of the affected areas considered within the plan. The result is a work program that can be easily programmed and tracked through the capital budgeting process.

City Center Livable Centers Initiative (December 2001)

The City Center plan was developed under a Livable Centers Initiative (LCI) grant from the Atlanta Regional Commission (ARC). The LCI project had four sponsoring Project Partners, namely: Central Atlanta Progress, Inc. (CAP), Georgia State University (GSU), Historic District Development Corporation (HDDC), and The Atlanta Housing Authority (AHA).

This document is written in two volumes. The first presents a general description of the plan area, key demographic and socio-economic data, and broad brush recommendations. Volume II of the document is a technical memorandum that
includes:

- Five-year implementation plan
- City of Atlanta development incentives programs
- Demographic trends
- Public input
- Land use and zoning analysis and recommendations
- Stakeholder interview summary

This plan and its recommendations have been incorporated into the Imagine Downtown Plan and the BeltLine Redevelopment Plan. Several of the identified projects are either being refined as part

Table 20 - City of Atlanta FY 2007-2011 Capital Improvements Program (Status: Adopted)

<table>
<thead>
<tr>
<th>PROJECT NAME</th>
<th>STATUS</th>
<th>COMPLETION DATE</th>
<th>COST</th>
<th>PROJECT TYPE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angier Avenue</td>
<td>Complete</td>
<td>Apr-2006</td>
<td>$67,829</td>
<td>Resurfacing</td>
<td>From Boulevard to Argonne Avenue</td>
</tr>
<tr>
<td>Arnold Street</td>
<td>Not Started</td>
<td>2008</td>
<td>$26,461</td>
<td>Resurfacing</td>
<td>From Ranking Street to Wabash Avenue</td>
</tr>
<tr>
<td>Auburn Avenue</td>
<td>Not Started</td>
<td>Feb-2007</td>
<td>$25,000</td>
<td>Speed Hump Installation</td>
<td>Bulbouts at the two existing pedestrian crossings at Hogue Street and at Howell Street.</td>
</tr>
<tr>
<td>Boulevard Place</td>
<td>Not Started</td>
<td>Aug-2008</td>
<td>$78,000</td>
<td>Resurfacing</td>
<td>From Boulevard to Glen Iris Drive</td>
</tr>
<tr>
<td>Dallas Street</td>
<td>Not Started</td>
<td>Aug-2006</td>
<td>$39,495</td>
<td>Resurfacing</td>
<td>From Glen Iris Drive to North Angier Avenue</td>
</tr>
<tr>
<td>DeKalb Avenue</td>
<td>Construction</td>
<td>Jun-2006</td>
<td>$220,000</td>
<td>Sidewalk Improvements</td>
<td>From Martin Luther King MARTA to Moreland Avenue</td>
</tr>
<tr>
<td>East Avenue</td>
<td>Not Started</td>
<td>Aug-2006</td>
<td>$90,783</td>
<td>Resurfacing</td>
<td>From Boulevard to Dead End</td>
</tr>
<tr>
<td>Edgewood Avenue</td>
<td>Not Started</td>
<td>Jul-2007</td>
<td>$500,000</td>
<td>Streetscape</td>
<td>From Butler Street to Hurt Plaza</td>
</tr>
<tr>
<td>Moreland Avenue</td>
<td>Construction</td>
<td>Nov-2006</td>
<td>$115,375</td>
<td>Traffic Signals and Communication</td>
<td>Install and upgrade traffic signals; Link signal system to the ATCC via fiber optic communications; Develop signal-timing plans for corridor</td>
</tr>
<tr>
<td>Moreland Avenue North</td>
<td>Evaluation/Design</td>
<td>Jul-2009</td>
<td>$168,750</td>
<td>Streetscape</td>
<td>From North Avenue to I-20</td>
</tr>
<tr>
<td>Morgan Street</td>
<td>Not Started</td>
<td>Aug-2006</td>
<td>$38,389</td>
<td>Resurfacing</td>
<td>From Boulevard to North Angier Avenue</td>
</tr>
<tr>
<td>North Angier Avenue</td>
<td>Not Started</td>
<td>Aug-2006</td>
<td>$25,377</td>
<td>Resurfacing</td>
<td>From North Avenue to Dallas Street</td>
</tr>
<tr>
<td>Ponce de Leon Avenue</td>
<td>Design</td>
<td>Jul-2009</td>
<td>$252,000</td>
<td>Streetscape</td>
<td>From I-75/85 to Moreland Avenue,</td>
</tr>
<tr>
<td>Ponce de Leon Avenue and Moreland Avenue</td>
<td>Design</td>
<td>Apr-2009</td>
<td>$26,900</td>
<td>Intersection Improvement</td>
<td>Add LT signal for SB approach</td>
</tr>
<tr>
<td>Ponce de Leon Avenue and Moreland Avenue</td>
<td>Design</td>
<td>Apr-2009</td>
<td>$26,900</td>
<td>Intersection Improvement</td>
<td>Add LT signal for SB approach</td>
</tr>
<tr>
<td>Rankin Street</td>
<td>Not Started</td>
<td>Aug-2006</td>
<td>$38,479</td>
<td>Resurfacing</td>
<td>From Boulevard to Dead End</td>
</tr>
<tr>
<td>Wabash Avenue</td>
<td>Not Started</td>
<td>Aug-2006</td>
<td>$38,310</td>
<td>Resurfacing</td>
<td>From Boulevard to Glen Iris Drive</td>
</tr>
</tbody>
</table>

SOURCE: CITY OF ATLANTA, ANNUAL CAPITAL IMPROVEMENTS BUDGET, SEPTEMBER 2006
of the BeltLine planning process or implemented as planned.

City of Atlanta Capital Improvement Projects

A listing of Capital Improvement Projects slated for 2007-2011 are listed in Tables 20 through 22. Table 20 outlines the major capital improvement projects in Subarea 5. Projects range from sidewalk improvements, resurfacing projects, and intersection improvements at major intersections such as Ponce de Leon Avenue and Moreland Avenue. Table 21 shows projects related to park improvements while Table 22 presents pedestrian improvement projects.

Key Findings

The Subarea 5 Master Plan represents an opportunity to build on the plans previously conducted. The land use and park facility recommendations suggested by the Redevelopment plan were compiled on a Proposed Land Use and Open Space Map, seen in Figure 24.

For the most part previous planning efforts were reflected in more recent plans, but there are circumstances where conflicts occur. In addition, there were land use recommendations that conflict with the City of Atlanta 15-Year Future Land Use Plan in Figure 25. These conflicts are described below and labeled on Figure 26.

The majority of conflicts lie within proximity to the proposed North Avenue Park and along major corridors such as Ponce de Leon Avenue and DeKalb Avenue. The Future Land Use Plan calls for the proposed park land and surrounding properties to all be mixed-use low-rise. The Redevelopment Plan suggests that the park be surrounded by different levels of intensity of

Table 21 - City of Atlanta FY 2007-2011 Capital Improvements Program - Park Improvements (Status: Adopted)

<table>
<thead>
<tr>
<th>PROJECT NAME</th>
<th>STATUS</th>
<th>COMPLETION DATE</th>
<th>COST</th>
<th>PROJECT TYPE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>J. D. Sims Playground</td>
<td>Construction</td>
<td>Sep-2007</td>
<td>$150,000</td>
<td>Replacement</td>
<td>Replace entire playground</td>
</tr>
<tr>
<td>J. D. Sims Recreation Center</td>
<td>Planning</td>
<td>Jun-2007</td>
<td>$253,750</td>
<td>Renovation</td>
<td>Center to be renovated to serve as a cultural arts center</td>
</tr>
<tr>
<td>J. D. Sims Recreation Center</td>
<td>Construction</td>
<td>Jun-2008</td>
<td>$378,000</td>
<td>Renovation</td>
<td>Center to be renovated to serve as a cultural arts center</td>
</tr>
<tr>
<td>M. L. King Natatorium</td>
<td>Construction</td>
<td>Apr-2007</td>
<td>$1,700,000</td>
<td>Renovation</td>
<td>Pool and deck to be resurfaced, new roof, locker room renovations, fitness room, paint the entire facility</td>
</tr>
</tbody>
</table>

Table 22 - City of Atlanta FY 2007-2011 Capital Improvements Program - Pedestrian Improvements (Status: Adopted)

<table>
<thead>
<tr>
<th>PROJECT NAME</th>
<th>STATUS</th>
<th>COMPLETION DATE</th>
<th>COST</th>
<th>PROJECT TYPE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Highland Streetscapes, Phase 1</td>
<td>Construction</td>
<td>Jun-2007</td>
<td>$1,205,360</td>
<td>Pedestrian</td>
<td>Streetscape improvements along North Highland Ave from Virginia Ave to Los Angeles Ave, and a on Virginia Ave. both directions from North Highland Ave.</td>
</tr>
<tr>
<td>Downtown Atlanta Pedestrian Corridor Improvements</td>
<td>Evaluation/Design Dev</td>
<td>Oct-2007</td>
<td>$4,375,000</td>
<td>Bike/Pedestrian</td>
<td>This project will implement streetscape and safety improvements recommended in the City Center Livability Project LCI Study on Marietta Street and Centennial Olympic</td>
</tr>
</tbody>
</table>
residential use, and to focus mixed-use at larger intersections.

Other conflicts between the Future Land Use Plan and other studies are located along Boulevard, DeKalb Avenue and Ponce de Leon:

- Ponce de Leon at Parkway Drive: Mixed Use low rise to low and high density residential
- Ponce de Leon at Boulevard: Mixed use low rise to low density commercial
- Ponce de Leon between Linwood Avenue and Frederica Street: Mixed use low rise to low density residential or commercial
- Boulevard at John Wesley Dobbs Avenue: Open Space to high density residential and parking
- Boulevard at Auburn Avenue: Office/institutional to mixed use low rise
- Boulevard at Edgewood Avenue: Low density commercial to mixed use low rise
- DeKalb Avenue at Hurt Street: Mixed Use low rise to office/institutional
- DeKalb Avenue between Battery Place and Moreland Avenue: Mixed Use low rise to low rise residential

In developing the subarea master plan, efforts will be focused on resolving the conflicts identified above. Once the land use conflicts are resolved transportation improvements will be identified to support the modified land use plan. Transportation recommendations from previous studies will be assessed when developing the update transportation improvements. (See Figure 27)

A goal of the Subarea 5 Master Plan is to ensure that conflicts between previous plans and studies are resolved and appropriate modifications are developed.
Figure 24 – Proposed Land Use and Open Space from the BeltLine Redevelopment Plan
Figure 25 - Proposed Land Use from the City of Atlanta's 15-Year Land Use Plan
LAND USE CONFLICTS

Future land use compared to Proposed Land Use Recommendations from Previous Planning Efforts.

1. Mixed Use to Open Space
2. Mixed Use to Low Density Res.
3. Mixed Use to Low Density Res.
4. Mixed Use to Low Density Commercial
5. Mixed Use to High Density Res.
6. Mixed Use to High Density Res.
7. Mixed Use to High Density Res.
8. Mixed Use to Low Density Res.
9. Mixed Use to Low Density Res.
10. Low Density Res. to Mixed Use
11. Mixed Use to Office/Institutional
12. Mixed Use to Low Density Commercial
13. Mixed Use to Low Density Commercial
14. Mixed Use to High Density Res.
15. Mixed Use to Low Density Commercial
16. Mixed Use to Low Density Commercial
17. Medium Density Res. to Low Density Res.
18. Mixed Use to Low Density Res.
19. Mixed Use to Low Density Commercial
20. Mixed Use to Low Density Residential
21. Openspace to High Density Residential
22. Openspace to Parking
23. Office/Institutional to Mixed Use
24. Low Density Commercial to Mixed Use
Figure 27 - Proposed Transportation Improvements

Subarea 5: Northeast/North Avenue

Existing Conditions:
Transportation Improvements Map

LEGEND
- Pedestrian Improvements
- Proposed BeltLine Transit Stops (Redev. Plan)
- Sidewalk Improvements
- MARTA Alternative BeltLine Spur
- Peachtree Circulator
- Park Improvements
- Park/Public Facility Improvements
- Roadway Improvements
- Speed Humps
- Intersection Improvements
- Street Resurfacing
- Signal Study
- Streetscape
- Proposed Roads (Redevelopment Plan)

North Avenue Study Area
MARTA Rail Line
BeltLine Trail

Propsed Roads
(Redev. Plan)
Median
Streetscape

King Memorial MARTA STATION
Inman Park/Reynoldstown MARTA STATION
Edgewood MARTA STATION
Appendix A

Beltline Corridor Preparation

participants

Beltline Partnership  
* Jim Morgens, chair of Parks & Trails Taskforce  
* KC Boyce  
* Ryan Gravel  

PATH Foundation  
* Ed McBrayer  
* Matthew Humphries

MARTA  
Johnny Dunning, Senior Project Manager  
* Adelee LeGrand, URS  
* Paul Pattison, URS  
Scott Caples, URS  
George Manning, URS  
* core participants

purpose

The purpose of this analysis is to get a better understanding of the entire Beltline corridor in order to begin the discussion of segment priority. Important: This analysis is not complete. This is a DRAFT.

contents

2  Structure Analysis  
16  Segment Analysis  
18  MARTA connections & Beltline Length Totals

assumptions

general

Analysis considers our best recommendation for each challenge - no cheap fixes.  
Structure is deemed ‘inadequate’ if it cannot accommodate transit in two directions and a 15’ trail.  
Trail will cross transit at numerous points.  
Measurements are preliminary and not exact.  
Transit will be built in the NE corridor per the Inner Core study in 2011

ROW access

Mason team will accommodate our best recommendations in NE corridor  
Norfolk Southern will not exercise turnaround capability on wye south of Armour Yard  
If NS uses wye, substantial costs will incur at I-85, Buford Highway and Montgomery Ferry Road  
Analysis assumes redevelopment of Huley Yard  
LaFarge sand plant is relocated; SE line bought from CSX  
SW line obtained from GDOT - not shared with freight  
Westside Gap - a western route from the Redevelopment Plan and an alternate eastern route are considered.  
Analysis assumes shared corridor with freight, transit and trail in NW corridor

costs

URS provided costs for transit structures  
URS suggested $3,000 per fl for bike/ped tunnels (includes assumptions for contingencies).  
PATH recommends $2,000 per fl for bike/ped bridges
## Structure Analysis

### Virginia Avenue
- **Quarter**: northeast
- **Key**: 11
- **Type**: underpass
- **Length**: 65
- **Width**: 25-30
- **Clearance**: 20+
- **Historic**: no
- **Status**: inadequate
- **Road Type**: neighborhood connector; 2 lanes
- **Recommendation**: add bike/ped tunnel
- **Structure Added**: bike/ped tunnel
- **Notes**: alt. discussion rebuilt entire structure
- **Phasing Opp?**: prior to transit, use exist. underpass for bike/ped
- **Transit**: $195,000
- **Bike/Ped**: 65
- **Cost Assumption**: $195,000

### Ponce de Leon Avenue
- **Quarter**: northeast
- **Key**: 12
- **Type**: bridge
- **Length**: 90
- **Width**: 8
- **Clearance**: 90
- **Historic**: yes
- **Status**: inadequate
- **Road Type**: city thoroughfare (US 78); 4 lanes
- **Recommendation**: modify exist. bridge for bike/ped; add transit (2)
- **Structure Added**: transit (2) bridge
- **Notes**: requires further thought for decision
- **Phasing Opp?**: transit
- **Transit**: bike/ped
- **Cost Assumption**: $472,500

### North Avenue
- **Quarter**: northeast
- **Key**: 13
- **Type**: bridge
- **Length**: 85
- **Width**: 45
- **Clearance**: 85
- **Historic**: no
- **Status**: adequate
- **Road Type**: city thoroughfare (US 278); 4 lanes
- **Recommendation**: rehab bridge for transit (2) & bike/ped
- **Structure Added**: none
- **Notes**: phasing opp?
- **Transit**: bike/ped
- **Cost Assumption**: $255,000

### Ralph McGill Boulevard
- **Quarter**: northeast
- **Key**: 14
- **Type**: bridge
- **Length**: 85
- **Width**: 35
- **Clearance**: 30
- **Historic**: yes
- **Status**: inadequate
- **Road Type**: neighborhood connector; 2 lanes
- **Recommendation**: rehab bridge for transit (2); add bike/ped
- **Structure Added**: bike/ped bridge
- **Notes**: phasing opp?
- **Transit**: bike/ped
- **Cost Assumption**: $250,000

### Freedom Parkway
- **Quarter**: northeast
- **Key**: 15
- **Type**: underpass
- **Length**: 150
- **Width**: 100
- **Clearance**: 30
- **Historic**: no
- **Status**: adequate
- **Road Type**: limited access highway (SR 10); 4 lanes + trail
- **Recommendation**: simple improvements
- **Structure Added**: none
- **Notes**: phase opp?
- **Transit**: bike/ped
- **Cost Assumption**: $
## Structure Analysis

### Highland Avenue

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Key</th>
<th>Type</th>
<th>Length</th>
<th>Width</th>
<th>Clearance</th>
<th>Historic</th>
<th>Status</th>
<th>Road Type</th>
<th>Recommendation</th>
<th>Notes</th>
<th>Phasing Opp?</th>
<th>Transit</th>
<th>Bike/Ped</th>
<th>Cost Assumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northeast</td>
<td>16</td>
<td>Underpass</td>
<td>90</td>
<td>60</td>
<td>25+</td>
<td>No</td>
<td>Adequate</td>
<td>Neighborhood Connector</td>
<td>4 lanes (2 parking)</td>
<td>None</td>
<td>Transit</td>
<td>Bike/Ped</td>
<td>0</td>
<td>0</td>
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### Irwin Street

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<th>Key</th>
<th>Type</th>
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<th>Width</th>
<th>Clearance</th>
<th>Historic</th>
<th>Status</th>
<th>Road Type</th>
<th>Recommendation</th>
<th>Notes</th>
<th>Phasing Opp?</th>
<th>Transit</th>
<th>Bike/Ped</th>
<th>Cost Assumption</th>
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</thead>
<tbody>
<tr>
<td>Northeast</td>
<td>17</td>
<td>Grade</td>
<td></td>
<td></td>
<td>20+</td>
<td>Yes</td>
<td>Adequate</td>
<td>Neighborhood Connector</td>
<td>2 lanes</td>
<td>Signalized crossing for bike/ped &amp; transit</td>
<td>None</td>
<td>0</td>
<td>0</td>
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</tr>
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### Edgewood Avenue

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<tr>
<th>Quarter</th>
<th>Key</th>
<th>Type</th>
<th>Length</th>
<th>Width</th>
<th>Clearance</th>
<th>Historic</th>
<th>Status</th>
<th>Road Type</th>
<th>Recommendation</th>
<th>Notes</th>
<th>Phasing Opp?</th>
<th>Transit</th>
<th>Bike/Ped</th>
<th>Cost Assumption</th>
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</thead>
<tbody>
<tr>
<td>Northeast</td>
<td>18</td>
<td>Underpass</td>
<td>60</td>
<td>50</td>
<td>20+</td>
<td>Yes</td>
<td>Adequate</td>
<td>Neighborhood Connector</td>
<td>3 lanes (1 parking)</td>
<td>Simple improvements</td>
<td>None</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

### Decatur Street

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Key</th>
<th>Type</th>
<th>Length</th>
<th>Width</th>
<th>Clearance</th>
<th>Historic</th>
<th>Status</th>
<th>Road Type</th>
<th>Recommendation</th>
<th>Notes</th>
<th>Phasing Opp?</th>
<th>Transit</th>
<th>Bike/Ped</th>
<th>Cost Assumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northeast</td>
<td>19</td>
<td>Grade</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Adequate</td>
<td>City Thoroughfare</td>
<td>3 lanes</td>
<td>Signalized crossing for bike/ped &amp; transit</td>
<td>None</td>
<td>Alt. Route Elevates Decatur Street Over Beltline</td>
<td>0</td>
<td>0</td>
</tr>
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### Hulsey Yard

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<th>Quarter</th>
<th>Key</th>
<th>Type</th>
<th>Length</th>
<th>Width</th>
<th>Clearance</th>
<th>Historic</th>
<th>Status</th>
<th>Road Type</th>
<th>Recommendation</th>
<th>Notes</th>
<th>Phasing Opp?</th>
<th>Transit</th>
<th>Bike/Ped</th>
<th>Cost Assumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northeast</td>
<td>20</td>
<td>Tunnel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>New</td>
<td>Main line CSX railroad + MARTA line (E)</td>
<td>Add tunnel parallel to Krog Street - 30’-20’ clear tunnel (and $2 million for retaining walls in vicinity)</td>
<td>3 alt. alignments at Decatur Belt, Airline, Gunby</td>
<td>Prior to transit, use Krog Street tunnel for bike/ped</td>
<td>450</td>
<td>450</td>
<td>$2,525,000</td>
</tr>
</tbody>
</table>

---

*ATLANTA BELTLINE INVENTORY AND ASSESSMENT REPORT - MARCH 2009*
Atlanta BeltLine Master Plan

SUBAREA 5
FREEDOM PARKWAY
Historic Fourth Ward Park Master Plan

Prepared for
Atlanta BeltLine, Inc.
by EDAW, Inc., Arcadis & APD

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

The Honorable Mayor Shirley Franklin

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Introduction

The Master Plan for the Historic Fourth Ward Park establishes a preliminary framework for development of a major open space set within the Old Fourth Ward neighborhood of Atlanta BeltLine’s Subarea 5. It will also guide the orderly acquisition of the most critical parcels.

The Master Plan takes into account the priorities and concerns of the many stakeholders involved, including the neighborhood, adjacent developments, both existing and proposed, as well as the relationship of this park with the larger park system for the city of Atlanta. These comments form the basis for a series of design and programming elements within the park plan.

The Master Plan lays out the key features of the park and also sets up a preliminary design for the landscape, illustrating massings of trees and focal areas.

The plan also includes a phasing element to establish the order of property acquisition and build-out. In the case of Historic Fourth Ward Park, phasing will be based primarily on when land can be acquired from the individual property owners, as well as when development funding becomes available for construction.

As the park progresses into schematic design and construction documents, the design team will refer to the original Master Plan as a guide for detailed work. The purpose of the plan is to provide the necessary flexibility during construction activities, while preserving the original design intent.
Existing Conditions

The proposed site for the Historic Fourth Ward Park is a conglomeration of industrial and commercial property along or directly adjacent to the BeltLine. The exact parcels that will be combined to form the final outline of the park have yet to be determined, based on availability of funds and willingness to sell by the current property owners. However, in general they fall in the categories of either former industrial sites that are now vacant or razed, or active commercial or industrial property.

The physical features of the land reflect considerable grade change across the site. This change is most pronounced in the area of the proposed stormwater detention facility, along the centerline of a major watershed. There is limited vegetation throughout the site with the exception of a small cluster of existing canopy trees on Wilmer Street. The lack of tree cover is due to the large industrial structures that either existed or remain on site, as well as the sheer area covered in concrete.

Park facilities within the vicinity of the Proposed Historic Fourth Ward Park

Subarea 5 has a number of parks within the three major neighborhoods of Old Fourth Ward, Poncey-Highland and Inman Park. However, many of these parks, specifically those in Old Fourth Ward, are in a state of disrepair and fail to meet the needs of current residents. The influx of residents expected as City Hall East and Ponce Place develop will increase park needs in the area, straining an already overburdened system. Table 01 details the list of park facilities within one mile of the proposed Historic Fourth Ward Park.

Facilities within Sub Area 5

- 5 playgrounds
- A rental facility
- A lake
- 3.5 miles of PATH Foundation bike/pedestrian trails
- Basketball courts

Facilities within 1 Mile of Historic Fourth Ward Park

- 8 playgrounds
- Passive park space
- A stage
- A rental facility
- A lake
- 3.5 miles of Path Foundation bike/pedestrian trails
- A volleyball court
- Basketball courts
- 2 recreation centers
- An indoor swimming pool
- 2 ballfields
- 4 tennis courts
- Basketball courts

Facilities lacking in the sub area

- Pavilions/gazebos
- Picnic shelters/tables/grills
- Restrooms
- Covered ballfields
- Dog parks
- Tracks
- An open multi-use lawn
### Table 01: Park Facilities within Range of the Proposed Historic Fourth Ward Park

<table>
<thead>
<tr>
<th>NAME</th>
<th>SIZE</th>
<th>NEIGHBORHOOD</th>
<th>WITHIN SUBAREA 5</th>
<th>WITHIN 1 MILE OF PROPOSED PARK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bass Recreation Center</td>
<td>1 acre</td>
<td>Inman Park</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>• 2,300 sf playground</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boulevard-Angier Park</td>
<td>under 1 acre</td>
<td>Bedford-Pine</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>• passive park space only</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central Park</td>
<td>17 acres</td>
<td>Bedford-Pine</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>• 12,500 sf playground</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 2 ballfields</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 4 tennis courts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 2 basketball courts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• recreation center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Charles Allen Median</td>
<td>under 1 acre</td>
<td>Midtown</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>• passive park space only</td>
<td></td>
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<td>Delta Park</td>
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<td></td>
</tr>
<tr>
<td>Findley Plaza</td>
<td>under 1 acre</td>
<td>Inman Park</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>• passive park space</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• stage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freedom Park</td>
<td>124 acres</td>
<td>Poncey-Highlands</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>• playground</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 3.5 miles of Path Foundation bike/pedestrian trails</td>
<td></td>
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<tr>
<td>Greenwood-Charles Allen Triangle</td>
<td>under 1 acre</td>
<td>Midtown</td>
<td>no</td>
<td>yes</td>
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<td>• passive park space only</td>
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<tr>
<td>Inman Park</td>
<td>under 1 acre</td>
<td>Inman Park</td>
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<td>yes</td>
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<tr>
<td>• passive park space only</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Inman Park Trolley Barn</td>
<td>1 acre</td>
<td>Inman Park</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>• rental facility</td>
<td></td>
<td></td>
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<tr>
<td>J.D. Sims Recreation Center</td>
<td>1 acre</td>
<td>Old Fourth Ward</td>
<td>yes</td>
<td>yes</td>
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<tr>
<td>• 4,000 sf playground</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• basketball court</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>• recreation center</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>John Howell Memorial Park</td>
<td>3 acres</td>
<td>Virginia-Highland</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>• 2,000 sf playground</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• volleyball court</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M.L.K. Natatorium</td>
<td>10 acres</td>
<td>Butler Street - Auburn Ave.</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>• indoor swimming pool</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morgan-Boulevard Park</td>
<td>under 1 acre</td>
<td>Bedford-Pine</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>• 3,600 sf playground</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• basketball court</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parkway-Angier Park</td>
<td>under 1 acre</td>
<td>Bedford-Pine</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>Subarea</td>
<td>Size</td>
<td>Neighborhood</td>
<td>Tenants</td>
<td>Rents</td>
</tr>
<tr>
<td>---------</td>
<td>------------</td>
<td>--------------------</td>
<td>--------</td>
<td>-------</td>
</tr>
<tr>
<td>Parkway-Merritts Park</td>
<td>1 acre</td>
<td>Bedford-Pine</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>Parkway-Wabash Park</td>
<td>1 acre</td>
<td>Bedford-Pine</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>Ray Kluka Memorial Park</td>
<td>under 1 acre</td>
<td>Midtown</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>Renaissance Park</td>
<td>6 acres</td>
<td>Bedford-Pine</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>Springvale Park</td>
<td>4 acres</td>
<td>Inman Park</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>Todd Street Triangle</td>
<td>under 1 acre</td>
<td>Virginia-Highland</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>Vedado-Greenwood Triangle (under 1 acre)</td>
<td>under 1 acre</td>
<td>Midtown</td>
<td>no</td>
<td>yes</td>
</tr>
</tbody>
</table>
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The Process

Initial Community-Driven Design (March 2006)

A previous design team in collaboration with the Friends of Historic Fourth Ward Park developed an initial program for park development in March 2006. Their efforts suggested the following elements and identified concerns to be addressed during the subsequent design of the park.

Proposed Park Program Elements from “Initial Community-Driven Design”

- A soft edge to the lake (without allowing access to the water)
- A dog park (clearly defined, and within the less desirable/under-utilized parcels of the park)
- Trails (multi-use, including pedestrian, bike, in-line skating, etc.)
- Sport fields
- Interesting water features (perhaps a waterfall, or some type of interactive fountain)
- A space for community interaction (spaces for meeting rooms)
- Event space (such as a rental space like the Trolley Barn, but not as grand as Magnolia Hall in Piedmont Park)
- An outdoor theater (which would accommodate between 500 and 3,000 guests with both permanent and flexible seating, and would encourage BeltLine use, rather than neighborhood parking)
- Large lawn space
- Picnic areas (both smaller scale picnic tables, and pavilions for larger gatherings)
- Active recreation areas (occurring south of Ralph McGill and including multi-purpose fields)
- Public restroom facilities
- Concession stands (to be located in small kiosks throughout the park)
- A library (with a focus on children’s literature, and a potential space to hold smaller events, such as movie screenings)
- A flexible outdoor event space (able to accommodate markets, small concerts, parties, etc.)

Park Design Considerations/Concerns

- Maintenance
- Safety (especially the discouragement of the homeless population from settling, and the constant patrol of the park)
- Provision for a future influx of children to the Old Fourth Ward neighborhood as younger couples begin to start families
- Handicapped accessibility
- Fencing (used to define the edges of the park rather than to discourage use)
- Sport fields (maintenance and control)
- Parking (could be accommodated along Ralph McGill in bulb-outs)
- Bringing early evening and nighttime life to the park (this could be accomplished through restaurants, cafes, retail or festivals)
- Future street connections (both North/South, and East/West across the BeltLine)
- The creation of way-finding devices that speak to the historic and industrial character of the area
- Potential to raise money through a permanent fundraising device (for instance through the selling of bricks with donors names, as was done in Centennial Olympic Park)
- Bringing the feel and texture of the adjacent neighborhoods into the park
- Pocket parks with a consistent theme (one example was a music theme)
- WiFi accessibility throughout the park
- Play areas that have easily monitored access points
- Involving the local community in helping to landscape the park

Concept Park Master Plan – Steering Committee Comments (October 2007)

In a meeting with the Subarea 5 Steering Committee on October 23, 2007, the consultant presented three different concept plans. Each plan featured a different combination of program elements and different configurations of potential park parcels for acquisition.
**Concept Plan A**

**Likes**
- Feel of a linear park
- Placement of tennis courts
- A single pond concept
- Orientation of the outdoor theater
- Use of a large wall for art or activities
- Multiple uses and connections

**Comments**
- Playground functions better next to picnic area
- Potential exists for multiple picnic areas
- Does it have the ability to expand west or east?
- Parking lots may need to be larger
- Skate park and fields in a remote corner might attract crime
- The position and size of the pond walls might pose a security risk
**Concept Plan B**

**Likes**
- Minimal grading for a split pond
- Splash pad
- Festival space
- Feels like two separate parks...one active and one passive
- Traffic circulation on eastern side

**Dislikes**
- Disconnection of Cox property leaves it hard to maintain and keep safe
- Not enough sports fields and associated parking
- Splitting the pond in two
- Number of street crossings
- Amount of park space fronting Ralph McGill, and the isolation of the festival space
Concept Plan C

Likes

- Separation and location of the dog park
- Trails surrounding the pond
- Grouping of playground, picnic space and associated parking
- Length of the pond
- Compact nature of the park
- Grand promenade from North to Ralph McGill

Dislikes

- Connections to the eastern parcel are not optimal
- Discontinuous flow of circulation throughout the park
- Entrance on Ralph McGill isn’t grand enough
- Issues with the pond elevation, and the amount of space it takes up
- Not as much programming
- Isolation of the Cox property
General Steering Committee Comments

Likes
- Use of a splash pad rather than a public pool
- Open programmable festival space
- Multiple parking lots associated with different park programming
- A mixture of passive and active uses
- Flow from Elizabeth to North Avenue works well

Comments
- Pedestrian access to the park crossing Ralph McGill should put the pedestrian as the priority
- Splash park and playgrounds should be adjacent to one another
- Make sure that the festival space is accessible for loading and unloading

Dislikes
- No strong western entrance to the park from Glenn Iris and the neighborhood
- Street going through the park...even a temporary road could become permanent
- Use of a tall fence around the pond creating a visual and physical barrier to the water
- Some of the parcels seem remote and may be more difficult to maintain and keep safe
- Not enough thought about the needs of an aging population
- No designated community meeting space

Draft Park Master Plan Steering Committee Comments (November 2007)

Likes
- Hierarchy of circulation routes
- Flexibility and quantity of programming
- Proximity of playground to splash pad
- Separation of active and passive uses
- Flexible space for festivals, markets, etc. as gateway to Ralph McGill
- Opportunities for public art throughout the park
- Variety of parking options
- Single pond concept as an opportunity for a bold statement

Dislikes
- Lack of playground in the more active southern half
- No public restrooms
- Lots of tennis and no skate park

Translation of the Vision Into Park Elements

After review of the comments and concerns raised from the evaluation of the initial three concept park designs, the planning team assembled a list of desired elements for inclusion in the final park plan. The list of elements included the following items, with other elements to be added as space allowed:
- Multi-use Fields
- Dog Parks (for small and large dogs)
- Picnic Areas
- Lawns
- Playgrounds
- Splash Pad
- Festival Space
- Garden Rooms
- Community Gardens
- Skate Park
- Outdoor theater space
- Fitness Stations

Previous suggestions from the initial community-driven design and from the BeltLine Northeast Study Group were discussed and either added to the above list, or removed from consideration due to factors such as cost, feasibility of use by neighborhood residents or space requirements.
Master Plan

The Master Plan celebrates two key elements in the park: public art and innovative stormwater management. The Master Plan envisions a park with a balance of passive and active recreation uses. The Master Plan re-visions parking lots, buildings, and groves of trees as a green oasis linked by a network of pedestrian paths.

Program Elements

Vehicular Circulation

To maintain the continuity of the park, the plan proposes the permanent closure of several east-west streets to vehicular traffic. The idea is not to discourage access, but rather to encourage circulation around the perimeter of the park. In activating the area, it also adds safety and security by putting eyes on the park. In addition, the new roadways will provide critical north-south routes for local residents and commuters who currently use Glenn Iris, Freedom Parkway, or Highland to get from North Avenue to their respective destinations.

In addition, the closed streets can then be refitted into the primary pedestrian/bike circulation routes with only some minor changes to the hardscape.

Parking

The concept proposes primary day to day parking needs serviced with on street parking spaces. In addition, two distinct parking areas service the park. The first is on North Angier Street at the corner of the proposed Dallas connection to the BeltLine, servicing the northern portion of the park. This parking could either be a surface lot or a parking structure that could generate funds. Demand for this type of parking should be determined by the ultimate use for the amphitheater, with an initial estimate of approximately 50 spaces. One additional parking area would service the active recreation for the Southern portion of the park and should accommodate around 30 vehicles.
**Pedestrian Circulation**

Pedestrian circulation would occur on a hierarchy of paths. Major linear paths would use the existing road footprints, while secondary paths would meander throughout the site. The primary paths would be highlighted through plantings of tree allees, which would act as a shade element and way-finding tool. Users could choose a specific loop based on walking distance around the park. All of the paths would be made from a hard material and would be at a grade compliant with ADA standards.

**Multi-use fields**

There is a recognized shortage of multi-use fields in Atlanta. The Cox property at the southeastern end of the site will provide dedicated 180’ x 260’ multi-use space for a variety of sports such as soccer, football, rugby, and ultimate Frisbee. The “open meadow” north of Ralph McGill can also serve as a 400’ x 200’ multi-use field space. In both areas, artificial turf may be used to maximize use and minimize drought impacts.

**Dog Parks (Small and Large Dogs)**

The community identified a need for dog parks within this park. Although not shown as part of the current master plan, several potential areas for this amenity have been identified. The northwest corner of North Angier and Ralph McGill is one strong possibility, as are taking corners from the “flexibility play lawn,” “event lawn” or “open meadow.” It is imperative that the community remain involved in identifying a location for dog parks, as well as in their development and ongoing maintenance.

Any dog park(s) will have double gated entries with fenced areas. The entry areas will be carefully located to minimize conflicts with visitors who do not want to interact with dogs. The entry area should have concrete surfaces to withstand heavy use. Water fountains in the dog park are another amenity that should be considered. Maintenance practices used

![Mutli-use fields can flexibly accommodate a range of activities from soccer to baseball and football](image)

![Reuse of a former street as a primary park path in which the curb and sidewalks are removed](image)
Figure 04 - Historic Fourth Ward Park Master Plan
in the large dog park should be similar to turf sports fields, including fertilization, aeration, mowing, and over-seeding. Irrigation will help the turf withstand the intensive use of a dog park. A successful method of turf management in other dog parks is the rotation of use areas to allow turf to recover from heavy activity. The dog park would need to be divided in half to accommodate rotation. The small size of these parks may preclude this management system.

The provision for an amenity such as a dog park, and its associated maintenance will have to be assumed by a community organization space, as the Parks Department will not maintain a recreational space that is under two acres.

**Picnic Areas**
An area located in the center of the park to the south of the stormwater pond will offer an ideal spot for picnics. The highlight of this area will be several shelters with an architectural design inspired by the Ponce De Leon Amusement Park shelters that were once located nearby. The design should reference these shelters rather than attempt a direct replication. These structures will create a link to the rich history of the site.

**Lawns**
Four lawns will serve as flexible open space for use in informal recreation and passive enjoyment. An approximate 4.6 acre meadow in a level area on the east side of the park will create a large space framed by 0.4 mile walking path. Additional meadows in the center of the park will offer rolling slopes ideal for picnics and sunbathing. The soil should be carefully prepared in these meadows to promote deep root growth for the turf. Deep root growth lessens the amount of water that will be required for the turf. These meadows should be designed and managed in a less intensive manner than the formal athletic fields.

**Playgrounds**
The two playground areas for the park will afford play opportunities for children of all ages and maintain safety through adult supervision during daylight areas. The playground area located in the southeast corner of the park will consist of play areas that appeal to both toddlers and older children, with a range of play equipment, including swing sets and play structures. A second playground will be located near the splash pad at the center of the park. This play area will be designed as a children's play space. The play space will be laid out as a natural sequence of "events" — small-scale, intimate places, ripe for exploration and full of things for
kids to do. It will be an experiential space that will intrigue and delight visitors of all ages. Canopy trees will be planted to create shade near the play areas. Shade structures will help supplement the shade, while newly planted trees mature.

Splash Pad

With a central location and a dynamic attraction for park visitors, the splash pad will be a focal point of the park in warm weather. As the Olympic fountains of Centennial Olympic Park demonstrate, the splash pad will be a magnet for children and will entertain visitors of all ages. The water feature may also provide an opportunity for the incorporation of public art. Careful design of the plaza surface and features in the splash pad will ensure that the splash pad is an amenity at all times of the year.

The Splash Pad will need to be designed to Fulton County Pool Standards, including a restroom facility located within 300’ feet of the splash pad.

Space also needs to be provided around the perimeter of the splash pad to accomodate parents, caregivers, and spectators.

Festival Space

An open lawn at the northern end of the park will serve as a gathering place for events. A perimeter path and two interior paths will provide circulation through this approximate 2.9 acre space.

Garden Rooms

A series of garden rooms at the southern end of the park space will create attractive alcoves where visitors can relax on benches with a view of the adjacent path. A low hedge will define each garden room to create a sense of enclosure, while maintaining views into the spaces. A formal allee of trees will define the ceiling of the “rooms” and create shade.

Community Garden

Another essential piece of the park program is the community garden. Like dog park(s), there are several areas within the park that could be home to...
the community garden. Community involvement as the park grows to its final size will be critical in identifying a location for and implementing this piece of the program.

Skate Park

An approximate 12,000 SF skate park will be located in the Cox property on the southeastern end of the park. This location will provide good access to the East-West MARTA line, the future BeltLine transit, and a network of pedestrian paths in Freedom Park and the BeltLine. This park will feature elements commonly found in urban plazas as well as concrete ramps or bowls. A fence will encircle this skate park with a gated entrance. A skate park designer should be consulted in the design of the elements for the skate park.

Amenities such as drinking fountains, lighting and shade structures should be included, as well as adequate space for spectators.

Outdoor Theater

A 250 seat outdoor theater will be terraced into a hillside near the stormwater pond. Seat walls will define the edge of the terraces with flat lawn areas in between. The sunken garden and pond will create a dramatic backdrop for the outdoor theater.

Sunken Garden

The descent into the recessed cove surrounding the pond will take visitors into an experience apart from the rest of the park, a sunken garden. A sinuous network of paths will wind through this lushly...
planted landscape of flowers, shrubs, and trees. Plantings will emphasize broad sweeps and drifts of color of drought tolerant plants. The advantage of a sunken garden is that the user has the feeling of seclusion and privacy, while at the same time being highly visible to those above them.

**Storm Water Pond**

The City’s Department of Watershed Management has provided funding for a storm water pond which is providing capacity relief for the nearby combined sewer while integrating aesthetically into the park. The storm water pond will be owned and primarily maintained by the Department of Watershed Management, and as a critical piece of the City's sewer infrastructure, may be subject to constraints and requirements different from that of the surrounding park. For instance, during heavy storms, the pond is designed to fill up and inundate walking pathways and plazas. During this time and immediately afterwards, public access will be restricted. However, the storm water pond is designed to minimize downtime as well as maintenance, and it is anticipated that it will become a highly-utilized park amenity.

**Gateways**

Major gateways should be incorporated where the highest volume of visitors will be entering the park. Gateways should include the major pedestrian entrances for the neighborhoods located on Ralph McGill Boulevard and North Avenue. Also of critical importance are the gateway elements to be located along North Angier and the BeltLine to help draw people into the park from the trail and transit.
Public Art
The incorporation of public art throughout the park and the participation of artists in the development of feature areas such as the splash pad zone encourages local artists and generates creative and cutting edge design alternatives to what would otherwise remain standard park elements, such as playground equipment. In addition, art done locally will help to incorporate the feeling and attitude of the local community and evoke the nature and history of the neighborhoods.
Sustainability

Sustainability policies are recommended to minimize the environmental impact of park development. Sustainability means meeting the needs of the present without compromising the ability of future generations to meet their needs. A sustainable approach to park design will result in long-term economic and health benefits.

Measures can be undertaken in new construction, site design, and park management. If enclosed facilities are considered for future developments in the park, they should adhere to sustainable design and construction principles. The LEED™ building rating system can be used as a minimum benchmark for enclosed climate-controlled facilities. This system, developed by the United States Green Building Council, offers third party verification of a project’s sustainable features. Likewise, the Sustainable Sites Initiative can guide the development of the non-enclosed park infrastructure. Innovative strategies for site design and management include tree preservation and tree canopy maximization, drought-tolerant landscape design, improved storm water management, and storm water capture for irrigation systems, minimization of impervious land cover, and reduced automobile usage.

One key area where the park can lessen its impact on the environment is by minimizing the urban heat island effect. Many of the design solutions proposed in this Master Plan will address this issue, such as the conversion of surface parking lots and buildings into lawn areas, the preservation of existing tree canopy, and tree planting along existing road beds in advance of park development. Other techniques that would mitigate the urban heat island effect include parking lot tree islands, maintaining tree cover, light colored roofing, and

![Constructed wetland at National Museum of the American Indian in Washington, DC](image-url)
green roofs.

Many of these measures will have the additional benefit of improving the storm water management on the site by reducing the amount of impervious surface in the park. Other techniques that would improve the water quality of the storm water on the site include the use of porous pavements, as proposed for the two parking lots. When porous pavements such as porous concrete, gravel, and porous unit pavers are considered for new developments, the life cycle costs and the accompanying infrastructure should be taken into consideration. Porous pavements may cost more than conventional asphalt or concrete in comparison of material cost, but they may require less infrastructure (storm pipes and catch basins) or less land for detention areas.

Another opportunity for sustainable park development is the use of rain gardens and constructed wetlands to promote infiltration of
storm water. The storm water pond will be the most visible water treatment measure in the park, but other measures can be woven into the design of the park, such as rain gardens. Rain gardens are landscaped bio-retention areas that catch and then filter storm water by allowing the water to infiltrate into the soil. Developments in the park are bound by law (National Pollutant Discharge Elimination System NPDES regulations) to control the quantity and quality of the storm water leaving the site. Developments in the park should look beyond fulfilling the basic requirements of this law to explore ways to make storm water management visible to the public. This approach could include taking water that is currently in storm pipes and redirecting it to a natural overland flow to improve water quality and infiltration of storm water. Rain gardens and constructed wetlands can be designed so that the infiltration of storm water is visible to park visitors, rather than screened from view in fenced off detention ponds. Rain gardens can thus become amenities and opportunities for educational signage.

The conversion of the existing road beds into pedestrian pathways are an excellent opportunity for rain gardens. A linear rain garden can be created on each side of these pathways by converting the asphalt into bio-retention areas. Weirs can be integrated into the rain gardens to promote infiltration. This system would help clean the storm water before the water flows into the existing storm water system. These linear rain gardens would create a dispersed infiltration system that simulates the natural hydrology of the site.

The reuse of these existing road beds highlights another sustainable component of this master plan. In addition to saving money, the reuse of these road beds will limit the amount of demolition waste and new resources that are required for park development.

Naturalistic landscape management can be employed in select areas of the park. With the large area of turf grass in the park there will be limited opportunities for this management technique. Some of the landscape management methods that can be employed include the following:

- Use of native plants to provide habitat and food source for wildlife
- Retaining dead trees or stumps for wildlife habitat (only in areas away from pedestrian paths, after consultation with a licensed arborist)
- Include bird and bat nesting boxes

These landscape management measures must be balanced with the needs of park users, as well as safety and aesthetic considerations.

Water use is a vital concern today in Metro Atlanta, and will continue to be an important consideration in the future. Rainwater harvested from roofs and paved areas can also be used as a source of irrigation water. The storm water pond could be used as a potential source of irrigation water for the site. The best way to minimize water use in the landscape is through design that uses drought tolerant plants, groups plants with similar needs, and considers micro-climates. If irrigation is required for areas, water efficient irrigation technologies such as rain sensors and drip irrigation should be utilized. Drip
irrigation can be used in place of traditional spray rotary heads to limit the amount of water used.

Additionally, energy-consuming devices such as lights and pumps should be selected for low power consumption in addition to meeting performance requirements. LED streetlights, for instance, use up to 50% less energy than standard streetlights, reducing both energy use and operating costs. These efforts can be further enhanced by seeking opportunities for small-scale distributed power generation such as wind and PV solar.

The park’s location along the BeltLine will facilitate transit, bicycle, and walking access. Use of these alternatives modes of transit will lessen the amount of traffic and the amount of land area dedicated to parking. The extensive network of pathways in the park will promote walking and bicycling. Automobiles will be a primary means of transport to the park, especially for those transporting supplies for the landscape; picnics or other events; the disabled, etc.; but given the limited land available and the desire to minimize the ecological footprint of the park, efforts should be made through user groups to encourage the use of alternative modes of transportation.

**Operation and Maintenance**

The Historic 4th Ward park has been planned in such a way to minimize maintenance requirements. The plant palette in Appendix A is developed to encourage the use of native and adaptive species to minimize inputs for water and overall maintenance.
Design Guidelines

The park’s visual quality, user-friendliness and sense of place will benefit from a consistent approach to materials, site furniture, landscaping, lighting, and signage.

Material Palette

A simple palette of low-maintenance, durable materials should be utilized in the park, including the following: asphalt, concrete, and granite.

Rough granite ashlar stone walls should be a primary building material for wall construction in the park. Granite is a local material that is relatively economical and links the park with the regional landscape.

Site Furnishings

In order to create a unique park experience, a design competition should be sponsored for the benches to be installed in specific areas of the park such as the sunken garden. Custom designed site furnishings would reinforce the sense of place. The standard guidelines of durable, functional, low maintenance materials should be employed in the evaluation of custom designed features.

Standard BeltLine furnishings should be used throughout the remainder of the park.

Lighting

The same lighting fixtures that are used throughout the BeltLine should be used in the park.

Signage

A consistency of design and materials for all public realm signage should be maintained. The signage should allow the opportunity for an expression of the specific character of the park while providing useful guidance in park visitor wayfinding. These signs should be limited in both size and quantity to prevent visual clutter in all areas of the park. The locations of these signs should primarily be at the major park entrances - Ralph McGill, Angier Connection, and North Avenue.

Additional signs should include interpretive and wayfinding signs that highlight the unique character of the park, identify the primary circulation routes and provide orientation, and interpret the natural systems employed for the treatment of storm water and the site’s heritage as the former location of Clear Creek.
Planting Design

Plant palettes
A range of plants suitable to wetland areas, arboretum plantings, and general landscape areas are outlined in Appendix A. There are two themes common to these plant palettes: plants that require minimal maintenance and irrigation are to be used, and no invasive plants are recommended. Invasive plants, such as English Ivy (Hedera helix), Privet (Ligustrum sinensis), and Elaeagnus (Elaeagnus pungens.), have a deleterious impact on native ecosystems within the park and should be avoided. Plants that require ongoing care and excessive maintenance throughout their life span should not be used. It is not sustainable for the park’s maintenance budget or the region’s water resources for plants that require long term water and care to be used.

The Atlanta BeltLine Arboretum, formed through Trees Atlanta will be a primary source for much of the larger landscape materials, such as trees and shrubs. Various areas along the BeltLine have been selected as locations for nursery stock as well as arboretum specimen plantings.

Planting Design
Three guidelines apply to all landscape plantings

- Plants should be massed to create a bold appearance.
- Avoid using trees and shrubs with low branches where visibility is important, such as path and sidewalk areas. Large shrubs should not be planted next to walkway areas, so that pedestrian views are obscured. Good visibility is important for safety
- Use well defined layers of plants
### Arboretum Plant Pallete

<table>
<thead>
<tr>
<th>Botanical Name</th>
<th>Common Name</th>
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</thead>
<tbody>
<tr>
<td><strong>Canopy Trees</strong></td>
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<tr>
<td>Liriodendron tulipifera</td>
<td>Tulip Poplar</td>
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<td>Acer rubrum</td>
<td>Red Maple</td>
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<td>Quercus phellos</td>
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<tr>
<td>Quercus coccínea</td>
<td>Scarlet Oak</td>
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<td>Chinese Elm</td>
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<td>American Holly</td>
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<tr>
<td>‘Claudia Wannemaker’</td>
<td>Magnolia</td>
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<td>Flowering dogwood</td>
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<td>Cotinus obovata</td>
<td>American Smoketree</td>
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<td>Winter King Hawthorn</td>
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<td>Lagerstroemia indica</td>
<td>Crape Myrtle</td>
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<td>Oxydendrum arboreum</td>
<td>Sourwood</td>
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<td><strong>Large Evergreen Shrubs</strong></td>
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<tr>
<td>Abelia x grandiflora</td>
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<td>Camellia sasanqua</td>
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<td>Gardenia jasminoides ‘August Beauty’</td>
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<td>Alabama Croton</td>
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<td>Deutzia scabra</td>
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<td>Hydrangea quercifolia</td>
<td>Oakleaf hydrangea</td>
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<tr>
<td>Philadelphus coronarius</td>
<td>Sweet Mock-Orange</td>
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<tr>
<td>Punica granatum</td>
<td>Pomegranate</td>
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</table>
Rhododendron austrinum
Rhododendron canescens
Vaccinium ashei
Viburnum bracteatum
‘Emerald Luster’
Viburnum microcephalum
Viburnum nudum
Viburnum plicatum tomentosum
Viburnum x juddii

Florida Azalea
Piedmont Azalea
Highbush Blueberry
Bracted Viburnum
‘Emerald Luster’
Chinese Snowball Viburnum
Smooth Witherod
Summer Witherod Viburnum
Judd Viburnum

Low Evergreen Shrubs
Ilex vomitoria ‘Nana’
Ilex glabra ‘Shamrock’
Jasminum floridum
Kerria japonica ‘Shannon’
Ruscus aculeatus
Viburnum obovatum
Yucca filamentosa

Dwarf Yaupon Holly
Inkberry
Florida Jasmine
Japanese Kerria
Butcher’s Broom
Small Viburnum
Yucca

Low Deciduous Shrubs
Callicarpa americana
Calycanthus floridus
Euonymus americanus
Hypericum frondosum ‘Sunburst’
Itea virginica
Rosa ‘Knockout’

Beautyberry
Sweetshrub
Strawberry bush
Sunburst St. John’s Wort
Virginia Sweetspire
Knockout Rose

Vines
Bignonia capreolata
Gelsemium sempervirens
Rosa banksia ‘Lutea’

Crossvine
Carolina Yellow Jessamine
Lady Bank’s Rose

Groundcover
Hemerocallis species
Echinacea purpurea ‘Kim’s Knee High’
Liriope muscari
Muhlenbergia capillaris
Polystichum acrostichoides
Rudbeckia fulgida ‘Goldstrum’

Daylily
Coneflower
Liriope
Pink Muhly Grass
Christmas Fern
Black eyed Susan
# Evergreen Screening Plant Palette

<table>
<thead>
<tr>
<th>Botanical Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Evergreen Trees</strong></td>
<td></td>
</tr>
<tr>
<td>Cryptomeria japonica</td>
<td>Cryptomeria</td>
</tr>
<tr>
<td>Ilex opaca</td>
<td>American Holly</td>
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<tr>
<td>Ilex latifolia</td>
<td>Lusterleaf Holly</td>
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<tr>
<td>Ilex attenuata ‘Savannah’</td>
<td>Savannah Holly</td>
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<tr>
<td>Juniperus virginiana</td>
<td>Eastern Red Cedar</td>
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<tr>
<td>Magnolia virginiana</td>
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<tr>
<td>Magnolia grandiflora</td>
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<tr>
<td>Myrica cerifera</td>
<td>Wax Myrtle</td>
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<td>Osmanthus x fortunei</td>
<td>Fortune’s Osmanthus</td>
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<tr>
<td>Pinus taeda</td>
<td>Loblolly Pine</td>
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<tr>
<td>Prunus caroliniana</td>
<td>Cherry Laurel</td>
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<tr>
<td><strong>Large Evergreen Shrubs</strong></td>
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<tr>
<td>Agarista populifolia</td>
<td>Leucothoe</td>
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<tr>
<td>Ilex vomitoria</td>
<td>Yaupon Holly</td>
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<tr>
<td>Illicium parviflorum</td>
<td>Small Anise</td>
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<td><strong>Low Evergreen Shrubs</strong></td>
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<tr>
<td>Ilex cornuta ‘Carissa’</td>
<td>Carissa Holly</td>
</tr>
<tr>
<td>Ilex glabra</td>
<td>Inkberry</td>
</tr>
<tr>
<td>Ilex vomitoria ‘Nana’</td>
<td>Dwarf yaupon holly</td>
</tr>
<tr>
<td>Viburnum obovatum ‘Reifler’s Dense’</td>
<td>Reiflers Dense Small Viburnum</td>
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<tr>
<td><strong>Vines</strong></td>
<td></td>
</tr>
<tr>
<td>Gelsemium sempervirens</td>
<td>Carolina Yellow Jessamine</td>
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### Rain Garden Plant Palette

<table>
<thead>
<tr>
<th>Botanical Name</th>
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</thead>
<tbody>
<tr>
<td><strong>Canopy Trees</strong></td>
<td></td>
</tr>
<tr>
<td>Acer rubrum ‘October Glory’</td>
<td>October Glory Red Maple</td>
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<tr>
<td>Betula nigra</td>
<td>River Birch</td>
</tr>
<tr>
<td>Nyssa sylvatica</td>
<td>Blackgum</td>
</tr>
<tr>
<td>Quercus lyrata</td>
<td>Overcup Oak</td>
</tr>
<tr>
<td>Taxodium distichum</td>
<td>Common Bald Cypress</td>
</tr>
<tr>
<td><strong>Low Evergreen Shrubs</strong></td>
<td></td>
</tr>
<tr>
<td>Ilex glabra</td>
<td>Inkberry</td>
</tr>
<tr>
<td><strong>Groundcover</strong></td>
<td></td>
</tr>
<tr>
<td>Chasmanthium latifolium</td>
<td>River Oats</td>
</tr>
<tr>
<td>Crinum americanum</td>
<td>Crinum</td>
</tr>
<tr>
<td>Dichromena colorata</td>
<td>Whitetop sedge</td>
</tr>
<tr>
<td>Eleocharis sp.</td>
<td>Spike rush</td>
</tr>
<tr>
<td>Equisetum sp.</td>
<td>Horsetail</td>
</tr>
<tr>
<td>Iris fulva</td>
<td>Copper Iris</td>
</tr>
<tr>
<td>Juncus effusus</td>
<td>Soft Rush</td>
</tr>
<tr>
<td>Osmunda cinnamomea</td>
<td>Cinnamon Fern</td>
</tr>
<tr>
<td>Zephyranthes atamasco</td>
<td>Atamasco Lily</td>
</tr>
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</table>

Red Maple, *Acer rubrum*

Black Gum/Tupelo, *Nyssa sylvatica*
## Stormwater Pond Plant Palette

<table>
<thead>
<tr>
<th>Botanical Name</th>
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</thead>
<tbody>
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</tr>
<tr>
<td>Acer saccahrum</td>
<td>Sugar Maple</td>
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<tr>
<td>Acer rubrum</td>
<td>Red Maple</td>
</tr>
<tr>
<td>Betula nigra</td>
<td>River Birch</td>
</tr>
<tr>
<td>Nyssa sylvatica</td>
<td>Blackgum</td>
</tr>
<tr>
<td>Quercus lyrata ‘Highbeam’</td>
<td>Highbeam Overcup Oak</td>
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<tr>
<td>Salix babylonica</td>
<td>Weeping Willow</td>
</tr>
<tr>
<td>Salix nigra</td>
<td>Black Willow</td>
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<tr>
<td>Taxodium distichum</td>
<td>Common Bald Cypress</td>
</tr>
<tr>
<td><strong>Deep Water</strong></td>
<td></td>
</tr>
<tr>
<td>Nuphur luteum</td>
<td>Spattedock</td>
</tr>
<tr>
<td>Nymphaea odorata</td>
<td>Fragrant Waterlily</td>
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<tr>
<td><strong>Shallow Water Bench</strong></td>
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</tr>
<tr>
<td>Carex sp.</td>
<td>Sedges</td>
</tr>
<tr>
<td>Hibiscus sp</td>
<td>Hibiscus</td>
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<tr>
<td>Hymenocallis sp.</td>
<td>Spider-Lily</td>
</tr>
<tr>
<td>Iris sp.</td>
<td>Louisiana Iris</td>
</tr>
<tr>
<td>Juncus effusus</td>
<td>Soft Rush</td>
</tr>
<tr>
<td>Panicum virgatum</td>
<td>Switchgrass</td>
</tr>
<tr>
<td>Peltandra virginica</td>
<td>Tuckahoe</td>
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<tr>
<td>Pontederia cordata</td>
<td>Pickeral Plant</td>
</tr>
<tr>
<td>Saurus cernus</td>
<td>Lizard’s tail</td>
</tr>
<tr>
<td>Thalia dealbata</td>
<td>Thalia</td>
</tr>
<tr>
<td><strong>Shoreline Fringe</strong></td>
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</tr>
<tr>
<td>Asclepias incarnata</td>
<td>Swamp Milkweed</td>
</tr>
<tr>
<td>Cephalanthus occidentalis ‘Sputnik’</td>
<td>Buttonbush</td>
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<tr>
<td>Chasmanthium latifolium</td>
<td>River oats</td>
</tr>
<tr>
<td>Clethra alnifolia ‘Sixteen Candles’</td>
<td>Sweet Pepperbush</td>
</tr>
<tr>
<td>Eleocharis sp.</td>
<td>Spike rush</td>
</tr>
<tr>
<td>Itea virginica</td>
<td>Virginia Sweetspire</td>
</tr>
<tr>
<td>Lobelia cardinalis</td>
<td>Cardinal Flower</td>
</tr>
<tr>
<td>Onoclea sensibilis</td>
<td>Sensitive Fern</td>
</tr>
<tr>
<td>Osmunda cinnamomea</td>
<td>Cinnamon Fern</td>
</tr>
<tr>
<td>Osmunda regalis</td>
<td>Royal Fern</td>
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</table>
**Riparian Fringe**

Andropogon virginicus  
Eupatorium coelestinum  
Eupatorium fistulosum  
Helianthus angustifolius  
Sorghastrum nutans  
Vernonia gigantea  

Broomsedge  
Wild Ageratum  
Joe Pye Weed  
Swamp Sunflower  
Indiangrass  
Ironweed  

**Floodplain terrace**

Agarista populifolia  
Callicarpa americana  
Illicium parviflorum  
Sambucus canadensis  
Vaccinium ashei  
Viburnum dentatum  
Viburnum nudum  

Ronweed, *Vernonia gigantea*  
Beautyberry, *Callicarpa americana*  
Arrowwood Viburnum, *Viburnum dentatum*
## Meadow Plant Palette

<table>
<thead>
<tr>
<th>Botanical Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grasses</strong></td>
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</tr>
<tr>
<td>Muhlenbergia capillaris</td>
<td>Pink Muhly Grass</td>
</tr>
<tr>
<td>Panicum virgatum ‘Northwind’</td>
<td>Northwind’ Switchgrass</td>
</tr>
<tr>
<td>Panicum virgatum ‘Cloud Nine’</td>
<td>Cloud Nine Panic Grass</td>
</tr>
<tr>
<td>Schizachryium scoparium ‘The Blues’</td>
<td>The Blues Little bluestem</td>
</tr>
<tr>
<td>Sporobolus heterolepis</td>
<td>Prairie Dropseed</td>
</tr>
<tr>
<td><strong>Perennials</strong></td>
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<tr>
<td>Amsonia hubrichtii</td>
<td>Arkansas Amsonia</td>
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<tr>
<td>Asclepias tuberosa</td>
<td>Milkweed</td>
</tr>
<tr>
<td>Baptisia alba</td>
<td>White False Indigo</td>
</tr>
<tr>
<td>Echinacea cultivars</td>
<td>Coneflower</td>
</tr>
<tr>
<td>Eryngium yuccifolium</td>
<td>Rattlesnake Master</td>
</tr>
<tr>
<td>Gaura lindheimeri</td>
<td>Whirling Butterflies</td>
</tr>
<tr>
<td>Liatris microcephala</td>
<td>Liatris</td>
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<tr>
<td>Perovskia</td>
<td>Russian Sage</td>
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<tr>
<td>Rudbeckia fulgida ‘Goldstrum’</td>
<td>Black eyed Susan</td>
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<tr>
<td>Solidago ‘Fireworks’</td>
<td>Fireworks Goldenrod</td>
</tr>
<tr>
<td><strong>Bulbs</strong></td>
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<tr>
<td>Narcissus pseudonarcissus</td>
<td>Daffodills (Ice Follies, Carlton, Camperrelli cultivars)</td>
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</tbody>
</table>
### Streetscape/ Parking Area Plant Palette

<table>
<thead>
<tr>
<th>Botanical Name</th>
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<tbody>
<tr>
<td><strong>Canopy Trees</strong></td>
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<tr>
<td>Quercus nuttallii ‘QNSTC’</td>
<td>Esplanade Nuttall Oak</td>
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<tr>
<td>Quercus x ‘QS20’</td>
<td>Promenade Red Oak</td>
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<tr>
<td>Metasequoia glyptostrobodies ‘1042’</td>
<td>Dawn Redwood</td>
</tr>
<tr>
<td><strong>Understory Trees</strong></td>
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<tr>
<td>Acer buergerianum</td>
<td>Trident Maple</td>
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<tr>
<td>Cercis canadensis</td>
<td>Redbud</td>
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<tr>
<td>Chionanthus virginicus</td>
<td>Fringe tree</td>
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<tr>
<td>Lagerstroemia indica</td>
<td>Crape Myrtle</td>
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<tr>
<td>Quercus georgiana</td>
<td>Georgia Oak</td>
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<tr>
<td>Parrotia persica</td>
<td>Parrotia</td>
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<tr>
<td><strong>Low Evergreen Shrubs</strong></td>
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</tr>
<tr>
<td>Ilex cornuta ‘Carissa’</td>
<td>Carissa Holly</td>
</tr>
<tr>
<td>Ilex glabra</td>
<td>Inkberry</td>
</tr>
<tr>
<td>Ilex vomitoria ‘Nana’</td>
<td>Dwarf yaupon holly</td>
</tr>
<tr>
<td>Viburnum obovatum ‘Reifler’s Dense’</td>
<td>Reiflers Dense Small Viburnum</td>
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<td><strong>Low Deciduous Shrubs</strong></td>
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<td>Hypericum frondosum</td>
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<td>Itea virginica</td>
<td>Virginia Sweetspire</td>
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<td><strong>Groundcover</strong></td>
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<td>Chasmanthium latifolium</td>
<td>River oats</td>
</tr>
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<td>Echinacea purpurea ‘Kim’s Knee High’</td>
<td>Coneflower</td>
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<tr>
<td>Hemerocallis species</td>
<td>Daylily</td>
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<td>Liriope spicata</td>
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<tr>
<td>Ophiopogon japonicus</td>
<td>Mondo Grass</td>
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<tr>
<td>Miscanthus sinensis ‘Adagio’</td>
<td>Dwarf Maiden Grass</td>
</tr>
<tr>
<td>Muhlenbergia capillaris</td>
<td>Pink Muhly Grass</td>
</tr>
<tr>
<td>Rudbeckia fulgida ‘Goldstrum’</td>
<td>Black eyed Susan</td>
</tr>
<tr>
<td>Sporobolous hetroelopus</td>
<td>Prairie Dropseed</td>
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</tbody>
</table>
Atlanta BeltLine Master Plan

SUBAREA 5
FREEDOM PARKWAY
Transportation Analysis Report

Prepared for
Atlanta BeltLine, Inc.
by EDAW, Inc., Arcadis & APD

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

The intent of the subarea master planning process is to build on previous BeltLine planning efforts and establish the foundation for overall BeltLine project implementation by refining strategic-level recommendations related to parks, open space, mobility, circulation, land use, and urban design. The master planning process is also intended to create an ongoing mechanism for community participation in the development of neighborhood-based recommendations for the trail and transit corridor.

Purpose of the Report

As part of the subarea master planning process, this report details existing and future traffic operations and provides a list of recommended projects to address identified deficiencies.

Overview of the BeltLine Project

The subarea master plan sets a framework to build and maintain vital communities around the BeltLine so that new development respects established neighborhoods and historic resources, takes advantage of transit and trail for transportation access, improves the street network, and creates special places for residents and visitors. The plan creates compact activity centers along the proposed BeltLine transit corridor. Activity centers along the corridor create destinations for transit users and establish necessary transit-supportive densities.

The subarea master plan builds on the wealth of historic structures, cultural resources, and historic districts in the area by improving connections and public access to these where appropriate. To reinforce the subarea’s physical character, land use recommendations are appropriately scaled around historic structures. Additionally, any proposed change in a zoning designation for a historic structure indicates a recommended change in land use rather than a physical alteration to the exterior of the structure. StudioPlex and Ponce Park redevelopments are good examples of re-purposed historic structures that do not compromise the character of the building. Smaller-scale redevelopment of buildings along DeKalb Avenue, such as the Marble Lofts, are also positive examples of building re-use that maintains the unique and cultural significance of these structures.
The subarea master plan also protects single family neighborhoods by stepping down intensity near existing homes and guiding compact mixed-use developments to activity centers. Infill development should also be appropriately scaled to enhance surrounding single-family homes, and former houses that have been converted to commercial uses should maintain their residential appearance, especially along Edgewood and DeKalb avenues.

New development must contribute to the street network by re-establishing street connections or creating new links, especially around the BeltLine and Freedom Parkway. Over the years, these neighborhoods have lost portions of the street network, forcing vehicular traffic to use remaining roadways. The diverted traffic flow often travels through residential neighborhoods and disrupts quality of life. The subarea master plan calls for several street connections across the BeltLine and Freedom Parkway. Just as critical, though, are the new streets around the edge of the proposed park. The park master plan eliminates vehicular traffic across the park and reinforces the role of new park-edge streets in maintaining circulation in the area.

The park master plan incorporates City of Atlanta stormwater management ponds that are designed to be an asset to the community while supporting much-needed stormwater improvements in the area. The park also includes active and passive programming, such as sports fields, nature trails, and multi-purpose lawns. The trail system connects to the BeltLine trail, the Freedom PATH, and bicycle lanes along Ralph McGill Boulevard. Inside the park, the Park master plan highlights several opportunities for public art. The Green Space Opportunities section of the Park master plan describes the proposed elements of the park more fully, and the appendices contain the full Historic Fourth Ward Park master plan study.

The master plan proposes additional green spaces along Moreland Avenue and Irwin Street. The City should incorporate the soccer fields on Moreland Avenue into the official recreation inventory and establish a better presence on Austin Avenue. The Irwin Street Pocket Park that includes the historic brick water tower would be an iconic feature denoting where the BeltLine and the proposed Sweet Auburn Trolley share a transit stop. The plan also identifies improved trail connections, including the addition of a PATH on the northern side of Freedom Parkway and BeltLine trail enhancements through the Krog Street Tunnel.

Recommendations from this transportation analysis report will be incorporated into the subarea master plan. It also serves as a standalone document providing detailed analysis of traffic conditions.

**Mobility Policies**

As part of the engagement process with the planning committee and study group, the planning team identified the following specific mobility goals for BeltLine Subarea 5. These goals serve as the basis for the mobility and connectivity recommendations of this transportation analysis report and lay the groundwork for implementation actions.

Mobility policies are as follows:

- Maximize accessibility to BeltLine transit
- Minimize impacts of the BeltLine transit
- Foster transit-supportive economic development along the BeltLine
- Mitigate traffic impacts of BeltLine redevelopment
- Emphasize pedestrian connectivity
- Create a network of sidewalks and trails
- Enhance street grid and improve street connectivity
- Provide disabled accessibility
- Minimize trail intrusion on existing neighborhoods
- Provide connectivity to all neighborhoods

**Summary of Report Contents**

This report begins with a brief description of existing key roadway facilities. Roadway geometry, traffic control, posted speed, functional classification, and average annual daily traffic (AADT) counts are included. Next, the study
Figure 03 - BeltLine Subarea 5 Planning Context
methodology used to perform traffic analysis is explained.

The next three sections of this report analyze existing as well as future Build, No Transit and Build Best Case traffic operations. The Build, No Transit scenario evaluates traffic without BeltLine transit in place. The Build Best Case scenario assumes that BeltLine transit will be in operation. For each scenario, transportation improvements that address deficiencies identified in the analysis are recommended for implementation by 2020 or 2030.

Finally, the conclusions and recommendations section presents a list of all projects that are recommended for implementation.
Existing Roadway Facilities

For Subarea 5, a review of existing key roadway facilities, including functional classification, an overview of geometry, traffic control, posted speed, and AADT, was undertaken.

**Key Roadways**

Key roadways are streets with a functional classification of collector and above. They provide connectivity from the study area to destinations throughout Atlanta and the region. In general, these streets carry the bulk of vehicular traffic in the study area. Key roadways identified are as follows:

**Ponce de Leon Avenue**

Urban principal arterial; geometry varies from six lanes between Parkway Drive and the railroad bridge to five lanes (two westbound lanes and three eastbound lanes) from the railroad bridge to North Highland Avenue.

**North Avenue**

Urban minor arterial; geometry varies from six lanes between Parkway Drive and the railroad bridge east of North Angier Avenue to four lanes between the railroad bridge and Bonaventure Avenue, then drops to two lanes to Freedom Parkway, where it becomes three lanes (one westbound lane and two eastbound lanes) to North Highland Avenue.

**Ralph McGill Boulevard**

Urban collector; geometry and operations vary, beginning with four lanes and two-way operation between Boulevard and Ashley Avenue. Here, operation changes to one-way in the westbound direction and becomes two lanes to Village Parkway, where operation becomes two-way again with one lane in each direction to its terminus at Freedom Parkway.

**Highland/North Highland Avenue**

Urban collector; geometry varies from three lanes (two westbound lanes and one eastbound lane) between Boulevard and Randolph Street before dropping to two lanes from Randolph Street to Ponce de Leon Avenue.

**Freedom Parkway**

Urban principal arterial; geometry is four lanes separated by a raised median; East Freedom Parkway is two lanes from Freedom Parkway to its terminus at Moreland Avenue.

**Irwin Street/Lake Avenue/Sinclair Avenue**

Urban collector; geometry varies from four lanes between Jackson Street and Randolph Street to two lanes from Randolph Street to the study area boundary.

**Auburn Avenue**

Urban minor arterial; geometry varies from four lanes between Jackson Street and Boulevard to three lanes (two westbound lanes and one eastbound lane) to Howell Street, then two lanes to its terminus at Irwin Street.

**Edgewood/Euclid Avenue**

Urban minor arterial; geometry varies from five lanes between Jackson Street and Boulevard (two westbound lanes, one eastbound through lane, one eastbound left-turn lane, and one eastbound right-turn lane) to two lanes from Boulevard to the study area boundary.

**Jackson Street/Parkway Drive**

Urban collector; geometry varies from two lanes between Decatur Street and Edgewood Avenue, incorporates a continuous center left-turn lane to Highland Avenue, becomes four lanes to Ralph McGill Boulevard, and then drops to two lanes to Ponce de Leon Avenue.

**Boulevard**

Urban minor arterial; geometry varies from three lanes (two northbound lanes and one southbound lane) between Decatur Street and Edgewood Avenue to four lanes from Edgewood Avenue to Ponce de Leon Avenue.
Figure 04 - BeltLine Subarea 5 Existing Traffic Volumes
**Randolph Street/Glen Iris Drive** –

Urban minor arterial; geometry varies from three lanes (two southbound lanes and one northbound lane) between Edgewood Avenue and Old Wheat Street to two lanes from Edgewood Avenue to Ponce de Leon Avenue.

Posted speeds in the study area range from 25 miles per hour (mph) to 35 mph. More detailed speed limit data are included in Appendix D, which also provides substantial additional detail regarding intersection geometry and traffic control.

**Exiting Traffic Volumes**

Traffic volume data provide an incomplete assessment of conditions in the study area because they measure travel demand without accounting for the supply of transportation capacity. However, these data do indicate where potential improvements in Subarea 5 will serve the highest number of travelers.

**Data Sources and Methodology**

Traffic volume data in the form of AADT counts were obtained from the Georgia Department of Transportation's (DOT's) State Traffic and Report Statistics at 18 locations in Subarea 5. These data were then entered into a geographic information system (GIS) for further analysis. The latest volume data available (2006) were used for this analysis. Although some Georgia DOT count stations provide percent truck traffic, these data were not available for any of the stations in the study area. Figure 4 represents volumes at count locations.

**Key Findings**

Travel demand is highest in the study area from east to west with two important facilities carrying significant amounts of traffic:

- Ponce de Leon Avenue carries the most traffic of any facility in the study area with an AADT of 37,360 vehicles per day between Parkway Drive and Boulevard and 34,800 just west of where Ashley Avenue would intersect Freedom Parkway if it continued south from Willoughby Way and 26,330 east of that point.

- Freedom Parkway carries the second highest number of vehicles with an AADT of 25,530 vehicles per day west of where Ashley Avenue would intersect Freedom Parkway if it continued south from Willoughby Way and 26,330 east of that point.

North-south travel demand in the study area is also substantial:

- Krog Street between Edgewood and DeKalb avenues serves the fifth-highest number of vehicles in the study area with an AADT of 20,380.
- Boulevard carries the sixth, seventh, and eighth largest number of vehicles with an AADT of 18,470 vehicles per day between Ponce de Leon Avenue and North Avenue, 18,760 just north of Wabash Avenue, and 16,560 between Chamberlain and Gartrell streets.

Other facilities that carry more than 10,000 vehicles per day include:

- The SR 42 (Freedom Parkway) connector carries 15,720 vehicles per day west of North Highland Avenue.
- DeKalb Avenue serves 15,700 vehicles per day between Degress and Haralson avenues.
- North Avenue carries 13,040 vehicles per day between Linwood Avenue and Cleburne Terrace.
Study Methodology

This section describes the methodology used to evaluate existing traffic conditions and to forecast future operations in Subarea 5. Twenty-four intersections within the study area were modeled, and levels of service (LOS) were calculated for each intersection.

LOS Methodology

LOS analysis is commonly used in transportation planning to identify existing and future deficiencies in the transportation network. LOS is based on average delay in seconds and provides a qualitative assessment of traffic conditions. LOS ranges from A to F with A corresponding to no congestion and F corresponding to severe congestion. In dense urban environments, LOS A through LOS D is considered acceptable. In general, LOS D is the service standard, which means that intersections operating at LOS E or LOS F are considered unacceptable.

LOS at signalized intersections is derived from the seconds of delay calculated by Synchro traffic modeling software. The following table lists seconds of delay and their corresponding LOS.

<table>
<thead>
<tr>
<th>LOS</th>
<th>VEHICLES TO CAPACITY RATIO</th>
<th>SECONDS OF DELAY (INTER SECTIONS)</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>A, B</td>
<td>&lt; 0.50</td>
<td>&lt; 20</td>
<td>Uncongested, vehicles clear in a single traffic signal cycle</td>
</tr>
<tr>
<td>C</td>
<td>0.50 – 0.65</td>
<td>20 – 35</td>
<td>Vehicle speeds slightly below the posted limit with occasional delay at intersections</td>
</tr>
<tr>
<td>D</td>
<td>0.65 – 0.85</td>
<td>35 – 55</td>
<td>Vehicle speeds below the posted limit with limited opportunities to pass and noticeable intersection delay</td>
</tr>
<tr>
<td>E</td>
<td>0.85 – 1.00</td>
<td>55 – 80</td>
<td>At capacity, vehicle speeds far below posted limits, no gaps in traffic, and significant intersection delays</td>
</tr>
<tr>
<td>F</td>
<td>&gt; 1.00</td>
<td>&gt; 80</td>
<td>Over capacity, stop-and-go traffic, and extreme delays at intersections</td>
</tr>
</tbody>
</table>

Table 01 - Level of Service Thresholds and Descriptions

Several data items were collected as input to the model. Turning volume data (traffic counts) during the morning and afternoon peak periods were gathered at 21 intersections in the study area. In addition, 24-hour traffic volume counts were gathered at four locations throughout the study area. Counts were gathered on October 23rd and 24th, 2007. The counts are available in Appendix C.

Additional information gathered included number of lanes, lane assignments, intersection lane configuration, and traffic signal phasing. This information was used to create a model network of the entire study area for capacity analysis. Additionally, field visits were conducted to study the traffic flow and to identify critical intersections within the study area. Figure 05 identifies the intersections where counts were performed. Figure 06 identifies the traffic control methods (stop signs or traffic signals) at those intersections.

Microsimulation Methodology

The roadway network was modeled using Synchro 7.0 traffic simulation software to analyze existing traffic conditions and to identify issues within the study area. Traffic flow was analyzed for morning and afternoon peak-hour conditions. The simulation analysis resulted in the determination of existing peak-hour delays and corresponding LOS for each of the 24 intersections studied.
Existing Traffic Operations

An analysis of existing conditions based on current intersection turning movement counts was performed using Synchro traffic simulation software. The existing traffic operations analysis identified current intersections that provide an unacceptable LOS, which is E or worse by city standards, and provides a reference point against which to evaluate traffic conditions and transportation improvements.

Except for three intersections, all intersections studied are currently operating at LOS C or better during both a.m. and p.m. peak hours. East Freedom Parkway at North Highland Avenue is operating at LOS D during the a.m. peak hour, Boulevard/Monroe Drive at Ponce de Leon Avenue is operating at LOS D during the p.m. peak hour, and Boulevard at Freedom Parkway is currently failing during a.m. and p.m. peak hours. Figure 7 provides a graphical depiction of existing lane geometry, Figure 8 depicts existing traffic volumes and Figure 9 shows existing LOS. Table 2 provides an overview of LOS during both a.m. and p.m. peak hours for all intersections analyzed.

<table>
<thead>
<tr>
<th>INTERSECTION</th>
<th>A.M. PEAK LOS</th>
<th>A.M. PEAK V/C RATIO</th>
<th>P.M. PEAK LOS</th>
<th>P.M. PEAK V/C RATIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ponce de Leon Avenue at Boulevard</td>
<td>C</td>
<td>0.94</td>
<td>D</td>
<td>1.01</td>
</tr>
<tr>
<td>Ponce de Leon Avenue at Glen Iris Drive</td>
<td>B</td>
<td>0.49</td>
<td>A</td>
<td>0.68</td>
</tr>
<tr>
<td>Ponce de Leon Avenue at Ford Place Extension</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Ponce de Leon Avenue at Home Depot</td>
<td>A</td>
<td>0.72</td>
<td>B</td>
<td>0.65</td>
</tr>
<tr>
<td>Ponce de Leon Avenue at Ponce Place</td>
<td>B</td>
<td>0.72</td>
<td>B</td>
<td>0.62</td>
</tr>
<tr>
<td>Ponce de Leon Avenue at Freedom Parkway</td>
<td>B</td>
<td>0.71</td>
<td>B</td>
<td>0.71</td>
</tr>
<tr>
<td>North Avenue at Boulevard</td>
<td>B</td>
<td>0.51</td>
<td>B</td>
<td>0.69</td>
</tr>
<tr>
<td>North Avenue at Glen Iris Drive</td>
<td>C</td>
<td>0.53</td>
<td>B</td>
<td>0.60</td>
</tr>
<tr>
<td>North Avenue at Ford Place Extension</td>
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<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>North Avenue at Freedom Parkway</td>
<td>C</td>
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<td>C</td>
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<tr>
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<td>B</td>
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</tr>
<tr>
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<td>F</td>
<td>1.31</td>
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<tr>
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<tr>
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<td>B</td>
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<td>NO SIG</td>
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<td>Ralph McGill Boulevard at Freedom Parkway</td>
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<tr>
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<td>A</td>
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<tr>
<td>Decatur Street at Krog Street</td>
<td>C</td>
<td>0.90</td>
<td>B</td>
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<tr>
<td>Glen Iris Drive at Highland Avenue</td>
<td>C</td>
<td>0.71</td>
<td>B</td>
<td>0.83</td>
</tr>
<tr>
<td>Ralph McGill Boulevard at Fortune Street</td>
<td>NO SIG</td>
<td>NO SIG</td>
<td>NO SIG</td>
<td>NO SIG</td>
</tr>
<tr>
<td>Ralph McGill Boulevard at Angier Avenue Connector</td>
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<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Ralph McGill Boulevard at Freedom Parkway Underpass Street</td>
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<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Table 02 - Existing Conditions Peak-Hour Level of Service (2007)
Baseline Traffic Operations

This section details planned road improvements and current development trends in BeltLine Subarea 5. Capacity analyses for interim year 2020 and horizon year 2030 are documented.

Planned Road Improvement

There are no planned road improvements in Subarea 5 listed in either the Atlanta Regional Commission’s (ARC’s) Transportation Improvement Program or Regional Transportation Plan.

Current Development Trends

The study area is actively transforming, especially around the site of the proposed Historic Fourth Ward Park and along the BeltLine corridor. One successful redevelopment, the Mead factory site, is largely complete and serves as a model for other redevelopment opportunities in the area. This project reintroduced a grid street network, a mixture of housing types, environmentally friendly stormwater management ponds, and pedestrian-friendly streets lined with ground-level retail. Other proposed redevelopment around the Historic Fourth Ward Park includes the Ponce Park redevelopment, which would convert the historic Sears Roebuck building to mixed use and introduce 2 acres of green space.

Year 2020 Traffic Operations

A baseline traffic operation scenario was modeled and analyzed to predict intersection LOS in 2020. The baseline scenario assumes that no BeltLine-related development takes place and no transportation improvements that are not currently programmed or planned are implemented.

Trip Generation

Baseline scenario trips were taken from a 2020 run of ARC’s Envision6 travel demand model. An annual growth factor was calculated based on the change in volumes between 2005 and 2020 and then applied to the current turning movement counts.

Because the ARC travel demand model historically under predicts growth inside the City of Atlanta limits, the socio-economic (SE) data for traffic analysis zones (TAZs) 42, 43, 44, 55, 1658, and 1659, which roughly correspond to the Subarea 5 study boundary, was analyzed. From 2005 to 2030, an increase in population of 5,072 persons (47.3 percent, or 1.6 percent per year) is forecast by ARC. Employment during the same time period is expected to increase by 2,324 jobs (20.6 percent or 1.1 percent annually). These rates of growth are consistent with current development trends in Subarea 5 and are likely realistic if no BeltLine transit is in place to spur redevelopment. However, the ARC SE data growth rates are likely to be somewhat lower than what actually occurs because no individual TAZ has an increase over 75.6 percent, which implies redevelopment of existing properties with a substantial increase in density is not factored into the ARC forecast for TAZs in Subarea 5.

Capacity Analysis

Currently, there is excess capacity at most intersections in the study area. As new development is added in the future, this capacity will begin to be used up by the additional traffic. Because forecasted future development is spread throughout the study area and not focused on one or two key intersections, study area intersection LOS drops but remains acceptable (LOS D or better) at most intersections. While existing and future conditions are reasonable in the majority of the study area, there are a few problem intersections. One intersection, Boulevard at Freedom Parkway, will operate at LOS F during all time periods and under all scenarios.

Some reduction in intersection LOS is forecast in 2020 under the baseline scenario, as expected. Four intersections will drop from a current LOS of C to LOS D or worse and one intersection will decline to LOS E in 2020 from LOS B. Results of the baseline analysis are detailed on Table 03. Figure 11 depicts the future roadway geometry,
which does not change from existing conditions (no roadway improvements are planned in the City’s Capital Improvement Plan). Figures 12 and 13 depict the future traffic volumes and Level of Service for the 2020 Baseline scenario.

Intersections predicted to operate at an unacceptable level of service are summarized as follows:

- Ponce de Leon Avenue at Boulevard will decline to LOS E from the current LOS C during the a.m. peak hour.
- Ponce de Leon Avenue at Boulevard will decline from the current LOS D to LOS F in the p.m. peak hour.
- Glen Iris Drive at Highland Avenue will fare the worst, deteriorating from the current LOS B to LOS E during the p.m. peak hour.

Projects needed to improve the Level of Service are provided in the Conclusions and Recommendations Section.

<table>
<thead>
<tr>
<th>INTERSECTION</th>
<th>A.M. PEAK LOS</th>
<th>A.M. PEAK V/C RATIO</th>
<th>P.M. PEAK LOS</th>
<th>P.M. PEAK V/C RATIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ponce de Leon Avenue at Boulevard</td>
<td>E</td>
<td>1.08</td>
<td>E</td>
<td>1.26</td>
</tr>
<tr>
<td>Ponce de Leon Avenue at Glen Iris Drive</td>
<td>B</td>
<td>0.54</td>
<td>B</td>
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<tr>
<td>Ponce de Leon Avenue at Ford Place Extension</td>
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<td>Ponce de Leon Avenue at Home Depot</td>
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<td>B</td>
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<td>0.76</td>
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<td>E</td>
<td>0.99</td>
<td>D</td>
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<td>Freedom Parkway at Moreland Avenue</td>
<td>B</td>
<td>0.70</td>
<td>C</td>
<td>0.94</td>
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<tr>
<td>Moreland Avenue at DeKalb Avenue (west)</td>
<td>A</td>
<td>0.55</td>
<td>B</td>
<td>0.70</td>
</tr>
<tr>
<td>Moreland Avenue at DeKalb Avenue (east)</td>
<td>A</td>
<td>0.49</td>
<td>A</td>
<td>0.52</td>
</tr>
<tr>
<td>Decatur Street at Krog Street</td>
<td>E</td>
<td>0.96</td>
<td>D</td>
<td>0.92</td>
</tr>
<tr>
<td>Glen Iris Drive at Highland Avenue</td>
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<td>0.81</td>
<td>C</td>
<td>0.94</td>
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<td>Ralph McGill Boulevard at Fortune Street</td>
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</tr>
</tbody>
</table>

Table 03 - 2020 Baseline Peak-Hour Level of Service
**Year 2030 Traffic Operations**

The same baseline traffic operation scenario was analyzed with a horizon year of 2030. An annual growth factor was calculated based on historic rates between 2005 and 2030 and then applied to the current turning movement counts.

**Capacity Analysis**

Traffic is projected to be worse in 2030 when compared to existing conditions and 2020 conditions under the baseline scenario.

Significant reduction in intersection LOS is forecast in 2030 under the baseline scenario. Results of the baseline analysis are detailed in Table 4 and illustrated on Figures 13-15. The following list summarizes intersections operating at an unacceptable LOS under 2030 baseline conditions during the a.m. peak hour:

- Ponce de Leon Avenue at Boulevard
- Freedom Parkway at North Highland Avenue
- Decatur Street at Krog Street

Intersections operating at LOS E or worse under the 2030 baseline scenario during the p.m. peak hour are:

- Ponce de Leon Avenue at Boulevard
- North Avenue at Freedom Parkway
- Freedom Parkway at North Highland Avenue

While Freedom Parkway at North Highland Avenue is predicted to operate below the City of Atlanta's LOS standards, improving the intersection will require widening both Freedom Parkway and North Highland Avenue. Aside from the substantial cost, adding capacity to North Highland Avenue would negatively impact the Freedom Parkway Trail crossing at the southern leg of the intersection.

Both Freedom Parkway and North Highland Avenue are two lane facilities with left turn bays at the intersection. Therefore, increasing left turn capacity to improve the LOS requires additional through lanes on both roadways to receive the left turning traffic. This project is a substantial undertaking and the cost and impacts are unlikely to justify the improvement in LOS, so no projects are recommended.

<table>
<thead>
<tr>
<th>INTERSECTION</th>
<th>A.M. PEAK LOS</th>
<th>A.M. PEAK V/C RATIO</th>
<th>P.M. PEAK LOS</th>
<th>P.M. PEAK V/C RATIO</th>
</tr>
</thead>
<tbody>
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<td>F</td>
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<td>Ponce de Leon Avenue at Home Depot</td>
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<td>B</td>
<td>0.63</td>
</tr>
<tr>
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<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
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<td>F</td>
<td>1.04</td>
</tr>
<tr>
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<td>C</td>
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</tr>
<tr>
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<td>NO SIG</td>
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<td>F</td>
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<td>E</td>
<td>0.99</td>
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<tr>
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<td>0.53</td>
<td>A</td>
<td>0.54</td>
</tr>
<tr>
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<td>D</td>
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<td>C</td>
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<td>Ralph McGill Boulevard at Angier Avenue Connector</td>
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Table 04 - 2030 Baseline Peak-Hour Level of Service
BeltLine Traffic Operations

This section details the traffic operations with BeltLine development in place. The trip generation methodology based on forecasted BeltLine development is described for each scenario, as well as the methodology used to determine trip reduction attributable to BeltLine transit. Capacity analyses for interim year 2020 and horizon year 2030 are documented for each scenario, and recommended 2020 and 2030 projects are listed.

Proposed BeltLine Development

The proposed land uses are detailed in the subarea master plan and are used in trip generation for each scenario.

Redevelopment Concept for TAD

The land use for the area surrounding the BeltLine between Ponce de Leon Avenue and Ralph McGill Boulevard is proposed to include mixed-use and residential development of varying height and density. The proposed land use plan shows a slight change in land uses that mostly reflects the change in park boundaries. Other proposed changes reduce the scale of the mixed-use designation along North Avenue and Angier Springs Road to one story to four stories to step down from the compact development along the BeltLine into the existing neighborhood of Poncey-Highland. The land use along Ralph McGill Boulevard at Willoughby Way reflects the proposed redevelopment of these industrial structures into a mixed-use development of mostly medium-density residential.

The recommended land use around Freedom Parkway and south along the BeltLine reflects the need to balance higher transit-supportive densities with protection of the existing single-family fabric and historic resources. The plan continues its guiding theme of directing intensity to appropriate areas, such as along the BeltLine and in close proximity to similar developments.

Just south of Freedom Parkway, the Mead site redevelopment project is largely complete, and recommended land use changes reflect this new development pattern. The parcel across the BeltLine from the Mead redevelopment is the largest remaining undeveloped assemblage in the focus area. The City’s plan recommends medium-density residential for the entire area, but local representatives have voiced concerns that this designation is too intense for the area. The proposal thus recommends a step down in intensity to residential (one story to four stories) adjacent to historic single-family homes.

The parcel just south of the Highland Walk mixed-use development along Highland Avenue is currently used for light commercial use and U-Haul truck storage. The recommended land use is mixed-use in similar nature to Highland Walk, but of lower intensity and more in scale with the Virginia Docks, which are adjacent to the south.

Many of the light industrial uses in the area are proposed for mixed-use redevelopment and have already converted to exciting mixed-use developments that, like the Krog Street docks, preserve the structural and cultural history of the BeltLine and its role in the growth of Atlanta. The encroachment of these structures into the BeltLine right-of-way poses implementation challenges that must be addressed individually with private property owners.

Figure 16 is a graphical representation of the proposed land use changes in BeltLine Subarea 5.
Figure 16 - BeltLine Subarea 5 Proposed Land Use
**BeltLine Facilities**

The initial BeltLine redevelopment proposed potential BeltLine transit stop locations, which have since been revised to accommodate planned redevelopment locations and maximize ridership. Revisions also took into account a cost/benefit analysis, in which more costly station locations were passed up for areas where a station can be more easily built and accessed. The final location and number of transit stops in the subarea will be determined at a later time. As shown in Figure 17, the following is a revised list of potential BeltLine transit locations:

**Ponce de Leon Avenue:**
Access would be through the redeveloped City Hall East property adjacent to the Ford Factory.

**Dallas Street:**
Access would be at the reconnection of Dallas Street across the BeltLine.

**Historic Fourth Ward Park:**
The station would be located at the southern end of the park, adjacent to the skate park and multi-use fields, and with easy access to the new Elizabeth Street connection.

**Highland Avenue:**
The station would be located near the intersection at Alaska Avenue and adjacent to existing commercial uses and high pedestrian activity.

**Irwin Street:**
The existing at-grade crossing provides easy access to both Old Fourth Ward and Inman Park.
**Edgewood Avenue:**

The Edgewood Avenue stop is the most variable depending on the final alignment of the transit. However, the location will likely be near both the BeltLine underpass of Edgewood Avenue and the Krog Street Tunnel.

**Inman Park MARTA Station:**

The station may be near the existing heavy-rail station, but the exact location will depend on the final alignment of the BeltLine transit.

**Moreland Avenue:**

The locally preferred alternative alignment for the BeltLine transit would allow for a transit stop near the jug-handle ramp and less than ¼ mile south of Little Five Points.

A trail currently runs along the south side of Freedom Parkway, and the neighborhoods on the north side can only access the trail at the beginning of Freedom Parkway at Jackson Street, the pedestrian bridge at the end of Sampson Street, and the intersection of Freedom Parkway at Ralph McGill Boulevard. A trail should be placed along the north side of Freedom Parkway running from its intersection at Boulevard to the proposed Historic Fourth Ward Park. See the Plan Recommendations Report for a full list of trail connections and further details.

**Year 2020 Traffic Operations**

Traffic operations for a Build, No Transit and Build Best Case scenario were modeled to determine traffic operations for interim year 2020 and identify improvements needed to address any deficiencies. The Build, No Transit scenario is included to determine the impact of BeltLine development on traffic operations if the BeltLine transit is not operational until after 2020.

**Build, No Transit**

The Build, No Transit scenario is a sensitivity analysis to determine how intersections will operate without any BeltLine transit and with BeltLine-related development in place. The analysis will show which intersections have traffic operations improved by BeltLine transit and which will not. This is important, as the BeltLine transit is unlikely to affect each intersection in the same way.

Because market fundamentals for development in Subarea 5 are strong, it is likely that most of the BeltLine development will occur even without the transit component. Therefore, the Build, No Transit traffic operation scenario will also provide insight into potential intersection projects needed if transit implementation in the corridor is delayed.

**Trip Generation**

The first step in modeling the Build, No Transit scenario is trip generation, which estimates the number of trips attracted by the projected new development. Trip generation rates are included in the Appendix. The trip generation methodology for the Build, No Transit scenario is described as follows.

Because the exact configuration of retail and office components is unknown, the most generic ITE land use categories were used (e.g., shopping center or general office). Based on the future land use, average vehicle trip ends for each land use were multiplied by gross floor area or number of dwelling units anticipated on each parcel at interim year 2020 to determine the raw number of trips generated for both a.m. and p.m. peak periods.

After determining a.m. and p.m. peak average vehicle trip ends, the percent of trips entering and exiting (also from the **ITE Trip Generation 7th Edition**) was applied to the raw number of trips. For mixed-use parcels, a reduction of 10 percent was then applied to entering and exiting trips for each land use. Trips for each land use were then summed to determine the total number of trips for each parcel.

Subarea 5 includes 189 parcels that are anticipated to be developed or redeveloped at a higher intensity. Because trip distribution for all 189 parcels is error-prone, individual parcels were aggregated into 13 traffic analysis zones (TAZs) based on land uses, intersections to be analyzed,
Figure 18 - BeltLine Subarea 5 Traffic Analysis Zones Map
and the roadway network configuration (see Figure 18 on the previous page for a map of the TAZs).

For each parcel, the number of trips was summed by zone for the Build, No Transit scenario. This resulted in the year 2020 trip generation. It was assumed the study area would be approximately 50 percent built out based on Robert Charles Lesser & Company’s demand projections and forecasted land uses in Subarea 5. A portion of Subarea 5 is not included in the TAZs, because no development is projected there. Therefore, no additional trips will be generated or assigned in that area.

Park land use trip generation data in ITE Trip Generation 7th Edition for the land use category City Park (411) is limited. Only an average weekday rate is provided with no rate for a.m. and p.m. peak hours. This is a problem because the LOS methodology analyzes morning and afternoon peak hours. However, based on the average trip generation rate of 1.59 vehicle trip ends per acre, the proposed 35.5-acre Historic Fourth Ward Park is projected to generate only 57 trips over the course of an entire weekday. Because the number of trips generated by the park is insignificant compared to existing traffic volumes, no attempt was made to assign park traffic to peak hours.

Trip generation results by land use category are listed in Table 5. Trip generation results by TAZ are presented for each scenario in Table 6. Table 7 displays mixed use and transit trip reductions by zone.

**Trip Distribution**

To distribute traffic to roadways, existing traffic patterns were closely studied. Additionally, analysis of existing population and employment centers was used to manually distribute the forecasted traffic from proposed developments.

As a first step, directional factors (D-factors) were estimated on all roadways. The D factor represents the proportion of traffic moving in the peak direction during the design hour. It is needed because the design hourly distribution of traffic is not evenly split (i.e., a 50/50 split) during the design (peak) hours. As a second step, existing population and employment centers, in addition to access control measures (driveways, intersections, etc.), were studied to estimate entry and exit points for new traffic.

The primary assumption was that any new traffic would follow existing travel patterns. Therefore, any traffic entering or leaving these new developments would be in proportion to the D-factors. The trips generated by a zone were therefore assigned to the roadways surrounding the zone in proportion with the D-factors of those zones. These trips were then added to the baseline volumes for that year and input into Synchro for traffic analysis. The Trip Distribution is shown in Figure 19.
<table>
<thead>
<tr>
<th>Zone</th>
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<th>P.M. Peak Hour</th>
</tr>
</thead>
<tbody>
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<td>A.M. Enter</td>
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</table>

Table 07 - 2020 Build, No Transit Trip Reductions by Zone
Due to rounding, totals will not match the new development trips by zone shown in Table 05.
**Capacity Analysis**

The 2020 Build, No Transit scenario provides a lower LOS overall than the 2020 baseline scenario because of increased travel demand from the addition of BeltLine-associated development without any BeltLine transit improvements. Table 8 details Build, No Transit traffic operations in 2020 by intersection, and Figures 20-22 depict them graphically. The following is a comparison between 2020 baseline and Build, No Transit traffic operations at intersections with an unacceptable LOS:

- Ponce de Leon Avenue at Boulevard will remain at LOS E during the a.m. peak hour.
- Ponce de Leon Avenue at Boulevard will decline from LOS E in the baseline scenario to F in the p.m. peak hour.
- Freedom Parkway at North Highland Avenue will decline from LOS D under the baseline scenario to LOS E during the a.m. peak hour.
- Glen Iris Drive at Highland Avenue will improve to LOS C from LOS E under the baseline scenario in the p.m. peak hour.

<table>
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<th>INTERSECTION</th>
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<th>A.M. PEAK V/C RATIO</th>
<th>P.M. PEAK LOS</th>
<th>P.M. PEAK V/C RATIO</th>
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<tr>
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<td>B</td>
<td>0.68</td>
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<td>D</td>
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<td>NO SIG</td>
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</tr>
</tbody>
</table>

Table 08 - 2020 Build, No Transit Traffic Operations Peak-Hour Level of Service
**Build Best Case Scenario**

The Build Best Case scenario was modeled and analyzed to predict intersection LOS in 2020 with BeltLine transit in place. Additionally, the Best Case scenario assumes that BeltLine-related development occurs.

**Trip Generation**

In the Best Case scenario, a transit reduction of 26 percent was applied to Build, No Transit trip generation numbers to account for the BeltLine transit being operational. Retail, office, and residential trips were then summed to determine total trips for each parcel. Table 9 presents trips by land use category and Table 10 summarizes 2020 Best Case trips by zone. Table 11 displays mixed use and transit trip reductions by zone.

The Atlanta BeltLine transit percentage reduction methodology provided by ABI was used to arrive at the transit reduction of 26 percent. The transit percentage reduction methodology consists of four categories: walk distance, density, land use, and social economics. Within each of these categories, points are assigned depending on how well a development meets transit-supportive criteria.

Because of the high number of proposed new developments and re-developments in Subarea 5 (189), the ABI transit percentage reduction methodology was not applied to each individual parcel. Instead, a GIS was used to aggregate the properties within each category and determine a score for Subarea 5 as a whole.

For each major category, the total number of properties was identified. Next, the number of properties meeting each criterion was divided by the total number of properties to determine the percentage of properties that met the criterion. This percentage was multiplied by the score for that criterion, and scores for all criteria in the category were summed and rounded to determine a Subarea 5-wide score for the category. For example, using GIS, it was determined that there were 52 properties (28 percent of the total) that met the ¼-mile criterion in the walk distance category. Multiplying the transit percentage reduction methodology score of 10 for that criterion by 28 percent resulted in a Subarea 5-wide score of 2.75. Similarly, 92 properties (21 percent) were within ¼ mile to ½ mile, resulting in a score of 1.06. Because no points were assigned to criterion greater than ½ mile, the total rounded score for this category is 4.

All proposed residential units (121 properties total) in the study area have a density of 20 units per acre or higher. Because the criterion in the density per acre category with the highest score is greater than 16 units per acre, the maximum score of 10 was assigned to Subarea 5.

Within the land use category, 35 percent of the proposed developments were residential only,
### Table 11 - 2020 Best Case Trip Reductions by Zone

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<thead>
<tr>
<th>Zone</th>
<th>A.M. Peak Hour</th>
<th>P.M. Peak Hour</th>
<th>A.M. Total</th>
<th>A.M. Enter</th>
<th>A.M. Exit</th>
<th>P.M. Total</th>
<th>P.M. Enter</th>
<th>P.M. Exit</th>
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so multiplying that by the score of 4 resulted in a composite score of 1.42. Only 2 percent of proposed developments were exclusively commercial, which when multiplied by the criterion score of 6, resulted in a score of 0.13 for the study area. Mixed-use accounted for 51 percent of proposed developments, which resulted in a score of 5.08 for the study area when multiplied by the criterion score of 10. The Subarea 5 rounded total score for this category is 7.

In contrast to other categories, the social economics category did not lay out specific criteria. Because poverty status correlates with transit dependency, poverty statistics by Census tract and GIS were used to determine the number of developments that met each criterion. The following poverty thresholds were used to calculate scores:

- 0 percent to 25 percent – Area does not rely on transit
- 25 percent to 50 percent – Area does not rely heavily on transit
- 50 percent to 75 percent – Area relies on transit
- 75 percent to 100 percent – Area relies heavily on transit

Within Subarea 5, 16 percent of proposed developments fall in Census tracts with no reliance on transit, which resulted in a composite score of 0.16 when multiplied by the criterion score of 1. Of the proposed developments, 53 percent do not heavily rely on transit, which when multiplied by the criterion score of 5 resulted in a composite score of 2.67 for the study area. New developments in Census tracts that rely heavily on transit make up 15 percent of the total, for a composite score of 1.19 when multiplied by the criterion score of 8. No tracts in the study area rely heavily on transit, so a score of 0 was assigned for that criterion. The total rounded score for the social economics category is 4.

To determine the transit reduction percentage applied during trip generation, composite scores for each category were totaled and then run through the score equivalency to trip/transit reduction percentage.

In summary, transit scores were as follows:

1. Walk Distance: 4
2. Density per Acre: 10
3. Land Use: 7
4. Social Economics: 4
5. Total: 25, which corresponds with a 26 percent trip reduction

**Trip Distribution**

Trip distribution methodology is the same as the .Build, No Transit scenario discussed previously.

**Capacity Analysis**

Currently, there is excess capacity at most intersections in the study area. As new development is added in the future, this capacity will begin to be used up by the additional traffic. Because forecasted future development is spread throughout the study area and not focused on one or two key intersections, study area intersection LOS drops but remains acceptable (LOS D or better) at most intersections. While existing and future conditions are reasonable in the majority of the study area and BeltLine transit improvements are expected to significantly reduce automobile trip volumes, there are a few problem intersections. One intersection, Boulevard at Freedom Parkway, will operate at LOS F during all time periods and under all scenarios.

While the 2020 Best Case scenario shows some improvement from LOS C to LOS B over the 2020 baseline and Build, No Transit scenarios, the results are not substantially different from those intersections operating at LOS D or worse in the 2020 Build, No Transit scenario. Results of the Build Best Case traffic operations analysis are detailed in Table 12 and illustrated on Figures 23-25. The following list summarizes intersections operating at LOS E or worse under the 2020 Build Best Case scenario during the a.m. peak hour:

- Ponce de Leon Avenue at Boulevard will remain at LOS E under all three 2020 scenarios.
- East Freedom Parkway at North Highland Avenue will drop from LOS D under the baseline scenario to LOS E in the Build Best Case scenario.
One intersection operating at LOS E or worse and one with significantly improved operations under the 2020 BeltLine traffic operations scenario during the p.m. peak hour are summarized as follows:

- Ponce de Leon Avenue at Boulevard will remain at LOS F.

<table>
<thead>
<tr>
<th>INTERSECTION</th>
<th>A.M. PEAK LOS</th>
<th>A.M. PEAK HOUR V/C RATIO</th>
<th>P.M. PEAK LOS</th>
<th>P.M. PEAK HOUR V/C RATIO</th>
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<td>B</td>
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<td>F</td>
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<td>B</td>
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Table 12 - 2020 Build Best Case Scenario Traffic Operations Peak-Hour Level of Service
Year 2020 Projects

As Subarea 5 is located in a desirable section of the City of Atlanta and significant redevelopment is already taking place, it is likely that a significant amount of the BeltLine redevelopment will take place even without the transit improvements. Therefore, project recommendations are made for both the Build, No Transit and Best Case scenarios.

Build, No Transit

Based on unfavorable LOS conditions for Ponce de Leon Avenue at Boulevard/Monroe Drive the following year 2020 project is recommended:

- Additional left-turn-only bay from southbound Monroe Drive to eastbound Ponce de Leon Avenue
- Change the existing shared through/left-turn lane to through only

This improvement will allow the intersection to operate at an acceptable LOS, D, during the a.m. peak hour and improves the operations one letter grade during the p.m. peak hour from F to E. However, adding a left turn bay will increase the crossing distance for pedestrians by at least 12 feet and likely require a partial taking of the gas station located in the northwest corner of the intersection.

Boulevard at Freedom Parkway is currently operating at LOS F during the a.m. and p.m. peak hours. This is also the case in 2020. To correct this deficiency, an additional left-turn lane from eastbound Freedom Parkway to northbound Boulevard, an additional left-turn lane from northbound Boulevard to westbound Freedom Parkway, and additional queue length for right turns from southbound Boulevard to westbound Freedom Parkway were analyzed.

While vehicle delay at Boulevard and Freedom Parkway, will be reduced by the modifications, they will reduce pedestrian LOS in the intersection and are in conflict with the plans for the area presented in the City of Atlanta Comprehensive Transportation Plan. Therefore, this project is not recommended. It should be noted however that this table records the intersection LOS if the additional lanes were constructed. Without improvements, the intersection LOS will remain as provided in Table 8 as an LOS F during both AM and PM peak hours.

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<th>INTERSECTION</th>
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<th>P.M. PEAK LOS</th>
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<td>NO SIG</td>
<td>NO SIG</td>
</tr>
<tr>
<td>Ralph McGill Blvd at Angier Ave Conn.</td>
<td>A</td>
<td>0.17</td>
<td>B</td>
<td>0.33</td>
</tr>
<tr>
<td>Ralph McGill Blvd at Freedom Pkwy Underpass St</td>
<td>NO SIG</td>
<td>NO SIG</td>
<td>NO SIG</td>
<td>NO SIG</td>
</tr>
</tbody>
</table>

Table 13 - 2020 Build, No Transit Traffic Operations (With 2020 Projects/Improvements)
As expected, intersection LOS will be slightly better overall when recommended year 2020 projects are added to the 2020 Build, No Transit scenario. During the a.m. peak hour, several intersections will improve from LOS C to LOS A or LOS B. Table 13 includes LOS for all intersections studied.

**Build Best Case**

Based on unfavorable LOS conditions for Ponce de Leon Avenue at Boulevard/Monroe Drive the same year 2020 project discussed previously is also recommended under the Build Best Case scenario.

Intersection LOS in the 2020 Build Best Case scenario is slightly better with the inclusion of the 2020 roadway improvements. Table 14 includes LOS for all intersections studied.

While vehicle delay at Boulevard and Freedom Parkway, could be reduced by the addition of turn lanes, this additional pavement will increase pedestrian crossing times and reduce pedestrian LOS. In addition, the addition of turn lanes at the intersection would be in conflict with the plans for the area presented in the City of Atlanta Comprehensive Transportation Plan. Therefore, this project is not recommended. It should be noted however that Table 14 records the intersection LOS if the additional lanes were constructed. Without improvements, the intersection LOS will remain as provided in Table 12 as an LOS F during both AM and PM peak hours.

<table>
<thead>
<tr>
<th>INTERSECTION</th>
<th>A.M. PEAK LOS</th>
<th>A.M. PEAK V/C RATIO</th>
<th>P.M. PEAK LOS</th>
<th>P.M. PEAK V/C RATIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ponce de Leon Ave at Boulevard</td>
<td>D</td>
<td>0.97</td>
<td>E</td>
<td>1.21</td>
</tr>
<tr>
<td>Ponce de Leon Ave at Glen Iris Drive</td>
<td>A</td>
<td>0.56</td>
<td>A</td>
<td>0.74</td>
</tr>
<tr>
<td>Ponce de Leon Ave at Ford Pl. Exten.</td>
<td>A</td>
<td>0.48</td>
<td>A</td>
<td>0.61</td>
</tr>
<tr>
<td>Ponce de Leon Ave at Home Depot</td>
<td>B</td>
<td>0.78</td>
<td>A</td>
<td>0.67</td>
</tr>
<tr>
<td>Ponce de Leon Ave at Ponce de Leon Pl</td>
<td>B</td>
<td>0.78</td>
<td>B</td>
<td>0.79</td>
</tr>
<tr>
<td>Ponce de Leon Ave at Freedom Pkwy</td>
<td>B</td>
<td>0.76</td>
<td>B</td>
<td>0.87</td>
</tr>
<tr>
<td>North Avenue at Boulevard</td>
<td>B</td>
<td>0.65</td>
<td>C</td>
<td>0.79</td>
</tr>
<tr>
<td>North Avenue at Glen Iris Drive</td>
<td>C</td>
<td>0.68</td>
<td>B</td>
<td>0.65</td>
</tr>
<tr>
<td>North Avenue at Ford Pl. Exten.</td>
<td>B</td>
<td>0.29</td>
<td>A</td>
<td>0.38</td>
</tr>
<tr>
<td>North Avenue at Freedom Pkwy</td>
<td>D</td>
<td>0.96</td>
<td>D</td>
<td>0.98</td>
</tr>
<tr>
<td>Boulevard at Ralph McGill Blvd</td>
<td>B</td>
<td>0.70</td>
<td>B</td>
<td>0.78</td>
</tr>
<tr>
<td>Boulevard at Freedom Pkwy</td>
<td>F **</td>
<td>1.48</td>
<td>E</td>
<td>1.04</td>
</tr>
<tr>
<td>Boulevard at Irwin Street</td>
<td>C</td>
<td>0.93</td>
<td>B</td>
<td>0.69</td>
</tr>
<tr>
<td>Boulevard at Edgewood Ave</td>
<td>C</td>
<td>0.79</td>
<td>C</td>
<td>0.95</td>
</tr>
<tr>
<td>Boulevard at Decatur Street</td>
<td>NO SIG</td>
<td>NO SIG</td>
<td>NO SIG</td>
<td>NO SIG</td>
</tr>
<tr>
<td>Ralph McGill Blvd at Glen Iris Drive</td>
<td>B</td>
<td>0.59</td>
<td>C</td>
<td>0.83</td>
</tr>
<tr>
<td>Ralph McGill Blvd at Freedom Pkwy</td>
<td>C</td>
<td>0.79</td>
<td>B</td>
<td>0.60</td>
</tr>
<tr>
<td>Freedom Pkwy at N. Highland Ave</td>
<td>D</td>
<td>0.99</td>
<td>D</td>
<td>0.96</td>
</tr>
<tr>
<td>Freedom Pkwy at Moreland Ave</td>
<td>B</td>
<td>0.70</td>
<td>C</td>
<td>0.89</td>
</tr>
<tr>
<td>Moreland Ave at DeKalb Ave (west)</td>
<td>A</td>
<td>0.56</td>
<td>B</td>
<td>0.68</td>
</tr>
<tr>
<td>Moreland Ave at DeKalb Ave (east)</td>
<td>A</td>
<td>0.50</td>
<td>A</td>
<td>0.49</td>
</tr>
<tr>
<td>Decatur Street at Krog Street</td>
<td>D</td>
<td>1.04</td>
<td>D</td>
<td>0.81</td>
</tr>
<tr>
<td>Glen Iris Drive at Highland Avenue</td>
<td>C</td>
<td>0.87</td>
<td>C</td>
<td>0.90</td>
</tr>
<tr>
<td>Ralph McGill Blvd at Fortune Street</td>
<td>NO SIG</td>
<td>NO SIG</td>
<td>NO SIG</td>
<td>NO SIG</td>
</tr>
<tr>
<td>Ralph McGill Blvd at Angier Ave Conn</td>
<td>A</td>
<td>0.71</td>
<td>C</td>
<td>0.32</td>
</tr>
<tr>
<td>Ralph McGill Blvd at Freedom Pkwy</td>
<td>NO SIG</td>
<td>NO SIG</td>
<td>NO SIG</td>
<td>NO SIG</td>
</tr>
</tbody>
</table>

Table 14 - 2020 Build Best Case Scenario Traffic Operations (With 2020 Projects/Improvements)
Year 2030 Traffic Operations

All BeltLine new development was assumed to be 100 percent built out in 2030 based on the market demand in Subarea 5 detailed in a Robert Charles Lesser & Company market study through 2020. If the rate of build out in the market study continues past 2020, all space in Subarea 5 identified in the land use plan as developable or redevelopable is likely to be absorbed by 2030.

Build, No Transit

The purpose of the Build, No Transit scenario is to determine how the street network will operate without any BeltLine transit but with BeltLine-related development in place.

Trip Generation

2020 trips in each zone generated by the development associated with the BeltLine were multiplied by a growth factor of 99 percent to determine horizon year trips by zone. This growth factor is a straight-line projection of the Robert Charles Lesser & Company estimated demand from 2020 to 2030. A mixed use reduction of 10 percent was applied to the trip generation. Table 15 lists trips by land use category and Table 16 summarizes the number of trips by zone. Table 17 displays mixed use and transit trip reductions by zone.

Trip Distribution

The same methodology was used to distribute trips for each scenario and is discussed in the Trip Distribution section of the 2020 Build, No Transit scenario.

<table>
<thead>
<tr>
<th>LAND USE</th>
<th>A.M. PEAK</th>
<th>P.M. PEAK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential 9,826 DU</td>
<td>871</td>
<td>2,263</td>
</tr>
<tr>
<td>Retail 843,512 SF</td>
<td>523</td>
<td>343</td>
</tr>
<tr>
<td>Office 575,371 SF</td>
<td>722</td>
<td>96</td>
</tr>
</tbody>
</table>

Table 15 - 2030 Build, No Transit Trip Generation by Land Use Category.

Some rounding occurs

<table>
<thead>
<tr>
<th>Zone</th>
<th>A.M. Enter</th>
<th>A.M. Exit</th>
<th>P.M. Enter</th>
<th>P.M. Exit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>542</td>
<td>453</td>
<td>655</td>
<td>788</td>
</tr>
<tr>
<td>2</td>
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</tr>
<tr>
<td>3</td>
<td>504</td>
<td>716</td>
<td>548</td>
<td>457</td>
</tr>
<tr>
<td>4</td>
<td>76</td>
<td>111</td>
<td>82</td>
<td>85</td>
</tr>
<tr>
<td>5</td>
<td>91</td>
<td>118</td>
<td>96</td>
<td>90</td>
</tr>
<tr>
<td>6</td>
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</tr>
<tr>
<td>9</td>
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<td>106</td>
<td>86</td>
<td>91</td>
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<tr>
<td>10</td>
<td>274</td>
<td>317</td>
<td>307</td>
<td>321</td>
</tr>
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<td>11</td>
<td>107</td>
<td>155</td>
<td>116</td>
<td>87</td>
</tr>
<tr>
<td>12</td>
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</tr>
<tr>
<td>13</td>
<td>88</td>
<td>138</td>
<td>78</td>
<td>90</td>
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</table>

Table 16 - 2020 Build, No Transit Trip Generation by Analysis Zone.
## Table 17 - 2030 Build, No Transit Trip Reductions by Zone

<table>
<thead>
<tr>
<th>Zone</th>
<th>Gross Trip Generation A.M. Total</th>
<th>Gross Trip Generation P.M. Total</th>
<th>A.M. Enter</th>
<th>A.M. Exit</th>
<th>P.M. Enter</th>
<th>P.M. Exit</th>
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</thead>
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<td>1</td>
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<td>1,677</td>
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<td>-49</td>
<td>-73</td>
<td>-47</td>
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<tr>
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<td>0</td>
<td>0</td>
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<td>2</td>
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<td>62</td>
<td>30</td>
<td>16</td>
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<td>-2</td>
<td>-1</td>
<td>-1</td>
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<tr>
<td></td>
<td>Transit Trip Reduction 0</td>
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<td>0</td>
<td>0</td>
<td>-2</td>
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<tr>
<td>3</td>
<td>1,270</td>
<td>1,207</td>
<td>525</td>
<td>748</td>
<td>572</td>
<td>317</td>
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<td>-48</td>
<td>-23</td>
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<td>0</td>
<td>0</td>
<td>-103</td>
</tr>
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<td>85</td>
<td>200</td>
<td>91</td>
<td>55</td>
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<td>-5</td>
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<td>0</td>
<td>-2</td>
</tr>
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<td>228</td>
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<td>127</td>
<td>106</td>
<td>61</td>
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<td>-10</td>
<td>-23</td>
<td>-11</td>
<td>-6</td>
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<tr>
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<td>0</td>
<td>0</td>
<td>-1</td>
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<td>6</td>
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<td>179</td>
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<tr>
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<td>-5</td>
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<tr>
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<td>0</td>
<td>0</td>
<td>-1</td>
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<tr>
<td>7</td>
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<td>164</td>
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<td>-2</td>
<td>-1</td>
<td>-1</td>
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<td>0</td>
<td>0</td>
<td>-1</td>
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<td>49</td>
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<td>116</td>
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<td>0</td>
<td>0</td>
<td>-1</td>
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<td>10</td>
<td>639</td>
<td>749</td>
<td>296</td>
<td>343</td>
<td>334</td>
<td>207</td>
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<td>-25</td>
<td>-29</td>
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<td>167</td>
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<td>-12</td>
<td>-11</td>
<td>-6</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>-1</td>
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<td>123</td>
<td>206</td>
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<td>-5</td>
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<td>Transit Trip Reduction 0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>-1</td>
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<td>147</td>
<td>85</td>
<td>58</td>
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<td>Transit Trip Reduction 0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>-1</td>
</tr>
</tbody>
</table>
### Table 18 - 2030 Build, No Transit Traffic Operations Peak-Hour Level of Service

<table>
<thead>
<tr>
<th>INTERSECTION</th>
<th>A.M. PEAK LOS</th>
<th>A.M. PEAK HOUR V/C RATIO</th>
<th>P.M. PEAK LOS</th>
<th>P.M. PEAK HOUR V/C RATIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ponce de Leon Avenue at Boulevard</td>
<td>F</td>
<td>1.18</td>
<td>F</td>
<td>1.52</td>
</tr>
<tr>
<td>Ponce de Leon Avenue at Glen Iris Drive</td>
<td>A</td>
<td>0.59</td>
<td>B</td>
<td>0.81</td>
</tr>
<tr>
<td>Ponce de Leon Avenue at Ford Place Extension</td>
<td>A</td>
<td>0.53</td>
<td>A</td>
<td>1.09</td>
</tr>
<tr>
<td>Ponce de Leon Avenue at Home Depot</td>
<td>B</td>
<td>0.87</td>
<td>B</td>
<td>0.78</td>
</tr>
<tr>
<td>Ponce de Leon Avenue at Ponce Place</td>
<td>C</td>
<td>0.89</td>
<td>D</td>
<td>0.99</td>
</tr>
<tr>
<td>Ponce de Leon Avenue at Freedom Parkway</td>
<td>C</td>
<td>0.80</td>
<td>B</td>
<td>0.92</td>
</tr>
<tr>
<td>North Avenue at Boulevard</td>
<td>C</td>
<td>0.75</td>
<td>C</td>
<td>1.02</td>
</tr>
<tr>
<td>North Avenue at Glen Iris Drive</td>
<td>C</td>
<td>0.73</td>
<td>B</td>
<td>0.71</td>
</tr>
<tr>
<td>North Avenue at Ford Place Extension</td>
<td>C</td>
<td>0.68</td>
<td>B</td>
<td>0.62</td>
</tr>
<tr>
<td>North Avenue at Freedom Parkway</td>
<td>D</td>
<td>0.96</td>
<td>F</td>
<td>1.15</td>
</tr>
<tr>
<td>Boulevard at Ralph McGill Boulevard</td>
<td>B</td>
<td>0.85</td>
<td>B</td>
<td>0.72</td>
</tr>
<tr>
<td>Boulevard at Freedom Parkway</td>
<td>F</td>
<td>1.80</td>
<td>F</td>
<td>1.47</td>
</tr>
<tr>
<td>Boulevard at Irwin Street</td>
<td>D</td>
<td>1.02</td>
<td>B</td>
<td>0.80</td>
</tr>
<tr>
<td>Boulevard at Edgewood Avenue</td>
<td>D</td>
<td>0.87</td>
<td>D</td>
<td>1.08</td>
</tr>
<tr>
<td>Boulevard at Decatur Street</td>
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<td>NO SIG</td>
<td>NO SIG</td>
<td>NO SIG</td>
</tr>
<tr>
<td>Ralph McGill Boulevard at Glen Iris Drive</td>
<td>C</td>
<td>0.69</td>
<td>C</td>
<td>0.93</td>
</tr>
<tr>
<td>Ralph McGill Boulevard at Freedom Parkway</td>
<td>C</td>
<td>0.86</td>
<td>B</td>
<td>0.66</td>
</tr>
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<td>Freedom Parkway at North Highland Avenue</td>
<td>F</td>
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<td>E</td>
<td>1.14</td>
</tr>
<tr>
<td>Freedom Parkway at Moreland Avenue</td>
<td>B</td>
<td>0.75</td>
<td>C</td>
<td>1.02</td>
</tr>
<tr>
<td>Moreland Avenue at Dekalb Avenue (west)</td>
<td>A</td>
<td>0.61</td>
<td>B</td>
<td>0.77</td>
</tr>
<tr>
<td>Moreland Avenue at Dekalb Avenue (east)</td>
<td>A</td>
<td>0.53</td>
<td>A</td>
<td>0.54</td>
</tr>
<tr>
<td>Decatur Street at Krog Street</td>
<td>F</td>
<td>1.18</td>
<td>F</td>
<td>1.29</td>
</tr>
<tr>
<td>Glen Iris Drive at Highland Avenue</td>
<td>D</td>
<td>0.99</td>
<td>D</td>
<td>1.01</td>
</tr>
<tr>
<td>Ralph McGill Boulevard at Fortune Street</td>
<td>NO SIG</td>
<td>NO SIG</td>
<td>NO SIG</td>
<td>NO SIG</td>
</tr>
<tr>
<td>Ralph McGill Boulevard at Angier Avenue Connector</td>
<td>NO SIG</td>
<td>NO SIG</td>
<td>NO SIG</td>
<td>NO SIG</td>
</tr>
<tr>
<td>Ralph McGill Boulevard at Freedom Parkway Underpass Street</td>
<td>NO SIG</td>
<td>NO SIG</td>
<td>NO SIG</td>
<td>NO SIG</td>
</tr>
</tbody>
</table>

#### Capacity Analysis

The Build, No Transit scenario in 2030 performs worse than the baseline scenario, primarily because of substantial new development without any corresponding increases in roadway or transit capacity. Results of the Build, No Transit operations analysis are detailed in Table 18 and graphically depicted on Figures 26-28 on the following pages.

The following list summarizes intersections that will operate at LOS E or worse under the 2030 Build, No Transit scenario during the a.m. peak hour:

- Ponce de Leon Avenue at Boulevard
- Freedom Parkway at North Highland Avenue
- Decatur Street at Krog Street

Intersections operating at LOS E or worse under the 2030 Build, No Transit scenario during the p.m. peak hour are summarized as follows:

- Ponce de Leon Avenue at Boulevard
- North Avenue at Freedom Parkway
- Freedom Parkway at North Highland Avenue
- Decatur Street at Krog Street
**Build Best Case**

The Build Best Case scenario was run with a horizon year of 2030. The scenario includes a fully operational transit service in the Northeast Quadrant along with the BeltLine redevelopment ability.

**Trip Generation**

Horizon year trips in each zone were multiplied by a growth factor of 99 percent to determine horizon year trips by zone. This growth factor is a straight-line projection of the Robert Charles Lesser & Company estimated demand from 2020 to 2030. A mixed use reduction of 10 percent and a transit reduction of 26 percent was applied to the trip generation. Table 19 presents them by land use category and Table 20 summarizes entering and exiting trips by zone for the peak hours. Table 21 displays mixed use and transit reductions by zone.

**Trip Distribution**

The same methodology was used to distribute trips for each scenario and is discussed in the Trip Distribution section of the 2020 Build, No Transit scenario.

**Capacity Analysis**

With the addition of BeltLine transit in the 2030 Build Best Case scenario, several intersections will improve from LOS C to LOS B during the a.m. peak hour compared to the Build, No Transit scenario. However, problem intersections tend to operate similarly to the Build, No Transit scenario and will remain congested despite an aggressive trip reduction of 26 percent. Trips produced by projected future development are substantial enough at build out that transit cannot make the study area congestion-free. Transit does provide an additional mode choice that bypasses congestion, however.

While the 2030 Build Best Case scenario shows some improvement from LOS C to LOS B over the 2030 baseline and Build, No Transit scenarios, several intersections still operate at LOS E or worse in the 2030 Build Best Case scenario. Results of the Build Best Case traffic operations analysis are detailed in Table 22 and depicted graphically on Figures 29-30. The following list summarizes intersections operating at LOS E or worse under the 2030 Build Best Case during the a.m. peak hour:
- Ponce de Leon Avenue at Boulevard
- Freedom Parkway at North Highland Avenue
- Decatur Street at Krog Street

Intersections operating at LOS E or worse under the 2030 Build Best Case during the p.m. peak hour are summarized as follows:
- North Avenue at Freedom Parkway
- Freedom Parkway at North Highland Avenue
- Decatur Street at Krog Street

---

### Table 19 - 2030 Best Case Scenario Trip Generation by Land Use Category.

<table>
<thead>
<tr>
<th>LAND USE</th>
<th>A.M. PEAK</th>
<th>P.M. PEAK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential 9,826 DU</td>
<td>631</td>
<td>1,660</td>
</tr>
<tr>
<td>Retail 843,512 SF</td>
<td>378</td>
<td>239</td>
</tr>
<tr>
<td>Office 575,371 SF</td>
<td>536</td>
<td>55</td>
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**Table 20 - 2030 Build Best Case Scenario Trip Generation by Analysis Zone**

<table>
<thead>
<tr>
<th>Zone</th>
<th>A.M. Enter</th>
<th>A.M. Exit</th>
<th>P.M. Enter</th>
<th>P.M. Exit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>402</td>
<td>330</td>
<td>487</td>
<td>563</td>
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<td>2</td>
<td>22</td>
<td>46</td>
<td>21</td>
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</tr>
<tr>
<td>3</td>
<td>370</td>
<td>515</td>
<td>403</td>
<td>339</td>
</tr>
<tr>
<td>4</td>
<td>55</td>
<td>83</td>
<td>59</td>
<td>63</td>
</tr>
<tr>
<td>5</td>
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<tr>
<td>6</td>
<td>55</td>
<td>76</td>
<td>60</td>
<td>52</td>
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<tr>
<td>7</td>
<td>64</td>
<td>140</td>
<td>68</td>
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<tr>
<td>8</td>
<td>23</td>
<td>32</td>
<td>25</td>
<td>31</td>
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<td>9</td>
<td>57</td>
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<td>10</td>
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<td>13</td>
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<td>97</td>
<td>58</td>
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<td>Zone</td>
<td>Gross Trip Generation</td>
<td>A.M. Total</td>
<td>A.M. Enter</td>
<td>A.M. Exit</td>
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<td>-----------------------</td>
<td>------------</td>
<td>------------</td>
<td>-----------</td>
</tr>
<tr>
<td>1</td>
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<td>-2</td>
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<td>-17</td>
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<td>Transit Trip Reduction</td>
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<td>-130</td>
<td>-184</td>
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<tr>
<td>4</td>
<td>205</td>
<td>85</td>
<td>120</td>
<td>200</td>
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<td>Mixed Use Trip Reduction</td>
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<td>-10</td>
</tr>
<tr>
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<td>-1</td>
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<td>Transit Trip Reduction</td>
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<td>-11</td>
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<td>Transit Trip Reduction</td>
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<td>167</td>
<td>264</td>
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<td>-12</td>
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<td>Transit Trip Reduction</td>
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<td>-28</td>
<td>-40</td>
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<td>329</td>
<td>123</td>
<td>206</td>
<td>263</td>
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<tr>
<td>13</td>
<td>237</td>
<td>90</td>
<td>147</td>
<td>201</td>
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<tr>
<td></td>
<td>Mixed Use Trip Reduction</td>
<td>-18</td>
<td>-8</td>
<td>-10</td>
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<tr>
<td></td>
<td>Transit Trip Reduction</td>
<td>-57</td>
<td>-21</td>
<td>-36</td>
</tr>
</tbody>
</table>

Table 21 - 2030 Best Case Trip Reductions by Zone
<table>
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<tr>
<th>INTERSECTION</th>
<th>A.M. PEAK LOS</th>
<th>A.M. PEAK HOUR V/C RATIO</th>
<th>P.M. PEAK LOS</th>
<th>P.M. PEAK HOUR V/C RATIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ponce de Leon Avenue at Boulevard</td>
<td>F</td>
<td>1.10</td>
<td>F</td>
<td>1.28</td>
</tr>
<tr>
<td>Ponce de Leon Avenue at Glen Iris Drive</td>
<td>B</td>
<td>0.59</td>
<td>B</td>
<td>0.84</td>
</tr>
<tr>
<td>Ponce de Leon Avenue at Ford Place Extension</td>
<td>A</td>
<td>0.52</td>
<td>A</td>
<td>0.72</td>
</tr>
<tr>
<td>Ponce de Leon Avenue at Home Depot</td>
<td>B</td>
<td>0.84</td>
<td>A</td>
<td>0.77</td>
</tr>
<tr>
<td>Ponce de Leon Avenue at Ponce Place</td>
<td>C</td>
<td>0.91</td>
<td>C</td>
<td>0.94</td>
</tr>
<tr>
<td>Ponce de Leon Avenue at Freedom Parkway</td>
<td>C</td>
<td>0.71</td>
<td>B</td>
<td>0.92</td>
</tr>
<tr>
<td>North Avenue at Boulevard</td>
<td>B</td>
<td>0.73</td>
<td>C</td>
<td>0.99</td>
</tr>
<tr>
<td>North Avenue at Glen Iris Drive</td>
<td>C</td>
<td>0.71</td>
<td>B</td>
<td>0.69</td>
</tr>
<tr>
<td>North Avenue at Ford Place Extension</td>
<td>C</td>
<td>0.56</td>
<td>B</td>
<td>0.54</td>
</tr>
<tr>
<td>North Avenue at Freedom Parkway</td>
<td>D</td>
<td>0.95</td>
<td>F</td>
<td>1.16</td>
</tr>
<tr>
<td>Boulevard at Ralph McGill Boulevard</td>
<td>B</td>
<td>0.83</td>
<td>C</td>
<td>1.01</td>
</tr>
<tr>
<td>Boulevard at Freedom Parkway</td>
<td>F</td>
<td>1.80</td>
<td>F</td>
<td>1.50</td>
</tr>
<tr>
<td>Boulevard at Irwin Street</td>
<td>D</td>
<td>1.01</td>
<td>B</td>
<td>0.79</td>
</tr>
<tr>
<td>Boulevard at Edgewood Avenue</td>
<td>C</td>
<td>0.85</td>
<td>D</td>
<td>1.09</td>
</tr>
<tr>
<td>Boulevard at Decatur Street</td>
<td>NO SIG</td>
<td>NO SIG</td>
<td>NO SIG</td>
<td>NO SIG</td>
</tr>
<tr>
<td>Ralph McGill Boulevard at Glen Iris Drive</td>
<td>C</td>
<td>0.66</td>
<td>C</td>
<td>0.93</td>
</tr>
<tr>
<td>Ralph McGill Boulevard at Freedom Parkway</td>
<td>C</td>
<td>0.86</td>
<td>B</td>
<td>0.67</td>
</tr>
<tr>
<td>Freedom Parkway at North Highland Avenue</td>
<td>E</td>
<td>1.04</td>
<td>E</td>
<td>1.12</td>
</tr>
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<td>Freedom Parkway at Moreland Avenue</td>
<td>B</td>
<td>0.75</td>
<td>C</td>
<td>1.04</td>
</tr>
<tr>
<td>Moreland Avenue at DeKalb Avenue (west)</td>
<td>A</td>
<td>0.61</td>
<td>A</td>
<td>0.76</td>
</tr>
<tr>
<td>Moreland Avenue at DeKalb Avenue (east)</td>
<td>A</td>
<td>0.53</td>
<td>A</td>
<td>0.54</td>
</tr>
<tr>
<td>Decatur Street at Krog Street</td>
<td>F</td>
<td>1.13</td>
<td>F</td>
<td>1.23</td>
</tr>
<tr>
<td>Glen Iris Drive at Highland Avenue</td>
<td>D</td>
<td>0.97</td>
<td>C</td>
<td>1.01</td>
</tr>
<tr>
<td>Ralph McGill Boulevard at Fortune Street</td>
<td>NO SIG</td>
<td>NO SIG</td>
<td>NO SIG</td>
<td>NO SIG</td>
</tr>
<tr>
<td>Ralph McGill Boulevard at Angier Avenue Connector</td>
<td>NO SIG</td>
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<td>NO SIG</td>
<td>NO SIG</td>
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<tr>
<td>Ralph McGill Boulevard at Freedom Parkway Underpass Street</td>
<td>NO SIG</td>
<td>NO SIG</td>
<td>NO SIG</td>
<td>NO SIG</td>
</tr>
</tbody>
</table>

Table 22 - 2030 Best Case Scenario Traffic Operations Peak-Hour Level of Service
Year 2030 Projects

As Subarea 5 is located in a desirable section of the City of Atlanta and significant redevelopment is already taking place, it is likely that a significant amount of the BeltLine redevelopment will take place even without the transit improvements. Therefore, project recommendations are made for both the Build, No Transit and Best Case scenarios.

**Build, No Transit**

Based on unfavorable LOS conditions for Krog Street at Decatur Street, the following year 2030 projects are recommended:

- Additional left-turn lane from southbound Krog Street to eastbound Decatur Street
- Rebuild the Krog Street tunnel to properly align the intersection. Implementation of this project should be timed to coincide with replacement of the Krog Street Tunnel to minimize the expense associated with the project.

In the a.m. peak hour, LOS improves to acceptable, D, from LOS F under the Build Best Case scenario. During the p.m. peak hour, the intersection still operates at LOS F, however delay is reduced from 97 seconds to 81 seconds with the improvement.

A key issue with this project is the need to rebuild the Krog Street Tunnel to properly line up the intersection legs. Rebuilding the tunnel to reduce delay at the intersection is not cost effective, however, when the tunnel is eventually replaced, it should include a provision for this project.

As expected, intersection LOS in the 2030 Build, No Transit scenario is slightly better overall with the inclusion of the 2020 and 2030 roadway improvements. However, conditions are slightly worse in 2030 as compared to 2020. During the a.m. peak hour, several intersections will improve from LOS C to LOS A or LOS B.

Table 23 includes LOS for all intersections studied. It should be noted that the Table reflects the analysis including additional turn lanes at the Freedom Parkway and Boulevard intersection. However, this project is not recommended as it will not raise the Level of Service to an acceptable level. In addition, the addition of turn lanes at the intersection would be in conflict with the plans for the area presented in the City of Atlanta Comprehensive Transportation Plan. Therefore, this project is not recommended.
Some intersections perform slightly worse in the Build Best Case Scenario, which is counterintuitive. Because the modeling software optimizes the signal timings for the corridor as a whole and not for each individual intersection, non-critical intersections may experience slightly more delay. This is happening under the Build Best Case Scenario and delay at the affected intersections is 1 to 5 seconds higher than under the Build, No Transit Scenario. Under the Build Best Case Scenario, the corridor overall works better, but the delay at the non-critical intersections is enough to push them over the letter grade threshold.

**Build Best Case**

Based on unfavorable LOS conditions for Krog Street at Decatur Street, the same project described previously is recommended (see page 43).

Table 25 summarizes LOS for all scenarios without projects.

### Table 25 - Summary of LOS for all scenarios without projects

<table>
<thead>
<tr>
<th>INTERSECTION</th>
<th>A.M. PEAK LOS</th>
<th>A.M. PEAK V/C RATIO</th>
<th>P.M. PEAK LOS</th>
<th>P.M. PEAK V/C RATIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ponce de Leon Ave at Boulevard</td>
<td>E</td>
<td>1.11</td>
<td>E</td>
<td>1.12</td>
</tr>
<tr>
<td>Ponce de Leon Ave at Glen Iris Drive</td>
<td>B</td>
<td>0.59</td>
<td>B</td>
<td>0.84</td>
</tr>
<tr>
<td>Ponce de Leon Ave at Ford Pl. Extens.</td>
<td>A</td>
<td>0.52</td>
<td>A</td>
<td>0.72</td>
</tr>
<tr>
<td>Ponce de Leon Ave at Home Depot</td>
<td>B</td>
<td>0.84</td>
<td>A</td>
<td>0.77</td>
</tr>
<tr>
<td>Ponce de Leon Ave at Ponce de Leon Pl</td>
<td>C</td>
<td>0.91</td>
<td>C</td>
<td>0.94</td>
</tr>
<tr>
<td>Ponce de Leon Ave at Freedom Pkwy</td>
<td>C</td>
<td>0.71</td>
<td>B</td>
<td>0.92</td>
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<tr>
<td>North Ave at Boulevard</td>
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<td>C</td>
<td>0.99</td>
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<tr>
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<td>B</td>
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<td>C</td>
<td>1.01</td>
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Figure 32 - BeltLine Subarea 5 Intersection Project Sketch: Decatur Street/ DeKalb Avenue at Krog Street

Figure 33 - BeltLine Subarea 5 Intersection Project Sketch: Ponce de Leon Avenue at Boulevard/ Monroe Drive
Conclusions and Recommendations

Recommended transportation improvements are presented in five broad categories: roadway improvements, intersection improvements, internal park circulation, mobility, and connectivity. Roadway improvements address insufficient as well as excess capacity. Intersection improvements address deficiencies identified using the LOS methodology. Internal park circulation improvements are the conversion of existing streets to pedestrian and bicycle-only facilities. Mobility improvements address circulation around the park. Connectivity projects improve access to the park as well as other parcels in the study area.

Build, No Transit Traffic Operations

Recommended Improvements

Additional capacity on Decatur Street/DeKalb Avenue was analyzed and found to improve operations. While this is a potential improvement, the existing MARTA line, railroad, and townhome/condominium development adjacent to the right-of-way makes widening to a six-lane facility impractical.

A road diet is recommended for North Avenue from Boulevard to Bonaventure Avenue for implementation by 2020 because the current volume of 13,040 vehicles per day (VPD) is far below the LOS C threshold of 21,400 VPD in the Generalized Annual Average Daily Volumes for Florida’s Urbanized Areas. One travel lane in each direction would be replaced with on-street parking, wider sidewalks, or streetscape improvements. The exact configuration and amenities would be determined during the concept development phase.

The North Avenue road diet was subject to analysis using Florida’s General Annual Average Daily Volumes instead of intersection LOS because the road diet recommendation is proposed to remove excess through capacity. The road diet recommendation will not remove turning lanes at any intersections.

The following intersection improvements are recommended to address LOS deficiencies identified and detailed in the Build, No Transit traffic operations section:
- Ponce de Leon Avenue at Boulevard/Monroe Drive (2020)
  - Additional left-turn-only bay from southbound Monroe Drive to eastbound Ponce de Leon Avenue
  - Change the existing shared through/left-turn lane to through only
- Krog Street at Decatur Street (2030)
  - Additional left-turn lane from southbound Krog Street to eastbound Decatur Street
  - Rebuild the Krog Street Tunnel to properly align the intersection (recommended when the Krog Street Tunnel is rebuilt)

To provide internal park circulation, streets falling within the park will be converted to pedestrian-use or multi-use paths and will include the following:
- Morgan Street
- Dallas Street
- Rankin Street
- Angier Avenue
- Edith Street

Street extension and new location recommendations are made based on improving circulation within the study area and around the park as well as connectivity to parcels in the study area. These improvements are not justified on a capacity basis. These are new roadways based on the Street Framework Plan and identified as NR-0 on Figure 16.

Several connectivity improvements are recommended as follows to enhance connectivity across the BeltLine right-of-way:
- Angier Springs Road Extension – Avenue/mixed-use, including sidewalks and on-street parking with an at-grade crossing of the BeltLine
- Elizabeth Street Extension – Multi-family street extending Elizabeth Street to intersect
• Freedom Parkway Underpass Street – Multi-family street paralleling the BeltLine transit and running underneath Freedom Parkway to connect existing Ralph McGill Boulevard with the Willoughby Way Extension and the street framework improvements, which connect East Avenue and terminate at Highland Avenue.
• McGruder Street Extension – Multi-family street extending across the BeltLine connecting to Krog Street
• Montag Circle Extension – Multi-family street crossing the BeltLine at-grade and connecting Montag Circle with Highland Avenue
• Willoughby Way Extension – Multi-family street extending Willoughby Way to intersect with the new Freedom Parkway Underpass

Build Best Case Traffic Operations
Recommended Improvements

Based on the traffic analysis, intersections with projects recommended for the Build, No Transit scenario will also operate at unacceptable LOS under the BeltLine Best Case scenario. In addition, the Historic Fourth Ward Park will be in place whether or not the transit component of the BeltLine is implemented. Therefore, connectivity and circulation needs related to it still need to be addressed. Therefore, all improvements recommended in the Build, No Transit scenario are also recommended under the BeltLine scenario.
Figure 34 - BeltLine Subarea 5 Recommended Circulation
Figure 07 - Existing Geometry
Figure 08 - Existing Traffic Volumes
Figure 09 - Existing Levels of Service
Figure 10 - 2020 Baseline Geometry
Figure 11 - 2020 Baseline Traffic Volumes
Figure 14 - 2030 Baseline Traffic Volumes
Figure 15 - 2030 Baseline Level of Service
Figure 20 - 2020 Build with No Transit Geometry
Figure 21 - 2020 Build with No Transit Traffic Volumes
Figure 23 - 2020 Build with Transit (Best Case) Geometry
Figure 24 - 2020 Build with Transit (Best Case) Traffic Volumes
Figure 25 - 2020 Build with Transit (Best Case) Level of Service
Figure 26 - 2030 Build, No Transit Geometry
Figure 27 - 2030 Build, No Transit Traffic Volumes
Figure 28 - 2030 Build, No Transit Level of Service
Figure 29 - 2030 Build, with Transit (Best Case) Geometry
Figure 30 - 2030 Build with Transit (Best Case) Traffic Volumes
Contents

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Traffic Counts ................................................................. App:7
Traffic Operations Model Backup ................................. App:101
Trip Generation Backup .................................................. App:413
Master Planning Glossary

Adaptive Reuse: A process that adapts buildings for new uses while retaining their historic features.

At-grade: Level for a road, building or other structure at the same grade or level as the adjoining property (as opposed to a depressed or elevated road, building or other facility).

Atlanta Strategic Action Plan: The Atlanta Strategic Action Plan (ASAP) is the new 2007 - 2032 Comprehensive Planning Document for the City of Atlanta. Land use amendments coming out of the BeltLine planning process will be placed into the ASAP, which is updated on a quarterly basis.

BeltLine Planning Area: The area on which the overlay district is superimposed. It is generally ½ mile on either side of the BeltLine transit right-of-way.

Brownfield: Land that is environmentally contaminated as a result of past development, typically past industrial development.

Build-out: Build-out is the point at which a community’s total land area is completely developed as envisioned by a land use plan.

Capacity: The maximum number of vehicles that have a reasonable expectation of passing over a given section of a lane or a roadway during a given period under a specified speed or level of service.

Concept Plans: A number of options presented in order to elicit the advantages and disadvantages of each plan and approach the selection of an option, or a blend of options, for a Draft Master Plan.

Consolidated Transportation Program (CTP): This is Atlanta’s first transportation plan to evaluate coordination of all modes of transportation, including roadway, air, transit, freight, bicycle and walking facilities.

Density: The number of dwelling units (housing, apartments, townhouses, duplexes, etc.), or building per unit of land.

Easement: The right to use the real property of another for a specific purpose.

Existing Conditions: A review and synthesis of existing demographics, precedent studies, land use, transportation, parks, historic resources, and public art. It typically represents the first phase of the BeltLine Master Planning process.

Floodplain: A relatively flat or lowland area adjoining a river, stream, or watercourse, which is subject to periodic, partial or complete inundation.

Floor Area Ratio (FAR): The ratio of the total floor area of a building to the total land area of the site.

Goals and Objectives: A phase in the planning process which elicits aspirations for the future development of the Sub Area. These aspirations are used as a framework for creating and evaluating concepts in a later phase of the Master Planning process.

Greenspace: Open space, undeveloped space designated for parks, playgrounds, trails, gardens, and habitat restoration and preservation.

Greenways: Areas of protected open space that follow natural and manmade linear features for recreation, transportation, and conservation purposes and link ecological, cultural and recreational amenities.

Historic District: A group of historic resources comprised of two or more properties that are significant as a cohesive unit and contribute to the historical, architectural, or cultural values. Historic districts sometimes have federal or local designations.

Infill Development: Development that takes place on vacant or underutilized parcels within
an area that is already characterized by urban development and has access to urban services.

**Infrastructure:** The built facilities, generally publicly funded, that are required in order to serve a community’s developmental and operational needs. The infrastructure includes such things as roads and water and sewer systems.

**Intensity:** A term referring to the gross (total) floor area of commercial and industrial land uses.

**Land Use:** The categories of buildings and activities existing in an area or on a specific site. A land use plan is a guide for the location and intensity of future development in a community. Unlike zoning, land use designations do not place legal requirements on property owners.

**Level of Service:** A set of operating conditions describing the ability of a road network to handle traffic. Level A specifies the best traffic conditions; Level F indicates gridlock.

**Master Plan – Draft:** A preliminary version of the master plan, which occurs after existing conditions, goals and objectives, and concepts have been developed. After the draft master plan has been released, there is time for comment and input prior to the release of the Final Plan.

**Master Plan – Final:** This plan is submitted for endorsement by the study group. The final plan must also be approved by City Council and the Mayor prior to adoption into the ASAP. Certain components of the Plan will also be submitted to other groups for recommendations. For example, the land use portion of the plan will be submitted to the NPU.

**Master Planning:** Through mid-2008, Atlanta BeltLine, Inc is master planning the entire 22-mile BeltLine loop. While several BeltLine-wide studies and plans have been prepared, the master plans go into greater detail while building on and validating previous efforts and recommendations. To achieve the necessary level of detail, the BeltLine was divided into ten sub areas. Five of the sub area plans began in 2007. Once the sub area plans are complete, each will be a stand alone document, but they will all fit together seamlessly as one master plan for the entire Beltline. Atlanta BeltLine Inc is taking an interdisciplinary planning approach within each sub area. Each master plan addresses land use, transportation, parks and recreation, public art, and historic preservation in a comprehensive way.

**Mixed Use:** The combination of two or more land uses in a single development project. Optimal mixed development promotes pedestrian activity and the creation of a vibrant area.

**Mobility:** The ease with which desired destinations can be reached

**Mode:** A particular form of travel- e.g. walking, traveling by automobile, traveling by bus, traveling by train.

**Multi-Family:** A building that is designed to house more than one family. Examples would be a fourplex, condominiums, or an apartment building.

Office Hours: Designated hours when groups can schedule an appointment to ask questions and discuss the Master Plans.

**Open House:** A flexible meeting format with various tables with different components from master planning.

**Overlay District:** A zoning district superimposed on the existing underlying zoning district, but having validity in governing the use of the property. It establishes a set of regulatory criteria relating to certain characteristics that anticipates manages and encourages quality development opportunities in the Beltline planning area. The BeltLine Overlay District is designed to preserve a continuous transit corridor, preserve historic physical character, and promote smart growth urban design principles.

**Neighborhood Planning Unit (NPU):** The City of Atlanta is divided into twenty-five NPUs, which are citizen advisory councils that make
recommendations to the Mayor and City Council on zoning, land use, and other planning issues. The NPU system was established in 1974 to provide an opportunity for citizens to participate actively in the Comprehensive Development Plan, now called the Atlanta Strategic Action Plan, which is the city’s vision for the next five, ten, and fifteen years. It is also used as a way for citizens to receive information concerning all functions of city government. The system enables citizens to express ideas and comment on city plans and proposals while assisting the city in developing plans that best meet the needs of their communities.

**Non-Conforming Use:** A use that is prohibited by, or does not conform to, the Zoning Ordinance.

**Open Space:** Areas of land not covered by structures, driveways, or parking lots.

**Pedestrian Friendly:** Development and infrastructure designed so a person can comfortably walk from one location to another. It encourages strolling, window-shopping, and other pedestrian activities, and typically is fostered by a mix of land uses.

**Recreation – Active:** Includes recreation activities that have a noticeable impact on the surrounding environment and are usually rigorously athletic and not quiet. May include individual or team sports, large picnics or playground activities, and recreational events with a high density of people.

**Recreation – Passive:** Includes recreation activities that are usually quiet and not rigorously athletic, and have a low impact on the surrounding environment. May include walking, hiking, fishing, bird watching, and quiet picnicking.

**Right-of-Way:** The strip of land over which facilities such as highways, railroads, or power lines are built, which can be obtained through outright ownership of or an easement on the strip.

**Setback:** The distance between a building or structure from property lines or from other buildings.

**Smart Growth:** Metropolitan area development characterized by compact, mixed use districts, efficient use of infrastructure, choices of travel model, and protection of environmental resources and open space.

**Special Administrative Permit (SAP):** An approval process used where complex or unusual technical determinations are involved and/or in conjunction with temporary uses and structures when the matter does not require public notifications and hearings.

**Special Use Permit:** Permits used in connection with land uses identified within particular zoning classifications that are of substantial significance or of unusual operational characteristics.

**Streetscape:** The view along a street from the perspective of a driver or pedestrian, particularly views of natural and built elements in the street right-of-way, including street trees, signs, street lights, above-ground utilities, sidewalks, bus shelters, bike racks, street furniture and public art.

**Sub Area:** The sub area is a temporary geographic area for detailed master planning. Each sub area will undergo detailed study and has a temporary steering committee. There are two sub areas in each Study Group.

**Steering Committee:** A group of local stakeholders, many times with local knowledge, property ownership, or expertise, who are convened to provide detailed input into a planning process.

**Traffic Impact Analysis:** A determination of how street networks can manage increased households and employment at a future date. Creates an understanding of future pedestrian and road facility needs.

**Transit Supportive Development:** Mixed-use, higher density development centered around transit stations. The goal of Transit Supportive Development is to create development patterns
that supports the use of mass transit and reduces dependence on the automobile. Also referred to as “Transit Oriented Development” or “TOD.”

**Urban Design:** the process of giving form, shape and character to the arrangement of buildings, to whole neighborhoods, or the city.

**Variances or Special Exceptions:** Used in conjunction with construction proposals where consideration of effects on the surrounding property is of principal importance, and include, but are not limited to: building additions that involve yard set-back reductions, construction of fences and walls, and reductions in required parking.

**Watershed:** An area of land with a common drainage point.

**Zoning:** A set of laws that restrict the type of development that can occur on each parcel of land. Zoning typically divides a community into districts that group compatible uses together and exclude compatible uses. Zoning is a tool that is used to implement a land use plan.
Trip Distribution
## Traffic Counts

**Reliable Traffic Data Services, LLC**

Tel: (770) 578-5158 Fax: (770) 578-8159
e-mail: reliabletraffic@msn.com

**File Name**: 24020001  
**Site Code**: 24020001  
**Start Date**: 10/23/2007  
**Page No.:** 1

### Groups Printed- Cars, Trucks & Buses

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*** BREAK ***

| 04:00 PM   | 28   | 70   | 27  | 125       | 66   | 113  | 17  | 196       | 28   | 376  | 15  | 419       | 28   | 155  | 36  | 219       | 959  |
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Tel: (770) 578-5158 Fax: (770) 578-8159
e-mail: reliabletraffic@msn.com

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**Peak Hour Data**

- **Peak Hour Begins at 07:45 AM**
- Count: Trucks & Buses

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**Diagram**

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  - Out: 850
  - Total: 1596

- **Monroe Dr**
  - Left: 112
  - Thru: 475
  - Right: 212

- **Ponce de Leon Ave**
  - Left: 100
  - Thru: 700
  - Right: 323

- **Out in Total**
  - 1414

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**APPENDIX**
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:30 PM

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<td>274</td>
<td>1133</td>
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</table>

**Total Volume**
- Boulevard Northbound: 118
- Monroe Dr Southbound: 335
- Ponce de Leon Ave Eastbound: 151
- Ponce de Leon Ave Westbound: 604

**% App. Total**
- Boulevard Northbound: 19.5
- Monroe Dr Southbound: 55.5
- Ponce de Leon Ave Eastbound: 25
- Ponce de Leon Ave Westbound: 36.2

**PHF**
- Boulevard Northbound: 0.89
- Monroe Dr Southbound: 0.94
- Ponce de Leon Ave Eastbound: 0.94
- Ponce de Leon Ave Westbound: 0.974

**Peak Hour Begins at 04:30 PM**
Cars, Trucks & Buses

---

**Monroe Dr**
- Out: 664
- In: 904
- Total: 1568

**Ponce de Leon Ave**
- Out: 580
- In: 904
- Total: 1484

**Peak Hour Data**
North
- Right: 118
- Thru: 335
- Left: 151

- Right: 752
- Thru: 604
- Left: 1356

---

**文件名**: 24020001
**站点代码**: 24020001
**开始日期**: 10/23/2007
**页码**: 3
### TMC Data

**Groups Printed - Cars, Trucks & Buses**

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<th>Glen Iris Dr Northbound</th>
<th>Private Store Drwy Southbound</th>
<th>Ponce de Leon Ave Eastbound</th>
<th>Ponce de Leon Ave Westbound</th>
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<tbody>
<tr>
<td>07:00 AM</td>
<td>26 0 24 50</td>
<td>0 0 0 0</td>
<td>0 124 17 141</td>
<td>24 304 0 328</td>
</tr>
<tr>
<td>07:15 AM</td>
<td>29 0 27 56</td>
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<td>0 129 19 148</td>
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<td>32 1 33 66</td>
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<td>08:15 AM</td>
<td>41 1 41 83</td>
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<td>0 0 0 0</td>
<td>0 153 24 177</td>
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<td>08:45 AM</td>
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*** BREAK ***

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<td>0 437 32 469</td>
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Grand Total

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**File Name:** 24020002  
**Site Code:** 23420002  
**Start Date:** 10/23/2007  
**Page No.:** 2

#### Glen Iris Dr Northbound

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#### Private Store Drwy Southbound

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<tbody>
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</tr>
<tr>
<td>08:00 AM</td>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
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</tr>
<tr>
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#### Ponce de Leon Ave Eastbound

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<td>23</td>
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<td>157</td>
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<td>149</td>
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<td>153</td>
<td>24</td>
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#### Ponce de Leon Ave Westbound

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#### Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

**Peak Hour for Entire Intersection Begins at 07:45 AM**

<table>
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<tr>
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#### Volume and % App.

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#### PHF

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<th>Private Store Drwy Southbound</th>
<th>Ponce de Leon Ave Eastbound</th>
<th>Ponce de Leon Ave Westbound</th>
<th>Int. Total</th>
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**Peak Hour Data**

- **Peak Hour Begins at 07:45 AM**
- **Cars, Trucks & Buses**
# TMC Data

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<th>Ponce de Leon Ave Eastbound</th>
<th>Ponce de Leon Ave Westbound</th>
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</thead>
<tbody>
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<td>Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1</td>
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<td>Peak Hour for Entire Intersection Begins at 04:30 PM</td>
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</tr>
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## Peak Hour Data

- **North**
  - Peak Hour Begins at 04:30 PM
  - Cars, Trucks & Buses

- **South**
  - 11

- **East**
  - 216

- **West**
  - 265

## Glen Iris Dr

- **Out**
  - 333

- **In**
  - 305

- **Total**
  - 638
### TMC Data

#### Groups Printed- Cars, Trucks & Buses

<table>
<thead>
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<th>Start Time</th>
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<th>Home Depot &amp; Others Drwy</th>
<th>Ponce de Leon Ave Eastbound</th>
<th>Ponce de Leon Ave Westbound</th>
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| 08:15 AM   | 0 0 0 0 | 17 0 4 21 | 33 169 0 202 | 0 429 41 470 | 693 |
| 08:30 AM   | 0 0 0 0 | 18 0 2 20 | 36 157 0 193 | 0 418 37 455 | 668 |
| 08:45 AM   | 0 0 0 0 | 16 0 5 21 | 33 148 0 181 | 0 407 32 439 | 641 |
| Total      | 0 0 0 0 | 64 0 13 77 | 147 636 0 783 | 0 166 5 146 1811 | 2671 |

### *** BREAK ***

| 04:00 PM   | 0 0 0 0 | 52 0 8 60 | 46 411 0 457 | 0 208 51 259 | 776 |
| 04:15 PM   | 0 0 0 0 | 56 0 11 67 | 50 426 0 476 | 0 211 57 268 | 811 |
| 04:30 PM   | 0 0 0 0 | 69 0 9 78 | 53 432 0 485 | 0 218 61 279 | 842 |
| 04:45 PM   | 0 0 0 0 | 53 0 7 60 | 58 445 0 503 | 0 234 55 289 | 852 |
| Total      | 0 0 0 0 | 230 0 35 265 | 207 171 4 1921 | 0 871 224 1095 | 3281 |

| 05:00 PM   | 0 0 0 0 | 68 0 8 76 | 65 449 0 514 | 0 225 36 261 | 851 |
| 05:15 PM   | 0 0 0 0 | 52 0 11 63 | 69 458 0 527 | 0 228 45 273 | 863 |
| 05:30 PM   | 0 0 0 0 | 61 0 10 71 | 64 437 0 501 | 0 214 53 267 | 839 |
| 05:45 PM   | 0 0 0 0 | 59 0 12 71 | 56 428 0 484 | 0 211 62 273 | 828 |
| Total      | 0 0 0 0 | 240 0 41 281 | 254 177 2 2026 | 0 878 196 1074 | 3381 |

| Grand Total Approch % | 0 0 0 0 | 575 0 97 672 | 723 467 2 0 5395 | 0 485 3 661 5514 | 1158 |
| Total %           | 0 0 0 0 | 5 0 0.8 5.8 | 6.2 40. 3 0 46.6 | 0 41. 9 5.7 47.6 |
Reliable Traffic Data Services, LLC
Tel: (770) 578-5158 Fax: (770) 578-8159
email: reliabletraffic@msn.com

File Name: 24020003
Site Code: 24020003
Start Date: 10/23/2007
Page No: 2

TMC Data

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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 08:00 AM

Total Volume
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<th>Right</th>
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% App.
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PHF
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Home Depot & Others Drwy

Cars, Trucks & Buses

Peak Hour Begins at 08:00 AM

Northbound

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**Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1**

Peak Hour for Entire Intersection Begins at 04:30 PM

<table>
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<td>273</td>
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| Total Volume | 0    | 0    | 0    | 0    | 242  | 0    | 35   | 277  | 245  | 178  | 0    | 2029 | 0    | 905  | 197  | 1102 | 3408 |
| % App. Total  | 0    | 0    | 0    | 0    | 87.  | 0    | 12.  | 4    | 12.  | 87.  | 0    | 1    | 9    | 0    | 82.  | 17.  | 19.  | 86.  |

| PHF | .00 | .00 | .00 | .000 | .87 | .00 | .79 | .888 | .88 | .97 | .00 | .963 | .00 | .96 | .80 | .953 | .987 |

**Peak Hour Data**

Home Depot & Others Drwy

North

- Out: 442
- In: 277
- Total: 719

- Right: 35
- Thru: 0
- Left: 242

Peak Hour Begins at 04:30 PM

Cars, Trucks & Buses

- Out: 940
- In: 2029
- Total: 2969

- Right: 0
- Thru: 0
- Left: 940

- Out: 0
- In: 0
- Total: 0

- Right: 0
- Thru: 0
- Left: 0
**TMC Data**

**Groups Printed- Cars, Trucks & Buses**

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<tr>
<th>Start Time</th>
<th>Kroger Drwy Northbound</th>
<th>Ponce de Leon Pl Southbound</th>
<th>Ponce de Leon Ave Eastbound</th>
<th>Ponce de Leon Ave Westbound</th>
</tr>
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<tbody>
<tr>
<td>07:00 AM</td>
<td>4</td>
<td>3</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>07:15 AM</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>07:30 AM</td>
<td>4</td>
<td>5</td>
<td>7</td>
<td>16</td>
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<td>07:45 AM</td>
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<td>4</td>
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<td>14</td>
<td>22</td>
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<th>Ponce de Leon Pl Southbound</th>
<th>Ponce de Leon Ave Eastbound</th>
<th>Ponce de Leon Ave Westbound</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00 AM</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>08:15 AM</td>
<td>5</td>
<td>3</td>
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<td>13</td>
</tr>
<tr>
<td>08:30 AM</td>
<td>4</td>
<td>7</td>
<td>4</td>
<td>15</td>
</tr>
<tr>
<td>08:45 AM</td>
<td>8</td>
<td>4</td>
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<td>19</td>
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<td>Total</td>
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*** BREAK ***

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<th>Ponce de Leon Pl Southbound</th>
<th>Ponce de Leon Ave Eastbound</th>
<th>Ponce de Leon Ave Westbound</th>
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<tr>
<td>04:00 PM</td>
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<td>04:15 PM</td>
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</tr>
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<td>04:30 PM</td>
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<td>7</td>
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<th>Kroger Drwy Northbound</th>
<th>Ponce de Leon Pl Southbound</th>
<th>Ponce de Leon Ave Eastbound</th>
<th>Ponce de Leon Ave Westbound</th>
</tr>
</thead>
<tbody>
<tr>
<td>05:00 PM</td>
<td>18</td>
<td>8</td>
<td>13</td>
<td>39</td>
</tr>
<tr>
<td>05:15 PM</td>
<td>10</td>
<td>9</td>
<td>18</td>
<td>37</td>
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<tr>
<td>05:30 PM</td>
<td>11</td>
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<td>51</td>
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**Grand Total**

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<th>Kroger Drwy Northbound</th>
<th>Ponce de Leon Pl Southbound</th>
<th>Ponce de Leon Ave Eastbound</th>
<th>Ponce de Leon Ave Westbound</th>
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<tbody>
<tr>
<td>146</td>
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<td>155</td>
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**Approch %**

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<tbody>
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**Total %**

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<tr>
<th>Kroger Drwy Northbound</th>
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<tbody>
<tr>
<td>%</td>
<td>1.2</td>
<td>0.8</td>
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</tbody>
</table>
**Reliable Traffic Data Services, LLC**

Tel: (770) 578-5158 Fax: (770) 578-8159  
email: reliabletraffic@msn.com

**TMC Data**

File Name : 24020004  
Site Code : 24020004  
Start Date : 10/23/2007  
Page No : 2

---

### Kroger Drwy Northbound

<table>
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<tr>
<th>Start Time</th>
<th>Left</th>
<th>Thru</th>
<th>Right</th>
<th>App.</th>
<th>Total</th>
</tr>
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<tr>
<td>08:00 AM</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>9</td>
<td>21</td>
</tr>
<tr>
<td>08:15 AM</td>
<td>5</td>
<td>3</td>
<td>5</td>
<td>13</td>
<td>23</td>
</tr>
<tr>
<td>08:30 AM</td>
<td>4</td>
<td>7</td>
<td>4</td>
<td>15</td>
<td>21</td>
</tr>
<tr>
<td>08:45 AM</td>
<td>8</td>
<td>4</td>
<td>7</td>
<td>19</td>
<td>21</td>
</tr>
</tbody>
</table>

| Total      | 21   | 16   | 19    | 56   |

| % App.     | 37.  | 28.  | 33.   |

| PHF        | .65  | .57  | .67   | .737 |

### Ponce de Leon Pl Southbound

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<tr>
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<th>Thru</th>
<th>Right</th>
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<th>Total</th>
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<td>08:00 AM</td>
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<td>2</td>
<td>52</td>
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<td>181</td>
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<td>23</td>
<td>1</td>
<td>56</td>
<td>80</td>
<td>211</td>
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<tr>
<td>08:30 AM</td>
<td>28</td>
<td>5</td>
<td>47</td>
<td>80</td>
<td>188</td>
</tr>
<tr>
<td>08:45 AM</td>
<td>21</td>
<td>5</td>
<td>51</td>
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</tbody>
</table>

| Total      | 98   | 13   | 206   | 317  |

| % App.     | 30.  | 4.1  | 65    |

| PHF        | .87  | .65  | .92   | .991 |

### Ponce de Leon Ave Eastbound

<table>
<thead>
<tr>
<th>Start Time</th>
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<tr>
<td>08:00 AM</td>
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<td>168</td>
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<td>175</td>
<td>3</td>
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<td>489</td>
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<tr>
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<td>161</td>
<td>1</td>
<td>188</td>
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</tr>
<tr>
<td>08:45 AM</td>
<td>21</td>
<td>154</td>
<td>6</td>
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</table>

| Total      | 86   | 658  | 15    | 759  |

| % App.     | 11.  | .86  | 2     |

| PHF        | .82  | .94  | .62   | .954 |

### Ponce de Leon Ave Westbound

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| Total      | 12   | 156  | 9     | 1691 |

| % App.     | 0.7  | 92.  |

| PHF        | .60  | .97  | .88   | .963 |

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**Peak Hour Data**

**Peak Hour Begins at 08:00 AM**

Cars, Trucks & Buses
## TMC Data

### Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

**Peak Hour for Entire Intersection Begins at 04:30 PM**

<table>
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<tr>
<th>Start Time</th>
<th>Kroger Drwy Northbound</th>
<th>Ponce de Leon Pl Southbound</th>
<th>Ponce de Leon Ave Eastbound</th>
<th>Ponce de Leon Ave Westbound</th>
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<tbody>
<tr>
<td></td>
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<td>Total</td>
</tr>
<tr>
<td>04:30 PM</td>
<td>19</td>
<td>7</td>
<td>17</td>
<td>43</td>
</tr>
<tr>
<td>04:45 PM</td>
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<td>12</td>
<td>15</td>
<td>42</td>
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**PHF**

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### Peak Hour Data

**Peak Hour Begins at 04:30 PM**

Cars, Trucks & Buses

---

**File Name**: 24020004

**Site Code**: 24020004

**Start Date**: 10/23/2007

**Page No**: 3
### Reliable Traffic Data Services, LLC
Tel: (770) 578-5158 Fax: (770) 578-8159
email: reliabletraffic@msn.com

**File Name:** 24020005  
**Site Code:** 24020005  
**Start Date:** 10/23/2007  
**Page No:** 1

**TMC Data**

**Groups Printed- Cars, Trucks & Buses**

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<th>Start Time</th>
<th>Freedom Pkwy</th>
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<th>Eastbound</th>
<th>Ponce de Leon Ave</th>
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:45 AM

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Peak Hour Data

Peak Hour Begins at 07:45 AM
Cars, Trucks & Buses
### TMC Data

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**Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1**

**Peak Hour for Entire Intersection Begins at 04:45 PM**

**Cars, Trucks & Buses**

**Peak Hour Begins at 04:45 PM**
## Reliable Traffic Data Services, LLC

Tel: (770) 578-5158 Fax: (770) 578-8159  
email: reliabletraffic@msn.com

### File Name: 24020006  
Site Code: 24020006  
Start Date: 10/23/2007  
Page No: 1

### TMC Data

**Groups Printed - Cars, Trucks & Buses**

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**Boulevard Southbound**

**North Ave Eastbound**

**North Ave Westbound**

**Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1**

Peak Hour for Entire Intersection Begins at 07:45 AM

---

**Peak Hour Data**

Peak Hour Begins at 07:45 AM

Cars, Trucks & Buses
Reliable Traffic Data Services, LLC
Tel: (770) 578-5158 Fax: (770) 578-8159
email: reliabletraffic@msn.com

TMC Data

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Peak Hour Data

Peak Hour Begins at 04:30 PM
Cars, Trucks & Buses
### Reliable Traffic Data Services, LLC

Tel: (770) 578-5158 Fax: (770) 578-8159
email: reliabletraffic@msn.com

**TMC Data**

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| 08:15 AM   | 36   | 60    | 13     | 109       | 11   | 34    | 17     | 62        | 27   | 57    | 9      | 93        | 10   | 217   | 13     | 240        |
| 08:30 AM   | 32   | 77    | 10     | 119       | 8    | 31    | 12     | 51        | 25   | 54    | 6      | 85        | 8    | 196   | 17     | 221        |
| 08:45 AM   | 30   | 61    | 11     | 102       | 9    | 27    | 16     | 52        | 21   | 51    | 8      | 80        | 7    | 193   | 15     | 215        |
| Total      | 137  | 244   | 44     | 425       | 32   | 129   | 58     | 219       | 95   | 215   | 28     | 338       | 37   | 811   | 57     | 905        |

*** BREAK ***

| 04:00 PM   | 9    | 23    | 8      | 40        | 12   | 53    | 11     | 76        | 34   | 176   | 31     | 241       | 23   | 81    | 7      | 111        |
| 04:15 PM   | 10   | 28    | 9      | 47        | 16   | 56    | 13     | 85        | 38   | 189   | 36     | 263       | 26   | 85    | 9      | 120        |
| 04:30 PM   | 12   | 36    | 11     | 59        | 18   | 64    | 10     | 92        | 41   | 192   | 41     | 274       | 29   | 87    | 11     | 127        |
| 04:45 PM   | 14   | 42    | 8      | 64        | 13   | 71    | 14     | 98        | 39   | 197   | 44     | 280       | 34   | 79    | 9      | 122        |
| Total      | 45   | 129   | 36     | 210       | 59   | 244   | 48     | 351       | 152  | 754   | 152    | 1058      | 112  | 332   | 36     | 480        |

| 05:00 PM   | 10   | 38    | 9      | 57        | 11   | 76    | 12     | 99        | 36   | 205   | 41     | 282       | 31   | 71    | 11     | 113        |
| 05:15 PM   | 16   | 29    | 12     | 57        | 12   | 64    | 17     | 93        | 38   | 199   | 44     | 281       | 28   | 81    | 12     | 121        |
| 05:30 PM   | 14   | 34    | 11     | 59        | 10   | 59    | 12     | 81        | 33   | 191   | 49     | 273       | 24   | 71    | 10     | 105        |
| 05:45 PM   | 11   | 31    | 9      | 51        | 9    | 58    | 10     | 77        | 30   | 187   | 46     | 263       | 20   | 67    | 9      | 96         |
| Total      | 51   | 132   | 41     | 224       | 42   | 257   | 51     | 350       | 137  | 782   | 180    | 1099      | 103  | 290   | 42     | 435        |

**Grand Total**

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|                      |       |       |        |        |       |       |        |        |       | 286  | 213  | 182  |
|                      |       |       |        |        |       |       |        |        |       | 0    | 2598 | 7723 |
|                      |       |       |        |        |       |       |        |        |       |       |      |      |

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**Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1**

Peak Hour for Entire Intersection Begins at 07:45 AM

Peak Hour Begins at 07:45 AM

Cars, Trucks & Buses
### TMC Data

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**Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1**

Peak Hour for Entire Intersection Begins at 04:30 PM

**Peak Hour Begins at 04:30 PM**

Cars, Trucks & Buses
### Reliability Traffic Data Services, LLC

Tel: (770) 578-5158 Fax: (770) 578-8159
e-mail: reliabletraffic@msn.com

---

**File Name:** 24020008  
**Site Code:** 24020008  
**Start Date:** 10/23/2007  
**Page No:** 1

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**Groups Printed: Cars, Trucks & Buses**

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| Grand Total | 364  | 184  | 259   | 2465      | 135  | 200  | 6     | 133    | 2274  | 327  | 156  | 4     | 179    | 2070 | 311  | 187  | 1      | 202    | 2384        | 9193 |
| Approch %   | 14.  | 74.  | 10.   | 59       | 8.7  | 28.  | 2      | 5.8    | 2      | 15.  | 75.  | 8      | 179    | 176  | 8.5  | 13     | 78.    | 15.  | 5      | 20.   | 2.2 | 25.9  |
| Total %     | 4    | 20   | 2.8   | 26.8     | 1.5  | 21.  | 0.8   | 1.4    | 24.7   | 3.6  | 17   | 1.9   | 22.5   | 3.4  | 20.  | 4      | 2.2    | 25.9 | 4      |
TMC Data

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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:45 AM

Cars, Trucks & Buses
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**Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1**
Peak Hour for Entire Intersection Begins at 04:30 PM

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| PHF | .85 | .93 | .79 | .925 | .90 | .97 | .68 | .960 | .82 | .96 | .92 | .980 | .76 | .92 | .80 | .936 | .989 |

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**Freedom Pkwy**

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Cars, Trucks & Buses
### TMC Data

**Groups Printed - Cars, Trucks & Buses**

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### Reliability Traffic Data Services, LLC
**Tel:** (770) 578-5158 **Fax:** (770) 578-8159  
email: reliabletraffic@msn.com

File Name : 24020009  
Site Code : 24020009  
Start Date : 10/24/2007  
Page No : 2

**TMC Data**

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**Peak Hour Data**

- **Peak Hour Begins at 07:45 AM**
- **Cars, Trucks & Buses**

---

**Peak Hour Begins at 07:45 AM**

**Cars, Trucks & Buses**

---

**Total**

- 1498

---

**Boulevard**

- In: 766
- Out: 732

---

**Ralph McGill Blvd North**

- In: 951
- Out: 627
- Total: 1578

---

**Ralph McGill Blvd South**

- In: 951
- Out: 627
- Total: 1578

---

**Boulevard**

- In: 169
- Out: 678
- Total: 847

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**Ralph McGill Blvd North**

- In: 914
- Out: 857
- Total: 1771
### TMC Data

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**Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1**

Peak Hour for Entire Intersection Begins at 04:30 PM

- Cars, Trucks & Buses

![Peak Hour Data Diagram](image-url)
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### Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

**Peak Hour Begins at 07:30 AM**

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### Peak Hour Begins at 07:30 AM

**Cars, Trucks & Buses**

### Peak Hour Data

- **Peak Hour Begins at 07:30 AM**
- **North**
- **Right**
- **Thru**
- **Left**

### Diagram

- Out
- In
- Total
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- 1234
- 2322
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- 30
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### Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

- Peak Hour for Entire Intersection Begins at 04:30 PM
- Cars, Trucks & Buses

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<td>36</td>
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- PHF: 0.94
- PHF for North: 0.90
- PHF for South: 0.95
- PHF for Freedom Pkwy East: 0.96
- PHF for Freedom Pkwy West: 0.95

### Peak Hour Data

- Peak Hour Begins at 04:30 PM
- North
- South
- Freedom Pkwy East
- Freedom Pkwy West

### Overall

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## TMC Data

### Groups Printed- Cars, Trucks & Buses

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| 08:00 AM   | 77      | 232    | 13     | 322       | 17      | 78     | 5      | 100       | 2       | 11     | 5      | 18        | 7       | 93     | 25     | 125       | 565       |
| 08:15 AM   | 81      | 230    | 13     | 324       | 15      | 84     | 3      | 102       | 2       | 15     | 6      | 23        | 9       | 111    | 21     | 141       | 590       |
| 08:30 AM   | 67      | 216    | 14     | 297       | 13      | 87     | 9      | 109       | 3       | 12     | 4      | 19        | 5       | 86     | 23     | 114       | 539       |
| 08:45 AM   | 59      | 197    | 11     | 267       | 14      | 82     | 7      | 103       | 2       | 10     | 2      | 14        | 6       | 68     | 21     | 95        | 479       |
| Total      | 284     | 875    | 51     | 1210      | 59      | 331    | 24     | 414       | 9       | 48     | 17     | 74        | 27      | 358    | 90     | 475       | 2173      |

*** BREAK ***

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| Grand Total | Left  | 639    | 157    | 3629      | 341    | 235    | 1      | 84    | 2776   | 92   | 494    | 222    | 808   | 86  | 791    | 278    | 1155   |
| Apprch %    | 17.6  | 84.3   | 3.1    | 61.4      | 11.1   | 61.2   | 27.8   | 97.1  | 8368   | 1.1  | 9.5    | 3.3    | 13.8  |
| Total %     | 7.6   | 19.9   | 43.4   | 81.9      | 1.1    | 5.9    | 2.7    | 9.7   | 1.1    | 9.5   | 3.3    | 13.8   |
**Reliable Traffic Data Services, LLC**
Tel: (770) 578-5158 Fax: (770) 578-8159
email: reliabletraffic@msn.com

**File Name**: 24020011  
**Site Code**: 24020011  
**Start Date**: 10/24/2007  
**Page No**: 2

### TMC Data

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<td>86</td>
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<td>77</td>
<td>232</td>
<td>13</td>
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**Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1**

Peak Hour for Entire Intersection Begins at 07:30 AM

**Peak Hour Data**

- **North**
  - Cars, Trucks & Buses
  - Peak Hour Begins at 07:30 AM

**Diagram**

- Boulevard In: 1064  
  - Right: 359  
  - Thru: 205  
  - Left: 470  
  - Total: 1437

- Boulevard Out: 361  
  - Right: 1330  
  - Thru: 1691  
  - Left: 470  
  - Total: 361
### Peak Hour Data

Peak Hour Begins at 04:45 PM
Cars, Trucks & Buses

### TMC Data

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Reliable Traffic Data Services, LLC
Tel: (770) 578-5158 Fax: (770) 578-8159
e-mail: reliabletraffic@msn.com

File Name: 24020011
Site Code: 24020011
Start Date: 10/24/2007
Page No: 3
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<td>3 274</td>
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**Total Volume**

| **Volume** | 21 114 47 1209 | 12 216 56 284 | 22 74 13 109 | 22 304 37 363 |
|            | **% App.** |         |         | **% App.** |
| **Total**  | 1.7 94.4 3.9 76.19 | 4.2 1 7 20.67 11 | 6.1 83.10 7 2 |

**PHF**

| **PHF** | .65 .96 .73 .966 | .75 .87 .77 .888 | .78 .92 .81 .908 | .68 .90 .71 .864 .971 |
|         | Left Thru Right Out | Left Thru Right Out | Left Thru Right Out | Left Thru Right Out |

---

**Peak Hour Data**

Peak Hour Begins at 07:30 AM

Cars, Trucks & Buses

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**File Name**: 24020012

**Site Code**: 24020012

**Start Date**: 10/24/2007

**Page No**: 2
### TMC Data

**File Name:** 24020012  
**Site Code:** 24020012  
**Start Date:** 10/24/2007  
**Page No.:** 3

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#### Peak Hour Analysis

**Peak Hour Begins at 04:45 PM**

Cars, Trucks & Buses
### Groups Printed- Cars, Trucks & Buses

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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 08:00 AM

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| % App. Total| 61.8 | 38.2 | 18.5  | 81.5       | 0          |

| PHF         | 0.00 | 0.00 | 0.00  | 0.00       | 0.00       |

| PHF         | 0.87 | 0.72 | 0.895  | 0.88       | 0.90       |

### Peak Hour Data

Peak Hour Begins at 08:00 AM

Cars, Trucks & Buses

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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:45 PM

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Peak Hour Begins at 04:45 PM
Cars, Trucks & Buses
### TMC Data

#### Groups Printed- Cars, Trucks & Buses

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<th>Ralph McGill Blvd Eastbound</th>
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| 08:00 AM   | 17 106 1 124          | 2 46 13 61             | 4 12 7 23                 | 7 89 11 107           | 315        |
| 08:15 AM   | 16 98 4 118           | 2 42 10 54             | 7 14 3 24                 | 8 86 6 100            | 296        |
| 08:30 AM   | 28 99 1 128           | 1 41 7 49              | 6 13 3 22                 | 8 75 8 91             | 290        |
| 08:45 AM   | 16 93 3 112           | 2 37 9 48              | 7 11 5 23                 | 7 72 12 91            | 274        |
| Total      | 77 396 9 482          | 7 166 39 212           | 24 50 18 92               | 30 322 37 389         | 1175       |

*** BREAK ***

| 04:00 PM   | 3 37 7 47            | 10 109 12 131          | 4 76 28 108               | 3 28 3 34             | 320        |
| 04:15 PM   | 5 40 9 54            | 9 114 15 138           | 5 79 31 115               | 1 34 6 41             | 348        |
| 04:30 PM   | 4 44 12 60           | 12 126 18 156          | 7 82 36 125               | 2 33 9 44             | 385        |
| 04:45 PM   | 3 45 17 65           | 15 119 23 157          | 8 87 39 134               | 2 29 7 38             | 394        |
| Total      | 15 166 45 226        | 46 468 68 582          | 24 324 134 482            | 8 124 25 157          | 1447       |

| 05:00 PM   | 5 48 14 67           | 11 125 19 155          | 5 97 36 138               | 3 24 2 29             | 389        |
| 05:15 PM   | 2 47 9 58            | 12 127 20 159          | 5 88 44 137               | 2 36 9 47             | 401        |
| 05:30 PM   | 1 46 7 54            | 15 124 16 155          | 6 85 38 129               | 2 35 6 43             | 381        |
| 05:45 PM   | 2 42 8 52            | 13 119 17 149          | 4 67 34 105               | 6 28 2 36             | 342        |
| Total      | 10 183 38 231        | 51 495 72 618          | 20 337 152 509            | 13 123 19 155         | 1513       |

| Grand Total | 161 108 1353 | 114 126 192 1567 | 84 763 319 1166 | 71 896 116 1083 | 5169       |
| Appr %     | 11. 80. 9 | 7.3 5 3 | 7.2 4 4 | 6.6 82. 7 | 7 7 |
| Total %    | 3.1 21 26.2 | 2.2 24 3.7 30.3 | 1.6 8 6.2 22.6 | 1.4 17 2.2 21 |
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:45 AM

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| .87 | .92 | .71 | .877 |
| .71 | .90 | .60 | .948 |
| .93 | .94 | .77 | .942 |
| .948 |

**Glen Iris Dr**

**Ralph McGill Blvd**

**Northbound**

**Southbound**

**Eastbound**

**Westbound**

Peak Hour Begins at 07:45 AM

Cars, Trucks & Buses
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:30 PM

Peak Hour Begins at 04:30 PM
Cars, Trucks & Buses
TMC Data

### Groups Printed - Cars, Trucks & Buses

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<th>Freedom Pkwy Northbound</th>
<th>Freedom Pkwy Southbound</th>
<th>Ralph McGill Blvd Eastbound</th>
<th>E Freedom Pkwy Westbound</th>
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| 08:15 AM   | 13 | 74  | 0 | 87 | 0 | 116 | 24 | 140 | 14 | 0 | 25 | 39 | 186 | 41 | 34 | 261 | 527 |
| 08:30 AM   | 11 | 83  | 0 | 94 | 0 | 108 | 22 | 130 | 13 | 0 | 22 | 35 | 172 | 33 | 27 | 232 | 491 |
| 08:45 AM   | 10 | 78  | 0 | 88 | 0 | 103 | 17 | 120 | 10 | 0 | 20 | 30 | 164 | 26 | 23 | 213 | 451 |
| **Total**  | 45 | 310 | 0 | 355 | 0 | 450 | 86 | 536 | 49 | 0 | 95 | 144 | 716 | 143 | 123 | 982 | 2017 |

*** BREAK ***

| 04:00 PM   | 12 | 123 | 0 | 135 | 0 | 139 | 14 | 153 | 25 | 0 | 33 | 58 | 89 | 13 | 10 | 112 | 458 |
| 04:15 PM   | 14 | 128 | 0 | 142 | 0 | 142 | 16 | 158 | 27 | 0 | 38 | 65 | 92 | 16 | 12 | 120 | 485 |
| 04:30 PM   | 17 | 132 | 0 | 149 | 0 | 156 | 19 | 175 | 31 | 0 | 42 | 73 | 105 | 15 | 14 | 134 | 531 |
| 04:45 PM   | 14 | 139 | 0 | 153 | 0 | 167 | 17 | 184 | 23 | 0 | 45 | 68 | 97 | 16 | 15 | 128 | 533 |
| **Total**  | 57 | 522 | 0 | 579 | 0 | 604 | 66 | 670 | 106 | 0 | 158 | 264 | 383 | 60 | 51 | 494 | 2007 |

| 05:00 PM   | 18 | 146 | 0 | 164 | 0 | 158 | 16 | 174 | 29 | 0 | 49 | 78 | 93 | 18 | 13 | 124 | 540 |
| 05:15 PM   | 16 | 143 | 0 | 159 | 0 | 154 | 19 | 173 | 29 | 0 | 51 | 80 | 87 | 19 | 16 | 122 | 534 |
| 05:30 PM   | 20 | 140 | 0 | 160 | 0 | 149 | 16 | 165 | 31 | 0 | 46 | 77 | 83 | 15 | 19 | 117 | 519 |
| 05:45 PM   | 18 | 134 | 0 | 152 | 0 | 143 | 13 | 156 | 28 | 0 | 55 | 83 | 79 | 12 | 17 | 108 | 499 |
| **Total**  | 72 | 563 | 0 | 635 | 0 | 604 | 64 | 668 | 117 | 0 | 201 | 318 | 342 | 64 | 65 | 471 | 2092 |

Grand Total 208 | 170 | 0 | 1911 | 0 | 211 | 4 | 295 | 2409 | 315 | 0 | 533 | 848 | 210 | 9 | 431 | 356 | 2896 | 8064
Approach % 10. | 89. | 0 | 1  | 9 | 1 | 87. | 12. | 37. | 0 | 62. | 72. | 14. | 12. | 8 | 9 | 3
Total % 2.6 | 21. | 0 | 23.7 | 0 | 26. | 2 | 3.7 | 29.9 | 3.9 | 0 | 6.6 | 10.5 | 26. | 5.3 | 4.4 | 35.9
### TMC Data

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**PHF**

- **8.00 AM**
  - Freedom Pkwy Northbound
  - Freedom Pkwy Southbound
  - Ralph McGill Blvd Eastbound
  - E Freedom Pkwy Westbound

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**Freedom Pkwy**

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#### Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:30 PM

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<th>Freedom Pkwy Southbound</th>
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<tr>
<td>05:00 PM</td>
<td>18 146 0 164</td>
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<td>16 143 0 159</td>
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#### PHF

- Freedom Pkwy Northbound: .90
- Freedom Pkwy Southbound: .95
- Ralph McGill Blvd Eastbound: .00
- E Freedom Pkwy Westbound: .93

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#### Total

- Freedom Pkwy Northbound: 730
- Freedom Pkwy Southbound: 706
- Ralph McGill Blvd Eastbound: 112
- E Freedom Pkwy Westbound: 204

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### Peak Hour Data

- Peak Hour Begins at 04:30 PM
- Cars, Trucks & Buses
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*** BREAK ***

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Grand Total | 704  | 131  | 0      | 290       | 2304 | 197  | 110   | 458       | 1756 | 336  | 158  | 234       | 2155 | 89   | 183  | 293       | 2221 |
|            | 183  | 9    | 19     | 134       | 183  | 41   | 12     | 61        | 239  | 69   | 5     | 34        | 384  | 20   | 5     | 29        | 443  |

**% Breakdown**

Apprch %

<table>
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<tr>
<th></th>
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<tr>
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<td>15.</td>
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**Summary**

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</thead>
<tbody>
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<td>21.4</td>
</tr>
</tbody>
</table>
## TMC Data

### N Highland Ave
#### Northbound
- **Start Time**
  - **Left** | **Thru** | **Right** | **App.** | **Total**
  - 07:30 AM: 65 | 86 | 14 | 165
  - 07:45 AM: 71 | 110 | 10 | 191
  - 08:00 AM: 87 | 114 | 8 | 209
  - 08:15 AM: 79 | 103 | 6 | 188

#### Southbound
- **Start Time**
  - **Left** | **Thru** | **Right** | **App.** | **Total**
  - 07:30 AM: 12 | 42 | 31 | 85
  - 07:45 AM: 8 | 47 | 35 | 90
  - 08:00 AM: 9 | 65 | 32 | 106
  - 08:15 AM: 5 | 61 | 39 | 105

### E Freedom Pkwy
#### Eastbound
- **Start Time**
  - **Left** | **Thru** | **Right** | **App.** | **Total**
  - 07:30 AM: 8 | 51 | 4 | 63
  - 07:45 AM: 9 | 55 | 6 | 70
  - 08:00 AM: 11 | 59 | 5 | 75
  - 08:15 AM: 12 | 56 | 6 | 74

#### Westbound
- **Start Time**
  - **Left** | **Thru** | **Right** | **App.** | **Total**
  - 07:30 AM: 6 | 164 | 18 | 188
  - 07:45 AM: 8 | 169 | 23 | 200
  - 08:00 AM: 4 | 177 | 28 | 209
  - 08:15 AM: 5 | 158 | 23 | 186

### Total Volume
- **Start Time**
  - **Left** | **Thru** | **Right** | **App.** | **Total**
  - 07:30 AM: 302 | 413 | 38 | 753
  - 07:45 AM: 34 | 215 | 137 | 386
  - 08:00 AM: 14.78 | 7 | 5 | 23
  - 08:15 AM: 2.9 | 3 | 7 | 5

### % App.
- **Total**
  - **Left** | **Thru** | **Right** | **App.** | **Total**
  - 07:30 AM: 40.8 | 54.1 | 5 | 55
  - 07:45 AM: 8.8 | 55.5 | 7 | 35
  - 08:00 AM: 11.4 | 55.7 | 14 | 8.8
  - 08:15 AM: 7.4 | 85.8 | 17 | 2.9

### PHF
- **Total**
  - **Left** | **Thru** | **Right** | **App.** | **Total**
  - 07:30 AM: .86 | .9 | .67 | .901
  - 07:45 AM: .7 | .82 | .87 | .940
  - 08:00 AM: 3 | 6 | 5 | .94
  - 08:15 AM: 9 | 4 | 1 | .937

### Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
- **Peak Hour Begins at 07:30 AM**
- **Peak Hour for Entire Intersection Begins at 07:30 AM**

### Peak Hour Data
- **North**
  - **Right** | **Thru** | **Left**
  - 07:30 AM: 302 | 413 | 38
  - 07:45 AM: 259 | 753 | 1012

### Diagram
- Traffic flow diagrams for N Highland Ave and E Freedom Pkwy showing data for peak hour analysis.
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:30 PM

<table>
<thead>
<tr>
<th>Start Time</th>
<th>N Highland Ave Northbound</th>
<th>N Highland Ave Southbound</th>
<th>E Freedom Pkwy Eastbound</th>
<th>E Freedom Pkwy Westbound</th>
</tr>
</thead>
<tbody>
<tr>
<td>04:30 PM</td>
<td>20</td>
<td>73</td>
<td>33</td>
<td>126</td>
</tr>
<tr>
<td>04:45 PM</td>
<td>23</td>
<td>76</td>
<td>37</td>
<td>136</td>
</tr>
<tr>
<td>05:00 PM</td>
<td>27</td>
<td>83</td>
<td>32</td>
<td>142</td>
</tr>
<tr>
<td>05:15 PM</td>
<td>24</td>
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<td>311</td>
<td>128</td>
<td>533</td>
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<td>17.</td>
<td>58.</td>
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PHF: Peak Hour Factor

Peak Hour Begins at 04:30 PM
Cars, Trucks & Buses
### TMC Data

#### Groups Printed- Cars, Trucks & Buses

<table>
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<tr>
<th>Start Time</th>
<th>Moreland Ave Northbound</th>
<th>Moreland Ave Southbound</th>
<th>E Freedom Pkwy Eastbound</th>
<th>Westbound</th>
</tr>
</thead>
<tbody>
<tr>
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<td>104</td>
<td>211</td>
<td>0</td>
<td>315</td>
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<tr>
<td>07:15 AM</td>
<td>111</td>
<td>215</td>
<td>0</td>
<td>326</td>
</tr>
<tr>
<td>07:30 AM</td>
<td>117</td>
<td>223</td>
<td>0</td>
<td>340</td>
</tr>
<tr>
<td>07:45 AM</td>
<td>127</td>
<td>234</td>
<td>0</td>
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<tr>
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<td>118</td>
<td>216</td>
<td>0</td>
<td>334</td>
</tr>
<tr>
<td>08:30 AM</td>
<td>103</td>
<td>207</td>
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<td>310</td>
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<tr>
<td>08:45 AM</td>
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*** BREAK ***

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<th>E Freedom Pkwy Eastbound</th>
<th>Westbound</th>
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<td>163</td>
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<td>225</td>
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<td>04:45 PM</td>
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<td>195</td>
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Grand Total

<table>
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<th>Apprch</th>
<th>%</th>
<th>Total %</th>
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<tr>
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### TMC Data

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<th>Moreland Ave Northbound</th>
<th>Moreland Ave Southbound</th>
<th>E Freedom Pkwy Eastbound</th>
<th>Westbound</th>
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</thead>
<tbody>
<tr>
<td>Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peak Hour for Entire Intersection Begins at 07:30 AM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>07:30 AM</td>
<td>117</td>
<td>223</td>
<td>0</td>
<td>340</td>
</tr>
<tr>
<td>07:45 AM</td>
<td>127</td>
<td>234</td>
<td>0</td>
<td>361</td>
</tr>
<tr>
<td>08:00 AM</td>
<td>123</td>
<td>223</td>
<td>0</td>
<td>346</td>
</tr>
<tr>
<td>08:15 AM</td>
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<td>.95</td>
<td>.00</td>
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</table>

### Peak Hour Data

- **Moreland Ave**
  - Out: 1050
  - In: 740
  - Total: 1790

- **E Freedom Pkwy**
  - Out: 570
  - In: 1381
  - Total: 1951

The Peak Hour Begins at 07:30 AM. Cars, Trucks & Buses
### TMC Data

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Moreland Ave Northbound</th>
<th>Moreland Ave Southbound</th>
<th>E Freedom Pkwy Eastbound</th>
<th>Westbound</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Left</td>
<td>Thru</td>
<td>Right</td>
<td>Int.</td>
</tr>
<tr>
<td>04:30 PM</td>
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<td>163</td>
<td>0</td>
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<td>04:45 PM</td>
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<td>234</td>
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<td>49</td>
<td>146</td>
<td>0</td>
<td>195</td>
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</table>

- **Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1**
- **Peak Hour for Entire Intersection Begins at 04:30 PM**

- **Total Volume**
  - Moreland Ave Northbound: 227
  - Moreland Ave Southbound: 651
  - E Freedom Pkwy Eastbound: 1095
  - Westbound: 1320

- **% App. Total**
  - Moreland Ave Northbound: 25.9%
  - Moreland Ave Southbound: 74.1%
  - E Freedom Pkwy Eastbound: 0%
  - Westbound: 0%

- **PHF**
  - Moreland Ave Northbound: 91
  - Moreland Ave Southbound: 93
  - E Freedom Pkwy Eastbound: 90
  - Westbound: 98

### Peak Hour Data

- **North**
  - Peak Hour Begins at 04:30 PM
  - Cars, Trucks & Buses

### Diagrams

- Diagram of traffic flow and volume
- Diagram showing peak hour statistics
- Diagram illustrating traffic analysis and peak hour data
### Groups Printed- Cars, Trucks & Buses

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Northbound</th>
<th>Moreland Ave SB Ramp</th>
<th>Southbound</th>
<th>Dekalb Ave Eastbound</th>
<th>Dekalb Ave Westbound</th>
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</tr>
<tr>
<td>08:45 AM</td>
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<td>0</td>
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*** BREAK ***

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<th>Dekalb Ave Westbound</th>
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Grand Total:

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<tr>
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<th>Dekalb Ave Eastbound</th>
<th>Dekalb Ave Westbound</th>
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</thead>
<tbody>
<tr>
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<td>Apprch</td>
<td>62.0 0 37.0 10.8 0 8.6 13.0 2.8</td>
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<td>Total %</td>
<td>7.3 0 4.4 11.6 4.1 35.2 0 6.8 49.1</td>
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### TMC Data

#### Moreland Ave SB Ramp Southbound

<table>
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<th>Northbound</th>
<th>Dekalb Ave Eastbound</th>
<th>Dekalb Ave Westbound</th>
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</thead>
<tbody>
<tr>
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<tr>
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<td>0 0 0 0 19 0 31 50</td>
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<td>0 0 0 0 17 0 28 45</td>
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#### Dekalb Ave

- **Peak Hour Analysis From 07:00 AM to 08:45 AM** - Peak 1 of 1
- Peak Hour for Entire Intersection Begins at 07:45 AM

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>07:45 AM</td>
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#### PHF

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<th>Dekalb Ave Westbound</th>
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### Peak Hour Data

- **Peak Hour Begins at 07:45 AM**
- Cars, Trucks & Buses
TMC Data

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<th>Moreland Ave SB Ramp Southbound</th>
<th>Dekalb Ave Eastbound</th>
<th>Dekalb Ave Westbound</th>
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM

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</thead>
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Peak Hour Data

North

Peak Hour Begins at 04:45 PM

Cars, Trucks & Buses

[Diagram of traffic flow and volumes]
### Reliable Traffic Data Services, LLC
Tel: (770) 578-5158 Fax: (770) 578-8159
email: reliabletraffic@msn.com

File Name : 24020018-2
Site Code : 24020018
Start Date : 10/24/2007
Page No : 1

**TMC Data**

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**Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1**

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**Moreland Ave NB Ramp Southbound**

- **Total Volume**: 114
- **% App. Total**: .69

**% App. Total**: .893

**PHF**: .97

**Total**: 214

---

**Moreland Ave NB Ramp**

- **Total**: 114
- **Out**: 69
- **In**: 45
- **Left**: 31
- **Thru**: 34
- **Right**: 0

---

**Dekalb Ave Eastbound**

- **Total**: 350
- **Out**: 247
- **In**: 103
- **Left**: 24
- **Thru**: 319
- **Right**: 0

---

**Dekalb Ave Westbound**

- **Total**: 1350
- **Out**: 1281
- **In**: 369
- **Left**: 24
- **Thru**: 319
- **Right**: 0

---

**Peak Hour Begins at 08:00 AM**

**Cars, Trucks & Buses**

---

**Moreland Ave NB Ramp Out In Total**

- **Total**: 114
- **Out**: 69
- **In**: 45
- **Left**: 31
- **Thru**: 34
- **Right**: 0

---

**Dekalb Ave Out In Total**

- **Total**: 350
- **Out**: 247
- **In**: 103
- **Left**: 24
- **Thru**: 319
- **Right**: 0

---

**Dekalb Ave Out In Total**

- **Total**: 1350
- **Out**: 1281
- **In**: 369
- **Left**: 24
- **Thru**: 319
- **Right**: 0

---

**Peak Hour Begins at 08:00 AM**

**Cars, Trucks & Buses**

---

**Moreland Ave NB Ramp**

- **Total**: 114
- **Out**: 69
- **In**: 45
- **Left**: 31
- **Thru**: 34
- **Right**: 0

---

**Dekalb Ave**

- **Total**: 350
- **Out**: 247
- **In**: 103
- **Left**: 24
- **Thru**: 319
- **Right**: 0

---

**Dekalb Ave**

- **Total**: 1350
- **Out**: 1281
- **In**: 369
- **Left**: 24
- **Thru**: 319
- **Right**: 0

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**Peak Hour Begins at 08:00 AM**

**Cars, Trucks & Buses**
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### Peak Hour Data

**Moreland Ave NB Ramp**

**Dekalb Ave Eastbound**

**Dekalb Ave Westbound**

**Peak Hour Begins at 04:30 PM**

Cars, Trucks & Buses
### Reliable Traffic Data Services, LLC
Tel: (770) 578-5158 Fax: (770) 578-8159
e-mail: reliabletraffic@msn.com

**TMC Data**

**Groups Printed- Cars, Trucks & Buses**

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| Apprch %    | 19.              | 66.              | 14.                 |                       | 17.             | 78.              |                   |                     | 2.1            | 87.             | 10.             |                   | 5.6            | 2.3            | 5.3            | 2.7            |                       |       |
| Total %     | 3.4              | 12.              | 2.5                 | 18.1                 | 2.5             | 10.              | 0.5                | 13.9                | 0.6            | 25              | 7               | 31.             | 29.4           | 1.9            | 35              | 1.38           |       |
# Reliable Traffic Data Services, LLC

Tel: (770) 578-5158 Fax: (770) 578-8159  
email: reliabletraffic@msn.com

File Name : 24020019  
Site Code : 24020019  
Start Date : 10/24/2007  
Page No : 2

## TMC Data

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### Krog St Southbound

### Decatur St Eastbound

### Dekalb Ave Westbound

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**Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1**

Peak Hour for Entire Intersection Begins at 08:00 AM

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**Peak Hour Begins at 08:00 AM**

**Cars, Trucks & Buses**
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:30 PM

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Peak Hour Data

Peak Hour Begins at 04:30 PM

Cars, Trucks & Buses

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% App. Total | 15.9% | 61.4% | 23.3% | 20.3% |

PHF | .87 | .86 | .73 | .873 |

Peak Hour Begins at 04:30 PM

Cars, Trucks & Buses

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PHF | .87 | .86 | .73 | .873 |

Peak Hour Begins at 04:30 PM

Cars, Trucks & Buses

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PHF | .87 | .86 | .73 | .873 |

Peak Hour Begins at 04:30 PM

Cars, Trucks & Buses
## TMC Data

**Groups Printed - Cars, Trucks & Buses**

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| 08:15 AM   | 29   | 77   | 3     | 109  |       | 12   | 38   | 11    | 61   |       | 4    | 17   | 1     | 22   |       | 2    | 161  | 53    | 216  |       | 408  |
| 08:30 AM   | 24   | 82   | 3     | 109  |       | 9    | 39   | 17    | 65   |       | 3    | 15   | 2     | 20   |       | 3    | 156  | 47    | 206  |       | 400  |
| 08:45 AM   | 22   | 69   | 2     | 93   |       | 8    | 37   | 14    | 59   |       | 2    | 18   | 3     | 23   |       | 4    | 148  | 42    | 194  |       | 369  |
| **Total**  | 103  | 307  | 13    | 423  |       | 38   | 148  | 55    | 241  |       | 12   | 65   | 7     | 84   |       | 12   | 614  | 190   | 816  |       | 1564 |

*** BREAK ***

| 04:00 PM   | 2    | 28   | 3     | 33   |       | 33   | 102  | 11    | 146  |       | 3    | 62   | 12    | 77   |       | 4    | 26   | 10    | 40   |       | 296  |
| 04:15 PM   | 4    | 31   | 5     | 40   |       | 37   | 108  | 13    | 158  |       | 5    | 69   | 11    | 85   |       | 7    | 29   | 11    | 47   |       | 330  |
| 04:30 PM   | 5    | 33   | 6     | 44   |       | 41   | 115  | 14    | 170  |       | 7    | 65   | 13    | 85   |       | 5    | 31   | 13    | 49   |       | 348  |
| 04:45 PM   | 4    | 36   | 4     | 44   |       | 48   | 118  | 16    | 182  |       | 6    | 72   | 15    | 93   |       | 8    | 36   | 17    | 61   |       | 380  |
| **Total**  | 15   | 128  | 18    | 161  |       | 159  | 443  | 54    | 656  |       | 21   | 268  | 51    | 340  |       | 24   | 122  | 51    | 197  |       | 1354 |

| 05:00 PM   | 3    | 39   | 6     | 48   |       | 44   | 123  | 12    | 179  |       | 4    | 76   | 12    | 92   |       | 6    | 32   | 14    | 52   |       | 371  |
| 05:15 PM   | 5    | 33   | 5     | 43   |       | 49   | 119  | 13    | 181  |       | 5    | 79   | 16    | 100  |       | 3    | 33   | 16    | 52   |       | 376  |
| 05:30 PM   | 3    | 34   | 8     | 45   |       | 42   | 126  | 15    | 183  |       | 6    | 74   | 19    | 99   |       | 5    | 31   | 13    | 49   |       | 376  |
| 05:45 PM   | 2    | 31   | 5     | 38   |       | 37   | 117  | 11    | 165  |       | 4    | 71   | 15    | 90   |       | 3    | 28   | 12    | 43   |       | 336  |
| **Total**  | 13   | 137  | 24    | 174  |       | 172  | 485  | 51    | 708  |       | 19   | 300  | 62    | 381  |       | 17   | 124  | 55    | 196  |       | 1459 |

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**File Name:** 24020020  
**Site Code:** 24020020  
**Start Date:** 10/24/2007  
**Page No:** 1
### TMC Data

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**Highland Ave Westbound**

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**Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1**

Peak Hour for Entire Intersection Begins at 08:00 AM

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**Total Volume**

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**PHF**

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**Peak Hour Data**

- Peak Hour Begins at 08:00 AM
- Cars, Trucks & Buses

**Diagram**

- Glen Iris Dr Northbound
- Highland Ave Eastbound
- Highland Ave Westbound
- Glen Iris Dr Southbound

---

File Name: 24020020
Site Code: 24020020
Start Date: 10/24/2007
Page No: 2
### Reliable Traffic Data Services, LLC
Tel: (770) 578-5158 Fax: (770) 578-8159
email: reliabletraffic@msn.com

File Name: 24020020
Site Code: 24020020
Start Date: 10/24/2007
Page No: 3

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**TMC Data**

#### Peak Hour Data

**Peak Hour Begins at 04:45 PM**

**Cars, Trucks & Buses**

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<td>42 126 15 183</td>
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- **Total Volume**:
  - Northbound: 15 142 23 180
  - Southbound: 183 486 56 725
  - Eastbound: 21 301 62 384
  - Westbound: 22 132 60 214
  - Total: 1503

- **% App. Total**:
  - Northbound: 8.3 78.12
  - Southbound: 25.2 67.7
  - Eastbound: 5.5 78.16
  - Westbound: 10.4 61.3
  - Total: 3.7 28

- **PHF**:
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  - 0.93 0.96 0.87 0.99
  - 0.87 0.95 0.81 0.96
  - 0.68 0.91 0.88 0.877
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**File Name**: 24020020
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**Start Date**: 10/24/2007
**Page No**: 3
### TMC Data

#### Groups Printed - Cars, Trucks & Buses

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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:30 AM

Ralph McGill Blvd
Northbound

Peak Hour Begins at 07:30 AM
Cars, Trucks & Buses
### TMC Data

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| % App. Total | 23.  | 29.  | 47.  | 97.      | 1.3  | 1.3  | 9    | 5         | 98.  | 1.1  | 0.7  | 42. 28. 28. | 42.  | 28. 28. | 9     | 6          | 66  |

| PHF | .50  | .62  | .50  | .531     | .50  | .50  | .91   | .940      | .94  | .62  | .37  | .953      | .37  | .50  | .50   | .875        | .975 |

### Peak Hour Data

- **Ralph McGill Blvd**
  - Out: 441
  - In: 158
  - Total: 599

- **Willoughby Way**
  - Total: 21

**Peak Hour Begins at 04:30 PM**

**Cars, Trucks & Buses**

- Left: 41
- Thru: 37
- Right: 8

- Out: 17
- In: 25

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Percent: 25.7% 74.3% 40.1% 59.9% 32.9% 67.1%

Grand Total: 5234 15093 8201 12254 13435 27347

Percent: 25.7% 74.3% 40.1% 59.9% 32.9% 67.1%

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**Total** | 5154 | 13619 | 8085 | 10611 | 13239 | 24230 |

**Percent** | 27.5% | 72.5% | 43.2% | 56.8% | 35.3% | 64.7% |

**Grand Total** | 5154 | 13619 | 8085 | 10611 | 13239 | 24230 |

**Percent** | 27.5% | 72.5% | 43.2% | 56.8% | 35.3% | 64.7% |

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Grand Total

| Total      | 635     | 2268     |          |           | 1781    | 1473     |         |           | 2416    | 3741    |
| Percent    | 21.9%   | 78.1%    |          |           | 54.7%   | 45.3%    |         |           | 39.2%   | 60.8%   |

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Percent: 19.9% 80.1% 58.3% 41.7% 39.6% 60.4%

ADT: Not Calculated
### Beltline Subarea 5

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#### Traffic Operations

| Actuated Green, g (s) | 68.2 | 68.2 | 70.8 | 70.8 | 48.5 | 48.5 |
| Effective Green, g (s) | 68.2 | 68.2 | 70.8 | 70.8 | 48.5 | 48.5 |
| Actuated G/C Ratio | 0.56 | 0.56 | 0.56 | 0.56 | 0.32 | 0.32 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Gross Capacity (vph) | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 |
| v/s Ratio Phot | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| v/s Ratio Perm | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 |
| Uniform Delay, d1 | 19.7 | 19.7 | 19.7 | 19.7 |
| Progression Factor | 0.85 | 0.85 | 0.85 | 0.85 |
| Incremental Delay, d2 | 1.0 | 1.0 | 1.0 | 1.0 |
| Delay (s) | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 |
| Level of Service | B | A | B | C | C | D |
| Approach Delay (s) | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 |
| Approach LCs | B | C | C | C | C | D |

#### Summary

- HCM Average Control Delay: 28.5
- HCM Level of Service: C
- HCM Volume to Capacity Ratio: 0.72
- Actuated Cycle Length (s): 120.0
- Cycle Length (s): 60.0
- Sum of Lost time (s): 8.0
- Intersection Capacity Utilization: 83.2%
- ICU Level of Service: E
- Analysis Period (min): 15
- Critical Lane Group: c

---

**Baseline**

%user_name%

**Synchro 7 - Report**

**Page 1**
### Beltline Subarea 5

#### 4: Ponce de Leon Avenue NE & Freedom

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### Intersection Summary

- HCM Average Control Delay: 13.6
- HCM Level of Service: B
- HCM Volume to Capacity ratio: 0.71
- Actuated Cycle Length (s): 120.0
- Sum of Lost Time (s): 8.0
- Intersection Capacity Utilization: 60.5%
- ICU Level of Service: B
- Analysis Period (min): 15
- Critical Lane Group: C

---

*Baseline %user_name%*

*Synchro 7 - Report*

*Page 2*
### Movement Lane Configurations

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### Intersection Summary

- **HCM Average Control Delay:** 19.1
- **HCM Level of Service:** B
- **HCM Volume to Capacity ratio:** 0.53
- **Actuated Cycle Length (s):** 120.0
- **Sum of lost time (s):** 8.0
- **Intersection Capacity Utilization:** 61.3%
- **ICU Level of Service:** B
- **Analysis Period (min):** 15
## Beltline Subarea 5
### 7: Ponce de Leon Avenue NE & Glenn Iris

#### AM Existing

12/17/2008

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### Intersection Summary

| HCM Average Control Delay | 12.7 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.49 |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 47.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 |

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**Intersection Summary**

| HCM Average Control Delay | 23.2 |     |     |     |     |     |     |     |     |     |     |     |     |
| HCM Volume to Capacity ratio | 0.47 |     |     |     |     |     |     |     |     |     |     |     |     |
| Actuated Cycle Length (s) | 120.0 |     |     |     |     |     |     |     |     |     |     |     |     |
| Intersection Capacity Utilization | 64.8% |     |     |     |     |     |     |     |     |     |     |     |     |
| Analysis Period (min) | 15   |     |     |     |     |     |     |     |     |     |     |     |     |
| c Critical Lane Group |     |     |     |     |     |     |     |     |     |     |     |     |     |
### Beltline Subarea 5
#### 9: North Ave & Boulevard

**Baseline Synchro 7 - Report**

**12/17/2008**

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**Intersection Summary**

- **HCM Average Control Delay**: 16.1
- **HCM Level of Service**: B
- **HCM Volume to Capacity ratio**: 0.51
- **Actuated Cycle Length (s)**: 120.0
- **Sum of lost time (s)**: 8.0
- **Intersection Capacity Utilization**: 77.2%
- **ICU Level of Service**: D
- **Analysis Period (min)**: 15
- c **Critical Lane Group**
**Beltline Subarea 5**  
10: Ponce de Leon Avenue NE & Boulevard  
12/17/2008

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**Peak-hour factor, PHF** | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |

| Adj. Flow (vph) | 77  | 496 | 54  | 171 | 1551| 266 | 149 | 526 | 121 | 230 | 516 | 122 |
| RTOR Reduction (vph) | 0  | 11  | 0  | 0  | 0  | 20  | 0  | 0  | 63  | 0  | 12  |
| Lane Group Flow (vph) | 77  | 539 | 0  | 171 | 1797| 0  | 149 | 526 | 58  | 0  | 856 | 0  |

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| Lane Grp Cap (vph) | 109 | 1649 | 381 | 1940 | 232 | 900 | 765 | 823 |
| v/s Ratio Prot | 0.02 | 0.11 | 0.04 | c0.36 | 0.02 | c0.28 |
| v/s Ratio Perm | 0.23 | 0.16 | 0.29 | 0.04 | c0.43 |
| v/c Ratio | 0.71 | 0.33 | 0.45 | 0.93 | 0.64 | 0.58 | 0.08 | 1.04 |
| Uniform Delay, d1 | 32.6 | 30.3 | 20.6 | 35.0 | 36.9 | 22.3 | 16.6 | 35.0 |
| Progression Factor | 1.00 | 1.00 | 0.23 | 0.28 | 0.58 | 0.50 | 0.14 | 1.00 |
| Incremental Delay, d2 | 18.8 | 0.5  | 0.7  | 8.1  | 5.7  | 2.7  | 0.2  | 42.4 |
| Delay (s) | 51.4 | 30.8 | 5.6  | 17.9 | 27.2 | 13.8 | 2.6  | 77.4 |
| Level of Service | D    | C    | A    | B    | C    | B    | A    | E |
| Approach Delay (s) | 33.3 | 16.9 | 14.6 | 77.4 |
| Approach LOS | C    | B    | B    | E    |

**Intersection Summary**

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Baseline

%user_name%
### Beltline Subarea 5
### 11: Ralph McGill & Boulevard
### AM Existing

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### Intersection Summary

- **HCM Average Control Delay**: 10.3
- **HCM Level of Service**: B
- **HCM Volume to Capacity ratio**: 0.55
- **Actuated Cycle Length (s)**: 120.0
- **Sum of lost time (s)**: 8.0
- **Intersection Capacity Utilization**: 65.1%
- **ICU Level of Service**: C
- **Analysis Period (min)**: 15

---

**Baseline**

<p>| %user_name% | Synchro 7 - Report | Page 8 |</p>
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#### 18: Ponce de Leon Avenue NE & Ponce Place

**AM Existing**

12/17/2008

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#### Intersection Summary

| HCM Average Control Delay | 16.8 |
| HCM Volume to Capacity ratio | 0.72 |
| Actuated Cycle Length (s) | 120.0 |
| HCM Level of Service | B |
| Intersection Capacity Utilization | 74.4% |
| ICU Level of Service | D |
| Analysis Period (min) | 15 |
| Critical Lane Group | c |

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**Baseline**

%user_name%

**Synchro 7 - Report**

Page 10
### Beltline Subarea 5

#### AM Existing

**19: Ralph &**

**12/17/2008**

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### Intersection Summary

| **HCM Average Control Delay** | 17.7 | **HCM Level of Service** | B |
| **HCM Volume to Capacity ratio** | 0.72 | | |
| **Actuated Cycle Length (s)** | 120.0 | **Sum of lost time (s)** | 12.0 |
| **Intersection Capacity Utilization** | 73.5% | **ICU Level of Service** | D |
| **Analysis Period (min)** | 15 | | | |

**c Critical Lane Group**
## Beltline Subarea 5

### 24: Moreland &

#### AM Existing

12/17/2008

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### Intersection Summary

- **HCM Average Control Delay**: 11.6
- **HCM Level of Service**: B
- **HCM Volume to Capacity ratio**: 0.63
- **Actuated Cycle Length (s)**: 120.0
- **Sum of lost time (s)**: 8.0
- **Intersection Capacity Utilization**: 55.5%
- **ICU Level of Service**: B
- **Analysis Period (min)**: 15

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### Notes

- Critical Lane Group c

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Baseline

%user_name%
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### Intersection Summary

| HCM Average Control Delay | 40.3 |
| HCM Volume to Capacity ratio | 0.85 |
| Actuated Cycle Length (s) | 120.0 |
| Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 78.8% |
| ICU Level of Service | D |
| Analysis Period (min) | 15 |

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Beltline Subarea 5  
25: Highland &  
12/17/2008
## Beltline Subarea 5
### AM Existing
#### 30: Highland & Glenn Iris

12/17/2008

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### Intersection Summary

| HCM Average Control Delay | 22.0 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.71 | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 76.7% | ICU Level of Service | D |
| Analysis Period (min) | 15 | |

c Critical Lane Group
### Beltline Subarea 5
#### 38: Freedom & Boulevard

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### Intersection Summary

- **HCM Average Control Delay**: 155.3
- **HCM Level of Service**: F
- **HCM Volume to Capacity ratio**: 1.46
- **Actuated Cycle Length (s)**: 120.0
- **Sum of lost time (s)**: 16.0
- **Intersection Capacity Utilization**: 135.2%
- **ICU Level of Service**: H
- **Analysis Period (min)**: 15

---

%user_name%
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### Intersection Summary

- **HCM Average Control Delay**: 19.4
- **HCM Level of Service**: B
- **HCM Volume to Capacity ratio**: 0.79
- **Actuated Cycle Length (s)**: 120.0
- **Sum of lost time (s)**: 8.0
- **Intersection Capacity Utilization**: 76.1%
- **ICU Level of Service**: D
- **Analysis Period (min)**: 15
### Movement Lane Configurations

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#### Volume (vph)
- 22
- 74
- 13
- 22
- 304
- 37
- 21
- 1141
- 47
- 12
- 216
- 56

#### Ideal Flow (vphpl)
- 1900
- 1900
- 1900
- 1900
- 1900
- 1900
- 1900
- 1900
- 1900
- 1900
- 1900
- 1900

#### Total Lost time (s)
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- 4.0
- 4.0
- 4.0
- 4.0
- 4.0
- 4.0
- 4.0
- 4.0
- 4.0
- 4.0
- 4.0

#### Lane Util. Factor
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- 1.00
- 1.00
- 1.00
- 0.95
- 1.00
- 1.00
- 1.00
- 1.00
- 1.00
- 1.00
- 1.00

#### Satd. Flow (prot)
- 1770
- 1863
- 1583
- 1832
- 3516
- 1858
- 1583

#### Satd. Flow (perm)
- 469
- 1863
- 1583
- 1802
- 3330
- 1707
- 1583

#### Peak-hour factor, PHF
- 0.92
- 0.92
- 0.92
- 0.92
- 0.92
- 0.92
- 0.92
- 0.92
- 0.92
- 0.92
- 0.92
- 0.92

#### Adj. Flow (vph)
- 24
- 80
- 14
- 24
- 330
- 40
- 23
- 1240
- 51
- 13
- 235
- 61

#### RTOR Reduction (vph)
- 0
- 0
- 10
- 0
- 4
- 0
- 0
- 2
- 0
- 0
- 20
- 0

#### Lane Group Flow (vph)
- 24
- 80
- 4
- 0
- 390
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- 0
- 1312
- 0
- 0
- 248
- 41

### Turn Type

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#### Actuated Green, G (s)
- 31.4
- 31.4
- 31.4
- 31.4
- 80.6
- 80.6
- 80.6

#### Effective Green, g (s)
- 31.4
- 31.4
- 31.4
- 31.4
- 80.6
- 80.6
- 80.6

#### Actuated g/C Ratio
- 0.26
- 0.26
- 0.26
- 0.26
- 0.67
- 0.67
- 0.67

#### Clearance Time (s)
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- 4.0
- 4.0
- 4.0
- 4.0
- 4.0
- 4.0

#### Vehicle Extension (s)
- 3.0
- 3.0
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- 3.0
- 3.0
- 3.0
- 3.0

#### Lane Grp Cap (vph)
- 123
- 487
- 414
- 472
- 472
- 2237
- 1147
- 1063

#### v/s Ratio Prot
- 0.05
- 0.00
- 0.00
- 0.00
- 0.00
- 0.00
- 0.00
- 0.00
- 0.00

#### v/s Ratio Perm
- 0.20
- 0.16
- 0.01
- 0.83
- 0.39
- 0.15
- 0.03
- 0.22
- 0.04

#### Uniform Delay, d1
- 34.5
- 34.2
- 32.8
- 41.7
- 10.7
- 7.6
- 6.6

#### Progression Factor
- 1.00
- 1.00
- 1.00
- 1.00
- 1.00
- 0.31
- 0.07

#### Incremental Delay, d2
- 0.8
- 0.2
- 0.0
- 11.3
- 1.1
- 0.4
- 0.1

#### Delay (s)
- 35.2
- 34.3
- 32.8
- 53.1
- 11.8
- 2.7
- 0.6

#### Level of Service
- D
- C
- C
- D
- B
- A
- A

#### Approach Delay (s)
- 34.3
- 53.1
- 11.8
- 2.3

#### Approach LOS
- C
- D
- B
- A

### Intersection Summary

- HCM Average Control Delay: 19.3
- HCM Level of Service: B
- HCM Volume to Capacity ratio: 0.65
- Actuated Cycle Length (s): 120.0
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 80.8%
- ICU Level of Service: D
- Analysis Period (min): 15
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**Intersection Summary**

| HCM Average Control Delay | 5.2  | HCM Level of Service | A   |
| HCM Volume to Capacity ratio | 0.50 |     |     |
| Actuated Cycle Length (s) | 120.0| Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 51.3%| ICU Level of Service | A   |
| Analysis Period (min) | 15   |     |     |

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Baseline

Synchro 7 - Report
### Beltline Subarea 5
#### 49: Decatur & krog

**Baseline Synchro 7 - Report**  
12/17/2008

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**Intersection Summary**

- HCM Average Control Delay: 27.0
- HCM Level of Service: C
- HCM Volume to Capacity ratio: 0.90
- Actuated Cycle Length (s): 74.0
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 85.5%
- ICU Level of Service: E
- Analysis Period (min): 15
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**Intersection Summary**

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## Beltline Subarea 5
### 3: North Ave & Freedom

**Baseline Synchro 7 - Report**

12/17/2008

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Synchro 7 - Report

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**Intersection Summary**

| HCM Average Control Delay | 11.3 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.60 | |
| Actuated Cycle Length (s) | 60.0 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 60.2% | ICU Level of Service | B |
| Analysis Period (min) | 15 | |

Critical Lane Group
### Beltline Subarea 5

7: Ponce de Leon Avenue NE & Glenn Iris

#### Baseline Synchro 7 - Report

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| Approach LOS | A | B | D |

#### Intersection Summary

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| HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.68 |
| Actuated Cycle Length (s) | 130.0 |
| Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 65.4% |
| ICU Level of Service | C |
| Analysis Period (min) | 15 |
| c | Critical Lane Group |</p>
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**Intersection Summary**

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Baseline

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#### Intersection Summary

- **HCM Average Control Delay**: 14.6
- **HCM Volume to Capacity ratio**: 0.69
- **Actuated Cycle Length (s)**: 60.0
- **Sum of lost time (s)**: 8.0
- **Intersection Capacity Utilization**: 81.5%
- ** ICU Level of Service**: D
- **Analysis Period (min)**: 15
- **Critical Lane Group**: c
### Beltline Subarea 5
#### 10: Ponce de Leon Avenue NE & Boulevard

**Baseline Synchro 7 - Report**

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### Intersection Summary

- HCM Average Control Delay: 51.4
- HCM Level of Service: D
- HCM Volume to Capacity ratio: 1.01
- Actuated Cycle Length (s): 130.0
- Sum of lost time (s): 16.0
- Intersection Capacity Utilization: 99.3%
- ICU Level of Service: F
- Analysis Period (min): 15

* c Critical Lane Group
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c Critical Lane Group
### Beltline Subarea 5
#### 15: Ponce de Leon Avenue NE & Home Depot

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### Intersection Summary

- **HCM Average Control Delay**: 10.1
- **HCM Level of Service**: B
- **HCM Volume to Capacity ratio**: 0.65
- **Actuated Cycle Length (s)**: 130.0
- **Sum of lost time (s)**: 8.0
- **Intersection Capacity Utilization**: 62.9%
- **ICU Level of Service**: B
- **Analysis Period (min)**: 15

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**Baseline**

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**Synchro 7 - Report**

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**Intersection Summary**

- HCM Average Control Delay: 14.7
- HCM Volume to Capacity ratio: 0.62
- Actuated Cycle Length (s): 130.0
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 66.6%
- ICU Level of Service: C
- Analysis Period (min): 15

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**Intersection Summary**

HCM Average Control Delay 21.3
HCM Volume to Capacity ratio 0.71
Actuated Cycle Length (s) 130.0
Sum of lost time (s) 8.0
Intersection Capacity Utilization 72.5%
ICU Level of Service C
Analysis Period (min) 15

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c Critical Lane Group
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*Critical Lane Group*
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Beltline Subarea 5
25: Freedom & Highland
PM Existing
12/17/2008
### Beltline Subarea 5
#### 30: Highland & Glenn Iris

**PM Existing**

12/17/2008

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| Intersection Summary | | |
|----------------------|----------------|
| HCM Average Control Delay | 17.8 |
| HCM Volume to Capacity ratio | 0.83 |
| Actuated Cycle Length (s) | 60.0 |
| Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 91.1% |
| ICU Level of Service | F |
| Analysis Period (min) | 15 |
### Beltline Subarea 5

#### 38: Freedom & Boulevard

**Baseline Synchro 7 - Report**

**12/17/2008**

| Movement       | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| **Lane Configurations** |     |     |     |     |     |     |     |     |     |     |     |     |     |
| **Volume (vph)** | 614 | 978 | 93  | 151 | 760 | 30  | 159 | 431 | 55  | 28  | 859 | 514 |     |
| **Ideal Flow (vphpl)** | 1900| 1900| 1900| 1900| 1900| 1900| 1900| 1900| 1900| 1900| 1900| 1900| 1900|
| **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 | 4.0 |
| **Frt Protected** | 0.95| 1.00| 0.95| 1.00| 0.95| 1.00| 0.95| 1.00| 0.95| 1.00| 0.95| 1.00| 0.95|
| **Flt Protected** | 0.95| 1.00| 0.95| 1.00| 0.95| 1.00| 0.95| 1.00| 0.95| 1.00| 0.95| 1.00| 0.95|
| **Satd. Flow (prot)** | 1593| 3144| 1593| 3167| 1593| 3131| 1593| 3131| 1593| 3131| 1593| 3131| 1593|
| **Satd. Flow (perm)** | 1593| 3144| 380 | 3144| 380 | 3144| 380 | 3144| 380 | 3144| 380 | 3144| 380 |
| **Peak-hour factor, PHF** | 0.92| 0.92| 0.92| 0.92| 0.92| 0.92| 0.92| 0.92| 0.92| 0.92| 0.92| 0.92| 0.92|
| **Adj. Flow (vph)** | 667 | 1063| 101 | 164 | 826 | 33  | 173 | 468 | 60  | 30  | 934 | 559 |     |
| **RTOR Reduction (vph)** | 0   | 7   | 0   | 0   | 3   | 0   | 0   | 10  | 0   | 0   | 0   | 176 |     |
| **Lane Group Flow (vph)** | 667 | 1157| 0   | 164 | 856 | 0   | 173 | 518 | 0   | 30  | 934 | 383 | 838 |
| **Turn Type** | Prot| pm+pt| pm+pt| pm+pt| Perm|     |     |     |     |     |     |     |     |
| **Protected Phases** | 5   | 2   | 1   | 6   | 3   | 8   | 7   | 4   |     |     |     |     |     |
| **Actuated Phases** | 6   | 8   |     |     | 4   | 4   |     |     |     |     |     |     |     |
| **Actuated Green, G (s)** | 32.0| 46.7| 33.3| 24.0| 31.2| 27.2| 28.0| 25.6| 25.6|     |     |     |     |
| **Effective Green, g (s)** | 32.0| 46.7| 33.3| 24.0| 31.2| 27.2| 28.0| 25.6| 25.6|     |     |     |     |
| **Actuated g/C Ratio** | 0.31| 0.46| 0.33| 0.24| 0.31| 0.27| 0.28| 0.25| 0.25|     |     |     |     |
| **Clearance Time (s)** | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |     |     |     |     |
| **Vehicle Extension (s)** | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |     |     |     |     |
| **Lane Grp Cap (vph)** | 502 | 1445| 236 | 748 | 129 | 838 | 170 | 803 | 359 |     |     |     |     |
| **v/s Ratio Prot** | c0.42| 0.37| 0.06| c0.27| c0.05| 0.17| 0.00| 0.29|     |     |     |     |     |
| **v/s Ratio Perm** | 0.16 | c0.36| 0.44 |     | 0.04 | 0.27|     |     |     |     |     |     |     |
| **v/c Ratio** | 1.33| 0.80| 0.69| 1.14| 1.34| 0.62| 0.18| 1.16| 1.07|     |     |     |     |
| **Uniform Delay, d1** | 34.8| 23.5| 25.6| 38.8| 35.6| 32.6| 27.5| 38.0| 38.0|     |     |     |     |
| **Progression Factor** | 1.00| 1.00| 1.00| 1.00| 1.00| 1.00| 1.00| 1.00| 1.00|     |     |     |     |
| **Incremental Delay, d2** | 161.2| 4.8 | 8.6 | 80.4| 196.4| 1.4 | 0.5 | 86.9| 66.5|     |     |     |     |
| **Delay (s)** | 196.0| 28.2| 34.2| 119.2| 232.0| 34.0| 28.0| 124.9| 104.5|     |     |     |     |
| **Level of Service** | F   | C   | C   | F   | F   | C   | C   | F   |     |     |     |     |     |
| **Approach Delay (s)** | 89.3| 105.5| 82.9| 115.5|     |     |     |     |     |     |     |     |     |
| **Approach LOS** | F   | F   | F   | F   |     |     |     |     |     |     |     |     |     |

### Intersection Summary

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*Critical Lane Group*
**Beltline Subarea 5**  
**40: Irwin & Boulevard**  
**12/17/2008**

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**Intersection Summary**

| HCM Average Control Delay | 10.1 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.60 |     |     |
| Actuated Cycle Length (s) | 60.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 73.2% | ICU Level of Service | D |
| Analysis Period (min) | 15 |     |     |

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Baseline

%user_name% Synchro 7 - Report Page 16
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### Intersection Summary

| Analysis Period (min) | 15 |

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| HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.84 |
| Actuated Cycle Length (s) | 60.0 |
| Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 85.8% |
| ICU Level of Service | E |
| c Critical Lane Group | |</p>
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**Intersection Summary**

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### Actuated Green, G (s)

| Actuated G (s) | 24.0 | 24.0 | 20.6 | 20.6 |

### Effective Green, g (s)

| Effective G (s) | 24.0 | 24.0 | 20.6 | 20.6 |

### Actuated g/C Ratio

| Actuated g/C Ratio | 0.46 | 0.46 | 0.39 | 0.39 |

### Clearance Time (s)

| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 |

### Vehicle Extension (s)

| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 |

### Lane Grp Cap (vph)

| Lane Grp Cap (vph) | 1497 | 604 | 639 | 649 |

### v/s Ratio Prot

| v/s Ratio Prot | c0.34 | 0.33 | 0.14 | c0.32 |

### v/s Ratio Perm

| v/s Ratio Perm | 0.74 | 0.73 | 0.36 | 0.82 |

### Uniform Delay, d1

| Uniform Delay, d1 | 11.8 | 11.7 | 11.3 | 14.4 |

### Progression Factor

| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 |

### Incremental Delay, d2

| Incremental Delay, d2 | 2.0 | 4.4 | 0.4 | 8.4 |

### Delay (s)

| Delay (s) | 13.8 | 16.0 | 11.7 | 22.7 |

### Level of Service

| Level of Service | B | B | B | C |

### Approach Delay (s)

| Approach Delay (s) | 13.8 | 16.0 | 11.7 | 22.7 |

### Approach LOS

| Approach LOS | B | B | B | C |

### Intersection Summary

| HCM Average Control Delay | 16.0 |
| HCM Volume to Capacity ratio | 0.78 |
| Actuated Cycle Length (s) | 52.6 |
| Intersec Capacity Utilization | 99.6% |
| Analysis Period (min) | 15 |

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**Baseline**

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**PM Existing**

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**12/17/2008**

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**Synchro 7 - Report**

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**Page 19**
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### Intersection Summary

| HCM Average Control Delay | 3.5 |
| HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.47 |
| Actuated Cycle Length (s) | 60.0 |
| Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 43.3% |
| ICU Level of Service | A |
| Analysis Period (min) | 15 |

---

**Beltline Subarea 5**

87: Decatur &

12/17/2008  

Baseline  

%user_name%  

Synchro 7 - Report  

Page 20
### Movement

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#### Lane Configurations

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#### Lane Grp Cap (vph)

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### Intersection Summary

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The document also includes details on volume, ideal flow, lost time, lane utilization, and other traffic flow metrics.
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**Intersection Summary**

- **HCM Average Control Delay**: 20.6
- **HCM Level of Service**: C
- **HCM Volume to Capacity ratio**: 0.61
- **Actuated Cycle Length (s)**: 120.0
- **Sum of lost time (s)**: 12.0
- **Intersection Capacity Utilization**: 66.8%
- **ICU Level of Service**: C
- **Analysis Period (min)**: 15

---

**Baseline**

%user_name%
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**Turn Type**

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**Actuated Phases**

- Actuated Green, G (s): 69.1 82.0 82.0 30.0 30.0
- Effective Green, g (s): 69.1 82.0 82.0 30.0 30.0
- Actuated g/C Ratio: 0.58 0.68 0.68 0.25 0.25
- Clearance Time (s): 4.0 4.0 4.0 4.0 4.0
- Vehicle Extension (s): 3.0 3.0 3.0 3.0 3.0

**Lane Grp Cap (vph)**

- Lane Grp Cap (vph): 2865 439 3475 443 396
- v/s Ratio Prot: 0.17 0.02 0.40 0.11
- v/s Ratio Perm: 0.20 0.03
- v/c Ratio: 0.29 0.33 0.58 0.43 0.12
- Uniform Delay, d1: 13.0 7.2 10.0 37.9 34.8
- Progression Factor: 0.70 0.57 0.89 0.59 0.21
- Incremental Delay, d2: 0.2 0.2 0.3 2.6 0.5
- Delay (s): 9.3 4.3 9.3 25.1 8.0
- Level of Service: A A A C A

**Intersection Summary**

- HCM Average Control Delay: 9.9
- HCM Level of Service: A
- HCM Volume to Capacity ratio: 0.54
- Actuated Cycle Length (s): 120.0
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 52.5%
- ICU Level of Service: A
- Analysis Period (min): 15
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### Intersection Summary

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**Intersection Summary**

- HCM Average Control Delay: 16.4
- HCM Level of Service: B
- HCM Volume to Capacity ratio: 0.60
- Actuated Cycle Length (s): 120.0
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 84.5%
- ICU Level of Service: E
- Analysis Period (min): 15
- Critical Lane Group: c
### Movement EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBT SBR

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#### Lane Grp Cap (vph)

| Lane Grp Cap (vph) | 121 | 1544 | 362 | 1865 | 205 | 916 | 778 | 801 |

#### v/s Ratio Prot

| v/s Ratio Prot | 0.02 | 0.12 | c0.05 | c0.40 | 0.03 | c0.32 |

#### v/c Ratio

| v/c Ratio | 0.22 | 0.18 | 0.37 | 0.04 |

#### Uniform Delay, d1

| Uniform Delay, d1 | 32.3 | 32.6 | 21.7 | 37.5 | 40.9 | 22.6 | 16.2 |

#### Progression Factor

| Progression Factor | 1.00 | 1.00 | 0.43 | 0.45 | 0.63 | 0.50 | 0.11 |

#### Incremental Delay, d2

| Incremental Delay, d2 | 17.8 | 0.7 | 1.1 | 43.0 |

#### Delay (s)

| Delay (s) | 50.1 | 33.4 | 10.5 | 59.8 | 45.5 | 14.5 | 1.9 |

#### Level of Service

| Level of Service | D | C | B | E | D | B | A | F |

#### Approach Delay (s)

| Approach Delay (s) | 35.4 | 55.6 |

#### Approach LOS

| Approach LOS | D | E | B | F |

### Intersection Summary

| HCM Average Control Delay | 61.8 |
| HCM Volume to Capacity ratio | 1.08 |
| Actuated Cycle Length (s) | 120.0 |
| Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 108.5% |
| ICU Level of Service | G |
| Analysis Period (min) | 15 |

---

dl  Defacto Left Lane.  Recode with 1 though lane as a left lane.
c  Critical Lane Group
## Movement EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBT SBR

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**Baseline**

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**Intersection Summary**

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|-----------------|-----------------|-----------------|-----------------|
| HCM Average Control Delay | 11.3 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.80 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 78.9% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
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**Intersection Summary**

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| Intersection Summary | | | |
|----------------------|-------------|-------------|
| HCM Average Control Delay | 12.8 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.70 |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 60.8% | ICU Level of Service | B |
| Analysis Period (min) | 15 |
| c Critical Lane Group |
### Movement Configuration

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| Volume (vph) | 45 | 246 | 23 | 26 | 745 | 103 | 337 | 460 | 42 | 38 | 240 | 153 |
| Ideal Flow (vphl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| 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 |
| Lane Util Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.99 | 1.00 | 0.98 | 1.00 | 0.99 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1770 | 1839 | 1770 | 1829 | 1770 | 1839 | 1770 | 1863 | 1583 |
| Flt Permitted | 0.07 | 1.00 | 0.52 | 1.00 | 0.20 | 1.00 | 0.23 | 1.00 | 1.00 |
| Satd. Flow (perm) | 123 | 1839 | 963 | 1829 | 380 | 1839 | 425 | 1863 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 49 | 267 | 25 | 28 | 810 | 112 | 366 | 500 | 46 | 41 | 261 | 166 |
| RTOR Reduction (vph) | 0 | 3 | 0 | 0 | 4 | 0 | 0 | 3 | 0 | 0 | 0 | 53 |
| Lane Group Flow (vph) | 49 | 289 | 0 | 28 | 918 | 0 | 366 | 543 | 0 | 41 | 261 | 113 |

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### Intersection Summary

| HCM Average Control Delay | 60.5 | HCM Level of Service | E |
| HCM Volume to Capacity ratio | 0.99 |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 86.8% | ICU Level of Service | E |
| Analysis Period (min) | 15 |
| c Critical Lane Group |
### Movement

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#### v/s Ratio Prot

| v/s Ratio Perm | 0.07 | 0.4 | 0.07 | 0.35 | 0.18 |
| v/c Ratio | 0.13 | 0.81 | 0.15 | 0.81 | 0.43 |
| Uniform Delay, d1 | 15.5 | 24.6 | 15.7 | 30.3 | 24.2 |
| Progression Factor | 1.00 | 0.69 | 0.28 | 1.00 | 0.60 |
| Incremental Delay, d2 | 0.4 | 7.2 | 0.4 | 11.0 | 2.0 |
| Delay (s) | 15.9 | 24.2 | 4.8 | 41.4 | 16.4 |
| Level of Service | B | C | A | D | B |
| Approach Delay (s) | 15.9 | 19.6 | 41.4 | 16.4 | B |

#### Intersection Summary

| HCM Average Control Delay | 24.8 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.81 | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 84.9% | ICU Level of Service | E |
| Analysis Period (min) | 15 | |
| Critical Lane Group | B |
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### Intersection Summary

- **HCM Average Control Delay**: 203.7
- **HCM Level of Service**: F
- **HCM Volume to Capacity ratio**: 1.72
- **Actuated Cycle Length (s)**: 120.0
- **Sum of lost time (s)**: 20.0
- **Intersection Capacity Utilization**: 149.5%
- **ICU Level of Service**: H
- **Analysis Period (min)**: 15

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Critical Lane Group
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**Intersection Summary**

- **HCM Average Control Delay**: 24.6
- **HCM Volume to Capacity ratio**: 0.89
- **Actuated Cycle Length (s)**: 120.0
- **Sum of lost time (s)**: 8.0
- **Intersection Capacity Utilization**: 83.4%
- **ICU Level of Service**: E
- **Analysis Period (min)**: 15

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**Critical Lane Group**
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### Intersection Summary

- **HCM Average Control Delay**: 21.4
- **HCM Level of Service**: C
- **HCM Volume to Capacity ratio**: 0.73
- **Actuated Cycle Length (s)**: 120.0
- **Sum of lost time (s)**: 8.0
- **Intersection Capacity Utilization**: 88.3%
- **ICU Level of Service**: E
- **Analysis Period (min)**: 15

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**Baseline**

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**Synchro 7 - Report**

**Page 17**
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### Intersection Summary

- HCM Average Control Delay: 5.6
- HCM Level of Service: A
- HCM Volume to Capacity ratio: 0.55
- Actuated Cycle Length (s): 120.0
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 56.4%
- ICU Level of Service: B
- Analysis Period (min): 15

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**Baseline**

References:

- Synchro 7 - Report

Page 18
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Intersection Summary

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| | HCM Volume to Capacity ratio | 0.96 |
| | Actuated Cycle Length (s) | 104.0 | Sum of lost time (s) | 8.0 |
| | Intersection Capacity Utilization | 92.3% | ICU Level of Service | F |
| | Analysis Period (min) | 15 |

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Baseline

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Synchro 7 - Report

Page 20
### Beltline Subarea 5
#### 2020 No-Build PM
##### 3: North Ave & Freedom

12/17/2008

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### Intersection Summary

- HCM Average Control Delay: 44.8
- HCM Level of Service: D
- HCM Volume to Capacity ratio: 0.98
- Actuated Cycle Length (s): 110.0
- Sum of lost time (s): 12.0
- Intersection Capacity Utilization: 103.8%
- ICU Level of Service: G
- Analysis Period (min): 15

[c] Critical Lane Group
| Movement   | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| **Lane Configurations** |     |     |     |     |     |     |     |     |     |     |     |     |     |
| **Volume (vph)** | 125 | 0   | 209 | 426 | 76  | 65  | 76  | 66  | 624 | 0   | 0   | 708 | 79  |
| **Ideal Flow (vph/PL)** | 1900| 1900| 1900| 1900| 1900| 1900| 1900| 1900| 1900| 1900| 1900| 1900| 1900|
| **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 | 4.0 |
| **Flt Protected** | 0.95| 1.00| 1.00| 1.00| 1.00| 1.00| 1.00| 1.00| 1.00| 1.00| 1.00| 1.00| 1.00|
| **Satd. Flow (prot)** | 1770| 1583| 1770| 1734| 1770| 3539| 3486| 3486| 3486| 3486| 3486| 3486| 3486|
| **Satd. Flow (perm)** | 1126| 1583| 1770| 1734| 431 | 3539| 3486| 3486| 3486| 3486| 3486| 3486| 3486|
| **Peak-hour factor, PHF** | 0.92| 0.92| 0.92| 0.92| 0.92| 0.92| 0.92| 0.92| 0.92| 0.92| 0.92| 0.92| 0.92|
| **Adj. Flow (vph)** | 136 | 0   | 227 | 463 | 83  | 71  | 83  | 678 | 678 | 678 | 678 | 678 | 678 |
| **RTOR Reduction (vph)** | 0   | 0   | 150 | 0   | 33  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| **Lane Group Flow (vph)** | 136 | 0   | 77  | 463 | 121 | 0   | 83  | 678 | 0   | 0   | 850 | 0   | 0   |
| **Turn Type** | custom | custom | Perm | pm+pt |     |     |     |     |     |     |     |     |     |     |
| **Protected Phases** | 4   | 4   | 8   | 2   |     |     |     |     |     |     |     |     |     |     |
| **Actuated Green, G (s)** | 35.6| 35.6| 35.6| 35.6| 66.4| 66.4| 56.1| 56.1| 56.1| 56.1| 56.1| 56.1| 56.1|
| **Effective Green, g (s)** | 35.6| 35.6| 35.6| 35.6| 66.4| 66.4| 56.1| 56.1| 56.1| 56.1| 56.1| 56.1| 56.1|
| **Actuated g/C Ratio** | 0.32| 0.32| 0.32| 0.32| 0.60| 0.60| 0.51| 0.51| 0.51| 0.51| 0.51| 0.51| 0.51|
| **Clearance 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 | 4.0 |
| **Vehicle Extension (s)** | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| **Lane Grp Cap (vph)** | 364 | 512 | 573 | 561 | 337 | 2136| 1778| 1778| 1778| 1778| 1778| 1778| 1778|
| **v/s Ratio Prot** | 0.12| 0.05| 0.26| 0.13|     |     |     |     |     |     |     |     |     |     |
| **v/s Ratio Perm** | 0.12| 0.05| 0.26| 0.13|     |     |     |     |     |     |     |     |     |     |
| **v/c Ratio** | 0.37| 0.15| 0.81| 0.22| 0.25| 0.32| 0.48| 0.48| 0.48| 0.48| 0.48| 0.48| 0.48| 0.48|
| **Uniform Delay, d1** | 28.6| 26.4| 34.1| 27.0| 10.8| 10.7| 17.5| 17.5| 17.5| 17.5| 17.5| 17.5| 17.5| 17.5|
| **Progression Factor** | 1.00| 1.00| 1.00| 1.00| 1.00| 1.00| 0.25| 0.25| 0.25| 0.25| 0.25| 0.25| 0.25| 0.25|
| **Incremental Delay, d2** | 0.6 | 0.1 | 0.8 | 0.2 | 0.4 | 0.4 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| **Delay (s)** | 29.3| 26.6| 42.3| 27.2| 11.2| 11.1| 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| **Level of Service** | C   | C   | D   | C   | B   | B   | A   | A   | A   | A   | A   | A   | A   | A   |
| **Approach Delay (s)** | 27.6| 38.5| 11.1| 4.5 |     |     |     |     |     |     |     |     |     |     |
| **Approach LOS** | C   | D   | B   | A   |     |     |     |     |     |     |     |     |     |     |
| **Intersection Summary** |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| **HCM Average Control Delay** | 17.8|     |     |     |     |     |     |     |     |     |     |     |     |     |
| **HCM Level of Service** | B   |     |     |     |     |     |     |     |     |     |     |     |     |     |
| **HCM Volume to Capacity ratio** | 0.59|     |     |     |     |     |     |     |     |     |     |     |     |     |
| **Actuated Cycle Length (s)** | 110.0|     |     |     |     |     |     |     |     |     |     |     |     |     |
| **Sum of lost time (s)** | 12.0|     |     |     |     |     |     |     |     |     |     |     |     |     |
| **Intersection Capacity Utilization** | 68.6%|     |     |     |     |     |     |     |     |     |     |     |     |     |
| **ICU Level of Service** | C   |     |     |     |     |     |     |     |     |     |     |     |     |     |
| **Analysis Period (min)** | 15  |     |     |     |     |     |     |     |     |     |     |     |     |     |
| **c Critical Lane Group** |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
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### Intersection Summary

- HCM Average Control Delay: 12.3
- HCM Volume to Capacity ratio: 0.62
- Actuated Cycle Length (s): 60.0
- Intersection Capacity Utilization: 65.3%
- Analysis Period (min): 15

Critical Lane Group

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Baseline
%user_name% Synchro 7 - Report Page 3
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**Intersection Summary**

| HCM Average Control Delay | 18.5 |
| HCM Volume to Capacity ratio | 0.71 |
| Actuated Cycle Length (s) | 110.0 |
| Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 71.8% |
| ICU Level of Service | C |

**Analysis Period (min)**: 15
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#### Intersection Summary

| HCM Average Control Delay | 19.3 |
| HCM Volume to Capacity ratio | 0.84 |
| Actuated Cycle Length (s) | 60.0 |
| Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 95.2% |
| ICU Level of Service | F |
| Analysis Period (min) | 15 |
| c Critical Lane Group | |
### Beltline Subarea 5

#### 9: North Ave & Boulevard

**2020 No-Build PM**

**12/17/2008**

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### Intersection Summary

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Critical Lane Group
## Movement EBL EBT EBR WBL WBT NBL NBT NBR SBL SBT SBR

### Lane Configurations

| Volume (vph)  | 171 | 1873 | 115 | 158 | 805 | 197 | 132 | 168 | 365 | 565 | 78 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| 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 |
| Lane Util. Factor | 1.00 | 0.91 | 1.00 | 0.97 | 1.00 | 1.00 | 0.85 | 0.99 |
| Fft Protected | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 0.98 |
| Sbd. Flow (prot) | 1770 | 5041 | 1770 | 4935 | 1770 | 1863 | 1583 | 3436 |
| Sbd. Flow (perm) | 251 | 5041 | 196 | 4935 | 168 | 1863 | 1583 | 2278 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 186 | 2036 | 125 | 172 | 875 | 214 | 143 | 397 | 397 | 64 | 85 |
| RTOR Reduction (vph) | 0 | 5 | 0 | 0 | 35 | 0 | 0 | 53 | 0 | 5 | 0 |
| Lane Group Flow (vph) | 186 | 2156 | 0 | 172 | 1054 | 0 | 130 | 2278 |

### Turn Type pm+pt pm+pt pm+pt Perm pm+pt

| Protected Phases | 5 | 2 | 6 | 3 | 8 | 7 | 4 |
| Permitted Phases | 2 | 6 | 8 | 8 | 4 |
| Actuated Green, G (s) | 56.0 | 48.0 | 42.0 | 38.0 | 56.0 | 56.0 | 56.0 | 48.0 |
| Effective Green, g (s) | 56.0 | 48.0 | 42.0 | 38.0 | 56.0 | 56.0 | 56.0 | 48.0 |
| Actuated g/C Ratio | 0.47 | 0.40 | 0.35 | 0.32 | 0.47 | 0.47 | 0.47 | 0.40 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |

### Lane Grp Cap (vph)

| v/s Ratio Prot | 0.07 | 0.05 | 0.04 | 0.22 |
| v/s Ratio Perm | 0.22 | 0.45 | 0.47 | 0.08 | c0.48 |
| v/c Ratio | 0.63 | 1.07 | 1.42 | 0.67 | 1.08 | 0.47 | 0.18 | 1.20 |
| Uniform Delay, d1 | 38.1 | 36.0 | 55.1 | 35.6 | 30.9 | 21.8 | 18.6 | 36.0 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.01 | 0.98 | 1.07 | 1.00 |
| Incremental Delay, d2 | 4.4 | 41.5 | 230.9 | 23.0 | 99.6 | 1.7 | 0.5 | 99.4 |
| Delay (s) | 42.5 | 77.5 | 285.9 | 38.0 | 130.7 | 23.0 | 20.4 | 135.4 |
| Level of Service | D | E | F | D | F | C | C | F |
| Approach Delay (s) | 74.7 | 71.8 | 43.4 | 135.4 |
| Approach LOS | E | E | D | F |

### Intersection Summary

<p>| HCM Average Control Delay | 82.1 |
| HCM Volume to Capacity ratio | 1.26 |
| Actuated Cycle Length (s) | 120.0 |
| Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 109.2% |
| ICU Level of Service | H |
| Analysis Period (min) | 15 |
| Critical Lane Group | c |</p>
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**Intersection Summary**

- **HCM Average Control Delay**: 15.3
- **HCM Level of Service**: B
- **HCM Volume to Capacity ratio**: 0.83
- **Actuated Cycle Length (s)**: 60.0
- **Sum of lost time (s)**: 8.0
- **Intersection Capacity Utilization**: 80.6%
- **ICU Level of Service**: D
- **Analysis Period (min)**: 15

---

Baseline

%user_name%  Synchro 7 - Report  Page 8
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### Intersection Summary

- **HCM Average Control Delay**: 11.5
- **HCM Level of Service**: B
- **HCM Volume to Capacity ratio**: 0.71
- **Actuated Cycle Length (s)**: 110.0
- **Sum of lost time (s)**: 8.0
- **Intersection Capacity Utilization**: 69.0%
- **ICU Level of Service**: C
- **Analysis Period (min)**: 15
## Movement

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### Intersection Summary

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### Actuated Cycle

| Actuated Green, G (s) | 46.0 | 46.0 | 76.0 | 76.0 | 26.0 | 26.0 |
| Actuated g/C Ratio | 0.42 | 0.42 | 0.69 | 0.69 | 0.24 | 0.24 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |

### Lane Group Flow

| Lane Group Flow (vph) | 1846 | 321 | 397 | 862 | 327 | 148 |

### Intersection Summary

| HCM Average Control Delay | 17.5 |
| HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.80 |
| Actuated Cycle Length (s) | 110.0 |
| Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 79.7% |
| ICU Level of Service | D |
| Analysis Period (min) | 15 |
### Movement EBL EBR NBL NBT SBT SBR
#### Volume (vph)
- EBL: 367
- EBR: 562
- NBL: 253
- NBT: 726
- SBT: 1221
- SBR: 251
#### Ideal Flow (vphpl)
- EBL: 1900
- EBR: 1900
- NBL: 1900
- NBT: 1900
- SBT: 1900
- SBR: 1900
#### Total Lost time (s)
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- EBR: 4.0
- NBL: 4.0
- NBT: 4.0
- SBT: 4.0
- SBR: 4.0
#### Lane Util. Factor
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- NBL: 1.00
- NBT: 0.95
- SBT: 0.95
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- NBL: 0.95
- NBT: 1.00
- SBT: 1.00
- SBR: 1.00
#### Satd. Flow (prot)
- EBL: 1770
- EBR: 1583
- NBL: 1770
- NBT: 3539
- SBT: 3539
- SBR: 1583
#### Flt Permitted
- EBL: 0.95
- EBR: 1.00
- NBL: 0.13
- NBT: 1.00
- SBT: 1.00
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#### Satd. Flow (perm)
- EBL: 1770
- EBR: 1583
- NBL: 248
- NBT: 3539
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- SBR: 1583
#### Peak-hour factor, PHF
- EBL: 0.92
- EBR: 0.92
- NBL: 0.92
- NBT: 0.92
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#### Adj. Flow (vph)
- EBL: 399
- EBR: 611
- NBL: 275
- NBT: 789
- SBT: 3539
- SBR: 3539
#### RTOR Reduction (vph)
- EBL: 0
- EBR: 160
- NBL: 0
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#### Lane Group Flow (vph)
- EBL: 399
- EBR: 451
- NBL: 275
- NBT: 789
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- SBR: 273

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#### v/s Ratio
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- pm+pt: c0.09
- pm+ov: c0.46
- v/c Ratio: 0.85
- Uniform Delay, d1: 20.8
- Progression Factor: 1.00
- Incremental Delay, d2: 13.1
- Delay (s): 33.9
- Level of Service: C

#### Approach Delay (s)
- EBL: 65.1
- SBR: 16.1

#### Approach LOS
- E: B
- B: B

---

**Intersection Summary**
- HCM Average Control Delay: 30.8
- HCM Level of Service: C
- HCM Volume to Capacity ratio: 0.94
- Actuated Cycle Length (s): 60.0
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 78.1%
- ICU Level of Service: D
- Analysis Period (min): 15
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#### Intersection Summary

| HCM Average Control Delay | 20.7 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.95 | |
| Actuated Cycle Length (s) | 60.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 95.2% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |
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| Actuated Green, G (s) | 39.1 | 39.1 | 12.9 | 12.9 |
| Effective Green, g (s) | 39.1 | 39.1 | 12.9 | 12.9 |
| Actuated g/C Ratio | 0.65 | 0.65 | 0.22 | 0.22 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 1889 | 2213 | 381 | 340 |
| v/s Ratio Prot | 0.16 | 0.16 |
| v/s Ratio Perm | 0.47 | 0.47 |
| v/c Ratio | 0.71 | 0.24 | 0.65 | 0.05 |
| Progression Factor | 6.8 | 4.3 | 21.5 | 18.7 |
| Incremental Delay, d2 | 2.3 | 0.3 | 3.7 | 0.1 |
| Delay (s) | 9.2 | 2.0 | 25.2 | 18.7 |
| Level of Service | A | A | C | B |
| Approach Delay (s) | 9.2 | 2.0 | 23.7 | 23.7 |
| Approach LOS | A | A | C | C |

### Intersection Summary

| HCM Average Control Delay | 9.4 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.70 | | |
| Actuated Cycle Length (s) | 60.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 72.6% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

---

*Baseline*

%user_name%
## Beltline Subarea 5
### 49: Decatur & krog
#### 2020 No-Build PM
##### 12/17/2008

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**Intersection Summary**

| HCM Average Control Delay | 24.9 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.92 |
| Actuated Cycle Length (s) | 64.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 109.9% | ICU Level of Service | H |
| Analysis Period (min) | 15 |

---

**Baseline**

%user_name%
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### Actuated Green, G (s)

| Actuated Green, G (s) | 51.0 | 47.8 | 51.0 | 47.8 | 27.0 | 27.0 | 19.0 |
| Effective Green, g (s) | 51.0 | 47.8 | 51.0 | 47.8 | 27.0 | 27.0 | 19.0 |
| Actuated g/C Ratio | 0.57 | 0.53 | 0.57 | 0.53 | 0.30 | 0.30 | 0.21 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |

### Lane Grp Cap (vph)

| Lane Grp Cap (vph) | 146 | 966 | 650 | 978 | 161 | 1050 | 680 |

### v/s Ratio Prot

| v/s Ratio Prot | c0.02 | 0.12 | 0.01 | c0.51 | c0.04 | 0.13 |
| v/s Ratio Perm | 0.24 | 0.09 | 0.20 | c0.20 |
| Uniform Delay, d1 | 19.5 | 11.2 | 9.0 | 20.3 | 28.0 | 25.4 | 35.0 |
| Incremental Delay, d2 | 2.3 | 0.5 | 0.1 | 21.8 | 22.4 | 1.3 |
| Delay (s) | 55.7 | 1.3 | 9.1 | 42.2 | 48.8 | 25.0 | 46.6 |

### Level of Service

| Level of Service | E | A | A | D | D | C | D |
| Approach Delay (s) | 13.8 | 38.8 | 30.1 | 46.6 |

### Intersection Summary

<p>| HCM Average Control Delay | 36.0 |
| HCM Volume to Capacity ratio | 0.93 |
| Actuated Cycle Length (s) | 90.0 |
| HCM Volume to Capacity ratio | 0.93 |
| Actuated Cycle Length (s) | 90.0 |
| Intersection Capacity Utilization | 92.3% |
| Analysis Period (min) | 15 |
| c Critical Lane Group |</p>
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**Intersection Summary**

<p>| HCM Average Control Delay | 18.3 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.76 |
| Actuated Cycle Length (s) | 90.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 66.3% | ICU Level of Service | C |
| Analysis Period (min) | 15 |</p>
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**Intersection Summary**

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**Intersection Summary**

| HCM Average Control Delay | 12.7 |
| HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.56 |
| Actuated Cycle Length (s) | 90.0 |
| Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 52.9% |
| ICU Level of Service | A |
| Analysis Period (min) | 15 |

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Beltline 2020 Worst Case AM
7: Ponce de Leon Avenue NE & Glenn Iris
12/17/2008
| Movement         | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| **Movement**     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| **Lane Configurations** |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Volume (vph)     | 29  | 66  | 23  | 39  | 429 | 50  | 85  | 485 | 11  | 11  | 246 | 50  |     |
| Ideal Flow (vphpl)| 1900| 1900| 1900| 1900| 1900| 1900| 1900| 1900| 1900| 1900| 1900| 1900|     |
| 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 |     |
| Lane Util. Factor | 1.00| 0.95| 1.00| 1.00| 1.00| 1.00| 1.00| 1.00| 1.00| 1.00| 1.00| 1.00|     |
| Frt              | 0.97| 0.99| 1.00| 1.00| 1.00| 1.00| 0.85|     |     |     |     |     |     |
| Ftl Protected    | 0.99| 1.00| 0.99| 0.99| 0.99| 0.99| 1.00|     |     |     |     |     |     |
| Satd. Flow (prot)| 1792| 3475| 1845| 1859| 1859| 1859| 1583|     |     |     |     |     |     |
| Satd. Flow (perm)| 1220| 3228| 1689| 1689| 1689| 1689| 1583|     |     |     |     |     |     |
| Peak-hour factor, PHF | 0.92| 0.92| 0.92| 0.92| 0.92| 0.92| 0.92|     |     |     |     |     |     |
| Adj. Flow (vph)  | 32  | 72  | 25  | 42  | 466 | 54  | 92  | 527 | 12  | 12  | 267 | 54  |     |
| RTOR Reduction (vph) | 0  | 11  | 0   | 0   | 10  | 0   | 0   | 1   | 0   | 0   | 1   | 17  |     |
| Lane Group Flow (vph) | 0  | 118 | 0   | 0   | 552 | 0   | 0   | 630 | 0   | 0   | 279 | 37  |     |
| Turn Type        | Perm| Perm| Perm| Perm| Perm| Perm| Perm| Perm| Perm| Perm| Perm| Perm|     |
| Protected Phases | 4   | 8   | 2   | 6   | 6   | 6   |     |     |     |     |     |     |     |
| Permitted Phases | 4   | 8   | 2   | 6   | 6   | 6   |     |     |     |     |     |     |     |
| Actuated Green, G (s) | 20.8| 20.8| 20.8| 61.2| 61.2| 61.2|     |     |     |     |     |     |     |
| Effective Green, g (s) | 20.8| 20.8| 20.8| 61.2| 61.2| 61.2|     |     |     |     |     |     |     |
| Actuated g/C Ratio | 0.23| 0.23| 0.23| 0.68| 0.68| 0.68|     |     |     |     |     |     |     |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |     |     |     |     |     |     |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |     |     |     |     |     |     |
| Lane Grp Cap (vph) | 282 | 746 | 1149| 1234| 1076|     |     |     |     |     |     |     |     |
| v/s Ratio Prot   |     |     |     |     |     |     |     |     |     |     |     |     |     |
| v/c Ratio Perm   | 0.10| c0.17| c0.37| 0.15| 0.02|     |     |     |     |     |     |     |     |
| v/c Ratio        | 0.42| 0.74| 0.55| 0.23| 0.03|     |     |     |     |     |     |     |     |
| Uniform Delay, d1 | 29.5| 32.1| 7.3 | 5.4 | 4.7 |     |     |     |     |     |     |     |     |
| Progression Factor | 1.05| 1.00| 0.31| 0.94| 0.57|     |     |     |     |     |     |     |     |
| Incremental Delay, d2 | 1.0 | 3.9 | 1.5 | 0.4 | 0.1 |     |     |     |     |     |     |     |     |
| Delay (s)        | 32.0| 36.0| 3.8 | 5.5 | 2.7 |     |     |     |     |     |     |     |     |
| Level of Service  | C   | D   | A   | A   | A   |     |     |     |     |     |     |     |     |
| Approach Delay (s) | 32.0| 36.0| 3.8 | 5.1 |     |     |     |     |     |     |     |     |     |
| Level of Service  | C   | D   | A   | A   |     |     |     |     |     |     |     |     |     |
| Approach LOS      |     |     |     |     |     |     |     |     |     |     |     |     |     |

**Intersection Summary**

| HCM Average Control Delay | 17.2 | HCM Level of Service | B   |
| HCM Volume to Capacity ratio | 0.60 |     |     |
| Actuated Cycle Length (s) | 90.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 78.8% | ICU Level of Service | D   |
| Analysis Period (min)      | 15   |     |     |

c Critical Lane Group
### Beltline 2020 Worst Case AM
#### 9: North Ave & Boulevard

**12/17/2008**

#### Baseline Synchro 7 - Report

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#### Intersection Summary

| HCM Average Control Delay | 11.7 |
| HCM Volume to Capacity ratio | 0.63 |
| Actuated Cycle Length (s) | 90.0 |
| Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 86.5% |
| ICU Level of Service | E |
| Analysis Period (min) | 15 |

#### Critical Lane Group
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### Intersection Summary

| HCM Average Control Delay | 74.3 |
| HCM Volume to Capacity ratio | 1.15 |
| Actuated Cycle Length (s) | 90.0 |
| Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 109.4% |
| ICU Level of Service | H |
| Analysis Period (min) | 15 |

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Baseline

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| v/s Ratio Perm | 0.24 | 0.24 | 0.41 | 0.41 | 0.24 | 0.24 |
| v/c Ratio | 0.33 | 0.33 | 0.64 | 0.64 | 0.38 | 0.38 | 0.40 | 0.40 |
| Uniform Delay, d1 | 25.8 | 30.9 | 10.2 | 8.0 | 6.2 | 8.1 |
| Progression Factor | 1.00 | 0.33 | 0.52 | 0.28 | 0.52 | 0.44 |
| Incremental Delay, d2 | 0.3 | 9.5 | 0.9 | 0.0 | 0.2 | 0.5 |
| Delay (s) | 26.1 | 19.7 | 6.1 | 2.3 | 3.4 | 4.1 |
| Level of Service | C | B | A | A | A | A |
| Approach Delay (s) | 26.1 | 19.7 | 3.0 | 4.1 | 4.1 | 4.1 |
| Approach LOS | C | B | A | A | A | A |

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**Intersection Summary**

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## Movement

| Movement   | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Volume (vph) | 96  | 734 | 17  | 13  | 1749| 123 | 49  | 37  | 44  | 109 | 14  | 230 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| 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  |
| Lane Util. Factor | 1.00 | 0.91 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | 1.00 | 0.85 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 0.96 | 1.00 |
| Satd. Flow (prot) | 1770 | 5085 | 1583 | 1770 | 3504 | 1811 | 1583 | 1784 | 1583 |
| Satd. Flow (perm) | 136 | 5085 | 1583 | 566 | 3504 | 1433 | 1583 | 1273 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 104 | 798 | 18 | 14 | 1901 | 134 | 53 | 40 | 48 |
| RTOR Reduction (vph) | 0 | 0 | 5 | 0 | 6 | 0 | 0 | 0 | 39 | 0 | 0 | 91 |
| Lane Group Flow (vph) | 104 | 798 | 18 | 14 | 2029 | 0 | 0 | 93 | 0 | 133 | 159 |

## Turn Type

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## Intersection Summary

| HCM Average Control Delay | 17.3 |
| HCM Volume to Capacity ratio | 0.79 |
| Actuated Cycle Length (s) | 90.0 |
| Intersection Capacity Utilization | 81.2% |
| Analysis Period (min) | 15 |

---

Baseline

%user_name%
### Movement EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBT SBR

#### Lane Configurations

| Volume (vph) | 58 | 0  | 110 | 823 | 204 | 155 | 47  | 360 | 0  | 0  | 557 | 106 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| 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 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.95 |
| Frl Protected | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1770 | 1583 | 1770 | 1742 | 1770 | 3539 | 3454 | 3454 | 3454 | 3454 | 3454 | 3454 |
| Frl Permitted | 0.46 | 1.00 | 0.95 | 1.00 | 0.19 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (perm) | 866 | 1583 | 1770 | 1742 | 354 | 3539 | 3454 | 3454 | 3454 | 3454 | 3454 | 3454 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 63 | 0 | 120 | 895 | 222 | 168 | 51 | 391 | 0 | 0 | 605 | 115 |
| RTOR Reduction (vph) | 0 | 0 | 51 | 0 | 30 | 0 | 0 | 0 | 0 | 0 | 17 | 0 |
| Lane Group Flow (vph) | 63 | 0 | 69 | 895 | 360 | 0 | 51 | 391 | 0 | 0 | 703 | 0 |

#### Turn Type custom custom Perm pm+pt

| Protected Phases | 8  | 5  | 2  | 6  |
| Permitted Phases | 4  | 4  | 8  | 2  |
| Actuated Green, G (s) | 52.0 | 52.0 | 52.0 | 52.0 | 30.0 | 30.0 | 23.6 |
| Effective Green, g (s) | 52.0 | 52.0 | 52.0 | 52.0 | 30.0 | 30.0 | 23.6 |
| Actuated g/C Ratio | 0.58 | 0.58 | 0.58 | 0.58 | 0.33 | 0.33 | 0.26 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 500 | 915 | 1023 | 1006 | 156 | 1180 | 906 |
| v/s Ratio Prot | 0.21 | 0.13 | 0.01 | 0.01 | 0.01 | 0.10 |
| v/s Ratio Perm | 0.07 | 0.04 | 0.51 | 0.10 |
| v/c Ratio | 0.13 | 0.08 | 0.87 | 0.36 | 0.33 | 0.33 | 0.78 |
| Uniform Delay, d1 | 8.7 | 8.4 | 16.2 | 10.1 | 32.5 | 22.5 | 30.8 |
| Progression Factor | 1.00 | 1.00 | 0.65 | 0.64 | 1.00 | 1.00 | 0.55 |
| Incremental Delay, d2 | 0.1 | 0.0 | 4.6 | 0.4 | 1.2 | 0.8 | 4.0 |
| Delay (s) | 8.8 | 8.4 | 15.2 | 6.9 | 33.8 | 23.2 | 20.9 |
| Level of Service | A | A | B | A | C | C | C |
| Approach Delay (s) | 8.5 | 12.7 | 24.5 | 20.9 |
| Approach LOS | A | B | C | C |

#### Intersection Summary

| HCM Average Control Delay | 16.6 |
| HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.80 |
| Actuated Cycle Length (s) | 90.0 |
| Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 81.2% |
| ICU Level of Service | D |
| Analysis Period (min) | 15 |

Critical Lane Group
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### Lane Group Cap (vph)

| Lane Grp Cap (vph) | 289 | 259 | 773 | 2646 | 1683 | 1082 |

### v/s Ratio Prot

| v/s Ratio Prot | 0.11 | 0.17 | 0.31 | 0.14 | 0.04 |

### v/s Ratio Perm

| v/s Ratio Perm | 0.02 | 0.38 |

### v/c Ratio

| v/c Ratio | 0.66 | 0.12 | 0.72 | 0.41 | 0.30 | 0.27 |

### Uniform Delay, d1

| Uniform Delay, d1 | 35.3 | 32.1 | 5.3 | 4.1 | 14.5 | 7.1 |

### Progression Factor

| Progression Factor | 0.75 | 0.49 | 1.00 | 1.00 | 1.00 |

### Incremental Delay, d2

| Incremental Delay, d2 | 5.0 | 0.2 | 3.4 | 0.5 | 0.5 | 0.1 |

### Delay (s)

| Delay (s) | 31.3 | 15.8 | 8.7 | 4.6 | 14.9 | 7.2 |

### Level of Service

| Level of Service | C | B | A | A | B |

### Approach Delay (s)

| Approach Delay (s) | 23.7 | 6.0 | 11.6 |

### Approach LOS

| Approach LOS | C | A | B |

### Intersection Summary

| HCM Average Control Delay | 10.0 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.70 |
| Actuated Cycle Length (s) | 90.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 61.2% | ICU Level of Service | B |
| Analysis Period (min) | 15 |
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**Level of Service**

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**Intersection Summary**

- HCM Average Control Delay: 23.4
- HCM Level of Service: C
- HCM Volume to Capacity ratio: 0.87
- Actuated Cycle Length (s): 90.0
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 90.0%
- ICU Level of Service: E
- Analysis Period (min): 15
- Critical Lane Group
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### Actuated Green, G (s)

| Actuated Green, G (s) | 13.0 | 33.6 | 25.4 | 25.4 | 33.2 | 33.2 | 30.0 | 30.0 | 30.0 |
| Effective Green, g (s) | 13.0 | 33.6 | 25.4 | 25.4 | 33.2 | 33.2 | 30.0 | 30.0 | 30.0 |
| Actuated g/C Ratio | 0.14 | 0.37 | 0.28 | 0.28 | 0.37 | 0.37 | 0.33 | 0.33 | 0.33 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |

### Lane Group Capacity (vph)

| Lane Grp Cap (vph) | 230 | 1160 | 231 | 893 | 398 | 1161 | 117 | 1062 |

| v/s Ratio Prot | 0.28 | 0.22 | 0.02 | 0.43 | 0.07 | 0.29 | 0.01 | 0.09 |
| v/s Ratio Perm | 0.07 | 0.35 | 0.32 | 1.54 | 1.13 | 0.78 | 0.32 | 0.26 |
| v/c Ratio | 1.95 | 0.60 | 0.32 | 1.54 | 1.13 | 0.78 | 0.32 | 0.26 |
| Uniform Delay, d1 | 38.5 | 22.8 | 26.2 | 32.3 | 27.3 | 25.2 | 22.9 | 21.9 |
| Incremental Delay, d2 | 442.0 | 2.3 | 0.6 | 247.2 | 72.3 | 1.6 | 1.5 | 0.1 |
| Delay (s) | 480.5 | 25.1 | 21.0 | 274.1 | 91.9 | 19.2 | 21.8 | 19.9 |
| Level of Service | F | C | F | F | F | F | C | B |

### Approach Delay (s)

| Approach Delay (s) | 200.5 | 261.2 | 43.2 | 402.9 |
| Approach LOS | F | F | D | F |

### Intersection Summary

| HCM Average Control Delay | 233.7 |
| HCM Volume to Capacity ratio | 1.71 |
| Actuated Cycle Length (s) | 90.0 |
| Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 151.2% |
| ICU Level of Service | H |
| Analysis Period (min) | 15 |
| Critical Lane Group | c |
### Movement

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<th>EBT</th>
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<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
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</table>

#### Volume (vph)

| Movement | 14  | 65  | 35  | 31  | 444 | 106 | 360 | 1085| 56  | 78  | 355 | 22  |

#### Ideal Flow (vphpl)

| Movement | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |

#### Total Lost time (s)

| Movement | 4.0  | 4.0  | 4.0  | 4.0  |

#### Lane Util. Factor

| Movement | 0.95 | 0.95 | 0.95 | 0.95 |

#### Flt Protected

| Movement | 0.99 | 1.00 | 0.99 | 0.99 |

#### Satd. Flow (prot)

| Movement | 3356 | 3433 | 3478 | 3484 |

#### Flt Permitted

| Movement | 0.75 | 0.93 | 0.71 | 0.60 |

#### Satd. Flow (perm)

| Movement | 2529 | 3208 | 2486 | 2104 |

#### Peak-hour factor, PHF

| Movement | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |

#### Adj. Flow (vph)

| Movement | 15  | 71  | 38  | 34  | 483 | 115 | 391 | 1179| 61  | 85  | 386 | 24  |

#### RTOR Reduction (vph)

| Movement | 0   | 31  | 0   | 0   | 21  | 0   | 0   | 3   | 0   | 0   | 4   | 0   |

#### Lane Group Flow (vph)

| Movement | 0   | 93  | 0   | 0   | 611 | 0   | 0   | 1628| 0   | 0   | 491 | 0   |

#### Turn Type

| Movement | Perm | Perm | Perm | Perm |

#### Protected Phases

| Movement | 4   | 8   | 2   | 6   |

#### Permitted Phases

| Movement | 4   | 8   | 2   | 6   |

#### Actuated Green, G (s)

| Movement | 17.0 | 17.0 | 65.0 | 65.0 |

#### Effective Green, g (s)

| Movement | 17.0 | 17.0 | 65.0 | 65.0 |

#### Actuated g/C Ratio

| Movement | 0.19 | 0.19 | 0.72 | 0.72 |

#### Clearance Time (s)

| Movement | 4.0  | 4.0  | 4.0  | 4.0  |

#### Vehicle Extension (s)

| Movement | 3.0  | 3.0  | 3.0  | 3.0  |

#### Lane Grp Cap (vph)

| Movement | 478  | 606  | 1795 | 1520 |

#### v/s Ratio Prot

| Movement | 0.04 | a0.19 | c0.65 | 0.23 |

#### v/s Ratio Perm

| Movement | 0.19 | 1.01 | 0.91 | 0.32 |

#### Uniform Delay, d1

| Movement | 30.7 | 36.5 | 10.1 | 4.5  |

#### Progression Factor

| Movement | 1.00 | 1.00 | 0.63 | 0.88 |

#### Incremental Delay, d2

| Movement | 0.2  | 38.6 | 6.2  | 0.5  |

#### Delay (s)

| Movement | 30.9 | 75.1 | 12.5 | 4.5  |

#### Level of Service

| Movement | C   | E   | B   | A    |

#### Approach delay (s)

| Movement | 30.9 | 75.1 | 12.5 | 4.5  |

#### Approach LOS

| Movement | C   | E   | B   | A    |

### Intersection Summary

| Movement | 25.7 | HCM Level of Service | C   |

#### HCM Average Control Delay

| Movement | 0.93 |

#### HCM Volume to Capacity ratio

| Movement | 90.0 | Sum of lost time (s) | 8.0 |

#### Actuated Cycle Length (s)

| Movement | 84.9% | ICU Level of Service | E   |

#### Intersection Capacity Utilization

| Movement | 15   |

#### Analysis Period (min)

| Movement | 15   |

#### Critical Lane Group
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<td>A</td>
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### Intersection Summary

<p>| HCM Average Control Delay | 20.4 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.79 | |
| Actuated Cycle Length (s) | 90.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 93.2% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |
| c | Critical Lane Group | | |</p>
<table>
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<tr>
<th>Movement</th>
<th>EBL</th>
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**Baseline**

%user_name% Synchro 7 - Report

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| c | Critical Lane Group |
### Beltline 2020 Worst Case AM

#### 60: North Ave &

**12/17/2008**

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**Intersection Summary**

- HCM Average Control Delay: 4.6
- HCM Level of Service: A
- HCM Volume to Capacity ratio: 0.50
- Actuated Cycle Length (s): 90.0
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 50.9%
- ICU Level of Service: A
- Analysis Period (min): 15

*Critical Lane Group*
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### Intersection Summary

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### Beltline 2020 Worst Case PM

3: North Ave & Freedom

12/17/2008

#### Movement

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#### Intersection Summary

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**Intersection Summary**

- HCM Average Control Delay: 22.2
- HCM Level of Service: C
- HCM Volume to Capacity ratio: 0.87
- Actuated Cycle Length (s): 100.0
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 79.7%
- ICU Level of Service: D
- Analysis Period (min): 15

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**Intersection Summary**

- **HCM Average Control Delay**: 9.7
- **HCM Level of Service**: A
- **HCM Volume to Capacity ratio**: 0.74
- **Actuated Cycle Length (s)**: 100.0
- **Sum of lost time (s)**: 12.0
- **Intersection Capacity Utilization**: 72.0%
- **ICU Level of Service**: C
- **Analysis Period (min)**: 15

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Beltline 2020 Worst Case PM

7: Ponce de Leon Avenue NE & Glenn Iris

12/17/2008

Baseline

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**Intersection Summary**

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*Synopsis: The table presents various traffic flow metrics and calculations for a traffic analysis using Synchro 7 software. The metrics include volume, ideal flow, total lost time, lane utilization factor, saturated flow, peak-hour factor, adjusted flow, RTOR reduction, lane group flow, turn type, actuated and effective green times, clearance and vehicle extension times, lane group capacity, v/s and v/c ratios, uniform and incremental delays, level of service, and approach delay. The analysis is conducted for different lanes and configurations, with critical lane groups marked as 'c'.*
### Beltline 2020 Worst Case PM
#### 9: North Ave & Boulevard

**12/17/2008**

#### Baseline Synchro 7 - Report

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#### Intersection Summary

| HCM Average Control Delay | 20.5 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.80 | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 90.7% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |
### Beltline 2020 Worst Case PM
10: Ponce de Leon Avenue NE & Boulevard

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#### Intersection Summary

- **HCM Average Control Delay**: 96.1
- **HCM Level of Service**: F
- **HCM Volume to Capacity ratio**: 1.19
- **Actuated Cycle Length (s)**: 100.0
- **Sum of lost time (s)**: 12.0
- **Intersection Capacity Utilization**: 110.0%
- **ICU Level of Service**: H
- **Analysis Period (min)**: 15

**dl** - Defacto Left Lane. Recode with 1 though lane as a left lane.

**c** - Critical Lane Group
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**Intersection Summary**

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Baseline

%user_name% Synchro 7 - Report Page 8
### Beltline 2020 Worst Case PM

**15: Ponce de Leon Avenue NE & Home Depot**

#### 12/17/2008

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| Actuated Green, G (s) | 76.0 | 76.0 | 50.0 | 16.0 |
| Effective Green, g (s) | 76.0 | 76.0 | 50.0 | 16.0 |
| Actuated g/C Ratio | 0.76 | 0.76 | 0.50 | 0.16 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 |

| Lane Grp Cap (vph) | 488 | 3865 | 1722 | 544 |
| v/s Ratio Prot | 0.13 | c0.43 | c0.38 | c0.10 |
| v/s Ratio Perm | 0.33 |
| v/c Ratio | 0.61 | 0.56 | 0.77 | 0.59 |
| Uniform Delay, d1 | 22.4 | 5.0 | 20.2 | 39.0 |
| Progression Factor | 1.20 | 0.62 | 0.25 | 1.00 |
| Incremental Delay, d2 | 1.6 | 0.4 | 2.1 | 4.7 |
| Delay (s) | 28.6 | 3.5 | 7.2 | 43.7 |
| Level of Service | C | A | A | D |

| Approach Delay (s) | 6.5 | 7.2 | 43.7 |
| Approach LOS | A | A | D |

#### Intersection Summary

| HCM Average Control Delay | 9.8 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.67 |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 69.0% | ICU Level of Service | C |
| Analysis Period (min) | 15 |

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**Baseline**

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**Beltline 2020 Worst Case PM**  
**18: Ponce de Leon Avenue NE & Ponce Place**  
**12/17/2008**

**Baseline Synchro 7 - Report**  
%user_name% Page 10

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**HCM Volume to Capacity ratio** 0.81
**Actuated Cycle Length (s)** 100.0  | **Sum of lost time (s)** 8.0
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**Analysis Period (min)** 15

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| Critical Lane Group | c |
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**c** Critical Lane Group
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**Intersection Summary**

- HCM Average Control Delay: 25.1
- HCM Volume to Capacity ratio: 0.91
- Actuated Cycle Length (s): 100.0
- Intersection Capacity Utilization: 100.2%
- ICU Level of Service: G
- Analysis Period (min): 15

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**Baseline**

*Synchro 7 - Report*

*Page 14*
### Movement Configuration:

| Movement EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBT SBR |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Volume (vph) 686 1090 104 176 847 34 179 490 62 31 974 579 |
| Ideal Flow (vphpl) 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 |
| 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 |
| Lane Util. Factor 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 |
| Flt Protected 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 |
| Satd. Flow (prot) 1593 3144 1593 3167 1593 3132 1593 3185 1425 |
| Satd. Flow (perm) 1593 3144 466 3167 230 3132 486 3185 1425 |
| Peak-hour factor, PHF 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 |
| Adj. Flow (vph) 746 1185 113 91 291 37 195 533 67 34 1059 629 |
| RTOR Reduction (vph) 0 7 0 0 3 0 0 9 0 0 0 173 |
| Lane Group Flow (vph) 746 1291 0 191 955 0 195 591 0 34 1059 456 |

| Turn Type Prot pm+pt pm+pt Perm |
| Turn Protected Phases 5 2 1 6 3 8 7 4 |
| Permitted Phases 6 8 4 4 |
| Actuated Green, G (s) 29.0 43.4 23.4 23.4 34.2 29.2 29.0 26.6 26.6 |
| Effective Green, g (s) 29.0 43.4 23.4 23.4 34.2 29.2 29.0 26.6 26.6 |
| Actuated g/C Ratio 0.29 0.43 0.23 0.23 0.34 0.29 0.29 0.27 0.27 |
| Clearance Time (s) 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 |
| Vehicle Extension (s) 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 |
| Lane Grp Cap (vph) 462 1364 210 741 147 915 147 915 168 847 379 |
| v/s Ratio Prot 0.47 0.41 0.08 0.30 0.07 0.19 0.00 0.33 |
| v/s Ratio Perm 0.13 0.39 0.05 0.32 |
| v/c Ratio 1.61 0.95 0.91 1.29 1.33 0.39 0.20 1.25 1.20 |
| Uniform Delay, d1 35.5 27.2 37.1 38.3 31.9 30.9 26.1 36.7 36.7 |
| Progression Factor 1.00 1.00 0.78 0.77 0.95 0.84 0.79 0.88 0.77 |
| Incremental Delay, d2 286.5 14.5 35.9 139.3 185.0 1.5 0.5 121.1 111.0 |
| Delay (s) 322.0 41.7 64.6 169.0 215.4 27.4 21.3 153.4 139.3 |
| Level of Service F D E F F C C F F |
| Approach Delay (s) 144.0 151.6 73.5 145.6 |
| Approach LOS F F E F C C F F |

**Intersection Summary**

| HCM Average Control Delay 136.2 |
| HCM Volume to Capacity ratio 1.46 |
| Actuated Cycle Length (s) 100.0 |
| Intersection Capacity Utilization 123.7% |
| Analysis Period (min) 15 |

---

**Baseline**

%user_name% Synchro 7 - Report Page 15
### Beltline 2020 Worst Case PM

#### 40: Irwin & Boulevard

---

**12/17/2008**

**Baseline Synchro 7 - Report**

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### Intersection Summary

| HCM Average Control Delay | 14.4 |
| HCM Volume to Capacity ratio | 0.70 |
| Actuated Cycle Length (s) | 100.0 |
| Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 81.3% |
| ICU Level of Service | D |
| Analysis Period (min) | 15 |

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**Critical Lane Group**
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### Intersection Summary

- **HCM Average Control Delay**: 25.5
- **HCM Level of Service**: C
- **HCM Volume to Capacity ratio**: 0.96
- **Actuated Cycle Length (s)**: 100.0
- **Sum of lost time (s)**: 8.0
- **Intersection Capacity Utilization**: 97.7%
- **ICU Level of Service**: F
- **Analysis Period (min)**: 15

---

*Baseline* Synchro 7 - Report Page 17
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### Intersection Summary

- HCM Average Control Delay: 10.1 (B)
- HCM Volume to Capacity ratio: 0.68
- Actuated Cycle Length (s): 100.0 (Sum of lost time (s): 8.0)
- Intersection Capacity Utilization: 73.6% (ICU Level of Service: D)
- Analysis Period (min): 15

---

Critical Lane Group
### Beltline 2020 Worst Case PM

#### 49: Decatur & krog

12/17/2008

#### Baseline Synchro 7 - Report

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### Intersection Summary

| HCM Average Control Delay | 49.9 |
| HCM Volume to Capacity ratio | 1.02 |
| Actuated Cycle Length (s) | 134.0 |
| Intersection Capacity Utilization | 115.5% |
| Analysis Period (min) | 15 |
| c Critical Lane Group |

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### Intersection Summary

- **HCM Average Control Delay**: 2.3
- **HCM Level of Service**: A
- **HCM Volume to Capacity ratio**: 0.63
- **Actuated Cycle Length (s)**: 100.0
- **Sum of lost time (s)**: 8.0
- **Intersection Capacity Utilization**: 59.3%
- **ICU Level of Service**: B
- **Analysis Period (min)**: 15
- **Critical Lane Group**
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### Intersection Summary

- HCM Average Control Delay: 10.2
- HCM Level of Service: B
- HCM Volume to Capacity ratio: 0.40
- Actuated Cycle Length (s): 100.0
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 45.5%
- ICU Level of Service: A
- Analysis Period (min): 15

---

*Note: v/s Ratio Prot, v/s Ratio Perm, v/c Ratio, Uniform Delay, d1, Progression Factor, Incremental Delay, d2, Level of Service, Approach Delay, Approach LOS, HCM Average Control Delay, HCM Level of Service, HCM Volume to Capacity ratio, Actuated Cycle Length, Sum of lost time, Intersection Capacity Utilization, ICU Level of Service, Analysis Period are measured values or calculated ratios. Critical Lane Group (c) indicates any lane group that is critical for the overall operation of the intersection.*
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**Intersection Summary**

- HCM Average Control Delay: 5.2
- HCM Level of Service: A
- HCM Volume to Capacity ratio: 0.49
- Actuated Cycle Length (s): 100.0
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 47.5%
- ICU Level of Service: A
- Analysis Period (min): 15

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**Baseline**

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**Synchro 7 - Report**

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**Page 22**
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**Intersection Summary**

- HCM Average Control Delay: 14.7
- HCM Level of Service: B
- HCM Volume to Capacity ratio: 0.33
- Actuated Cycle Length (s): 100.0
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 40.4%
- ICU Level of Service: A
- Analysis Period (min): 15
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**Intersection Summary**

| HCM Average Control Delay | 36.1 |
| HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.96 |
| Actuated Cycle Length (s) | 100.0 |
| Sum of lost time (s) | 20.0 |
| Intersection Capacity Utilization | 91.9% |
| ICU Level of Service | F |
| Analysis Period (min) | 15 |
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### Beltline 2020 Best Case AM
6: North Ave & Glenn Iris

**12/17/2008**

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### Intersection Summary

- **HCM Average Control Delay**: 19.5
- **HCM Level of Service**: B
- **HCM Volume to Capacity ratio**: 0.67
- **Actuated Cycle Length (s)**: 100.0
- **Sum of lost time (s)**: 12.0
- **Intersection Capacity Utilization**: 68.3%
- **ICU Level of Service**: C
- **Analysis Period (min)**: 15

---

**Baseline**

%user_name% Synchro 7 - Report Page 3
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**Intersection Summary**

| HCM Average Control Delay | 7.0 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.56 |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 52.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | c | Critical Lane Group |
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### Intersection Summary

- HCM Average Control Delay: 18.5
- HCM Volume to Capacity ratio: 0.58
- Actuated Cycle Length (s): 100.0
- Intersection Capacity Utilization: 76.7%
- Analysis Period (min): 15

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**Baseline**

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%user_name%
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**Intersection Summary**

- HCM Average Control Delay: 77.1
- HCM Volume to Capacity ratio: 1.07
- Actuated Cycle Length (s): 100.0
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 109.2%
- ICU Level of Service: H
- Analysis Period (min): 15

*dl* Defacto Left Lane. Recode with 1 though lane as a left lane.

*c* Critical Lane Group
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**Intersection Summary**

| HCM Average Control Delay | 10.7 | HCM Level of Service | B   |
| HCM Volume to Capacity ratio | 0.70 |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 72.0% | ICU Level of Service | C   |
| Analysis Period (min) | 15   |
| c Critical Lane Group |
### Movement

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### Traffic Flow

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### Lane Capacity

| Lane Grp Cap (vph) | 198 | 3865 | 2272 | 541 |
| v/s Ratio Prot | 0.06 |
| v/s Ratio Perm | 0.62 |
| v/c Ratio | 0.90 |
| Uniform Delay, d1 | 39.9 |
| Progression Factor | 0.68 |
| Incremental Delay, d2 | 36.4 |
| Delay (s) | 63.3 |
| Level of Service | E |

### Approach

| Approach Delay (s) | 12.5 | 12.5 | 36.7 |
| Approach LOS | B |

### Intersection Summary

| HCM Average Control Delay | 13.2 |
| HCM Volume to Capacity ratio | 0.78 |
| Actuated Cycle Length (s) | 100.0 |
| Intersection Capacity Utilization | 78.9% |
| Analysis Period (min) | 15 |

---

**Baseline**
%user_name%
### Lane Configurations

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### Lane Grp Cap (vph)

| v/s Ratio Prot | 0.04 | 0.16 | 0.00 | 0.58 |
| v/s Ratio Perm | 0.29 | 0.01 | 0.02 | 0.00 |
| v/c Ratio | 0.47 | 0.22 | 0.04 | 0.91 |
| Uniform Delay, d1 | 33.9 | 5.2  | 4.4  | 6.8  | 15.7 |
| Progression Factor | 0.62 | 0.72 | 0.53 | 0.86 | 0.61 |
| Incremental Delay, d2 | 1.5  | 0.1  | 0.0  | 0.0  | 5.5  |
| Delay (s) | 22.7 | 3.9  | 2.4  | 5.9  | 15.1 |
| Level of Service | C    | A    | A    | A    | A    |
| Approach Delay (s) | 6.0  | 15.0 | 39.9 | 50.8 |
| Approach LOS | A    | B    | D    | D    |

### Intersection Summary

- HCM Average Control Delay: 17.4
- HCM Level of Service: B
- HCM Volume to Capacity ratio: 0.78
- Actuated Cycle Length (s): 100.0
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 81.0%
- ICU Level of Service: D
- Analysis Period (min): 15

---

**Baseline**

%user_name%
### Movement EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBT SBR

#### Lane Configurations

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#### Intersection Summary

- HCM Average Control Delay: 19.0
- HCM Volume to Capacity ratio: 0.79
- Actuated Cycle Length (s): 100.0
- Intersection Capacity Utilization: 81.0%
- Analysis Period (min): 15
### Movement Lane Configurations

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### Actuated Green, G (s)

| Turn Type | 15.8 | 15.8 | 76.2 | 76.2 | 51.3 | 67.1 |

### Effective Green, g (s)

| Turn Type | 15.8 | 15.8 | 76.2 | 76.2 | 51.3 | 67.1 |

### Actuated g/C Ratio

| Turn Type | 0.16 | 0.16 | 0.76 | 0.76 | 0.51 | 0.67 |

### Clearance Time (s)

| Turn Type | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |

### Vehicle Extension (s)

| Turn Type | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |

### Lane Grp Cap (vph)

| Turn Type | 280 | 250 | 775 | 2697 | 1816 | 1126 |

### v/s Ratio Prot

| Turn Type | c0.11 | c0.15 | 0.31 | 0.14 | 0.04 |

### v/s Ratio Perm

| Turn Type | 0.02 | 0.40 | 0.14 |

### v/c Ratio

| Turn Type | 0.67 | 0.12 | 0.72 | 0.40 | 0.28 | 0.26 |

### Uniform Delay, d1

| Turn Type | 39.6 | 36.1 | 5.2 | 4.1 | 13.8 | 6.6 |

### Progression Factor

| Turn Type | 0.71 | 0.35 | 1.00 | 1.00 | 1.00 | 1.00 |

### Incremental Delay, d2

| Turn Type | 5.6 | 0.2 | 3.2 | 0.5 | 0.4 | 0.1 |

### Delay (s)

| Turn Type | 33.6 | 12.7 | 8.4 | 4.5 | 14.2 | 6.7 |

### Level of Service

| Turn Type | C | B | A | A | B | A |

### Approach Delay (s)

| Turn Type | 23.3 | 5.8 | 11.0 |

### Approach LOS

| Turn Type | C | A | B |

### Intersection Summary

| HCM Average Control Delay | 9.6 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.70 | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 60.8% | ICU Level of Service | B |

### Analysis Period (min)

| Turn Type | 15 | |

**c** Critical Lane Group
### Lane Configurations

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### Intersection Summary

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**Baseline**

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**Intersection Summary**

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- HCM Level of Service: C
- HCM Volume to Capacity ratio: 0.85
- Actuated Cycle Length (s): 100.0
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 89.4%
- ICU Level of Service: E
- Analysis Period (min): 15

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### Intersection Summary

- **HCM Average Control Delay**: 23.1
- **HCM Level of Service**: C
- **HCM Volume to Capacity ratio**: 0.92
- **Actuated Cycle Length (s)**: 100.0
- **Sum of lost time (s)**: 8.0
- **Intersection Capacity Utilization**: 84.4%
- **ICU Level of Service**: E
- **Analysis Period (min)**: 15
- **Critical Lane Group**: c
**Movement EBL EBT EBR WBL WBT NBL NBT SBL SBT SBR**

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**Intersection Summary**

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<td>Vehicle Extension (s)</td>
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### Lane Group Cap (vph)

| Lane Grp Cap (vph) | 1945 | 2848 | 184 | 165 |

### v/s Ratio

| v/s Ratio Prot | 0.47 |
| v/s Ratio Perm | 0.15 | 0.04 |
| v/c Ratio | 0.19 | 0.58 | 0.47 | 0.40 |

### Delay (s)

| Delay (s) | 2.2 | 2.4 | 33.1 | 23.3 |
| Level of Service | A | A | C | C |
| Approach Delay (s) | 2.2 | 2.4 | 27.2 |
| Approach LOS | A | A | C |

### Intersection Summary

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*Critical Lane Group*
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### Actuated Green, G (s)

| Action Green, G (s) | 66.0 | 66.0 | 50.0 | 50.0 |
| Effective Green, g (s) | 66.0 | 66.0 | 50.0 | 50.0 |
| Actuated g/C Ratio | 0.53 | 0.53 | 0.40 | 0.40 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 |

### Lane Grp Cap (vph)

| Lane Grp Cap (vph) | 649 | 1776 | 640 | 638 |

### v/s Ratio Prot

| v/s Ratio Perm | 0.24 | c0.50 | c0.43 | 0.09 |
| v/s Ratio Perm | 0.46 | 0.94 | 1.07 | 0.22 |
| v/c Ratio | 0.46 | 0.94 | 1.07 | 0.22 |

### Uniform Delay, d1

| Uniform Delay, d1 | 17.9 | 27.3 | 37.0 | 24.3 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.5 | 10.9 | 34.9 | 0.2 |
| Delay (s) | 18.5 | 38.2 | 91.9 | 24.4 |
| Level of Service | B | D | F | C |

### Approach Delay (s)

| Approach Delay (s) | 18.5 | 38.2 | 91.9 | 24.4 |

### Approach LOS

| Approach LOS | B | D | F | C |

### Intersection Summary

| HCM Average Control Delay | 48.4 | HCM Volume to Capacity ratio | 1.00 |
| Intersection Capacity Utilization | 94.1% | ICU Level of Service | F |
| Analysis Period (min) | 15 | c Critical Lane Group | |
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### Turn Type

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<th>Clearance Time (s)</th>
<th>Vehicle Extension (s)</th>
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<th>Delay (s)</th>
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<th>Approach Delay (s)</th>
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### Intersection Summary

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Baseline

%user_name% Synchro 7 - Report Page 20
### Movement

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### Intersection Summary

- **HCM Average Control Delay**: 16.6
- **HCM Level of Service**: B
- **HCM Volume to Capacity ratio**: 0.27
- **Actuated Cycle Length (s)**: 100.0
- **Sum of lost time (s)**: 8.0
- **Intersection Capacity Utilization**: 34.8%
- **ICU Level of Service**: A
- **Analysis Period (min)**: 15
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**Intersection Summary**

- HCM Average Control Delay: 4.7
- HCM Level of Service: A
- HCM Volume to Capacity ratio: 0.50
- Actuated Cycle Length (s): 100.0
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 50.9%
- ICU Level of Service: A
- Analysis Period (min): 15

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**Baseline**

%user_name%
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- 125
- 10
- 14
- 325
- 9
- 10
- 1
- 6
- 6
- 3
- 12

#### Ideal Flow (vphpl)
- 1900
- 1900
- 1900
- 1900
- 1900
- 1900
- 1900
- 1900
- 1900
- 1900
- 1900
- 1900

#### Total Lost time (s)
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#### Lane Util. Factor
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- 1.00
- 0.87
- 1.00
- 0.88

#### Flt Protected
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- 1.00

#### Satd. Flow (prot)
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- 1770
- 3525
- 1770
- 1618
- 1770
- 1636

#### Flt Permitted
- 0.54
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- 0.66
- 1.00
- 0.75
- 1.00
- 0.75
- 1.00

#### Satd. Flow (perm)
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- 1842
- 1236
- 3525
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- 1618
- 1402
- 1636

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- 0.92

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- 353
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- 7
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#### Intersection Summary

| HCM Average Control Delay | 5.7 |
| HCM Volume to Capacity ratio | 0.17 |
| Actuated Cycle Length (s) | 23.2 |
| Intersection Capacity Utilization | 25.5% |
| Analysis Period (min) | 15 |

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**Baseline**

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**Synchro 7 - Report**

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**Page 23**
### Beltline 2020 Best Case PM

#### 3: North Ave & Freedom

12/17/2008

**Baseline Synchro 7 - Report**

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**Intersection Summary**

| HCM Average Control Delay | 50.6 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.98 |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 104.6% | ICU Level of Service | G |
| Analysis Period (min) | 15 |

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**Critical Lane Group**
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#### Intersection Summary

- HCM Average Control Delay: 15.0
- HCM Volume to Capacity ratio: 0.65
- Actuated Cycle Length (s): 100.0
- Intersection Capacity Utilization: 67.3%
- Analysis Period (min): 15

**Critical Lane Group**
### Movement EBT EBR WBL WBT NBL NBR

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| v/c Ratio | 0.83 | 0.77 | 0.30 | 0.39 | 0.28 |
| Uniform Delay, d1 | 16.0 | 29.0 | 3.7 | 37.6 | 37.0 |
| Progression Factor | 0.35 | 0.96 | 1.61 | 0.73 | 1.18 |
| Incremental Delay, d2 | 0.3 | 11.3 | 0.2 | 3.6 | 2.6 |
| Delay (s) | 5.9 | 39.2 | 6.2 | 31.1 | 46.0 |
| Level of Service | A | D | A | C | D |
| Approach Delay (s) | 5.9 | 11.5 | 41.7 |
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### Intersection Summary

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| c Critical Lane Group |
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### Intersection Summary

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| HCM Volume to Capacity ratio | 0.83 |
| Actuated Cycle Length (s) | 100.0 |
| Intersection Capacity Utilization | 98.2% |
| Analysis Period (min) | 15 |
| c Critical Lane Group |</p>
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**Intersection Summary**

| HCM Average Control Delay | 21.8 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.79 |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 90.4% | ICU Level of Service | E |
| Analysis Period (min) | 15 |
## Beltline 2020 Best Case PM
### 10: Ponce de Leon Avenue NE & Boulevard

#### Baseline Synchro 7 - Report

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### Intersection Summary

| HCM Average Control Delay | 92.9 |
| HCM Level of Service | F |
| HCM Volume to Capacity ratio | 1.16 |
| Actuated Cycle Length (s) | 100.0 |
| Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 109.8% |
| ICU Level of Service | H |
| Analysis Period (min) | 15 |

| dl | Defacto Left Lane. Recode with 1 though lane as a left lane. |
| c | Critical Lane Group |
### Movement

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#### Lane Configurations

- **Volume (vph)**: 61 378 242 67 154 43 141 611 151 55 1082 86
- **Ideal Flow (vphpl)**: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- **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
- **Lane Util. Factor**:
  - Frt: 0.95 0.95 1.00 0.95 1.00 0.99 0.95 1.00 0.95 0.99
  - Flt Protected: 1.00 0.99 0.95 1.00 0.95 1.00
- **Satd. Flow (prot)**: 3336 3409 1770 3434 1770 3500
- **Satd. Flow (perm)**: 2935 1886 314 3434 571 3500
- **Peak-hour factor, PHF**: 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92
- **Adj. Flow (vph)**: 66 411 263 73 167 47 153 664 164 60 1176 93
- **RTOR Reduction (vph)**: 0 77 0 0 17 0 0 21 0 0 6 0
- **Lane Group Flow (vph)**: 0 664 0 0 271 0 153 807 0 60 1263 0
- **Turn Type**
  - Perm: 4 8 2 6
  - Permitted Phases: 4 8 2 6
  - Actuated Green, G (s): 25.0 25.0 67.0 67.0 67.0 67.0
  - Effective Green, g (s): 25.0 25.0 67.0 67.0 67.0 67.0
  - Actuated g/C Ratio: 0.25 0.25 0.67 0.67 0.67 0.67
  - Clearance Time (s): 4.0 4.0 4.0 4.0 4.0 4.0
  - Vehicle Extension (s): 3.0 3.0 3.0 3.0 3.0 3.0
  - Lane Grp Cap (vph): 734 472 210 2301 383 2345
  - v/s Ratio Prot: 0.23 0.14 0.49 0.11
  - v/c Ratio: 0.90 0.57 0.73 0.35 0.16 0.54
  - Uniform Delay, d1: 36.3 32.8 10.6 7.1 6.1 8.5
  - Progression Factor: 1.00 1.09 1.16 0.92 0.55 0.57
  - Incremental Delay, d2: 14.5 1.7 2.0 0.0 0.7 0.7
  - Delay (s): 50.9 37.6 14.4 6.6 4.0 5.6
  - Level of Service: D D B A A A
  - Approach Delay (s): 50.9 37.6 7.8 5.6
  - Approach LOS: D D A A A

### Intersection Summary

- **HCM Average Control Delay**: 19.0
- **HCM Level of Service**: B
- **HCM Volume to Capacity ratio**: 0.78
- **Actuated Cycle Length (s)**: 100.0
- **Sum of lost time (s)**: 8.0
- **Intersection Capacity Utilization**: 81.3%
- **ICU Level of Service**: D
- **Analysis Period (min)**: 15

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**Baseline**

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**Synchro 7 - Report**

**Page 8**
### Movement Lane Configurations

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### Turn Type

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### Intersection Summary

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Beltline 2020 Best Case PM
15: Ponce de Leon Avenue NE & Home Depot
12/17/2008

---

Baseline
%user_name%

Syntro 7 - Report
Page 9
### Movement

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<th>EBR</th>
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### Traffic Volume (vph)

| Movement | 216 | 1916 | 83 | 35 | 1016 | 147 | 103 | 60 | 105 | 193 | 65 | 229 |

### Ideal Flow (vphpl)

| Movement | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |

### Total Lost Time (s)

| Movement | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |

### Lane Utilization Factor

| Movement | 1.00 | 0.91 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 | 1.00 | 0.85 |

### Saturation Flow (prot)

| Movement | 1770 | 5085 | 1583 | 1770 | 3472 | 1806 | 1583 | 1796 | 1583 | 1770 | 5085 | 1583 |

### Saturation Flow (perm)

| Movement | 164 | 5085 | 1583 | 180 | 3472 | 1003 | 1583 | 1124 | 1583 | 164 | 5085 | 1583 |

### Peak-hour factor, PHF

| Movement | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |

### Adj Flow (vph)

| Movement | 235 | 2083 | 90 | 38 | 1104 | 160 | 112 | 65 | 114 | 210 | 71 | 249 |

### RTOR Reduction (vph)

| Movement | 0 | 0 | 12 | 0 | 0 | 0 | 59 | 0 | 117 |

### Lane Group Flow (vph)

| Movement | 235 | 2083 | 80 | 38 | 1252 | 0 | 0 | 177 | 55 | 0 | 281 | 132 |

### Turn Type

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<th>pm+pt</th>
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### Protected Phases

| Movement | 5 | 2 | 1 | 6 |

### Actuated Phases

| Movement | 2 | 2 | 6 | 8 | 8 | 4 | 4 |

### Actuated Green, G (s)

| Movement | 58.9 | 52.5 | 52.5 | 43.8 | 41.4 | 33.1 | 33.1 | 33.1 | 33.1 |

### Effective Green, g (s)

| Movement | 58.9 | 52.5 | 52.5 | 43.8 | 41.4 | 33.1 | 33.1 | 33.1 | 33.1 |

### Actuated g/C Ratio

| Movement | 0.59 | 0.52 | 0.52 | 0.44 | 0.41 | 0.33 | 0.33 | 0.33 | 0.33 |

### Clearance Time (s)

| Movement | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |

### Vehicle Extension (s)

| Movement | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |

### Lane Group Cap (vph)

| Movement | 313 | 2670 | 831 | 117 | 1437 | 332 | 524 | 372 | 524 |

### v/s Ratio Prot
c0.10 c0.41 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01

### v/s Ratio Perm

| Movement | 0.34 | 0.05 | 0.13 | 0.18 | 0.03 | 0.25 | 0.08 |

### v/c Ratio

| Movement | 0.75 | 0.78 | 0.10 | 0.32 | 0.87 | 0.53 | 0.11 | 0.76 | 0.25 |

### Uniform Delay, d1

| Movement | 33.3 | 19.1 | 11.9 | 40.1 | 26.9 | 27.2 | 23.2 | 29.8 | 24.4 |

### Progression Factor

| Movement | 0.52 | 0.43 | 0.61 | 0.70 | 0.72 | 1.00 | 1.00 | 1.00 | 1.00 |

### Incremental Delay, d2

| Movement | 8.2 | 2.0 | 2.0 | 1.5 | 6.9 | 6.0 | 0.4 | 13.3 | 1.2 |

### Delay (s)

| Movement | 25.6 | 10.2 | 7.4 | 29.7 | 26.3 | 33.2 | 23.6 | 43.2 | 25.6 |

### Level of Service

| Movement | C | B | A | C | C | C | D | C |

### Approach Delay (s)

| Movement | 11.6 | 26.4 | 29.4 | 34.9 |

### Approach LOS

| Movement | B | C | C | C |

### Intersection Summary

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<td>1900</td>
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<td>1900</td>
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### Intersection Summary

| HCM Average Control Delay | 11.4 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.60 | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 68.7% | ICU Level of Service | C |
| Analysis Period (min) | 15 | |

---

Baseline

%user_name%
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### Intersection Summary

| HCM Average Control Delay | 41.6 |
| HCM Volume to Capacity ratio | 0.96 |
| Actuated Cycle Length (s) | 100.0 |
| Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 92.8% |
| ICU Level of Service | F |
| Analysis Period (min) | 15 |
| Movement         | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Volume (vph)     | 23  | 336 | 70  | 29  | 173 | 78  | 58  | 158 | 26  | 204 | 542 | 62  |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| 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  |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flt Protected    | 0.98 | 1.00 | 0.85 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 |
| Satd. Flow (prot) | 1817 | 1849 | 1583 | 1814 | 1821 | 1817 | 1849 | 1583 | 1814 | 1821 | 1817 | 1849 |
| Satd. Flow (perm) | 1779 | 1573 | 1583 | 1354 | 1354 | 1573 | 1583 | 1354 | 1354 | 1573 | 1583 | 1354 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph)  | 25  | 365 | 76  | 32  | 188 | 85  | 63  | 172 | 28  | 222 | 589 | 67  |
| RTOR Reduction (vph) | 0    | 7   | 0   | 0   | 59  | 0   | 4   | 0   | 0   | 3   | 0   | 0   |
| Lane Group Flow (vph) | 0    | 459 | 0   | 0   | 220 | 26  | 0   | 259 | 0   | 0   | 875 | 0   |

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### Intersection Summary

- **HCM Average Control Delay**: 145.5
- **HCM Volume to Capacity ratio**: 1.34
- **Actuated Cycle Length (s)**: 100.0
- **Sum of lost time (s)**: 12.0
- **Intersection Capacity Utilization**: 123.5%
- **ICU Level of Service**: H
- **Analysis Period (min)**: 15

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**Baseline**

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**Synchro 7 - Report**

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Critical Lane Group
### Movement EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBT SBR

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#### Intersection Summary

- **HCM Average Control Delay**: 24.8
- **HCM Level of Service**: C
- **HCM Volume to Capacity ratio**: 0.95
- **Actuated Cycle Length (s)**: 100.0
- **Sum of lost time (s)**: 8.0
- **Intersection Capacity Utilization**: 97.1%
- **ICU Level of Service**: F
- **Analysis Period (min)**: 15

### Baseline

- **%user_name%**

---

**Note**: The table above provides detailed traffic flow and delay data for various lanes and phases at the Beltline 43: Edgewood & Boulevard intersection. The data includes volume, ideal flow, lost time, lane utilization, and various other metrics for both protected and permitted phases. The analysis also includes peak-hour factors, adjusted flow, RTOR reduction, lane group capacity, and various loss of service levels. The summary at the bottom provides key performance indicators such as average control delay, level of service, and capacity utilization.
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### Intersection Summary

| HCM Average Control Delay | 9.9 |
| HCM Volume to Capacity ratio | 0.68 |
| Actuated Cycle Length (s) | 100.0 |
| Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 73.3% |
| ICU Level of Service | D |
| Analysis Period (min) | 15 |

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**Critical Lane Group**
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**Intersection Summary**

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2020 Best Case PM
87: Decatur &
12/17/2008

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**Intersection Summary**

- HCM Average Control Delay: 43.3
- HCM Level of Service: D
- HCM Volume to Capacity ratio: 0.91
- Actuated Cycle Length (s): 120.0
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 97.5%
- ICU Level of Service: F
- Analysis Period (min): 15
- Critical Lane Group: c

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**Baseline**

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**Intersection Summary**

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**Intersection Summary**

- **HCM Average Control Delay**: 24.0
- **HCM Level of Service**: C
- **HCM Volume to Capacity ratio**: 0.66
- **Actuated Cycle Length (s)**: 120.0
- **Sum of lost time (s)**: 8.0
- **Intersection Capacity Utilization**: 71.4%
- **ICU Level of Service**: C
- **Analysis Period (min)**: 15
- **Critical Lane Group**: c

---

*Baseline*

%user_name% Synchro 7 - Report Page 3
### Beltline Subarea 5
7: Ponce de Leon Avenue NE & Glenn Iris
2030 No-Build AM
12/17/2008

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### Intersection Summary

| HCM Average Control Delay | 4.5 |
| HCM Volume to Capacity ratio | 0.59 |
| Actuated Cycle Length (s) | 120.0 |
| Intersection Capacity Utilization | 56.4% |
| Analysis Period (min) | 15 |
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### Intersection Summary

- **HCM Average Control Delay**: 22.8
- **HCM Level of Service**: C
- **HCM Volume to Capacity ratio**: 0.58
- **Actuated Cycle Length (s)**: 120.0
- **Sum of lost time (s)**: 8.0
- **Intersection Capacity Utilization**: 75.7%
- **ICU Level of Service**: D
- **Analysis Period (min)**: 15

---

c Critical Lane Group
### Beltline Subarea 5
#### 9: North Ave & Boulevard

**2030 No-Build AM**

**12/17/2008**

**Movement**

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dl  Defacto Left Lane.  Recode with 1 though lane as a left lane.
c  Critical Lane Group
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### Intersection Summary

| HCM Average Control Delay | 102.5 |
| HCM Volume to Capacity ratio | 1.19 |
| Actuated Cycle Length (s) | 120.0 |
| Intersection Capacity Utilization | 116.5% |
| Analysis Period (min) | 15 |

dl  Defacto Left Lane. Recode with 1 though lane as a left lane.
c  Critical Lane Group
### Movement EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBT SBR
#### Volume (vph)
- 53
- 64
- 158
- 129
- 319
- 35
- 169
- 678
- 10
- 10
- 627
- 95

#### Ideal Flow (vphpl)
- 1900
- 1900
- 1900
- 1900
- 1900
- 1900
- 1900
- 1900
- 1900
- 1900
- 1900
- 1900

#### Total Lost time (s)
- 4.0
- 4.0
- 1.0
- 0.95
- 1.00
- 0.95
- 1.00
- 0.95
- 1.00
- 0.95
- 1.00
- 0.95

#### Lane Util. Factor
- 0.95
- 0.95
- 1.00
- 0.95
- 1.00
- 0.95
- 1.00
- 0.95
- 1.00
- 0.95
- 1.00
- 0.95

#### Flt Protected
- 0.99
- 0.99
- 0.95
- 1.00
- 0.95
- 1.00
- 0.95
- 1.00
- 0.95
- 1.00
- 0.95
- 1.00

#### Satd. Flow (prot)
- 3203
- 3455
- 1770
- 3532
- 1770
- 3469

#### Flt Permitted
- 0.62
- 0.68
- 0.25
- 1.00
- 0.27
- 1.00

#### Satd. Flow (perm)
- 2012
- 2386
- 473
- 3532
- 502
- 3469

#### Growth Factor (vph)
- 121%
- 121%
- 121%
- 121%
- 121%
- 121%
- 121%
- 121%
- 121%
- 121%
- 121%
- 121%

#### Adj. Flow (vph)
- 70
- 84
- 208
- 170
- 420
- 46
- 222
- 892
- 13
- 13
- 825
- 125

#### RTOR Reduction (vph)
- 0
- 142
- 0
- 0
- 5
- 0
- 1
- 0
- 1
- 0
- 9
- 0

#### Lane Group Flow (vph)
- 0
- 220
- 0
- 0
- 631
- 0
- 222
- 904
- 0
- 13
- 941
- 0

#### Turn Type Prot Perm Perm Perm Perm
#### Protected Phases
- 4
- 8
- 2
- 6

#### Permitted Phases
- 4
- 8
- 2
- 6

#### Actuated Green, G (s)
- 34.2
- 34.2
- 77.8
- 77.8
- 77.8
- 77.8

#### Effective Green, g (s)
- 34.2
- 34.2
- 77.8
- 77.8
- 77.8
- 77.8

#### Actuated g/C Ratio
- 0.29
- 0.29
- 0.65
- 0.65
- 0.65
- 0.65

#### Clearance Time (s)
- 4.0
- 4.0
- 4.0
- 4.0
- 4.0
- 4.0

#### Vehicle Extension (s)
- 3.0
- 3.0
- 3.0
- 3.0
- 3.0
- 3.0

#### Lane Grp Cap (vph)
- 573
- 680
- 307
- 2290
- 325
- 2249

#### v/s Ratio Prot
- 0.11
- c0.26
- c0.47
- 0.03

#### v/c Ratio
- 0.38
- 0.93
- 0.72
- 0.39
- 0.04
- 0.42

#### Uniform Delay, d1
- 34.5
- 41.7
- 14.0
- 10.0
- 7.6
- 10.2

#### Progression Factor
- 1.00
- 0.35
- 0.17
- 0.07
- 0.52
- 0.45

#### Incremental Delay, d2
- 0.4
- 17.1
- 1.4
- 0.0
- 0.2
- 0.5

#### Delay (s)
- 34.9
- 31.6
- 3.7
- 0.8
- 4.2
- 5.1

#### Level of Service
- C
- C
- A
- A
- A
- A

#### Approach Delay (s)
- 34.9
- 31.6
- 1.4
- 5.0

#### Approach LOS
- C
- C
- A
- A

### Intersection Summary

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**Intersection Summary**

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#### Formulas

- **Total Lost time (s)**: 
  \[ \text{Total Lost time (s)} = 4.0 \]

- **Lane Util. Factor**: 
  \[ \text{Lane Util. Factor} = 1.00 \]

- **Frt**: 
  \[ \text{Frt} = 1.00 \]

- **Flt Protected**: 
  \[ \text{Flt Protected} = 0.95 \]

- **Satd. Flow (prot)**: 
  \[ \text{Satd. Flow (prot)} = 1770 \]

- **Flt Permitted**: 
  \[ \text{Flt Permitted} = 0.05 \]

- **Satd. Flow (perm)**: 
  \[ \text{Satd. Flow (perm)} = 96 \]

- **Peak-hour factor, PHF**: 
  \[ \text{Peak-hour factor, PHF} = 0.92 \]

- **Growth Factor (vph)**: 
  \[ \text{Growth Factor (vph)} = 121\% \]

- **Adj. Flow (vph)**: 
  \[ \text{Adj. Flow (vph)} = 113 \]

- **RTOR Reduction (vph)**: 
  \[ \text{RTOR Reduction (vph)} = 0 \]

- **Lane Group Flow (vph)**: 
  \[ \text{Lane Group Flow (vph)} = 113 \]

#### Intersection Summary

- **HCM Average Control Delay**: 21.7
- **HCM Level of Service**: C
- **HCM Volume to Capacity ratio**: 0.85
- **Actuated Cycle Length (s)**: 120.0
- **Sum of lost time (s)**: 8.0
- **Intersection Capacity Utilization**: 86.5%
- **ICU Level of Service**: E
- **Analysis Period (min)**: 15

---

*Baseline*

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%user_name% Synchro 7 - Report Page 10
### Movement EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBT SBR

**Lane Configurations**

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**Intersection Summary**

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Critical Lane Group
### Beltline Subarea 5
#### 2030 No-Build AM

**24: Moreland &**

**12/17/2008**

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**Intersection Summary**

- HCM Average Control Delay: 14.9
- HCM Level of Service: B
- HCM Volume to Capacity ratio: 0.74
- Actuated Cycle Length (s): 120.0
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 65.1%
- ICU Level of Service: C
- Analysis Period (min): 15

**c** Critical Lane Group
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**Turn Type pm+pt pm+pt pm+pt pm+pt Perm**

- Protected Phases: 5 2 1 6 3 8 7 4
- Permitted Phases: 2 6 8 4
- Actuated Green, G (s): 65.0 61.8 63.4 61.0 43.8 36.6 21.2 18.0 18.0
- Effective Green, g (s): 65.0 61.8 63.4 61.0 43.8 36.6 21.2 18.0 18.0
- Actuated g/C Ratio: 0.54 0.52 0.53 0.51 0.36 0.30 0.18 0.15 0.15
- Clearance Time (s): 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
- Vehicle Extension (s): 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0
- Lane Grp Cap (vph): 110 947 504 930 385 561 109 279 237
- v/s Ratio Prot: 0.01 0.17 0.00 0.54 0.19 0.32 0.01 0.15
- v/s Ratio Perm: 0.25 0.03 0.19 0.06 0.06
- v/c Ratio: 0.48 0.33 0.06 1.07 1.03 1.05 0.41 1.01 0.33
- Uniform Delay, d1: 27.3 17.0 13.8 29.5 44.5 41.7 54.3 51.0 47.1
- Progression Factor: 0.96 0.78 0.62 0.84 0.98 0.97 1.00 1.00 1.00
- Incremental Delay, d2: 3.2 0.9 0.0 48.8 54.1 52.4 2.5 57.6 8.4
- Delay (s): 29.5 14.2 8.6 73.7 97.9 92.8 56.9 108.6 55.5
- Level of Service: C B A E F F E F E
- Approach Delay (s): 16.4 71.8 94.9 85.2
- Approach LOS: B E

**Intersection Summary**

- HCM Average Control Delay: 74.9
- HCM Volume to Capacity ratio: 1.03
- Actuated Cycle Length (s): 120.0
- Intersection Capacity Utilization: 93.2%
- Analysis Period (min): 15

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### Intersection Summary

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%user_name% Synchro 7 - Report Page 14
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### Intersection Summary

- HCM Average Control Delay: 247.9
- HCM Volume to Capacity ratio: 1.76
- Actuated Cycle Length (s): 120.0
- Intersection Capacity Utilization: 161.4%
- Analysis Period (min): 15
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### Intersection Summary

| HCM Average Control Delay | 34.8 |
| HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.99 |
| Actuated Cycle Length (s) | 120.0 |
| Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 89.3% |
| ICU Level of Service | E |
| Analysis Period (min) | 15 |

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### HCM Summary

- **HCM Average Control Delay**: 24.1
- **HCM Volume to Capacity ratio**: 0.80
- **Actuated Cycle Length (s)**: 120.0
- **Intersection Capacity Utilization**: 95.0%
- **Analysis Period (min)**: 15

---

**Intersection Summary**

- **Level of Service**: C
- **Sum of lost time (s)**: 8.0
- **ICU Level of Service**: F
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### Intersection Summary

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**Baseline**

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**Intersection Summary**

- HCM Average Control Delay: 5.6
- HCM Volume to Capacity ratio: 0.53
- Actuated Cycle Length (s): 120.0
- Intersection Capacity Utilization: 54.7%
- Analysis Period (min): 15
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**Intersection Summary**

- HCM Average Control Delay: 69.2
- HCM Level of Service: E
- HCM Volume to Capacity ratio: 1.04
- Actuated Cycle Length (s): 120.0
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 111.6%
- ICU Level of Service: H
- Analysis Period (min): 15
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**Intersection Summary**

- HCM Average Control Delay: 18.8
- HCM Level of Service: B
- HCM Volume to Capacity ratio: 0.64
- Actuated Cycle Length (s): 120.0
- Sum of lost time (s): 12.0
- Intersection Capacity Utilization: 73.6%
- ICU Level of Service: D
- Analysis Period (min): 15
- Critical Lane Group: c
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**Intersection Summary**

- **HCM Average Control Delay**: 15.9
- **HCM Level of Service**: B
- **HCM Volume to Capacity ratio**: 0.63
- **Actuated Cycle Length (s)**: 90.0
- **Sum of lost time (s)**: 8.0
- **Intersection Capacity Utilization**: 69.5%
- **ICU Level of Service**: C
- **Analysis Period (min)**: 15

---

**Beltline Subarea 5**

6: North Ave & Glenn Iris

2030 No-Build PM

12/17/2008
### Beltline Subarea 5
#### 7: Ponce de Leon Avenue NE & Glenn Iris

**2030 No-Build PM**  
**12/17/2008**

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### Intersection Summary

- HCM Average Control Delay: 8.9
- HCM Volume to Capacity ratio: 0.77
- Actuated Cycle Length (s): 100.0
- Intersection Capacity Utilization: 77.1%
- Analysis Period (min): 15

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**Critical Lane Group**

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**Baseline**

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**%user_name%**

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**Synchro 7 - Report**

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**Page 4**
### Beltline Subarea 5
#### 8: Ralph McGill & Glenn Iris

**2030 No-Build PM**

**12/17/2008**

**Baseline Synchro 7 - Report**

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**Intersection Summary**

| **HCM Average Control Delay** | 21.7 | **HCM Level of Service** | C |
| **HCM Volume to Capacity ratio** | 0.88 |
| **Actuated Cycle Length (s)** | 90.0 | **Sum of lost time (s)** | 8.0 |
| **Intersection Capacity Utilization** | 102.6% | **ICU Level of Service** | G |
| **Analysis Period (min)** | 15 |

**c** Critical Lane Group
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### Intersection Summary

- HCM Average Control Delay: 27.1
- HCM Level of Service: C
- HCM Volume to Capacity ratio: 0.89
- Actuated Cycle Length (s): 90.0
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 95.9%
- ICU Level of Service: F
- Analysis Period (min): 15

---

**Baseline**
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### Intersection Summary

- HCM Average Control Delay: 116.7
- HCM Volume to Capacity ratio: 1.29
- Actuated Cycle Length (s): 100.0
- Intersection Capacity Utilization: 117.4%
- Analysis Period (min): 15
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### Intersection Summary

- HCM Average Control Delay: 26.5
- HCM Volume to Capacity ratio: 0.93
- Actuated Cycle Length (s): 90.0
- Intersection Capacity Utilization: 86.3%
- Analysis Period (min): 15

*Note:* Critical Lane Group
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### Intersection Summary

- HCM Average Control Delay: 10.2
- HCM Level of Service: B
- HCM Volume to Capacity ratio: 0.73
- Actuated Cycle Length (s): 100.0
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 74.0%
- ICU Level of Service: D
- Analysis Period (min): 15
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**Intersection Summary**

- **HCM Average Control Delay**: 20.9
- **HCM Level of Service**: C
- **HCM Volume to Capacity ratio**: 0.79
- **Actuated Cycle Length (s)**: 100.0
- **Sum of lost time (s)**: 8.0
- **Intersection Capacity Utilization**: 77.1%
- **ICU Level of Service**: D
- **Analysis Period (min)**: 15

**c** Critical Lane Group
## Movement EBT EBR WBL WBT NBL NBR

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## Turn Type

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**Intersection Summary**

- HCM Average Control Delay: 39.0
- HCM Level of Service: D
- HCM Volume to Capacity ratio: 1.04
- Actuated Cycle Length (s): 90.0
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 83.9%
- ICU Level of Service: E
- Analysis Period (min): 15

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%user_name%
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### HCM Summary

- HCM Average Control Delay: 60.5
- HCM Volume to Capacity ratio: 0.99
- Actuated Cycle Length (s): 118.4
- Intersection Capacity Utilization: 97.2%
- Analysis Period (min): 15
- Critical Lane Group: E

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**Baseline**

%user_name%  

**Synchro 7 - Report**  

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**Intersection Summary**

- HCM Average Control Delay: 175.0
- HCM Level of Service: F
- HCM Volume to Capacity ratio: 1.48
- Actuated Cycle Length (s): 121.6
- Sum of lost time (s): 12.0
- Intersection Capacity Utilization: 132.4%
- ICU Level of Service: H
- Analysis Period (min): 15

**c Critical Lane Group**
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**Intersection Summary**

| HCM Average Control Delay | 15.6 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.77 |
| Actuated Cycle Length (s) | 90.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 85.7% | ICU Level of Service | E |
| Analysis Period (min) | 15 |
| Critical Lane Group | c |
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### Intersection Summary

- **HCM Average Control Delay**: 33.4
- **HCM Volume to Capacity ratio**: 1.02
- **Actuated Cycle Length (s)**: 90.0
- **Intersection Capacity Utilization**: 101.7%
- **Analysis Period (min)**: 15

**Critical Lane Group**

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### Intersection Summary

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*Critical Lane Group*
### Beltline Subarea 5
#### 49: Decatur & krog

**2030 No-Build PM**

**12/17/2008**

| Movement          | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| **Volume (vph)**  | 21  | 896 | 118 | 51  | 343 | 13  | 35  | 139 | 53  | 100 | 384 | 9   |
| **Ideal Flow (vphpl)** | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| **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  |
| **Lane Util. Factor** | 0.95 | 1.00 | 1.00 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| **Peak-hour factor, PHF** | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| **Growth Factor (vph)** | 121% | 121% | 121% | 121% | 121% | 121% | 121% | 121% | 121% | 121% | 121% | 121% |
| **Adj. Flow (vph)** | 28  | 1178 | 155 | 67  | 451 | 17  | 46  | 183 | 70  | 132 | 505 | 12  |
| **RTOR Reduction (vph)** | 0   | 13  | 0   | 2   | 0   | 0   | 15  | 0   | 0   | 1   | 0   | 0   |
| **Lane Group Flow (vph)** | 0   | 1348| 0   | 0   | 533 | 0   | 0   | 284 | 0   | 0   | 648 | 0   |

**Turn Type**

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| Lane Grp Cap (vph)   | 1574 |
| v/s Ratio Prot       | 0.41 |
| v/c Ratio            | 0.86 |
| Uniform Delay, d1    | 12.4 |
| Progression Factor   | 1.00 |
| Incremental Delay, d2| 4.8  |
| Delay (s)            | 17.2 |
| Level of Service     | B    |
| Approach Delay (s)   | 17.2 |
| Approach LOS         | B    |

**Intersection Summary**

| HCM Average Control Delay | 44.0 |
| HCM Volume to Capacity ratio | 1.09 |
| Actuated Cycle Length (s) | 54.0 |
| Intersection Capacity Utilization | 118.4% |
| Analysis Period (min) | 15 |

**Critical Lane Group**
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### Intersection Summary

- **HCM Average Control Delay**: 4.6
- **HCM Level of Service**: A
- **HCM Volume to Capacity ratio**: 0.54
- **Actuated Cycle Length (s)**: 90.0
- **Sum of lost time (s)**: 8.0
- **Intersection Capacity Utilization**: 51.0%
- **ICU Level of Service**: A
- **Analysis Period (min)**: 15
## Beltline 2030 Worst Case AM

### 3: North Ave & Freedom

*12/17/2008*

### Baseline Synchro 7 - Report

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### Intersection Summary

- **HCM Average Control Delay**: 53.3 s
- **HCM Level of Service**: D
- **HCM Volume to Capacity ratio**: 0.96
- **Actuated Cycle Length (s)**: 150.0
- **Sum of lost time (s)**: 12.0
- **Intersection Capacity Utilization**: 100.7%
- **ICU Level of Service**: G
- **Analysis Period (min)**: 15

- **c Critical Lane Group**

---

*Synchro 7 - Report*  
*Page 1*
### Beltline 2030 Worst Case AM

**4: Ponce de Leon Avenue NE & Freedom**

**12/17/2008**

#### Movement

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#### Intersection Summary

| HCM Average Control Delay | 44.1 |
| HCM Volume to Capacity ratio | 0.80 |
| Actuated Cycle Length (s) | 150.0 |
| Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 71.5% |
| ICU Level of Service | C |
| Analysis Period (min) | 15 |

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**Baseline**

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**Turn Type**

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| Actuated Green, G (s) | 87.6 | 80.4 | 73.6 | 70.4 | 54.4 | 46.4 | 33.0 | 29.0 |
| Effective Green, g (s) | 87.6 | 80.4 | 73.6 | 70.4 | 54.4 | 46.4 | 33.0 | 29.0 |
| Actuated g/C Ratio | 0.58 | 0.54 | 0.49 | 0.47 | 0.36 | 0.31 | 0.22 | 0.19 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 270 | 2684| 503 | 1644| 316 | 524 | 138 | 345 |
| V/s Ratio Prot | c0.04| 0.07| 0.00| c0.33| c0.11| c0.27| 0.01| 0.15 |
| V/s Ratio Perm | 0.24 | 0.05 | 0.17 | 0.07 | | | | |
| V/c Ratio | 0.48 | 0.12 | 0.11 | 0.70 | 0.77 | 0.87 | 0.35 | 0.75 |
| Uniform Delay, d1 | 45.3 | 17.3 | 21.2 | 31.5 | 37.7 | 48.9 | 47.6 | 57.1 |
| Progression Factor | 0.50 | 0.68 | 0.54 | 0.40 | 0.76 | 0.67 | 0.60 | 0.69 |
| Incremental Delay, d2 | 1.2 | 0.1 | 0.1 | 2.4 | 8.2 | 11.4 | 1.5 | 8.6 |
| Delay (s) | 23.6 | 11.9 | 11.6 | 15.1 | 36.7 | 43.9 | 29.9 | 48.0 |
| Level of Service | C | B | B | B | D | D | C | D |
| Approach Delay (s) | 15.1 | 14.9 | 41.4 | 45.3 |
| Approach LOS | B | B | D | D |

**Intersection Summary**

- **HCM Average Control Delay**: 25.4
- **HCM Level of Service**: C
- **HCM Volume to Capacity ratio**: 0.73
- **Actuated Cycle Length (s)**: 150.0
- **Sum of lost time (s)**: 12.0
- **Intersection Capacity Utilization**: 76.0%
- **ICU Level of Service**: D
- **Analysis Period (min)**: 15

---

**Baseline**

%user_name%
### Movement

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### Intersection Summary

- HCM Average Control Delay: 8.7
- HCM Level of Service: A
- HCM Volume to Capacity ratio: 0.59
- Actuated Cycle Length (s): 150.0
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 57.2%
- ICU Level of Service: B
- Analysis Period (min): 15
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| Volume (vph) | 38  | 78  | 29  | 48  | 515 | 61  | 93  | 561 | 13  | 14  | 319 | 61  |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| 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  |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flt Protected | 0.99 | 1.00 | 0.99 | 1.00 | 0.99 | 1.00 | 0.99 | 1.00 | 0.99 | 1.00 | 0.99 | 1.00 |
| Satd. Flow (prot) | 1789 | 3474 | 1845 | 1859 | 1583 | 1859 | 1583 | 1859 | 1583 | 1859 | 1583 | 1859 |
| Satd. Flow (perm) | 811  | 3123 | 1649 | 1794 | 1583 | 1794 | 1583 | 1794 | 1583 | 1794 | 1583 | 1794 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 41  | 85  | 32  | 52  | 560 | 66  | 101 | 610 | 14  | 15  | 347 | 66  |
| RTOR Reduction (vph) | 0  | 7   | 0   | 0   | 6   | 0   | 0   | 0   | 0   | 0   | 0   | 20  |
| Lane Group Flow (vph) | 0  | 151 | 0   | 0   | 672 | 0   | 0   | 725 | 0   | 0   | 362 | 46  |

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### v/s Ratio

| v/s Ratio Perm | c0.22 | c0.44 | 0.20 | 0.03 |
| v/c Ratio | 0.74 | 0.85 | 0.63 | 0.29 |
| Uniform Delay, d1 | 51.5 | 53.4 | 12.5 | 8.8 |
| Progression Factor | 1.17 | 1.00 | 0.40 | 0.55 |
| Incremental Delay, d2 | 12.5 | 8.8 | 1.9 | 0.6 |
| Delay (s) | 72.9 | 62.2 | 7.0 | 5.5 |
| Level of Service | E | E | A | A |
| Approach Delay (s) | 72.9 | 62.2 | 7.0 | 4.7 |
| Approach LOS | E | E | A | A |

### Intersection Summary

| HCM Average Control Delay | 30.5 |
| HCM Volume to Capacity ratio | 0.69 |
| Actuated Cycle Length (s) | 150.0 |
| Intersection Capacity Utilization | 91.9% |
| Analysis Period (min) | 15 |
| ICU Level of Service | F |
| Critical Lane Group | c |

---

**Baseline**

**Synchro 7 - Report**

**Page 5**
### Movement

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### Intersection Summary

- **HCM Average Control Delay**: 23.8
- **HCM Level of Service**: C
- **HCM Volume to Capacity ratio**: 0.75
- **Actuated Cycle Length (s)**: 150.0
- **Sum of lost time (s)**: 8.0
- **Intersection Capacity Utilization**: 94.9%
- **ICU Level of Service**: F
- **Analysis Period (min)**: 15

**dl** - Defacto Left Lane. Recode with 1 though lane as a left lane.

**c** - Critical Lane Group
### Beltline 2030 Worst Case AM

10: Ponce de Leon Avenue NE & Boulevard

12/17/2008

#### Lane Configurations

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#### Intersection Summary

- **HCM Average Control Delay**: 102.2
- **HCM Level of Service**: F
- **HCM Volume to Capacity ratio**: 1.18
- **Actuated Cycle Length (s)**: 150.0
- **Sum of lost time (s)**: 12.0
- **Intersection Capacity Utilization**: 118.5%
- **ICU Level of Service**: H
- **Analysis Period (min)**: 15

---

d - Defacto Left Lane. Recode with 1 though lane as a left lane.
c - Critical Lane Group
## Movement EBL EBT EBR WBL WBT NBL NBR SBL SBT SBR

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### Intersection Summary

| HCM Average Control Delay | 20.0 |
| HCM Volume to Capacity ratio | 0.85 |
| Actuated Cycle Length (s) | 150.0 |
| Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 78.6% |
| ICU Level of Service | D |
| Analysis Period (min) | 15 |
| c Critical Lane Group |
### Beltline 2030 Worst Case AM
#### 15: Ponce de Leon Avenue NE & Home Depot

12/17/2008

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#### Intersection Summary

| HCM Average Control Delay | 14.5 |
| HCM Volume to Capacity ratio | 0.87 |
| Actuated Cycle Length (s) | 150.0 |
| Sum of Lost time (s) | 12.0 |
| Intersection Capacity Utilization | 84.9% |
| ICU Level of Service | E |
| Analysis Period (min) | 15 |

#### Analysis

- **Critical Lane Group**: c
Beltline 2030 Worst Case AM
18: Ponce de Leon Avenue NE & Ponce Place
12/17/2008

Baseline

%user_name%

Synchro 7 - Report
Page 10

Baseline Synchro 7 - Report

Movement

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Intersection Summary

| HCM Average Control Delay | 32.2 |
| HCM Volume to Capacity ratio | 0.89 |
| Actuated Cycle Length (s) | 150.0 |
| Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 90.2% |
| ICU Level of Service | E |
| Analysis Period (min) | 15 |

Critical Lane Group
### Movement EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBT SBR

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**Intersection Summary**

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**Intersection Summary**

- HCM Average Control Delay: 84.6
- HCM Level of Service: F
- HCM Volume to Capacity ratio: 1.06
- Actuated Cycle Length (s): 150.0
- Sum of lost time (s): 12.0
- Intersection Capacity Utilization: 96.1%
- ICU Level of Service: F
- Analysis Period (min): 15

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Baseline
%user_name%

Synchro 7 - Report
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**Intersection Summary**

- HCM Average Control Delay: 45.0
- HCM Level of Service: D
- HCM Volume to Capacity ratio: 0.99
- Actuated Cycle Length (s): 150.0
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 102.2%
- ICU Level of Service: G
- Analysis Period (min): 15
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**Intersection Summary**

- HCM Average Control Delay: 248.2
- HCM Level of Service: F
- HCM Volume to Capacity ratio: 1.80
- Actuated Cycle Length (s): 150.0
- Sum of lost time (s): 16.0
- Intersection Capacity Utilization: 165.1%
- ICU Level of Service: H
- Analysis Period (min): 15

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Beltline 2030 Worst Case AM
38: Freedom & Boulevard
12/17/2008

Baseline

%user_name%
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### Uniform Delay, d1

| Uniform Delay, d1 | 50.3 | 60.0 | 19.0 | 6.9 |

### Progression Factor

| Progression Factor | 1.00 | 1.00 | 0.70 | 0.97 |

### Incremental Delay, d2

| Incremental Delay, d2 | 0.3 | 58.7 | 17.7 | 0.8 |

### Delay (s)

| Delay (s) | 50.6 | 118.7 | 31.1 | 7.6 |

### Level of Service

| Level of Service | D | F | C | A |

### Approach Delay (s)

| Approach Delay (s) | 50.6 | 118.7 | 31.1 | 7.6 |

### Approach LOS

| Approach LOS | D | F | C | A |

### Intersection Summary

- **HCM Average Control Delay**: 47.2
- **HCM Volume to Capacity ratio**: 1.02
- **Actuated Cycle Length (s)**: 150.0
- **Interception Capacity Utilization**: 92.3%
- **Analysis Period (min)**: 15

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**Baseline**

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**Synchro 7 - Report**

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**Page 16**
### Movement EBL EBT EBR WBL WBT NBL NBT SBL SBT SBR

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**Intersection Summary**

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| HCM Volume to Capacity ratio | 0.61 | |
| Actuated Cycle Length (s) | 150.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 62.2% | ICU Level of Service | B |
| Analysis Period (min) | 15 | |

| Critical Lane Group | c |
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### Intersection Summary

- HCM Average Control Delay: 101.0
- HCM Level of Service: F
- HCM Volume to Capacity ratio: 1.18
- Actuated Cycle Length (s): 134.0
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 112.8%
- ICU Level of Service: H
- Analysis Period (min): 15

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**Baseline**

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Baseline

%user_name% Synchro 7 - Report

Page 20
### Movement EBL EBT EBR WBL WBT NBL NBT NBR SBL SBT SBR

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### Intersection Summary

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| HCM Volume to Capacity ratio | 0.68 |
| Actuated Cycle Length (s) | 150.0 |
| Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 64.2% |
| ICU Level of Service | C |
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**Baseline**

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## Beltline 2030 Worst Case AM

### 89: Int

#### 12/17/2008

**Baseline Synchro 7 - Report**

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### Intersection Summary

- HCM Average Control Delay: 5.5
- HCM Level of Service: A
- HCM Volume to Capacity ratio: 0.22
- Actuated Cycle Length (s): 22.7
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 32.8%
- ICU Level of Service: A
- Analysis Period (min): 15
- Critical Lane Group: c
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*Critical Lane Group*
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### Beltline 2030 Worst Case PM
#### 6: North Ave & Glenn Iris

**12/17/2008**

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#### Intersection Summary

| HCM Average Control Delay | 18.1 |
| HCM Volume to Capacity ratio | 0.71 |
| Actuated Cycle Length (s) | 100.0 |
| Intersection Capacity Utilization | 75.4% |
| Analysis Period (min) | 15 |

---

**Critical Lane Group**

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*Baseline*
## Beltline 2030 Worst Case PM
### 7: Ponce de Leon Avenue NE & Glenn Iris

**Baseline Synchro 7 - Report**

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| v/s Ratio Perm | 0.52 | 0.07 |

#### Level of Service

| Uniform Delay, d1 | 17.8 | 31.5 | 3.8 | 37.9 | 38.0 |
| Progression Factor | 1.00 | 1.17 | 0.99 | 0.81 | 0.81 |
| Incremental Delay, d2 | 5.4 | 15.8 | 0.2 | 4.1 | 4.9 |
| Delay (s) | 23.2 | 52.7 | 4.0 | 34.9 | 35.6 |
| Level of Service | C | D | A | C | D |
| Approach Delay (s) | 23.2 | 11.7 | 35.4 |
| Approach LOS | C | B | D |

### Intersection Summary

- **HCM Average Control Delay**: 20.6
- **HCM Level of Service**: C
- **HCM Volume to Capacity ratio**: 0.81
- **Actuated Cycle Length (s)**: 100.0
- **Sum of lost time (s)**: 12.0
- **Intersection Capacity Utilization**: 77.7%
- **ICU Level of Service**: D
- **Analysis Period (min)**: 15

---

*Synchro 7 - Report*

*Page 4*
### Beltline 2030 Worst Case PM

8: Ralph McGill & Glenn Iris  
12/17/2008

**Baseline Synchro 7 - Report**

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**Intersection Summary**

- HCM Average Control Delay: 34.3
- HCM Level of Service: C
- HCM Volume to Capacity ratio: 1.02
- Actuated Cycle Length (s): 100.0
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 98.6%
- ICU Level of Service: F
- Analysis Period (min): 15
- Critical Lane Group: c
### Beltline 2030 Worst Case PM
#### 10: Ponce de Leon Avenue NE & Boulevard
12/17/2008

#### Baseline Synchro 7 - Report

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| Actuated Green, G (s) | 57.0 | 49.0 | 45.1 | 41.1 | 45.0 | 45.0 | 45.0 | 32.0 |
| Actuated Green, g (s) | 57.0 | 49.0 | 45.1 | 41.1 | 45.0 | 45.0 | 45.0 | 32.0 |

#### Clearance Time (s)

| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |

#### Vehicle Extension (s)

| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |

#### Lane Group Cap (vph)

| Lane Grp Cap (vph) | 277 | 2246 | 132 | 1844 | 213 | 762 | 648 | 654 |

#### v/s Ratio Prot

| v/s Ratio Prot | 0.08 | c0.47 | c0.05 | 0.24 | c0.07 | 0.24 |
| v/s Ratio Perm | 0.31 | c0.53 | c0.53 | 0.27 | 0.09 | c0.54 |

#### v/c Ratio

| v/c Ratio | 0.75 | 1.05 | 1.42 | 0.63 | 0.82 | 0.60 | 0.21 | 1.85 |

#### Uniform Delay, d1

| Uniform Delay, d1 | 19.1 | 30.5 | 33.0 | 28.2 | 26.4 | 25.4 | 21.0 | 39.0 |

#### Incremental Delay, d2

| Incremental Delay, d2 | 11.1 | 34.1 | 229.1 | 1.7 | 21.8 | 3.4 | 0.8 | 389.1 |

#### Delay (s)

| Delay (s) | 30.1 | 64.6 | 262.0 | 29.9 | 48.2 | 28.8 | 21.8 | 428.1 |

#### Level of Service

| Level of Service | C | E | F | C | D | C | C | F |
| Approach Delay (s) | 61.8 | 61.3 | 31.2 | 428.1 |
| Approach LOS | E | E | C | F |

### Intersection Summary

| HCM Average Control Delay | 131.6 |
| HCM Volume to Capacity ratio | 1.52 |
| Actuated Cycle Length (s) | 110.0 |
| Actuated g/C Ratio | 0.52 |
| Sum of lost time (s) | 20.0 |
| Intersection Capacity Utilization | 119.3% |
| ICU Level of Service | H |
| Analysis Period (min) | 15 |

c Critical Lane Group
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### Beltline 2030 Worst Case PM

**18: Ponce de Leon Avenue NE & Ponce Place**

#### Movement EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBT SBR

**Lane Configurations**

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#### Intersection Summary

- **HCM Average Control Delay**: 42.7
- **HCM Level of Service**: D
- **HCM Volume to Capacity ratio**: 0.99
- **Actuated Cycle Length (s)**: 100.0
- **Sum of lost time (s)**: 8.0
- **Intersection Capacity Utilization**: 85.6%
- **ICU Level of Service**: E
- **Analysis Period (min)**: 15
- **c Critical Lane Group**
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### Intersection Summary

- HCM Average Control Delay: 13.0
- HCM Level of Service: B
- HCM Volume to Capacity ratio: 0.66
- Actuated Cycle Length (s): 100.0
- Actuated Cycle Length (s): 100.0
- Sum of lost time (s): 12.0
- Intersection Capacity Utilization: 73.9%
- ICU Level of Service: D
- Analysis Period (min): 15
- Critical Lane Group: c

---

*Baseline*

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%user_name%
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### Intersection Summary

- HCM Average Control Delay | 30.1
- HCM Level of Service | C
- HCM Volume to Capacity ratio | 1.02
- Actuated Cycle Length (s) | 100.0
- Sum of lost time (s) | 8.0
- Intersection Capacity Utilization | 84.2%
- ICU Level of Service | E
- Analysis Period (min) | 15

---

**Baseline**

%user_name%
## Beltline 2030 Worst Case PM

### 25: Highland &

#### 12/17/2008

### Baseline Synchro 7 - Report

#### Page 13

**Lane Configurations**

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### Intersection Summary

- **HCM Average Control Delay**: 68.0
- **HCM Level of Service**: E
- **HCM Volume to Capacity ratio**: 1.14
- **Actuated Cycle Length (s)**: 100.0
- **Sum of lost time (s)**: 16.0
- **Intersection Capacity Utilization**: 102.6%
- **ICU Level of Service**: G
- **Analysis Period (min)**: 1

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**Intersection Summary**

| HCM Average Control Delay | 35.4 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 1.01 |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 103.5% | ICU Level of Service | G |
| Analysis Period (min) | 15 |
| c Critical Lane Group |
### Beltline 2030 Worst Case PM

#### 38: Freedom & Boulevard

**12/17/2008**

#### Baseline Synchro 7 - Report

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**Intersection Summary**

| HCM Average Control Delay | 185.2 |
| HCM Volume to Capacity ratio | 1.47 |
| Actuated Cycle Length (s) | 100.0 |
| Intersection Capacity Utilization | 134.0% |
| Analysis Period (min) | 15 |

**Intersection Summary**

- HCM Average Control Delay: 185.2
- HCM Volume to Capacity ratio: 1.47
- Actuated Cycle Length (s): 100.0
- Intersection Capacity Utilization: 134.0%
- Analysis Period (min): 15

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**Note:**
- **c** Critical Lane Group

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**Intersection Summary**

- **HCM Average Control Delay**: 16.3
- **HCM Level of Service**: B
- **HCM Volume to Capacity ratio**: 0.80
- **Actuated Cycle Length (s)**: 100.0
- **Sum of lost time (s)**: 8.0
- **Intersection Capacity Utilization**: 88.1%
- **ICU Level of Service**: E
- **Analysis Period (min)**: 15
### Critical Parameters

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**Critical Parameters**

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### Beltline 2030 Worst Case PM
#### 49: Decatur & Krog

**12/17/2008**

**Baseline Synchro 7 - Report**

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**Beltline 2030 Worst Case PM**

**49: Decatur & Krog**

**12/17/2008**

**Baseline Synchro 7 - Report**

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### Intersection Summary

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| HCM Volume to Capacity ratio | 0.62 | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 63.7% | ICU Level of Service | B |
| Analysis Period (min) | 15 | |

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Beltline 2030 Worst Case PM
60: North Ave &
12/17/2008

Baseline

%user_name%

Synchro 7 - Report
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## Beltline 2030 Worst Case PM

### 89: Int

12/17/2008

#### Baseline Synchro 7 - Report

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### Intersection Summary

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**Intersection Summary**

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### Actuated Green, G (s)

| Actuated Green, G (s) | 74.4 | 74.4 | 66.4 | 66.4 | 48.8 | 41.6 | 28.5 | 25.3 |
| Effective Green, g (s) | 74.4 | 74.4 | 66.4 | 66.4 | 48.8 | 41.6 | 28.5 | 25.3 |

### Clearance Time (s)

| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |

### Vehicle Extension (s)

| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |

### Lane Grp Cap (vph)

| Lane Grp Cap (vph) | 283 | 2662 | 472 | 1662 | 300 | 503 | 138 | 322 |

### v/s Ratio Prot

| v/s Ratio Prot | 0.04 | 0.06 | 0.00 | c0.33 | c0.11 | c0.25 | 0.01 | 0.14 |

### v/s Ratio Perm

| v/s Ratio Perm | 0.20 | 0.05 | 0.16 | 0.06 |

### v/c Ratio

| v/c Ratio | 0.45 | 0.12 | 0.11 | 0.69 | 0.76 | 0.85 | 0.33 | 0.79 |

### Incremental Delay, d2

| Incremental Delay, d2 | 1.0 | 0.1 | 0.1 | 2.3 | 8.9 | 10.7 | 1.4 | 11.7 |

### Delay (s)

| Delay (s) | 21.1 | 9.8 | 7.5 | 11.7 | 42.7 | 56.0 | 30.2 | 54.6 |

### Level of Service

| Level of Service | C | A | A | B | D | E | C | D |

### Approach Delay (s)

| Approach Delay (s) | 12.9 | 11.5 | 51.4 | 51.0 |

### Approach LOS

| Approach LOS | B | B | D | D |

---

**Intersection Summary**

| HCM Average Control Delay | 26.4 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.71 |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 74.5% | ICU Level of Service | D |
| Analysis Period (min) | 15 |

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**Critical Lane Group**
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### Beltline 2030 Best Case AM

8: Ralph McGill & Glenn Iris

1/13/2009

#### Movement EBL EBT EBR WBL WBT NBL NBR SBL SBT SBR

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#### Turn Type Perm Perm Perm Perm Perm Perm Perm

| Protected Phases | 4  | 8  | 2  | 6  |
| Permitted Phases | 4  | 8  | 2  | 6  |
| Actuated Green, G (s) | 33.5 | 33.5 | 98.5 | 98.5 |
| Effective Green, g (s) | 33.5 | 33.5 | 98.5 | 98.5 |
| Actuated g/C Ratio | 0.24 | 0.24 | 0.70 | 0.70 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 213 | 754 | 1167 | 1265 |

#### v/s Ratio Prot Perm Perm Perm Perm

| v/s Ratio Prot | 0.16 | 0.20 | 0.42 | 0.18 | 0.03 |
| Uniform Delay, d1 | 48.0 | 50.7 | 10.7 | 7.5 | 6.3 |
| Progression Factor | 1.24 | 1.00 | 0.22 | 0.65 | 0.21 |
| Incremental Delay, d2 | 6.7 | 8.2 | 1.7 | 0.5 | 0.1 |
| Delay (s) | 66.4 | 58.9 | 4.0 | 5.4 | 1.4 |
| Level of Service | E  | E  | A  | A  | A  |
| Approach Delay (s) | 66.4 | 58.9 | 4.0 | 4.8 | A  |
| Approach LOS | E  | E  | A  | A  |

#### Intersection Summary

| HCM Average Control Delay | 27.7 |
| HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.66 |
| Actuated Cycle Length (s) | 140.0 |
| Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 87.5% |
| ICU Level of Service | E |
| Analysis Period (min) | 15 |
| Critical Lane Group | c |

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Baseline

%user_name% Synchro 7 - Report Page 5
### Movement

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### Intersection Summary

- HCM Average Control Delay: 19.4
- HCM Level of Service: B
- HCM Volume to Capacity ratio: 0.73
- Actuated Cycle Length (s): 140.0
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 93.6%
- ICU Level of Service: F
- Analysis Period (min): 15

---

*dl* Defacto Left Lane. Recode with 1 though lane as a left lane.

*c* Critical Lane Group
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**Intersection Summary**

| HCM Average Control Delay | 173.6 | HCM Level of Service | F |
| HCM Volume to Capacity ratio | 1.10 | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 118.1% | ICU Level of Service | H |
| Analysis Period (min) | 15 | | |
## Beltline 2030 Best Case AM

### 11: Ralph McGill & Boulevard

#### 1/13/2009

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### Intersection Summary

| HCM Average Control Delay | 14.2 | HCM Level of Service |
| HCM Volume to Capacity ratio | 0.83 |
| Actuated Cycle Length (s) | 140.0 |
| Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 77.9% |
| ICU Level of Service | 15 |
| Analysis Period (min) | 15 |

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| Effective Green, g (s) | 116.0 | 116.0 | 99.0 | 16.0 |
| Actuated g/C Ratio | 0.83 | 0.83 | 0.71 | 0.11 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 217 | 4213 | 2472 | 387 |
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| v/s Ratio Perm | 0.65 | | | |
| v/c Ratio | 0.89 | 0.20 | 0.96 | 0.23 |
| Uniform Delay, d1 | 55.4 | 2.5 | 18.8 | 56.4 |
| Progression Factor | 1.22 | 0.09 | 0.22 | 1.00 |
| Incremental Delay, d2 | 32.1 | 0.1 | 5.6 | 1.4 |
| Delay (s) | 99.9 | 0.3 | 9.8 | 57.8 |
| Level of Service | F | A | A | E |
| Approach Delay (s) | 19.0 | 9.8 | 57.8 |
| Approach LOS | B | A | E |

**Intersection Summary**

| HCM Average Control Delay | 13.9 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.84 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 84.6% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

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Baseline

%user_name%

Synchro 7 - Report

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**Intersection Summary**

| HCM Average Control Delay | 30.7 |
| HCM Volume to Capacity ratio | 0.91 |
| Actuated Cycle Length (s) | 140.0 |
| Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 96.4% |
| ICU Level of Service | F |
| Analysis Period (min) | 15 |

| Critical Lane Group | c |

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Baseline

Synchro 7 - Report

Page 10
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**Intersection Summary**

- HCM Average Control Delay: 51.6
- HCM Level of Service: D
- HCM Volume to Capacity ratio: 0.97
- Actuated Cycle Length (s): 140.0
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 100.4%
- ICU Level of Service: G
- Analysis Period (min): 15

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**Baseline**

%user_name%
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### Intersection Summary

| HCM Average Control Delay | 245.6 |
| HCM Volume to Capacity ratio | 1.80 |
| Actuated Cycle Length (s) | 140.0 |
| Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 164.2% |
| ICU Level of Service | H |
| Analysis Period (min) | 15 |
| c Critical Lane Group |
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### Lane Group Flow (vph)

- **Turn Type**
  - Protected Phases: 4, 8, 2, 6
  - Permitted Phases: 4, 8, 2, 6
  - Actuated Green, G (s): 28.0, 28.0, 104.0, 104.0
  - Effective Green, g (s): 28.0, 28.0, 104.0, 104.0
  - Actuated g/C Ratio: 0.20, 0.20, 0.74, 0.74
  - Clearance Time (s): 4.0, 4.0, 4.0, 4.0
  - Vehicle Extension (s): 3.0, 3.0, 3.0, 3.0
- **Lane Grp Cap (vph)**: 462, 640, 1780, 1379
  - v/s Ratio Prot: 0.04, 0.22, 0.74, 0.29
  - v/s Ratio Perm: 0.20, 0.93, 1.0, 0.99
  - v/c Ratio: 0.04, 0.21, 1.06, 1.00
  - Uniform Delay, d1: 46.9, 56.0, 17.8, 6.5
  - Progression Factor: 1.00, 1.00, 0.69, 0.93
  - Incremental Delay, d2: 0.2, 51.5, 16.4, 0.8
  - Delay (s): 47.1, 107.5, 28.7, 6.9
  - Level of Service: D, F, C, A
  - Approach Delay (s): 47.1, 107.5, 28.7, 6.9
  - Approach LOS: D, F, C, A

### Intersection Summary

- **HCM Average Control Delay**: 43.0
- **HCM Level of Service**: D
- **HCM Volume to Capacity ratio**: 1.01
- **Actuated Cycle Length (s)**: 140.0
- **Sum of lost time (s)**: 8.0
- **Intersection Capacity Utilization**: 91.4%
- **ICU Level of Service**: F
- **Analysis Period (min)**: 15

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*Baseline %user_name%

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*2030 Best Case AM*

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*Irwin & Boulevard*

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*1/13/2009*
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| v/s Ratio Prot | 0.07 | 0.00 | 0.31 | 0.50 | 0.21 | 0.03 |
| v/s Ratio Perm | 0.22 | 0.18 | 0.01 | 0.92 | 0.82 | 0.34 |
| v/c Ratio  | 0.22 | 0.18 | 0.01 | 0.92 | 0.82 | 0.34 |
| Uniform Delay, d1 | 33.6 | 33.1 | 31.2 | 44.8 | 21.3 | 13.5 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.69 |
| Incremental Delay, d2 | 0.8  | 0.1  | 0.0  | 19.1 | 3.8  | 0.9  |
| Delay (s)  | 34.3 | 33.2 | 31.2 | 63.9 | 25.0 | 10.2 |
| Level of Service | C    | C    | C    | E    | C    | B    |
| Approach Delay (s) | 33.2 | 63.9 | 25.0 | 10.3 | 10.3 | 10.3 |
| Approach LOS  | C    | E    | C    | B    | B    | B    |

**Intersection Summary**

- HCM Average Control Delay: 31.3
- HCM Volume to Capacity ratio: 0.85
- Actuated Cycle Length (s): 140.0
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 101.1%
- ICU Level of Service: G
- Analysis Period (min): 15

*Critical Lane Group*
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### Intersection Summary

- **HCM Average Control Delay**: 32.9
- **HCM Level of Service**: C
- **HCM Volume to Capacity ratio**: 0.56
- **Actuated Cycle Length (s)**: 140.0
- **Sum of lost time (s)**: 8.0
- **Intersection Capacity Utilization**: 56.9%
- **ICU Level of Service**: B
- **Analysis Period (min)**: 15

---

Beltline 2030 Best Case AM
60: North Ave &
1/13/2009

Baseline
%user_name%

Synchro 7 - Report
Page 21
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**Intersection Summary**

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### Movement EBL EBT EBR WBL WBT NBL NBT NBR SBL SBT SBR

#### Lane Configurations

| Volume (vph) | 19 | 165 | 15 | 25 | 365 | 15 | 20 | 2 | 13 | 12 | 7 | 24 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| 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 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1840 | 1770 | 3519 | 1770 | 1618 | 1770 | 1649 | 1770 | 1649 | 1770 | 1649 |
| Flt Permitted | 0.51 | 1.00 | 0.64 | 1.00 | 0.73 | 1.00 | 0.75 | 1.00 | 0.75 | 1.00 | 0.75 | 1.00 |
| Satd. Flow (perm) | 950 | 1840 | 1183 | 3519 | 1369 | 1618 | 1392 | 1649 | 1392 | 1649 | 1392 | 1649 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 21 | 179 | 16 | 27 | 405 | 0 | 22 | 6 | 0 | 13 | 16 | 0 |
| RTOR Reduction (vph) | 0 | 8 | 0 | 0 | 8 | 0 | 0 | 10 | 0 | 0 | 18 | 0 |
| Lane Group Flow (vph) | 21 | 187 | 0 | 27 | 405 | 0 | 22 | 6 | 0 | 13 | 16 | 0 |

#### Turn Type Perm Perm Perm Perm

| Protected Phases | 4 | 8 | 2 | 6 |
| Permitted Phases | 4 | 8 | 2 | 6 |
| Actuated Green, G (s) | 7.9 | 7.9 | 7.9 | 7.9 | 6.7 | 6.7 | 6.7 | 6.7 |
| Effective Green, g (s) | 7.9 | 7.9 | 7.9 | 7.9 | 6.7 | 6.7 | 6.7 | 6.7 |
| Actuated g/C Ratio | 0.35 | 0.35 | 0.35 | 0.35 | 0.30 | 0.30 | 0.30 | 0.30 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 332 | 643 | 414 | 1230 | 406 | 480 | 413 | 489 |
| v/s Ratio Prot | 0.10 | 0.12 | 0.00 | 0.01 |
| v/s Ratio Perm | 0.02 | 0.02 | c0.02 | 0.01 |
| v/c Ratio | 0.06 | 0.29 | 0.07 | 0.33 | 0.05 | 0.01 | 0.03 | 0.03 |
| Uniform Delay, d1 | 4.9 | 5.3 | 4.9 | 5.4 | 5.7 | 5.6 | 5.6 | 5.6 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.1 | 0.3 | 0.1 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 |
| Delay (s) | 5.0 | 5.6 | 5.0 | 5.6 | 5.7 | 5.6 | 5.7 | 5.7 |
| Level of Service | A | A | A | A | A | A | A | A |
| Approach Delay (s) | 5.5 | 5.5 | 5.7 | 5.7 |
| Approach LOS | A | A | A | A |

#### Intersection Summary

| HCM Average Control Delay | 5.5 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.20 |
| Actuated Cycle Length (s) | 22.6 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 31.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 |
| c Critical Lane Group |
### Beltline 2030 Best Case PM
3: North Ave & Freedom

1/13/2009

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### Beltline 2030 Best Case PM
#### 6: North Ave & Glenn Iris

**1/13/2009**

**Baseline Synchro 7 - Report**

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### Intersection Summary

| HCM Average Control Delay | 16.9 |
| HCM Volume to Capacity ratio | 0.69 |
| Actuated Cycle Length (s) | 90.0 |
| Intersection Capacity Utilization | 73.9% |
| Analysis Period (min) | 15 |

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c  Critical Lane Group
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### Intersection Summary

- HCM Average Control Delay: 12.2
- HCM Level of Service: B
- HCM Volume to Capacity ratio: 0.84
- Actuated Cycle Length (s): 90.0
- Sum of lost time (s): 12.0
- Intersection Capacity Utilization: 77.5%
- ICU Level of Service: D
- Analysis Period (min): 15
- Critical Lane Group
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**Intersection Summary**

- **HCM Average Control Delay**: 26.1
- **HCM Level of Service**: C
- **HCM Volume to Capacity ratio**: 0.93
- **Actuated Cycle Length (s)**: 90.0
- **Sum of lost time (s)**: 8.0
- **Intersection Capacity Utilization**: 109.4%
- **ICU Level of Service**: H
- **Analysis Period (min)**: 15

- **Critical Lane Group**
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**Intersection Summary**

- **HCM Average Control Delay**: 25.9<br>**HCM Level of Service**: C<br>- **HCM Volume to Capacity ratio**: 0.99<br>- **Actuated Cycle Length (s)**: 90.0<br>- **Sum of lost time (s)**: 8.0<br>- **Intersection Capacity Utilization**: 97.9%<br>- **ICU Level of Service**: F<br>- **Analysis Period (min)**: 15

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**Baseline**

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%user_name% Synchro 7 - Report Page 6
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**dl**  Defacto Left Lane. Recode with 1 though lane as a left lane.

**c**  Critical Lane Group
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**Intersection Summary**

- **HCM Average Control Delay**: 21.1
- **HCM Level of Service**: C
- **HCM Volume to Capacity ratio**: 1.01
- **Actuated Cycle Length (s)**: 90.0
- **Sum of lost time (s)**: 8.0
- **Intersection Capacity Utilization**: 87.9%
- **ICU Level of Service**: E
- **Analysis Period (min)**: 15

---

**Critical Lane Group**
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| Approach LOS          | A   | A   | D   |     |     |     |

### Intersection Summary

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**Intersection Summary**

- HCM Average Control Delay: 13.5
- HCM Level of Service: B
- HCM Volume to Capacity ratio: 0.67
- Actuated Cycle Length (s): 90.0
- Sum of lost time (s): 12.0
- Intersection Capacity Utilization: 73.9%
- ICU Level of Service: D
- Analysis Period (min): 15
- Critical Lane Group: c
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| HCM Volume to Capacity ratio | 1.04 |
| Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 84.2% |
| Analysis Period (min) | 15 |

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| Approach Delay (s) | 27.5 | 33.9 | 28.5 |
| Approach LOS | C | C | C |

| Critical Lane Group | c |

Baseline
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**Intersection Summary**

- HCM Average Control Delay: 70.0
- HCM Volume to Capacity ratio: 1.12
- Actuated Cycle Length (s): 90.0
- Sum of Lost time (s): 12.0
- Intersection Capacity Utilization: 101.4%
- Analysis Period (min): 15

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*Baseline %user_name%

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*Synchro 7 - Report Page 13*
### Lane Configurations

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### Intersection Summary

- **HCM Average Control Delay**: 32.8
- **HCM Level of Service**: C
- **HCM Volume to Capacity ratio**: 1.01
- **Actuated Cycle Length (s)**: 90.0
- **Sum of lost time (s)**: 8.0
- **Intersection Capacity Utilization**: 105.5%
- **ICU Level of Service**: G
- **Analysis Period (min)**: 15

---

**Critical Lane Group**
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#### Turn Type Prot pm+pt pm+pt pm+pt Perm

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| v/s Ratio Prot | c0.51 | 0.45 | 0.09 | c0.33 | c0.06 | 0.21 | 0.01 | c0.36 |
| v/s Ratio Perm | 0.16 | c0.34 | 0.05 | 0.35 |

| v/c Ratio | 1.91 | 1.05 | 0.97 | 1.32 | 1.46 | 0.74 | 0.21 | 1.39 | 1.32 |
| Uniform Delay, d1 | 33.0 | 25.8 | 31.9 | 33.8 | 32.6 | 29.4 | 28.6 | 33.2 | 33.2 |
| Progression Factor | 1.00 | 1.00 | 0.87 | 0.90 | 0.95 | 0.94 | 1.03 | 0.99 | 1.01 |
| Incremental Delay, d2 | 417.4 | 37.6 | 50.8 | 151.6 | 240.2 | 3.1 | 0.5 | 180.1 | 160.2 |
| Delay (s) | 450.4 | 63.4 | 78.6 | 182.0 | 271.0 | 30.8 | 29.8 | 213.0 | 193.8 |
| Level of Service | F | E | E | F | F | C | C | C | F |

| Approach Delay (s) | 204.7 | 164.7 | 89.5 | 202.4 |
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**Intersection Summary**

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**c** Critical Lane Group
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### Intersection Summary

| HCM Average Control Delay | 41.5 |
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| HCM Volume to Capacity ratio | 1.09 |
| Actuated Cycle Length (s) | 90.0 |
| Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 106.3% |
| ICU Level of Service | G |
| Analysis Period (min) | 15 |

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Baseline

%user_name%

Synchro 7 - Report
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**Intersection Summary**

- **HCM Average Control Delay**: 3.5
- **HCM Level of Service**: A
- **HCM Volume to Capacity ratio**: 0.72
- **Actuated Cycle Length (s)**: 90.0
- **Sum of lost time (s)**: 8.0
- **Intersection Capacity Utilization**: 63.1%
- **ICU Level of Service**: B
- **Analysis Period (min)**: 15
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**Intersection Summary**

- HCM Average Control Delay: 10.9
- HCM Level of Service: B
- HCM Volume to Capacity ratio: 0.54
- Actuated Cycle Length (s): 90.0
- Sum of lost time (s): 8.0
- Intersection Capacity Utilization: 55.0%
- ICU Level of Service: B
- Analysis Period (min): 15
- Critical Lane Group: c
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<td>Adj. Flow (vph)</td>
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<td>537</td>
<td>16</td>
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<td>RTOR Reduction (vph)</td>
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<td>Lane Group Flow (vph)</td>
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<td>551</td>
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<td>22</td>
<td>362</td>
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### Turn Type

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<td>Protected Phases</td>
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<tr>
<td>Permitted Phases</td>
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<td>Actuated Green, G (s)</td>
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<td>v/s Ratio Perm</td>
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<td>v/c Ratio</td>
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<td>Uniform Delay, d1</td>
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<td>Approach Delay (s)</td>
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</tbody>
</table>

### Intersection Summary

| HCM Average Control Delay | 19.6 |
| HCM Volume to Capacity ratio | 0.34 |
| Actuated Cycle Length (s) | 90.0 |
| Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 41.1% |
| ICU Level of Service | A |
| Analysis Period (min) | 15 |
| Critical Lane Group | c |
## Trip Generation Backup

<table>
<thead>
<tr>
<th>Land Use Category</th>
<th>AM</th>
<th>PM</th>
<th>Saturday</th>
<th>Sunday</th>
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<tbody>
<tr>
<td>Low-Rise Apartment (221)</td>
<td>0.46</td>
<td>0.21</td>
<td>0.58</td>
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<tr>
<td>Mid-Rise Apartment (223)</td>
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<td>0.31</td>
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<tr>
<td>High-Rise Apartment (222)</td>
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<td>Single-Family Detached Housing (210)</td>
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<td>Shopping Center (820)</td>
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<td>General Office Building (710)</td>
<td>1.55</td>
<td>0.88</td>
<td>1.49</td>
<td>0.17</td>
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</table>

**Notes:**
- Residential components trips per dwelling unit
- Retail and Office components trips per 1,000 sf gross leasable area
- n/d= No Data