Peachtree Corners – Dunwoody
Winters Chapel Road Area Study

Adopted by City of Peachtree Corners | April 21, 2015
Adopted by City of Dunwoody | April 27,2015

POND

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Winters Chapel Road Area Study:

Recommendations

1. INTRODUCTION

The cities of Peachtree Corners and Dunwoody have joined efforts to create the Winters Chapel Road Area Study. The goal of this study and resulting recommendations is to create a cohesive plan for the implementation of projects, maintenance of streetscape elements and zoning and code enforcement in this area.

The study has been guided by the Community Development/Planning Directors of the cities of Peachtree Corners and Dunwoody as well as their respective public works directors. Additional input has come from a public workshop, and meetings with the Planning Commissions and City Councils from both cities.

INPUT FROM MEETING AND WORKSHOPS

As a part of the study, a public workshop was held on February 24, 2015, at the Winters Chapel United Methodist Church. Over 170 were in attendance to review the site analysis, preliminary recommendations and options for projects and design standards. Refer to the Preliminary Recommendations Document for further information (Appendix A).

Meetings with the Peachtree Corners and Dunwoody Planning Commissions occurred on March 10, 2015. The presentation to the Peachtree Corners City Council occurred on March 17, 2015 and to Dunwoody on March 23, 2015. A summary of the comments received at these meetings can be found in Appendix B.

2. SUMMARY OF PROPOSED RECOMMENDATIONS: CORRIDOR IMPROVEMENTS

Based upon site analysis and the input received from the public, City officials, Planning Commissions and City Councils, we have developed recommendations for the cities to implement.

The summary of proposed projects is classified into overall corridor and specific area projects. Attached (Attachment A) are diagrammatic maps showing the corridor divided into 5 sub areas, with locations and types of proposed projects.

2.1 OVERALL CORRIDOR

- Investigate creating a consistent speed limit through corridor. The City of Dunwoody expressed strong concerns that the 40/35 mile per hour speed limit differential is not desirable for this area. The City of Dunwoody would like to work with Sandy Springs and Peachtree Corners to investigate the possibility of setting a consistent speed limit for Winters Chapel Road[3].

- Landscaping:
    - Proposed large canopy trees (locations TBD). Every 40’ along roadway where no overhead power lines or utilities interfere, sufficient setbacks from roadway and at least 6’ of planting bed width exists. Recommended species include:
        - Blackgum (*Nyssa sylvatica*) 2.5”-3” caliper
        - Overcup oak (*Quercus lyrata*) 2.5”-3” caliper

Blackgum

Overcup Oak

    - Proposed medium canopy trees (locations TBD). Every 40’ along roadway where no overhead power lines or utilities interfere, sufficient setbacks from roadway and at least 4’ of planting bed width exists.
        - Trident maple (*Acer buergerianum*) 2”-2.5” caliper
        - American hornbeam (*Carpinus caroliniana*) 2”-2.5” caliper

Trident Maple

American Hornbeam

- Proposed small canopy trees (locations TBD). Every 30' along roadway where overhead power lines or utilities interfere, sufficient setbacks from roadway and at least 4' of planting bed width exists.
    - Redbud (*Cercis Canadensis*) 2"-2.5" caliper
    - Serviceberry *(Amelanchier x grandiflora* 'Autumn Brilliance') 2"-2.5" caliper

Redbud

Serviceberry

[1]Notes: Large Canopy trees are determined by height/width and have the greatest amount of root zone requirements. Medium Canopy trees are determined by height/width and have a medium about of root zone requirements. Small canopy trees are determined by height width and medium-low root zone requirements.

- Crosswalks /ADA:
    - Striped crosswalks at all roadway and commercial driveway crossings and at apartment/townhome complexes[1]. Crosswalks to meet GDOT standard requirements for striping materials and patterns. Thermoplastic striping recommended.
    - Stamped asphalt crosswalks or equal at major roadways including Peachtree Industrial Boulevard, Peeler Road, and Spalding Drive[1]. Any of the standard colors or patterns as manufactured by Street Print, or approved equal, can be used. It is recommended that the color be terra cotta or brick.
    - Curb cut ramps to be ADA compliant as specified by GDOT. Detectable warning areas to be yellow to match existing.

Stamped asphalt crosswalk

- Bus Shelters:
  - Simple bus shelters at all stops south of Peeler Road.
  - Refer to site furnishings section for recommended furnishing type.
- Rest areas with benches/ trash receptacles:
  - Benches (6' wide) are proposed approximately every 1000' north of Jones Mill Road. Trash receptacle with recycling to be placed next to bench. Benches to be offset from sidewalk on minimum 5' wide concrete pad[1].
    - Alternate sides of road every 500'.
  - Benches (6' wide) are proposed approximately every 500' from power easement north of Walmart to Peachtree Industrial Boulevard. Trash receptacle with recycling to be placed next to bench. Benches to be offset from sidewalk on minimum 5' wide concrete pad[1].
    - Alternate sides of road every 250'.
  - Refer to site furnishings section for recommended furnishing type.
- Pedestrian Lighting:
  - Pedestrian lighting is recommended with lights approximately 40' on center throughout corridor on both sides of roads. Light spacing to consider street trees and other vegetation and utilities as projects commence. Refer to site furnishings section for recommended fixture type.

2.2 SPECIFIC BASE PROJECTS BY PROJECT AREA

Area 1

Sidewalks:

1) 5' wide sidewalks are being proposed by Gwinnett County SPLOST from Dunwoody Club Drive north to Spalding Drive on the east side of the roadway. ADA curb cut ramps/features to be included. Drainage and curb and gutter to be included in selected locations along this area.

2) Sidewalks north from Peeler Road to Nesbit Ferry Road on west side of roadway are proposed. Minimum 5' wide with separation from roadway of 5' where possible. ADA curb cut ramps/features to be included.

Pedestrian Crossings/Crosswalks:

1) Stamped asphalt crosswalk across north and east sides Winters Chapel Road at Spalding Drive, with pedestrian signal[1].

2) Striped crosswalks to be included as part of Gwinnett County SPLOST across minor roadways. ADA ramps to be included.

3) Striped crosswalks at road crossings when new sidewalks installed north from Peeler Road to Nesbit Ferry Road on west side of roadway.

Pocket Parks:

1) Pocket park in the right-of-way of Winters Chapel Road south of Spalding Glen Drive on east side of road[1].

Other:

1) Drainage improvements south of Winters Hill on east side of roadway. Type to be determined.

Area 2

Sidewalks:

1) 5' wide sidewalks are being proposed by Gwinnett County SPLOST from Dunwoody Club Drive north to Spalding Drive on the east side of the roadway. ADA curb cut ramps/features to be included. Drainage and curb and gutter to be included in selected locations along this area.

2) Sidewalks north from Peeler Road to Nesbit Ferry Road on west side of roadway are proposed. Minimum 5' wide with separation from roadway of 5' where possible. ADA curb cut ramps/features to be included.

Pedestrian Crossings/Crosswalks:

1) Stamped asphalt crosswalk across Winters Chapel Road at Dunwoody Club Drive at north side of intersection, and across Dunwoody Club Drive with pedestrian signals at these locations

2) Mid-block crossings across Winters Chapel Road across from Congregation Beth Shalom.

3) Striped crosswalks to be included as part of Gwinnett County SPLOST across minor roadways. ADA ramps to be included.

4) Striped crosswalks at road crossings when new sidewalks installed north from Peeler Road to Nesbit Ferry Road on west side of roadway.

Pocket Parks/Rest Areas:

1) Pocket park within right-of-way south of Marston Way on east side of roadway, possibly under power easement.

Other:

1) Drainage improvements south of Marston Way on east side of road.

2) Drainage improvements at power easement north of Congregation Beth Shalom on east side.

3) Drainage improvements across from Congregation Beth Shalom on west side.

4) Investigate potential trail connection along Colonial Pipeline Easement west into Dunwoody.

5) 5' wide sidewalks along Dunwoody Club Drive road extending west from Winters Chapel. Configuration of sidewalks to be determined[2].

Area 3

Sidewalks:

1) Sidewalks north from Peeler Road to Nesbit Ferry Road on west side of roadway are proposed. Proposed 5' wide sidewalks with separation from roadway where feasible. ADA curb cut ramps/features to be included.

Pedestrian Crossings/Crosswalks:

1) Stamped asphalt crosswalk at Jones Mill Road.

2) Striped crosswalks along at road crossings when new sidewalks installed north from Peeler Road to Nesbit Ferry Road on west side of roadway.

Pocket Parks:

1) Pocket park within right-of-way along cemetery adjacent to North Atlanta Memorial Park.

Other:

1) N/A

Area 4

Sidewalks:

1) Sidewalks north from Peeler Road to Nesbit Ferry Road on west side of roadway are proposed. Proposed 5' wide sidewalks with separation from roadway where feasible. ADA curb cut ramps/features to be included.

2) Sidewalk improvements and ADA access improvements at Peeler Road intersection.

3) Mid block crossing at the northern end of the east side Water Treatment Plant Property (south of Winters Chapel Crossing Shopping Center[2].

4) Minimum 5' wide sidewalks along east side, in front of water treatment plant to south of Winterbrook Court. This is proposed as part of Peachtree Corners LMIG projects. Preferred sidewalk width on east side and west sides of Winters Chapel to be 10' wide or wider than 5' as appropriate based upon site conditions. Sidewalk design to incorporate aesthetic curves similar to the sidewalk at Peeler Road[2].

5) Drainage and curb and gutter to be included in selected locations along this area.

Pedestrian Crossings/Crosswalks:

1) Striped crosswalks at road crossings when new sidewalks installed north from Peeler Road to Nesbit Ferry road on west side of roadway.

Pocket Parks:

1) Pocket parks within Water Treatment Plant frontage. (Location TBD). To be coordinated with DeKalb County Watershed.

Other:

1) Bus shelters at bus stops south of Peeler Road on west side of roadway. (Alternate: research highest use bus stops and add in those areas.)

2) Drainage improvements across from Winters Chapel Crossing shopping center and slightly north and south.

3) Drainage improvements south of Winters Chapel Crossing shopping center along east side of roadway/Water Treatment Plant.

4) Possible roadway modification/diet along Water Treatment Plant (both sides). To be coordinated with DeKalb County due to restricted right-of-way.

5) Landscaping improvements along Water Treatment Plant (both sides). To be coordinated with DeKalb County in areas of restricted right-of-way.

6) Trash receptacles at Peeler Road landscape island.

7) Investigate potential trail connection along power easement towards Winter Trail Road and apartments.

Area 5

Sidewalks:

1) 5' wide sidewalks along east side, in front of Water Treatment Plant from to Winterbrook Court south to PIB. This is proposed as part of Peachtree Corners LMIG projects. Drainage and curb and gutter to be included in selected locations along this area. Peachtree Corners to

investigate including curves into the design of the sidewalk along the Water Treatment Plant and not straight through this area.

Pedestrian Crossings/Crosswalks:

1) Stamped asphalt crosswalks across Winters Chapel Road at Peachtree Industrial Boulevard with pedestrian signals and ADA accommodations. Possible modification of refuge islands. (To be coordinated with GDOT.)

2) Crosswalks across Peachtree Industrial Access Road and underpass with pedestrian signalizations. (To be coordinated with GDOT.)

Pocket Parks:

1) Pocket parks within Water Treatment Plant frontage. (Location TBD).

2) At vacant lot north of Chevron station on west side of roadway, or acquisition of portion of property for park.

Other:

1) Bus shelters at bus stops south of Peeler Road on west side of roadway.

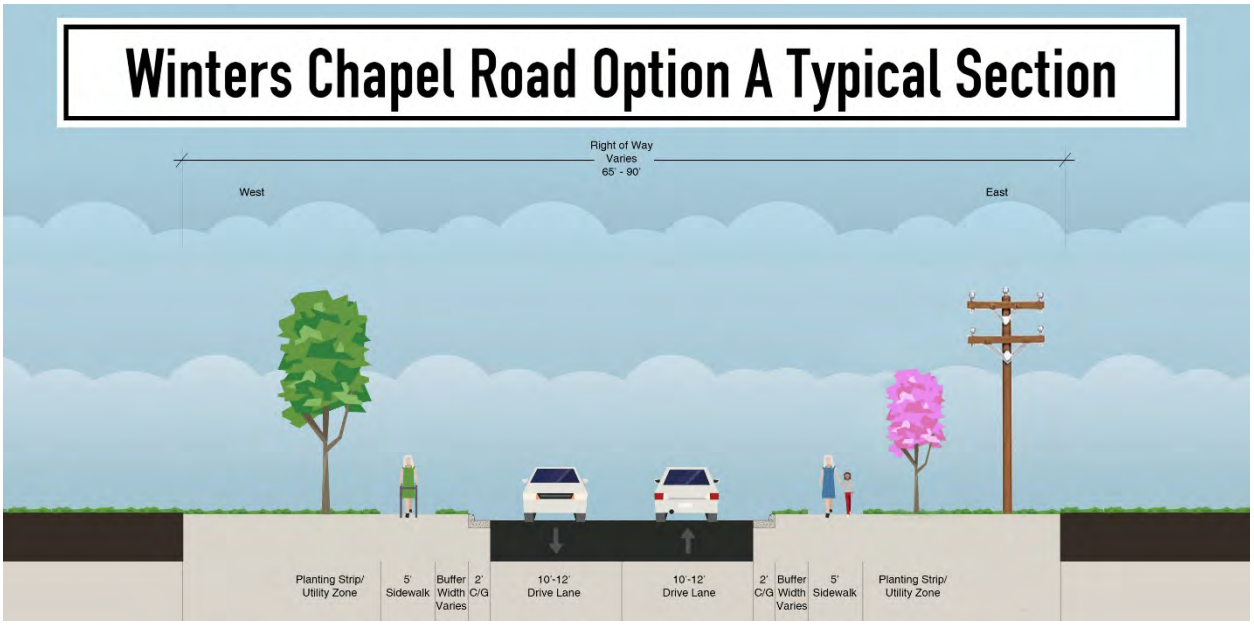
2) Landscaping improvements along Water Treatment Plant (both sides). To be coordinated with DeKalb County due to restricted right-of-way.

3) Mid-block pedestrian crossing north of Womack Drive. (Not directly at intersection.) Type of mid-block crossing to be investigated/researched by Cities.

2.3 PROJECT LEVEL OPTIONS

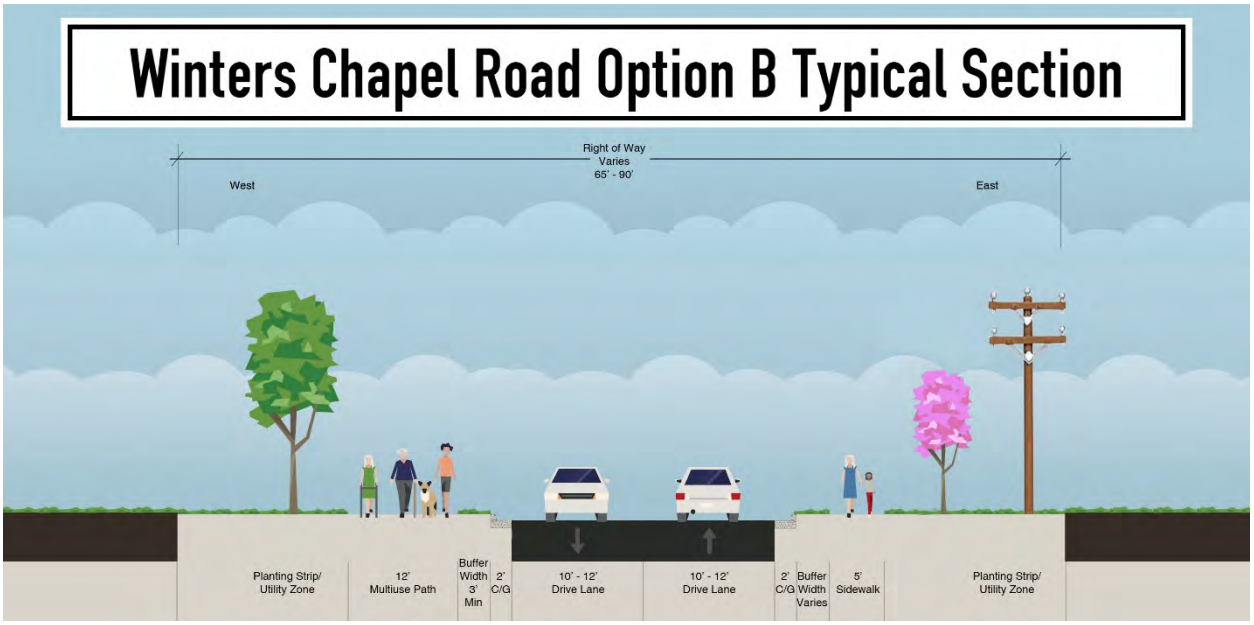
The Cities, the public, and Pond all feel it is important to look at the possibility of bicycle facilities in this corridor. The corridor is not currently suitable for shared lane markings for bicycles due to the posted speed limit in this area. The current pavement width does not accommodate 4'-5' wide bicycle lanes. We are presenting three different recommendation options to the Cities.

Option A) Include sidewalks for the corridor in locations as noted in the Specific Projects: Base Project List. Include all items in Specific Projects: Base Project Lists

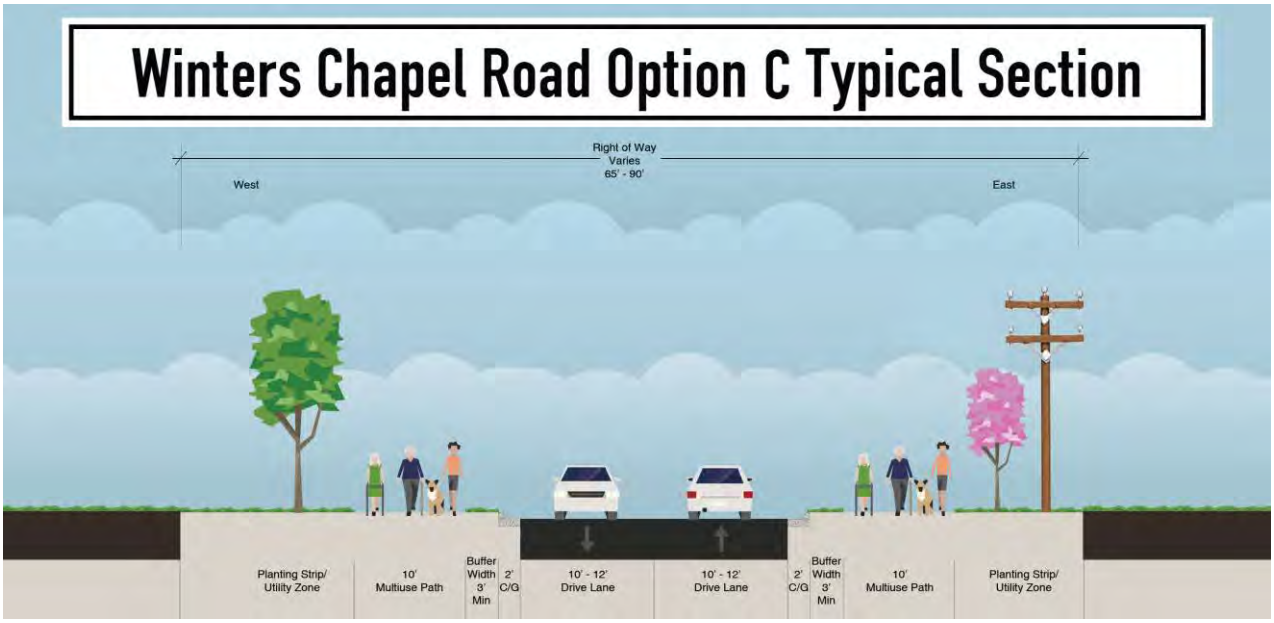


Option B1) Substitute a multi-use path for sidewalks on the west side of the road from the transmission easement north of Peeler Road to Fontainbleau Way. Include all other projects from the Specific Projects: Base Project List. Multi-use trail to be compliant with AASHTO guidelines. Associated curb and gutter, trail and roadway signage and related drainage to be included. Some utility line relocations will be required to accommodate trail.

OPTION B2) Substitute a multi-use path for sidewalks on the west side of the road from the transmission easement north of Peeler Road to Spalding Drive. 12' wide path is preferred by Dunwoody and is consistent with Dunwoody trail guidelines. Include all other projects from the Specific Projects: Base Project List. Multi-use trail to be compliant with AASHTO guidelines. Associated curb and gutter, trail and roadway signage and related drainage to be included. Some utility line relocations will be required to accommodate trail. *Preferred section by Peachtree Corners[2]. Preferred section by Dunwoody to include 12' wide path[3].*



Option C) Widen roadway from Peeler Road north to Spalding Drive to accommodate AASHTO compliant striped bicycle lanes. Include all other projects from the Specific Projects: Base Project List. Associated curb and gutter, trail and roadway signage and related drainage to be included. Utility line relocations will be required to accommodate widening. Construction easements may be needed in some areas.



3. SITE FURNISHINGS

The following types of site furnishings are recommended for the Winters Chapel Corridor in order to enhance the pedestrian experience. These elements will work together to create a cohesive and integrated environment.

Street furniture is recommended as a part of pocket parks and rest areas. The following fixtures are recommended; however, other options which are also durable, weather and vandal resistant may be considered if approved by the Cities.

Note: The Cities of Peachtree Corners and Dunwoody have not committed to site furnishing model recommendations shown in the plan at this time. This includes pedestrian lighting, benches, bus shelters, trash and recycling receptacles. These will be taken as general recommendations with final selections to be decided upon/approved by City staff before design standards established[2,3].

SEATING:

Model Classic Model C-138 series as manufactured by Victor Stanley, or an accepted equivalent. Powder coated, Victory Stanley Color – Black

TRASH RECEPTACLES:

36 Gallon trash receptacle, Model A-36 series as manufactured by Victor Stanley, or an accepted equivalent. Powder coated – Victory Stanley Color – Black

RECYCLING RECEPTACLES:

RSDC-36, series as manufactured by Victor Stanley, or an accepted equivalent. Powder coated. Victory Stanley Color – Black

PEDESTRIAN LIGHTING:

"Generation ARC" by Cooper, 150 light by Georgia Power. Light poles to be Grandville by Hapco from Georgia Power. Pole height may not exceed 15'. Shall be placed in the landscape zone at intervals of 40' on center and must be equal distance from required street trees. Spacing may vary in certain areas along the corridor due to site specific conditions. Lights to have full cutoff. Poles and fixtures must be black in color.

BUS SHELTERS:

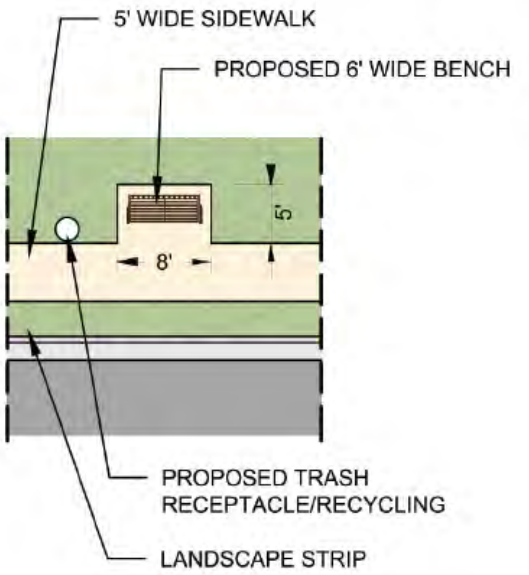
Avanti by Daytech, Open front (3 sides wall panel), width 6', length 12'. Jet Black.

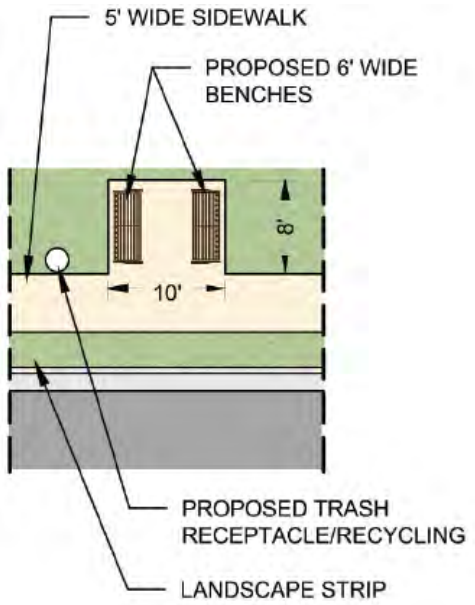
4. STREETSCAPE ENHANCEMENTS

REST AREAS

Rest areas are recommended for several locations within the corridor. The intent of the rest areas is to create spaces of respite for people during their walks or rides. These are two recommendations for rest area design depending on the individual locations and amount of right-of-way and appropriate space.

REST AREA EXAMPLES: Not to Scale

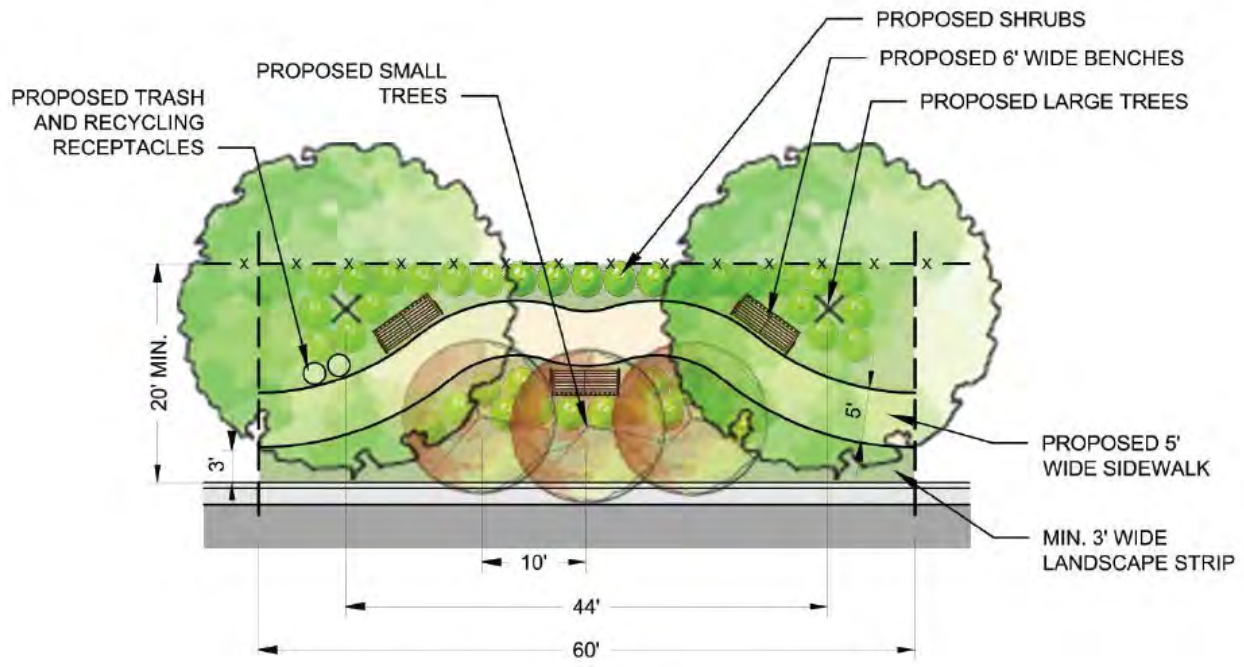




POCKET PARKS

The pocket parks proposed will enhance the visual appearance of the corridor as well as the user experience. They are to be designed in order to create a secure and attractive space for users that is larger than the typical rest area. Sidewalk may spur out from main sidewalk as separate path or main sidewalk may be designed to weave through pocket park depending on right of way space available. Actual pocket park designs and planting materials may vary, and the Cities may consider the acquisition of additional right-of-way to enlarge the pocket parks.

POCKET PARK EXAMPLE: Not to Scale



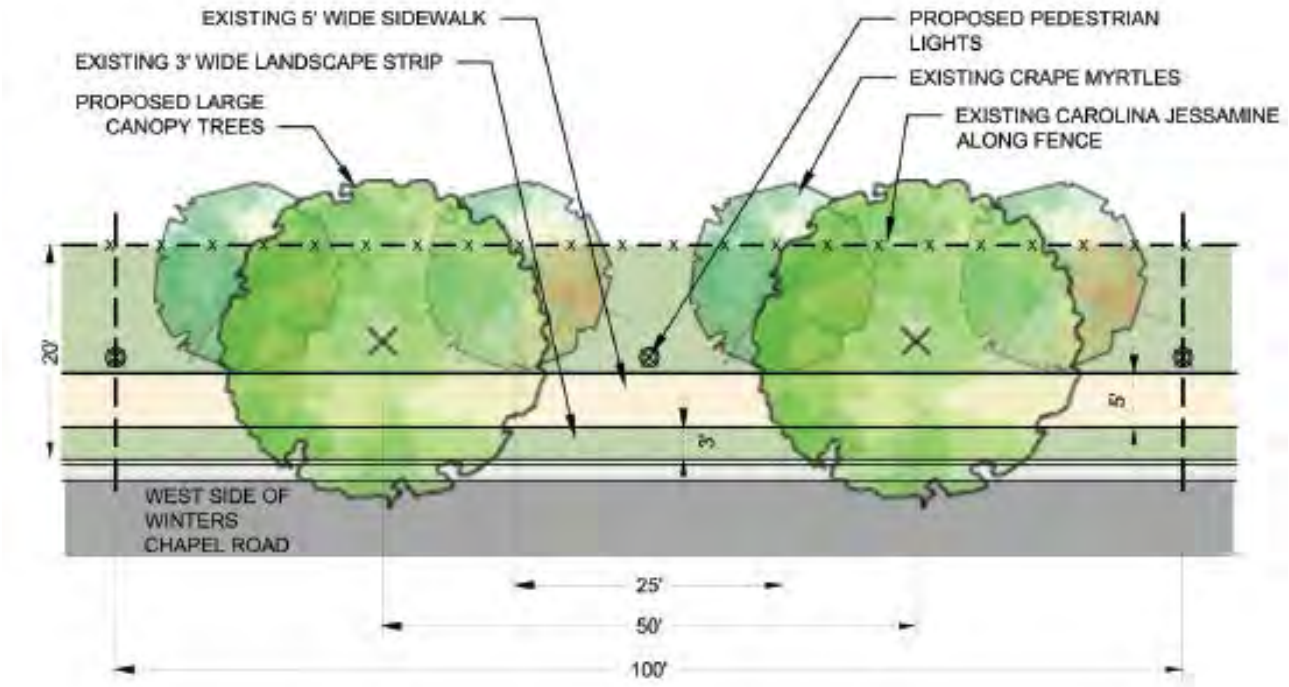
CROSSWALKS

For most of the crosswalks through the corridor, typical thermoplastic applications of striping are recommended. For the areas at Peachtree Industrial Boulevard, Peeler Road and Spalding Drive, stamped asphalt is recommended.

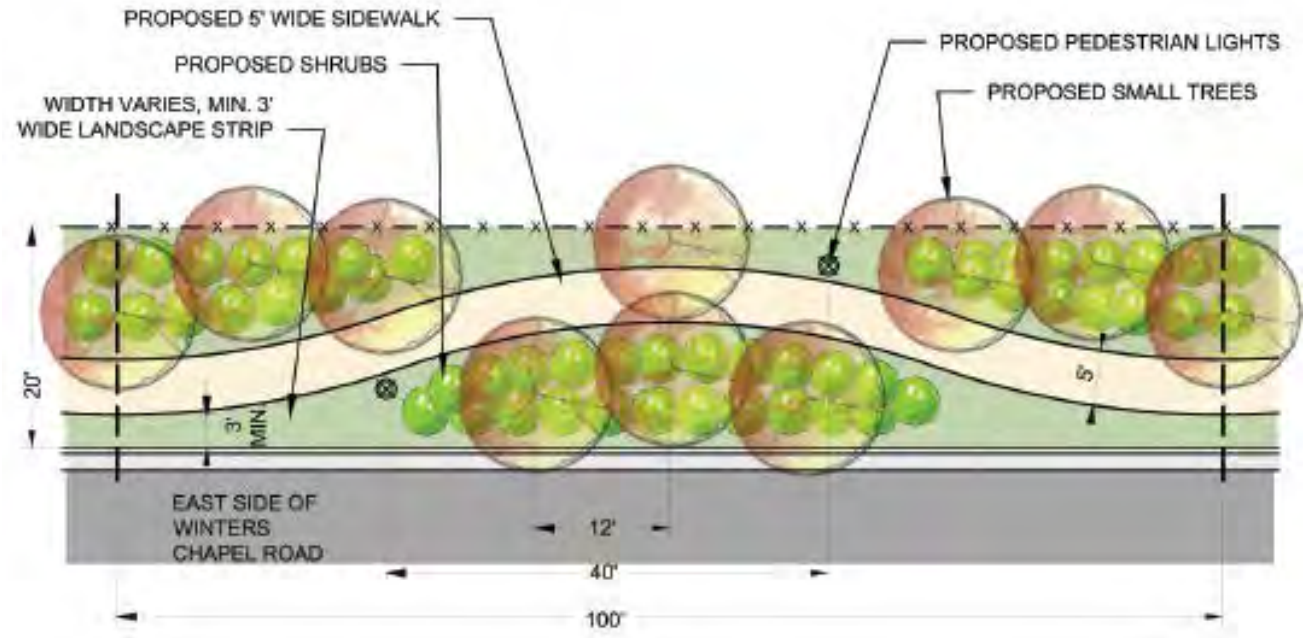
LANDSCAPE ENHANCEMENTS AT DEKALB WATER TREATMENT PLANT FRONTAGE

There is considerable frontage at the DeKalb Chandler Water Treatment plant on both sides of Winters Chapel Road. The west side has some decorative security fencing and landscaping and sidewalks, while the east side currently is lined with chain link fence with barbed wire. There are also overhead power lines on the east side. Both the community and City officials felt that these areas needed visual and functional improvement. We have recommendations for enhanced landscaping as appropriate on either side of the roadway. Due to right-of-way limitations, cooperation with DeKalb County will be necessary to implement some of these enhancements.

WEST SIDE LANDSCAPE ENHANCEMENT EXAMPLE: Typical 100’ Length Section; Not to Scale



EAST SIDE LANDSCAPE ENHANCEMENT EXAMPLE: Typical 100’ Length Section; Not to Scale



5. PRIORITY PROJECTS

It is recommended that lighting, drainage improvements, and site furnishings/rest areas be installed at the same time as sidewalks and curb and gutter improvements occur. If possible, street trees and pocket parks should also be installed at this time. If funding is not available, street trees and pocket parks may be phased in as funding allows.

Should the construction of sidewalks to complete the gaps not be funded as one project, the following areas should be given priority status. This is based upon projects that will have the most impact on the users of the corridor and in the areas where use is greatest.

1. Comprehensive sidewalks/trail construction:

Sidewalks from Peachtree Industrial intersection to Winterbrook Court on east side of road *(already funded)*. This section will connect a heavily used route from the commercial district near Peeler Road south to the transit served area and commercial area at Peachtree Industrial.

Sidewalks from Peeler Road intersection north to Fountainbleau on west side of road. This will connect several neighborhoods to the commercial district at Peeler Road.

2. Spot Improvements:

Pedestrian improvements at Winters Chapel/Peachtree Industrial Blvd intersection including pedestrian signalization, stamped asphalt crosswalks and ADA curb ramps. This is an area heavily used by pedestrians that currently lacks any pedestrian accommodations. It is a large intersection that will need to be coordinated with GDOT because it is within state right-of-way.

Peeler Road intersection: Stamped asphalt crosswalks. There was a lot of public input requesting better pedestrian facilities in this area. Stamped asphalt crosswalks will draw attention to crosswalks to both pedestrians and motorists and improve the aesthetics of this intersection.

Mid-Block crossing at Beth Shalom (*after sidewalks on west side of road are installed*). There is high pedestrian traffic from the neighborhoods surrounding the synagogue. This would assist in providing safe crossings for pedestrians from the west side of the roadway.

Mid-Block crossing north of Water Treatment Plant. There is high pedestrian traffic in this area. This would assist in providing safe crossings for pedestrians.

Landscaping along east side of road along DeKalb Chandler Water Treatment Plant. The public and City officials called for a need to enhance the appearance and treatment of the edge of the water treatment plant property.

Mid-block crossing at Womack Drive (*after sidewalks installed on east side of road*). Both the public and City officials were concerned about the high amount of pedestrian crossings in this area due to density of housing and the existing bus stops in this area. This would address the need for safer crossings within this area of the corridor[2].

Pocket Park at Power Easement north of Walmart. The cities have an opportunity to create a community resource in this underutilized space. It is recommended that they implement a pocket

park in this area and possibly look to the power company and property owners in this area to see if it is possible to acquire additional land and create an expanded pocket park.

Bus Shelters. It is recommended that bus shelters be installed as a priority project. If the Cities want to phase in the installation of shelters it is recommended that they investigate which stops have the highest use and prioritize those particular shelters.

6. COST ESTIMATE DESCRIPTIONS

As a part of the recommendations, cost estimates have been prepared for the 4 Project Level Options A, B1, B2, and C in Attachment B. The estimates are conceptual at this level due to varying unknown conditions regarding utilities, soils, construction easement costs and other items that would need to be resolved through detailed surveys, utility coordination and schematic drawings. A 35% contingency has been added to cover these unknown conditions. Percentage estimates for design and contractor mobilization have also been included. Actual prices will vary with market cost fluctuations and inflation depending upon the time of project implementation.

The estimates break down the corridor into 6 segments with logical termini. Those include:

Segment 1: East Side: Spalding Drive to Dunwoody Club Drive

Segment 1: West Side: Spalding Drive to Dunwoody Club Drive

Segment 2: East Side: Dunwoody Club Drive to Peeler Road

Segment 2: West Side: Dunwoody Club Drive to Peeler Road

Segment 3: East Side Peeler Road to Peachtree Industrial Intersection (south side of intersection)

Segment 3: West Side Peeler Road to Peachtree Industrial Intersection (south side of intersection)

The estimates are broken down within these segments to show the various items that make up the projects.

7. ADDITIONAL INFORMATION

PROPOSED RECOMMENDATIONS: ZONING AND DEVELOPMENT CODE

Proposed changes to the zoning and development codes for Peachtree Corners and Dunwoody are included in Attachment C.

PROPOSED RECOMMENDATIONS: MAINTENANCE PLAN AND SCHEDULES

Proposed maintenance plan and schedules for landscaping and streetscape fixtures for Peachtree Corners and Dunwoody are included in Attachment D.

TRAFFIC OPERATIONS ANALYSIS

The City of Peachtree Corners requested that a traffic operations analysis be completed concurrent with the Winters Chapel Design Standards Study. The study will diagnose the challenges along the corridor, determine what improvements are appropriate and feasible and develop a recommended implementation strategy. Attached is the Traffic Operations Analysis Report as Appendix C.

BUS SHELTERS

The team contacted MARTA's Bus Service representative to begin the process of requesting bus shelters and benches through existing MARTA funds. **The evaluation process** to determine whether there is a) sufficient ridership to warrant these additional amenities and b) sufficient funds to provide them takes up to **90 days**.

Pond contacted Charles Rosa at MARTA to determine whether and how cities may work with MARTA to fund shelters and/or benches should MARTA not have funds to provide.

Pond will coordinate with the Cities to ensure that follow-up steps are taken, which will depend on MARTA's responsiveness.

Here is the process to initiate bus shelters/benches, as published by MARTA (directly from MARTA):

A: Request Process

To request a MARTA Bus Shelter/Bench, please contact MARTA's Customer Service Center at 404-848-5000 Monday - Friday between the hours of 8:00am -5:00pm. Select your language choice then press option 3 then option 3 again to speak to a Customer Care Representative.

Provide the Customer Care Representative with an address, or the street where the bus stop is located, along with the closest intersection to the requested bus stop, and contact information (name, phone number, address and email address).

The Representative will then provide a tracking number which can be used to obtain status of the request if needed. The request will be forwarded to the MARTA Bus Shelter/Bench Program where it will be processed.

Upon receipt of the Bus Shelter/Bench request, the MARTA Bus Shelter/Bench Coordinator will begin the evaluation process and provide the MARTA Customer Service Center with the initial findings within five business days of receipt, and also continuous updates throughout the process if necessary. A Customer Care Representative will contact the Requestor upon receipt of the updates.

Bus Shelter/Bench Installation

The installation of a MARTA Bus Shelter or Bench is based on a ranking process that takes into consideration the number of passengers that board at the specific bus stop location as well as other important criteria, in conjunction with existing budgetary limitations. While a request for a bus shelter or bench will be accepted and may meet the MARTA Service Standard we are not funded to the level that all requests can be filled.

It is MARTA desire to provide you with protection from the elements enhance your comfort and safety while you wait on a MARTA bus within MARTA's service area, DeKalb County, Fulton County and the City of Atlanta. Requests like yours provides input which help us to serve all of our customers better.

Bus Shelter and Bench requests are received from individual customers along with community leaders, elected officials and other sources. Before we can make a decision regarding installation it will be necessary to conduct an evaluation consisting of the following criteria:

1. *Daily Boardings. (7-14 for a bench and 15 or greater boarding per day for a shelter)*
2. *Number of bus routes served.*
3. *Proximity to other shelters/benches.*
4. *Equal distribution of shelters/benches in service area.*
5. *Proximity to Activity Centers.*
6. *Physical attributes of the requested site*

Within five days of receipt of the shelter/bench request:

- *The requestor will receive a "Request Acknowledgment Letter indicating that the site meets the criteria above and will be evaluated for a shelter or bench. Due to the heavy volume of requests and the time needed for the evaluation process, please allow a minimum of 90 days to receive a response.*
- *If the site does not qualify based on the criteria above, the requestor will receive a "Low Ridership Denial Letter" indicating the site does not meet MARTA's Service Guideline.*

Within the 90 days of evaluation:

- *If the site cannot accommodate a concrete pad due to: slopes, insufficient set back of 10-foot setback allowance from the roadway, blockage of the view of turning vehicles, limited space or blockage to guardrail/barrier, fire hydrants or utilities. A "Site Condition Denial Letter" will be issued. MARTA must adhere to the Zoning and established local or state government setback requirements.*
- ***If the site is approved** for installation. It will be added to MARTA's list of shelters approved for installation, the requestor will be notified when it will be determined to construct the shelter or bench which is dependent on available funding, ranking, easement approval from property owners if applicable, and permitting from the local jurisdiction.*

Upon installation, all the shelters and benches are serviced by the Contractor, through the telephone #1-866-535-0937 that can be found on all of the shelters and benches. For broken glass or graffiti sites, they will be serviced with 12 hours, and for trash pickup sites, they will be serviced within twenty hours.

For a more efficient way to request for MARTA to consider placing a shelter or bench at a particular bus stop, please call MARTA's Customer Care Center at (404) 848-5000. When you call, please be ready to provide the following information: your name, phone number and the exact address/location. If the location is near an intersection, you must provide the names of both streets and the city. If the stop is near a business, please provide the exact name and address of the business.

At the City of Dunwoody City Council final meeting to adopt this report, Dunwoody noted the following items and preferences for bus shelters:

The City of Dunwoody has an existing agreement with MARTA regarding the current shelters in the City that allows add. Dunwoody would like to make sure that new shelters do not have advertising in them. City staff will need to follow up directly with MARTA:

1. to make the requests and get the process started.
2. to ask if the Cities can fund the shelters themselves should MARTA determine (a) yes, there is a need but (b) they don't have enough funding to provide them (we suspect this is likely).
3. City of Dunwoody Staff to renegotiate with MARTA regarding some of the existing bus shelters with ads (to have the ads removed). [3]

8. CONCLUSIONS AND NEXT STEPS

The information included in this report gives recommendations on the types of improvements, priorities, and strategies the Cities should implement in the Winters Chapel Corridor. It should be noted that cooperation with GDOT, City of Sandy Springs, DeKalb County Watershed, and private landowners and subdivision groups will need to be continuous as projects are implemented. The next step in the process will be for the cities to decide which of the options they want to adopt and update the codes and standards based upon the recommendations in this report, and begin to identify projects for implementation. They will also need to evaluate their staffing and maintenance budgets to accommodate changes in the streetscape as they occur.

NOTES:

[1] *Revised per Dunwoody staff comments, 4-22-15*

[2] *Revised per Peachtree Corners City Council comments, 4-21-15*

[3] *Revised per Dunwoody City Council comments, 4-27-15*

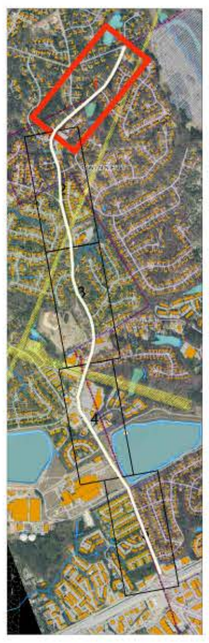
Attachment A: Corridor Improvement Maps

POND

AREA 1 RECOMMENDATIONS

PEDESTRIAN IMPROVEMENTS

- Sidewalks are being proposed by Gwinnett County SPLOST from Dunwoody Club north to Spalding on the east side of the roadway. ADA curb cut ramps and crosswalks to be included.
- Sidewalks north from Peeler Road to Spalding Drive on west side of roadway are proposed. Minimum 5’ wide with separation from roadway. ADA curb cut ramps and crosswalks to be included.
- Stamped asphalt crosswalk across Winters Chapel and Spalding at Spalding, with pedestrian signals.



KEY PLAN
NTS

EXAMPLES FOR REFERENCE ONLY

LIGHTING

- Pedestrian lighting on both sides of roadway throughout corridor.

EXAMPLES FOR REFERENCE ONLY

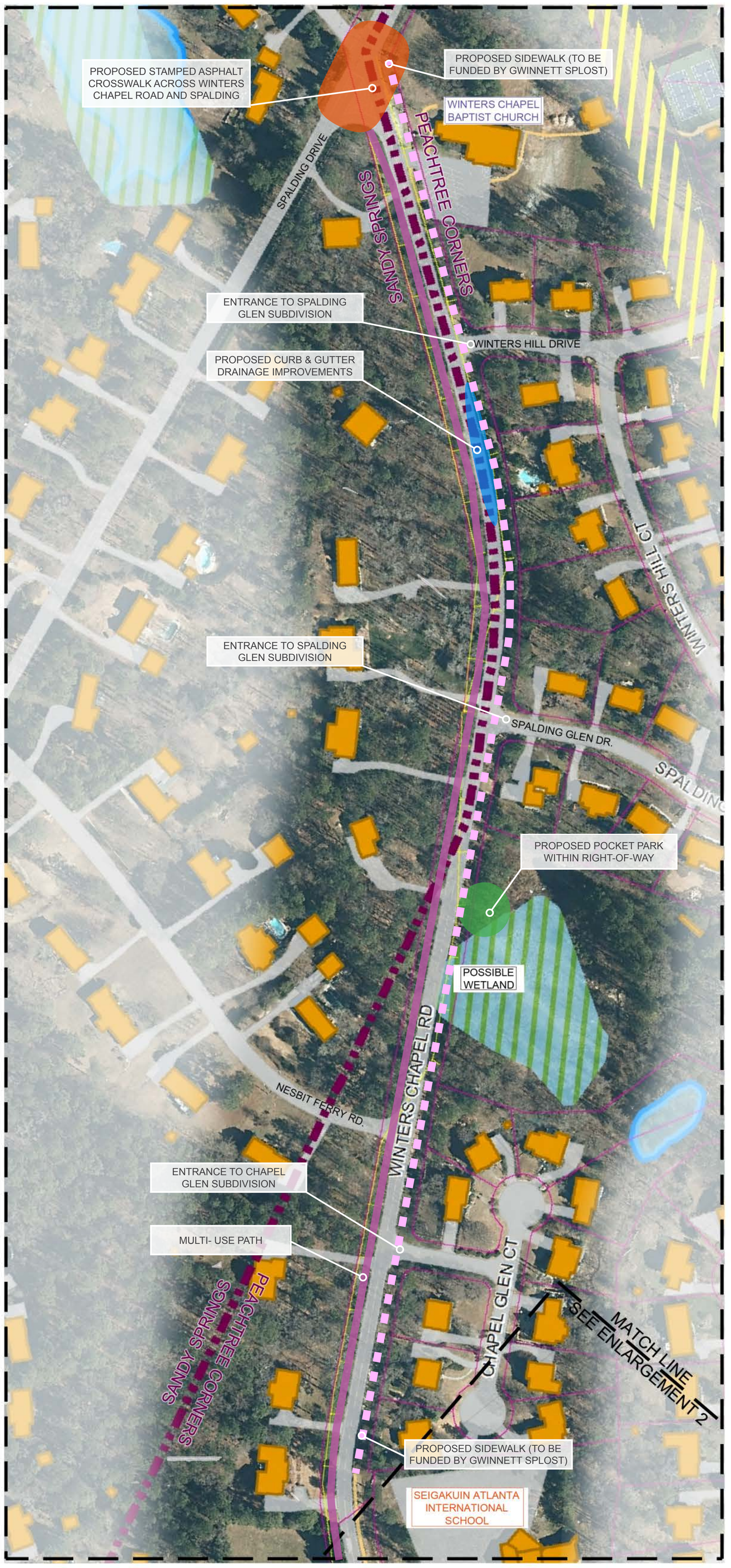
PARK SPACE

- Pocket park in right of way at large property south of Chapel Glen and Spalding Glen on east side of road.

EXAMPLES FOR REFERENCE ONLY

OTHER IMPROVEMENTS

- Drainage improvements south of Winters Hill on east side of roadway.
- Rest areas at regular intervals through corridor on both sides of roadway.
- Street trees at regular intervals through corridor on both sides of roadway.



WINTERS CHAPEL ROAD CORRIDOR

PEACHTREE CORNERS AND DUNWOODY

100 0 100 200

SCALE: 1” = 100’

Legend

- COUNTY BOUNDARY
- BUILDING FOOTPRINT
- SIDEWALK/WALKWAY
- ROAD/DRIVEWAY/ PARKING
- SURFACE WATER
- WETLANDS
- DUNWOODY PARCELS
- PEACHTREE CORNERS PARCELS
- GA POWER EASEMENT
- OVERHEAD POWER LINES
- COLONIAL GAS EASEMENT
- STREAMS
- BUS STOPS
- TRAFFIC SIGNALS
- PROPOSED 12’ MULTI-USE PATH
- PROPOSED SIDEWALK TO BE FUNDED BY OTHERS
- POTENTIAL TRAIL CONNECTION
- PROPOSED PROJECT
- PROPOSED DRAINAGE IMPROVEMENTS
- PROPOSED POCKET PARK
- PROPOSED BUS SHELTER

AREA 2 RECOMMENDATIONS

PEDESTRIAN IMPROVEMENTS

- Sidewalks are being proposed by Gwinnett County SPLOST from Dunwoody Club north to Spalding on the east side of the roadway. ADA curb cut ramps and crosswalks to be included.
- Sidewalks north from Peeler Road to Spalding Drive on west side of roadway are proposed. Minimum 5’ wide with separation from roadway. ADA curb cut ramps and crosswalks to be included.
- Sidewalk connection to future sidewalks planned on north side of Dunwoody Club Drive.
- Striped crosswalk across Winters Chapel and Dunwoody Club Drive with pedestrian signal.
- Consider mid-block crossing across from Congregation Beth Shalom. Additional study required.

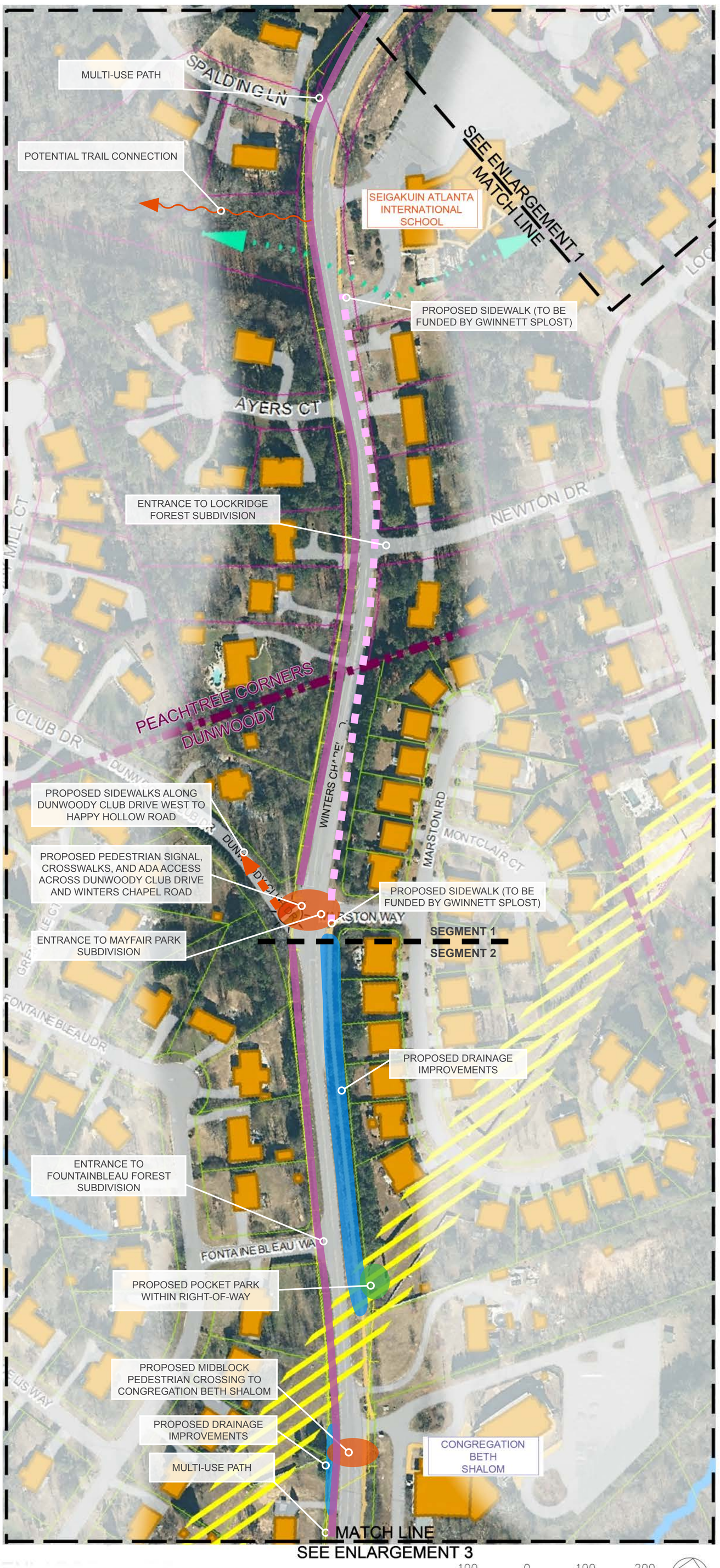
PARK SPACE

- Pocket park in right of way south of Marston Way on east side of road, possibly under power easement.
- Potential trail connection along Colonial Gas Easement west into Dunwoody should be explored.

OTHER IMPROVEMENTS

- Drainage improvements south of Marston Way on east side of road.
- Drainage improvements at power easement north of Congregation Beth Shalom on east side of road
- Drainage improvements across from Congregation Beth Shalom on west side.
- Pedestrian lighting at regular intervals through corridor on both sides of roadway.
- Rest areas at regular intervals through corridor on both sides of roadway.
- Street trees at regular intervals through corridor on both sides of roadway.

KEY PLAN
NTS



100 0 100 200
SCALE: 1” = 100’

WINTERS CHAPEL ROAD CORRIDOR

PEACHTREE CORNERS AND DUNWOODY

Legend

- COUNTY BOUNDARY
- BUILDING FOOTPRINT
- SIDEWALK/WALKWAY
- ROAD/DRIVEWAY/ PARKING
- SURFACE WATER
- WETLANDS
- DUNWOODY PARCELS
- PEACHTREE CORNERS PARCELS
- GA POWER EASEMENT
- OVERHEAD POWER LINES
- COLONIAL GAS EASEMENT
- STREAMS
- BUS STOPS
- TRAFFIC SIGNALS
- PROPOSED 12’ MULTI-USE PATH
- PROPOSED SIDEWALK TO BE FUNDED BY OTHERS
- POTENTIAL TRAIL CONNECTION
- PROPOSED PROJECT
- PROPOSED DRAINAGE IMPROVEMENTS
- PROPOSED POCKET PARK
- PROPOSED BUS SHELTER

AREA 3 RECOMMENDATIONS

PEDESTRIAN IMPROVEMENTS

- Sidewalks north from Peeler Road to Spalding Drive on west side of roadway are proposed. Minimum 5’ wide with separation from roadway. ADA curb cut ramps and crosswalks to be included.

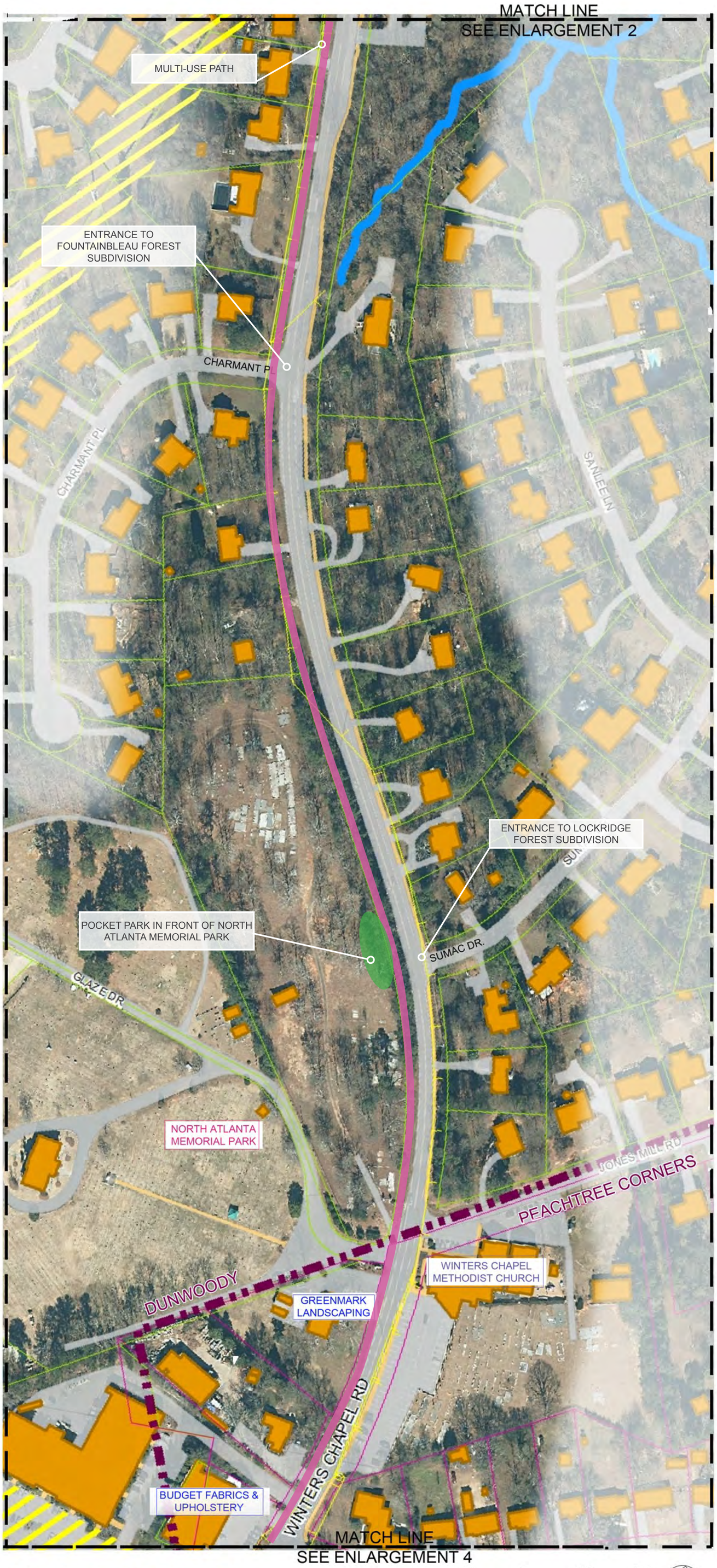
PARK SPACE

- Pocket park in right of way adjacent to North Atlanta Memorial Park

OTHER IMPROVEMENTS

- Pedestrian lighting at regular intervals through corridor on both sides of roadway.
- Rest areas at regular intervals through corridor on both sides of roadway.
- Street trees at regular intervals through corridor on both sides of roadway.

KEY PLAN
NTS



WINTERS CHAPEL ROAD CORRIDOR

PEACHTREE CORNERS AND DUNWOODY

100 0 100 200

SCALE: 1” = 100’

Legend

- COUNTY BOUNDARY
- BUILDING FOOTPRINT
- SIDEWALK/WALKWAY
- ROAD/DRIVEWAY/ PARKING
- SURFACE WATER
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- DUNWOODY PARCELS
- PEACHTREE CORNERS PARCELS
- GA POWER EASEMENT
- OVERHEAD POWER LINES
- COLONIAL GAS EASEMENT
- STREAMS
- BUS STOPS
- TRAFFIC SIGNALS
- PROPOSED 12’ MULTI-USE PATH
- PROPOSED SIDEWALK TO BE FUNDED BY OTHERS
- POTENTIAL TRAIL CONNECTION
- PROPOSED PROJECT
- PROPOSED DRAINAGE IMPROVEMENTS
- PROPOSED POCKET PARK
- PROPOSED BUS SHELTER

AREA 4 RECOMMENDATIONS

PEDESTRIAN IMPROVEMENTS

- Sidewalks north from Peeler Road to Spalding Driveon west side of roadway are proposed. Minimum 5’ wide with separation from roadway. ADA curb cut ramps and crosswalks to be included.
- Sidewalks are being proposed by Peachtree Corners LMIG along the east side of Winters Chapel road in front of water treatment plant north to Winterbrook Court.
- Stamped asphalt crosswalks at the intersection of Peeler Road and Winters Chapel Road.

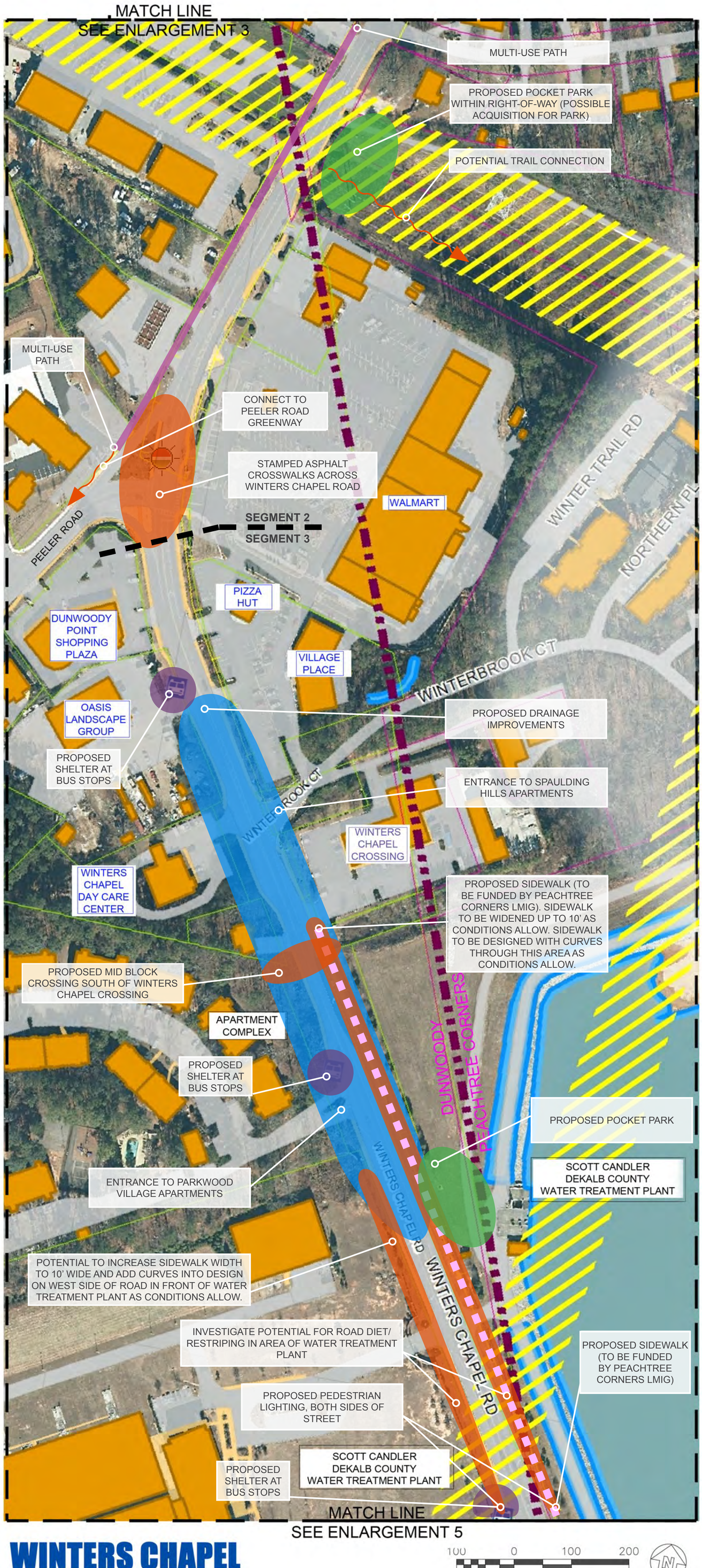
PARK SPACE

- Pocket park within water treatment plant frontage (exact location TBD)
- Investigate potential trail connection along power easement toward Winter Trail Road and apartments.
- Investigate potential trail connection to Peeler Road Greenway

OTHER IMPROVEMENTS

- Bus shelters at bus stops south of Peeler Road on west side of Winters Chapel.
- Drainage improvements extending north and south from Winters Chapel Crossing shopping center.
- Landscaping along water treatment plant frontage on both sides. To be coordinated with Dekalb County due to restricted right of way in some areas.
- Pedestrian lighting at regular intervals through corridor on both sides of roadway.
- Rest areas at regular intervals through corridor on both sides of roadway.
- Street trees at regular intervals through corridor on both sides of roadway.

KEY PLAN
NTS



WINTERS CHAPEL ROAD CORRIDOR

PEACHTREE CORNERS AND DUNWOODY

100 0 100 200

SCALE: 1” = 100’

Legend

- COUNTY BOUNDARY
- BUILDING FOOTPRINT
- SIDEWALK/WALKWAY
- ROAD/DRIVEWAY/ PARKING
- SURFACE WATER
- WETLANDS
- DUNWOODY PARCELS
- PEACHTREE CORNERS PARCELS
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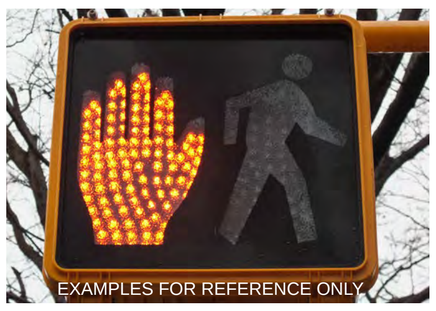
- PROPOSED SIDEWALK TO BE FUNDED BY OTHERS
- POTENTIAL TRAIL CONNECTION
- PROPOSED PROJECT
- PROPOSED DRAINAGE IMPROVEMENTS
- PROPOSED POCKET PARK
- PROPOSED BUS SHELTER

AREA 5 RECOMMENDATIONS

PEDESTRIAN IMPROVEMENTS

- Sidewalks are being proposed by Peachtree Corners LMIG along the east side of Winters Chapel road in front of water treatment plant north to Winterbrook Court.
- Stamped asphalt crosswalk across Winters Chapel at Peachtree Industrial Access Road with pedestrian signals and ADA accommodations. Possible modification of refuge islands.
- Crosswalks across Peachtree Industrial Access Road and underpass with pedestrian signalization (coordinate with GDOT)



EXAMPLES FOR REFERENCE ONLY

LIGHTING

- Pedestrian lighting on both sides of road at regular intervals throughout corridor on both sides of roadway.

EXAMPLES FOR REFERENCE ONLY

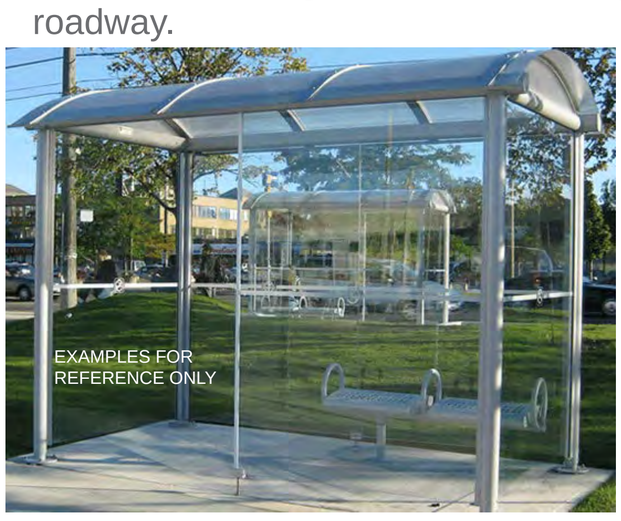
PARK SPACE

- Pocket park within water treatment plant frontage (exact location TBD)
- Pocket park at vacant lot north of Chevron station on west side of road, or acquisition of additional property for park.

EXAMPLES FOR REFERENCE ONLY

OTHER IMPROVEMENTS

- Bus shelters at bus stops south of Peeler Road on west side of Winters Chapel.
- Landscaping along water treatment plant frontage on both sides. To be coordinated with Dekalb County due to restricted right of way.
- Rest areas at regular intervals through corridor on both sides of roadway.
- Street trees at regular intervals through corridor on both sides of roadway.



EXAMPLES FOR REFERENCE ONLY

KEY PLAN
NTS

WINTERS CHAPEL ROAD CORRIDOR

PEACHTREE CORNERS AND DUNWOODY

100 0 100 200

SCALE: 1" = 100'

Legend

- COUNTY BOUNDARY
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- POTENTIAL TRAIL CONNECTION
- PROPOSED PROJECT
- PROPOSED DRAINAGE IMPROVEMENTS
- PROPOSED POCKET PARK
- PROPOSED BUS SHELTER

Attachment B: Cost Estimates

WINTERS CHAPEL ROAD PROPOSED IMPROVEMENTS CONCEPT OPINION OF PROBABLE COST	
OPTION A (Base)	
TOTAL Segment 1, East side of Winters Chapel Rd. (not funded by Gwinnett SPLOST)	$954,761.02
TOTAL Segment 1, West side of Winters Chapel Rd.	$1,752,063.48
TOTAL Segment 2, East side of Winters Chapel Rd.	$1,242,528.90
TOTAL Segment 2, West side of Winters Chapel Rd.	$1,937,831.82
TOTAL Segment 3, East side of Winters Chapel Rd. (not funded by Peachtree Corners LMIG)	$1,277,382.52
TOTAL Segment 3, West side of Winters Chapel Rd.	$1,271,985.30
TOTAL Winters Chapel Road Proposed Improvements	**$8,436,553.04**
Total includes 5% contractor mobilization, 9% design and engineering fees, and 35% concept level contingency.	

WINTERS CHAPEL ROAD PROPOSED IMPROVEMENTS

CONCEPT OPINION OF PROBABLE COST

OPTION A (BASE)

Segment 1, East side of Winters Chapel Rd. (Spalding Drive to south side of intersection at Dunwoody Club Dr.)

ITEM	UNIT	UNIT COST	QUANTITY	EXTENDED COST
TRAFFIC CONTROL				
Traffic Control	HR	$39.40	400	$15,760.00
Traffic Control **(to be funded by Gwinnett SPLOST)**	HR	$39.40	800	$31,520.00
Total Traffic Control (to be funded by Gwinnett SPLOST)				$31,520.00
Total Traffic Control (not funded by Gwinnett SPLOST)				$15,760.00
EROSION CONTROL				
Temporary Silt Fence, Type C **(to be funded by Gwinnett SPLOST)**	LF	$2.79	3175	$8,858.25
Permanent Grassing **(to be funded by Gwinnett SPLOST)**	AC	$793.28	0.75	$594.96
Barrier fence, orange, 4 ft **(to be funded by Gwinnett SPLOST)**	LF	$1.53	3175	$4,857.75
Total Erosion Control (to be funded by Gwinnett SPLOST)				$14,310.96
Total Erosion Control (not funded by Gwinnett SPLOST)				$0.00
DEMOLITION				
Remove existing curb in areas where there is a single curb (price based on selective removal of reinforced concrete curb)	LF	$6.80	0	$0.00
Remove existing curb and gutter (price based on selective removal of reinforced concrete)	LF	$6.10	0	$0.00
Remove existing curb and gutter (price based on selective removal of reinforced concrete) **(to be funded by Gwinnett SPLOST)**	LF	$6.10	400	$2,440.00
Remove existing sidewalk	LF	$11.48	0	$0.00
Clearing and grubbing **(to be funded by Gwinnett SPLOST)**	AC	$5,000.00	1.1	$5,500.00
Total Demolition (to be funded by Gwinnett SPLOST)				$7,940.00
Total Demolition (not funded by Gwinnett SPLOST)				$0.00
ROADWAY IMPROVEMENTS				
Concrete curb and gutter, 6 in x 24 in, TP 2 **(to be funded by Gwinnett SPLOST)**	LF	$21.40	3175	$67,945.00
Sidewalk 4" thick, 4" gravel base, 5' wide	LF	$27.90	0	$0.00
Sidewalk 4" thick, 4" gravel base, 5' wide **(to be funded by Gwinnett SPLOST)**	LF	$27.90	3175	$88,582.50
Retrofit ADA ramp (remove conc sidewalk + new 4" conc sidewalk)	EA	$252.29	0	$0.00
Retrofit ADA ramp **(to be funded by Gwinnett SPLOST)**	EA	$252.29	18	$4,541.13
Integrally colored hot applied synthetic asphalt crosswalks	LF	$112.00	90	$10,080.00
Thermoplastic solid crosswalk stripe, 8 in, white	LF	$8.27	90	$744.66
Thermoplastic solid crosswalk stripe, 8 in, white **(to be funded by Gwinnett SPLOST)**	LF	$8.27	195	$1,613.43
Pedestrian crossing signal assembly	EA	$7,391.67	4	$29,566.68
Drainage structures **(to be funded by Gwinnett SPLOST)**	MI	$278,200.00	0.8	$222,560.00
Allowance for miscellaneous utility relocation **(to be funded by Gwinnett SPLOST)**	Allow	$80,000.00	1	$80,000.00
Total Roadway Improvements (to be funded by Gwinnett SPLOST)				$465,242.06
Total Roadway Improvements (not funded by Gwinnett SPLOST)				$40,391.34
POCKET PARKS				
Bench	EA	$1,500.00	3	$4,500.00
Waste receptacle	EA	$1,000.00	1	$1,000.00
Sidewalk 4" thick, 4" gravel base, 4' wide	LF	$23.05	50	$1,152.50
Landscape treatment	Allow	$11,000.00	1	$11,000.00
Total Pocket Parks				$17,652.50
REST AREAS				
Bench, 6' wide	EA	$1,500.00	4	$6,000.00
Waste receptacle	EA	$1,000.00	4	$4,000.00
Concrete paving stone, 4"x8"x2.5", slab on grade base, asphalt bedding	SF	$17.45	576	$10,051.20
Total Rest Areas				$20,051.20
LANDSCAPE				
3.5" caliper overstory trees every 40'	LF	$13.88	2000	$27,750.00
3.5" caliper medium trees every 40'	LF	$12.63	0	$0.00
2.5" caliper small trees every 30'	LF	$13.83	1895	$26,214.17
Total Landscape				$53,964.17

PEDESTRIAN LIGHTING				
Pedestrian light leased through GA Power, spaced every 40'	EA	$4,000.00	100	$400,000.00
Electrical distribution for pedestrian light poles	LF	$23.24	4000	$92,960.00
Total Pedestrian Lighting				$492,960.00
BUS SHELTERS				
Average price for ones shown, include concrete pad 8'x12' and electrical hookup allowance	EA	$16,573.42	0	$0.00
Total Bus Shelters				$0.00
SUBTOTAL **(to be funded by Gwinnett SPLOST)**				$519,013.02
SUBTOTAL (not funded by Gwinnett SPLOST)				$640,779.21
5% Contractor Mobilization				$32,038.96
9% Design and Engineering				$57,670.13
35% Concept Level Contingency				$224,272.72
TOTAL				**$954,761.02**

Notes:

1. Right of Way Acquisition: Estimates for right of way acquisition have not been included in this estimate. It is anticipated that this project would occur with none to minor amounts of right of way acquisitions being necessary. Temporary/Construction easements may be needed in spot areas. The actual areas of acquisition needed would need to be determined during a schematic phase utilizing field survey information.

2. Utility Relocation: It is anticipated that the sidewalks for this Option would be able to work around most of the utility structures. Some utility relocation may be necessary and an allowance for that relocation has been included in this estimate. Actual costs will depend upon the specific streetscape features and assessments of the utility companies.

3. Pricing estimate for LMIG and SPLOST projects are approximate. Actual estimates to be confirmed by Peachtree Corners.

WINTERS CHAPEL ROAD PROPOSED IMPROVEMENTS

CONCEPT OPINION OF PROBABLE COST

OPTION A (BASE)

Segment 1, West side of Winters Chapel Rd. (Spalding Drive to south side of intersection at Dunwoody Club Dr.)

ITEM	UNIT	UNIT COST	QUANTITY	EXTENDED COST
TRAFFIC CONTROL				
Traffic Control	HR	$39.40	1200	$47,280.00
Total Traffic Control				$47,280.00
EROSION CONTROL				
Temporary Silt Fence, Type C	LF	$2.79	3630	$10,127.70
Permanent Grassing	AC	$793.28	0.85	$674.29
Barrier fence, orange, 4 ft	LF	$1.53	3630	$5,553.90
Total Erosion Control				$16,355.89
DEMOLITION				
Remove existing curb in areas where there is a single curb (price based on selective removal of reinforced concrete curb)	LF	$6.80	0	$0.00
Remove existing curb and gutter (price based on selective removal of reinforced concrete)	LF	$6.10	560	$3,416.00
Remove existing sidewalk	LF	$11.48	0	$0.00
Clearing and grubbing	AC	$5,000.00	1.25	$6,250.00
Total Demolition				$9,666.00
ROADWAY IMPROVEMENTS				
Concrete curb and gutter, 6 in x 24 in, TP 2	LF	$21.40	3630	$77,682.00
Sidewalk 4" thick, 4" gravel base, 5' wide	LF	$27.90	3630	$101,277.00
Retrofit ADA ramp (remove conc sidewalk + new 4" conc sidewalk)	EA	$252.29	36	$9,082.26
Integrally colored hot applied synthetic asphalt crosswalks	LF	$112.00	65	$7,280.00
Thermoplastic solid crosswalk stripe, 8 in, white	LF	$8.27	238	$1,969.21
Pedestrian crossing signal assembly	EA	$7,391.67	4	$29,566.68
Reset guardrail	LF	$25.45	245	$6,235.25
Drainage structures	MI	$278,200.00	0.8	$222,560.00
Allowance for miscellaneous utility relocation	Allow	$80,000.00	1	$80,000.00
Total Roadway Improvements				$535,652.40
POCKET PARKS				
Bench	EA	$1,500.00	0	$0.00
Waste receptacle	EA	$1,000.00	0	$0.00
Sidewalk 4" thick, 4" gravel base, 4' wide	LF	$23.05	0	$0.00
Landscape treatment	Allow	$11,000.00	0	$0.00
Total Pocket Parks				$0.00
REST AREAS				
Bench, 6' wide	EA	$1,500.00	4	$6,000.00
Waste receptacle	EA	$1,000.00	4	$4,000.00
Concrete paving stone, 4"x8"x2.5", slab on grade base, asphalt bedding	SF	$17.45	576	$10,051.20
Total Rest Areas				$20,051.20
LANDSCAPE				
3.5" caliper overstory trees every 40'	LF	$13.88	845	$11,724.38
3.5" caliper medium trees every 40'	LF	$12.63	0	$0.00
2.5" caliper small trees every 30'	LF	$13.83	3050	$42,191.67
Total Landscape				$53,916.04
PEDESTRIAN LIGHTING				
Pedestrian light leased through GA Power, spaced every 40'	EA	$4,000.00	100	$400,000.00
Electrical distribution for pedestrian light poles	LF	$23.24	4000	$92,960.00
Total Pedestrian Lighting				$492,960.00
BUS SHELTERS				
Average price for ones shown, include concrete pad 8'x12' and electrical hookup allowance	EA	$16,573.42	0	$0.00
Total Bus Shelters				$0.00

SUBTOTAL				$1,175,881.53
5% Contractor Mobilization				$58,794.08
9% Design and Engineering				$105,829.34
35% Concept Level Contingency				$411,558.54
TOTAL				**$1,752,063.48**

Notes:

1. Right of Way Acquisition: Estimates for right of way acquisition have not been included in this estimate. It is anticipated that this project would occur with none to minor amounts of right of way acquisitions being necessary. Temporary/Construction easements may be needed in spot areas. The actual areas of acquisition needed would need to be determined during a schematic phase utilizing field survey information.

2. Utility Relocation: It is anticipated that the sidewalks for this Option would be able to work around most of the utility structures. Some utility relocation may be necessary and an allowance for that relocation has been included in this estimate. Actual costs will depend upon the specific streetscape features and assessments of the utility companies.

3. Pricing estimate for LMIG and SPLOST projects are approximate. Actual estimates to be confirmed by Peachtree Corners

WINTERS CHAPEL ROAD PROPOSED IMPROVEMENTS

CONCEPT OPINION OF PROBABLE COST

OPTION A (BASE)

Segment 2, East side of Winters Chapel Rd. (Dunwoody Club Dr. to south side of intersection at Peeler Rd.)

ITEM	UNIT	UNIT COST	QUANTITY	EXTENDED COST
TRAFFIC CONTROL				
Traffic Control	HR	$39.40	400	$15,760.00
Total Traffic Control				$15,760.00
EROSION CONTROL				
Temporary Silt Fence, Type C	LF	$2.79	675	$1,883.25
Permanent Grassing	AC	$793.28	0.2	$158.66
Barrier fence, orange, 4 ft	LF	$1.53	675	$1,032.75
Total Erosion Control				$3,074.66
DEMOLITION				
Remove existing curb in areas where there is a single curb (price based on selective removal of reinforced concrete curb)	LF	$6.80	0	$0.00
Remove existing curb and gutter (price based on selective removal of reinforced concrete)	LF	$6.10	0	$0.00
Remove existing sidewalk	LF	$11.48	0	$0.00
Clearing and grubbing	AC	$5,000.00	0	$0.00
Total Demolition				$0.00
ROADWAY IMPROVEMENTS				
Concrete curb and gutter, 6 in x 24 in, TP 2	LF	$21.40	675	$14,445.00
Sidewalk 4" thick, 4" gravel base, 5' wide	LF	$27.90	0	$0.00
Retrofit ADA ramp (remove conc sidewalk + new 4" conc sidewalk)	EA	$252.29	0	$0.00
Integrally colored hot applied synthetic asphalt crosswalks	LF	$112.00	90	$10,080.00
Thermoplastic solid crosswalk stripe, 8 in, white	LF	$8.27	85	$703.29
Mid block pedestrian crossing at Beth Shalom (thermoplastic crosswalk only)	LF	$8.27	18	$148.93
Pedestrian crossing signal assembly	EA	$7,391.67	0	$0.00
Drainage structures	MI	$278,200.00	0.25	$69,550.00
Allowance for miscellaneous utility relocation	Allow	$80,000.00	0.5	$40,000.00
Total Roadway Improvements				$134,927.22
POCKET PARKS				
Bench	EA	$1,500.00	6	$9,000.00
Waste receptacle	EA	$1,000.00	2	$2,000.00
Sidewalk 4" thick, 4" gravel base, 4' wide	LF	$23.05	100	$2,305.00
Landscape treatment	Allow	$11,000.00	2	$22,000.00
Total Pocket Parks				$35,305.00
REST AREAS				
Bench, 6' wide	EA	$1,500.00	6	$9,000.00
Waste receptacle	EA	$1,000.00	6	$6,000.00
Concrete paving stone, 4"x8"x2.5", slab on grade base, asphalt bedding	SF	$17.45	864	$15,076.80
Total Rest Areas				$30,076.80
LANDSCAPE				
3.5" caliper overstory trees every 40'	LF	$13.88	1840	$25,530.00
3.5" caliper medium trees every 40'	LF	$12.63	0	$0.00
2.5" caliper small trees every 30'	LF	$13.83	2650	$36,658.33
Total Landscape				$62,188.33
PEDESTRIAN LIGHTING				
Pedestrian light leased through GA Power, spaced every 40'	EA	$4,000.00	112	$448,000.00
Electrical distribution for pedestrian light poles	LF	$23.24	4500	$104,580.00
Total Pedestrian Lighting				$552,580.00
BUS SHELTERS				
Average price for ones shown, include concrete pad 8'x12' and electrical hookup allowance	EA	$16,573.42	0	$0.00
Total Bus Shelters				$0.00

SUBTOTAL				$833,912.01
5% Contractor Mobilization				$41,695.60
9% Design and Engineering				$75,052.08
35% Concept Level Contingency				$291,869.20
TOTAL				**$1,242,528.90**

Notes:

1. Right of Way Acquisition: Estimates for right of way acquisition have not been included in this estimate. It is anticipated that this project would occur with none to minor amounts of right of way acquisitions being necessary. Temporary/Construction easements may be needed in spot areas. The actual areas of acquisition needed would need to be determined during a schematic phase utilizing field survey information.

2. Utility Relocation: It is anticipated that the sidewalks for this Option would be able to work around most of the utility structures. Some utility relocation may be necessary and an allowance for that relocation has been included in this estimate. Actual costs will depend upon the specific streetscape features and assessments of the utility companies.

3. Pricing estimate for LMIG and SPLOST projects are approximate. Actual estimates to be confirmed by Peachtree Corners.

WINTERS CHAPEL ROAD PROPOSED IMPROVEMENTS

CONCEPT OPINION OF PROBABLE COST

OPTION A (BASE)

Segment 2, West side of Winters Chapel Rd. (Dunwoody Club Dr. to south side of intersection at Peeler Rd.)

ITEM	UNIT	UNIT COST	QUANTITY	EXTENDED COST
TRAFFIC CONTROL				
Traffic Control	HR	$39.40	1200	$47,280.00
Total Traffic Control				$47,280.00
EROSION CONTROL				
Temporary Silt Fence, Type C	LF	$2.79	3975	$11,090.25
Permanent Grassing	AC	$793.28	0.95	$753.62
Barrier fence, orange, 4 ft	LF	$1.53	3975	$6,081.75
Total Erosion Control				$17,925.62
DEMOLITION				
Remove existing curb in areas where there is a single curb (price based on selective removal of reinforced concrete curb)	LF	$6.80	1175	$7,990.00
Remove existing curb and gutter (price based on selective removal of reinforced concrete)	LF	$6.10	605	$3,690.50
Remove existing sidewalk	LF	$11.48	0	$0.00
Clearing and grubbing	AC	$5,000.00	1.4	$7,000.00
Total Demolition				$18,680.50
ROADWAY IMPROVEMENTS				
Concrete curb and gutter, 6 in x 24 in, TP 2	LF	$21.40	3975	$85,065.00
Sidewalk 4" thick, 4" gravel base, 5' wide	LF	$27.90	3975	$110,902.50
Retrofit ADA ramp (remove conc sidewalk + new 4" conc sidewalk)	EA	$252.29	37	$9,334.55
Integrally colored hot applied synthetic asphalt crosswalks	LF	$112.00	130	$14,560.00
Thermoplastic solid crosswalk stripe, 8 in, white	LF	$8.27	460	$3,806.04
Mid block pedestrian crossing at Beth Shalom (thermoplastic crosswalk only)	LF	$8.27	18	$148.93
Pedestrian crossing signal assembly	EA	$7,391.67	0	$0.00
Drainage structures	MI	$278,200.00	0.9	$250,380.00
Allowance for miscellaneous utility relocation	Allow	$80,000.00	1	$80,000.00
Total Roadway Improvements				$554,197.02
POCKET PARKS				
Bench	EA	$1,500.00	3	$4,500.00
Waste receptacle	EA	$1,000.00	1	$1,000.00
Sidewalk 4" thick, 4" gravel base, 4' wide	LF	$23.05	50	$1,152.50
Landscape treatment	Allow	$11,000.00	1	$11,000.00
Total Pocket Parks				$17,652.50
REST AREAS				
Bench, 6' wide	EA	$1,500.00	6	$9,000.00
Waste receptacle	EA	$1,000.00	6	$6,000.00
Concrete paving stone, 4"x8"x2.5", slab on grade base, asphalt bedding	SF	$17.45	864	$15,076.80
Total Rest Areas				$30,076.80
LANDSCAPE				
3.5" caliper overstory trees every 40'	LF	$13.88	1300	$18,037.50
3.5" caliper medium trees every 40'	LF	$12.63	0	$0.00
2.5" caliper small trees every 30'	LF	$13.83	3190	$44,128.33
Total Landscape				$62,165.83
PEDESTRIAN LIGHTING				
Pedestrian light leased through GA Power, spaced every 40'	EA	$4,000.00	112	$448,000.00
Electrical distribution for pedestrian light poles	LF	$23.24	4500	$104,580.00
Total Pedestrian Lighting				$552,580.00
BUS SHELTERS				
Average price for ones shown, include concrete pad 8'x12' and electrical hookup allowance	EA	$16,573.42	0	$0.00
Total Bus Shelters				$0.00

SUBTOTAL				$1,300,558.27
5% Contractor Mobilization				$65,027.91
9% Design and Engineering				$117,050.24
35% Concept Level Contingency				$455,195.39
TOTAL				**$1,937,831.82**

Notes:

1. Right of Way Acquisition: Estimates for right of way acquisition have not been included in this estimate. It is anticipated that this project would occur with none to minor amounts of right of way acquisitions being necessary. Temporary/Construction easements may be needed in spot areas. The actual areas of acquisition needed would need to be determined during a schematic phase utilizing field survey information.

2. Utility Relocation: It is anticipated that the sidewalks for this Option would be able to work around most of the utility structures. Some utility relocation may be necessary and an allowance for that relocation has been included in this estimate. Actual costs will depend upon the specific streetscape features and assessments of the utility companies.

3. Pricing estimate for LMIG and SPLOST projects are approximate. Actual estimates to be confirmed by Peachtree Corners.

WINTERS CHAPEL ROAD PROPOSED IMPROVEMENTS

CONCEPT OPINION OF PROBABLE COST

OPTION A (BASE)

Segment 3, East side of Winters Chapel Rd. (Peeler Rd. to south side of intersection at Peachtree Industrial Blvd.)

ITEM	UNIT	UNIT COST	QUANTITY	EXTENDED COST
TRAFFIC CONTROL				
Traffic Control	HR	$39.40	200	$7,880.00
Traffic Control **(to be funded by Peachtree Corners LMIG)**	HR	$39.40	600	$23,640.00
Total Traffic Control (to be funded by Peachtree Corners LMIG)				$23,640.00
Total Traffic Control (not funded by Peachtree Corners LMIG)				$7,880.00
EROSION CONTROL				
Temporary Silt Fence, Type C **(to be funded by Peachtree Corners LMIG)**	LF	$2.79	2675	$7,463.25
Permanent Grassing **(to be funded by Peachtree Corners LMIG)**	AC	$793.28	0.65	$515.63
Barrier fence, orange, 4 ft **(to be funded by Peachtree Corners LMIG)**	LF	$1.53	2675	$4,092.75
Total Erosion Control (to be funded by Peachtree Corners LMIG)				$12,071.63
Total Erosion Control (not funded by Peachtree Corners LMIG)				$0.00
DEMOLITION				
Remove existing curb in areas where there is a single curb (price based on selective removal of reinforced concrete curb)	LF	$6.80	0	$0.00
Remove existing curb and gutter (price based on selective removal of reinforced concrete)	LF	$6.10	0	$0.00
Remove existing curb and gutter (price based on selective removal of reinforced concrete) **(to be funded by Peachtree Corners LMIG)**	LF	$6.10	2675	$16,317.50
Remove existing sidewalk	LF	$11.48	0	$0.00
Clearing and grubbing **(to be funded by Peachtree Corners LMIG)**	AC	$5,000.00	0.95	$4,750.00
Total Demolition (to be funded by Peachtree Corners LMIG)				$21,067.50
Total Demolition (not funded by Peachtree Corners LMIG)				$0.00
ROADWAY IMPROVEMENTS				
Concrete curb and gutter, 6 in x 24 in, TP 2 **(to be funded by Peachtree Corners LMIG)**	LF	$21.40	2675	$57,245.00
Sidewalk 4" thick, 4" gravel base, 5' wide	LF	$27.90	0	$0.00
Sidewalk 4" thick, 4" gravel base, 5' wide **(to be funded by Peachtree Corners LMIG)**	LF	$27.90	2675	$74,632.50
Retrofit ADA ramp (remove conc sidewalk + new 4" conc sidewalk)	EA	$252.29	8	$2,018.28
Retrofit ADA ramp **(to be funded by Peachtree Corners LMIG)**	EA	$252.29	49	$12,361.97
Integrally colored hot applied synthetic asphalt crosswalks	LF	$112.00	175	$19,600.00
Thermoplastic solid crosswalk stripe, 8 in, white	LF	$8.27	0	$0.00
Thermoplastic solid crosswalk stripe, 8 in, white **(to be funded by Peachtree Corners LMIG)**	LF	$8.27	210	$1,737.54
Mid block pedestrian crossing at Womack Dr. (thermoplastic crosswalk only)	LF	$8.27	20	$165.48
Pedestrian crossing signal assembly	EA	$7,391.67	4	$29,566.68
Drainage structures **(to be funded by Peachtree Corners LMIG)**	MI	$278,200.00	0.5	$139,100.00
Allowance for drainage improvements	Allow	$80,000.00	1	$80,000.00
Allowance for miscellaneous utility relocation **(to be funded by Peachtree Corners LMIG)**	Allow	$80,000.00	1	$80,000.00
Total Roadway Improvements (to be funded by Peachtree Corners LMIG)				$365,077.01
Total Roadway Improvements (not funded by Peachtree Corners LMIG)				$131,350.44
POCKET PARKS				
Bench	EA	$1,500.00	0	$0.00
Waste receptacle	EA	$1,000.00	0	$0.00
Sidewalk 4" thick, 4" gravel base, 4' wide	LF	$23.05	0	$0.00
Landscape treatment	Allow	$11,000.00	0	$0.00
Total Pocket Parks				$0.00
REST AREAS				
Bench, 6' wide	EA	$1,500.00	8	$12,000.00
Waste receptacle	EA	$1,000.00	8	$8,000.00
Concrete paving stone, 4"x8"x2.5", slab on grade base, asphalt bedding	SF	$17.45	1152	$20,102.40
Total Rest Areas				$40,102.40

LANDSCAPE				
3.5" caliper overstory trees every 40'	LF	$13.88	0	$0.00
3.5" caliper medium trees every 40'	LF	$12.63	0	$0.00
2.5" caliper small trees, landscape enhancement areas, 12 trees per 100 LF	LF	$49.78	1350	$67,203.00
2.5" caliper small trees every 30'	LF	$13.83	2900	$40,116.67
6x26 landscape beds, landscape enhancement areas	EA	$1,684.18	40	$67,367.20
Total Landscape				$174,686.87
PEDESTRIAN LIGHTING				
Pedestrian light leased through GA Power, spaced every 40'	EA	$4,000.00	102	$408,000.00
Electrical distribution for pedestrian light poles	LF	$23.24	4100	$95,284.00
Total Pedestrian Lighting				$503,284.00
BUS SHELTERS				
Average price for ones shown, include concrete pad 8'x12' and electrical hookup allowance	EA	$16,573.42	0	$0.00
Total Bus Shelters				$0.00
SUBTOTAL **(to be funded by Peachtree Corners LMIG)**				$421,856.14
SUBTOTAL (not funded by Peachtree Corners LMIG)				$857,303.71
5% Contractor Mobilization				$42,865.19
9% Design and Engineering				$77,157.33
35% Concept Level Contingency				$300,056.30
TOTAL				**$1,277,382.52**

Notes:

1. Right of Way Acquisition: Estimates for right of way acquisition have not been included in this estimate. It is anticipated that this project would occur with none to minor amounts of right of way acquisitions being necessary. Temporary/Construction easements may be needed in spot areas. The actual areas of acquisition needed would need to be determined during a schematic phase utilizing field survey information.

2. Utility Relocation: It is anticipated that the sidewalks for this Option would be able to work around most of the utility structures. Some utility relocation may be necessary and an allowance for that relocation has been included in this estimate. Actual costs will depend upon the specific streetscape features and assessments of the utility companies.

3. Pricing estimate for LMIG and SPLOST projects are approximate. Actual estimates to be confirmed by Peachtree Corners.

WINTERS CHAPEL ROAD PROPOSED IMPROVEMENTS

CONCEPT OPINION OF PROBABLE COST

OPTION A (BASE)

Segment 3, West side of Winters Chapel Rd. (Peeler Rd. to south side of intersection at Peachtree Industrial Blvd.)

ITEM	UNIT	UNIT COST	QUANTITY	EXTENDED COST
TRAFFIC CONTROL				
Traffic Control	HR	$39.40	400	$15,760.00
Total Traffic Control				$15,760.00
EROSION CONTROL				
Temporary Silt Fence, Type C	LF	$2.79	0	$0.00
Permanent Grassing	AC	$793.28	0	$0.00
Barrier fence, orange, 4 ft	LF	$1.53	0	$0.00
Total Erosion Control				$0.00
DEMOLITION				
Remove existing curb in areas where there is a single curb (price based on selective removal of reinforced concrete curb)	LF	$6.80	0	$0.00
Remove existing curb and gutter (price based on selective removal of reinforced concrete)	LF	$6.10	0	$0.00
Remove existing sidewalk	LF	$11.48	0	$0.00
Clearing and grubbing	AC	$5,000.00	0	$0.00
Total Demolition				$0.00
ROADWAY IMPROVEMENTS				
Concrete curb and gutter, 6 in x 24 in, TP 2	LF	$21.40	0	$0.00
Sidewalk 4" thick, 4" gravel base, 5' wide	LF	$27.90	0	$0.00
Retrofit ADA ramp (remove conc sidewalk + new 4" conc sidewalk)	EA	$252.29	12	$3,027.42
Integrally colored hot applied synthetic asphalt crosswalks	LF	$112.00	190	$21,280.00
Thermoplastic solid crosswalk stripe, 8 in, white	LF	$8.27	275	$2,275.35
Mid block pedestrian crossing at Womack Dr. (thermoplastic crosswalk only)	LF	$8.27	20	$165.48
Pedestrian crossing signal assembly	EA	$7,391.67	3	$22,175.01
Drainage structures	MI	$278,200.00	0.25	$69,550.00
Allowance for miscellaneous utility relocation	Allow	$80,000.00	0	$0.00
Total Roadway Improvements				$118,473.26
POCKET PARKS				
Bench	EA	$1,500.00	3	$4,500.00
Waste receptacle	EA	$1,000.00	1	$1,000.00
Sidewalk 4" thick, 4" gravel base, 4' wide	LF	$23.05	50	$1,152.50
Landscape treatment	Allow	$11,000.00	1	$11,000.00
Total Pocket Parks				$17,652.50
REST AREAS				
Bench, 6' wide	EA	$1,500.00	8	$12,000.00
Waste receptacle	EA	$1,000.00	8	$8,000.00
Concrete paving stone, 4"x8"x2.5", slab on grade base, asphalt bedding	SF	$17.45	1152	$20,102.40
Total Rest Areas				$40,102.40
LANDSCAPE				
3.5" caliper overstory trees every 40'	LF	$13.88	4250	$58,968.75
3.5" caliper medium trees every 40'	LF	$12.63	0	$0.00
2.5" caliper small trees every 30'	LF	$13.83	0	$0.00
Total Landscape				$58,968.75
PEDESTRIAN LIGHTING				
Pedestrian light leased through GA Power, spaced every 40'	EA	$4,000.00	102	$408,000.00
Electrical distribution for pedestrian light poles	LF	$23.24	4100	$95,284.00
Total Pedestrian Lighting				$503,284.00
BUS SHELTERS				
Average price for ones shown, include concrete pad 8'x12' and electrical hookup allowance	EA	$16,573.42	6	$99,440.50
Total Bus Shelters				$99,440.50

SUBTOTAL				$853,681.41
5% Contractor Mobilization				$42,684.07
9% Design and Engineering				$76,831.33
35% Concept Level Contingency				$298,788.49
TOTAL				**$1,271,985.30**

Notes:

1. Right of Way Acquisition: Estimates for right of way acquisition have not been included in this estimate. It is anticipated that this project would occur with none to minor amounts of right of way acquisitions being necessary. Temporary/Construction easements may be needed in spot areas. The actual areas of acquisition needed would need to be determined during a schematic phase utilizing field survey information.

2. Utility Relocation: It is anticipated that the sidewalks for this Option would be able to work around most of the utility structures. Some utility relocation may be necessary and an allowance for that relocation has been included in this estimate. Actual costs will depend upon the specific streetscape features and assessments of the utility companies.

3. Pricing estimate for LMIG and SPLOST projects are approximate. Actual estimates to be confirmed by Peachtree Corners.

WINTERS CHAPEL ROAD PROPOSED IMPROVEMENTS CONCEPT OPINION OF PROBABLE COST	
OPTION B (1)	
TOTAL Segment 1, East side of Winters Chapel Rd. (not funded by Gwinnett SPLOST)	$954,761.02
TOTAL Segment 1, West side of Winters Chapel Rd.	$1,752,063.48
TOTAL Segment 2, East side of Winters Chapel Rd.	$1,242,528.90
TOTAL Segment 2, West side of Winters Chapel Rd.	$2,201,491.04
TOTAL Segment 3, East side of Winters Chapel Rd. (not funded by Peachtree Corners LMIG)	$1,277,382.52
TOTAL Segment 3, West side of Winters Chapel Rd.	$1,271,985.30
TOTAL Winters Chapel Road Proposed Improvements	**$8,700,212.27**
Total includes 5% contractor mobilization, 9% design and engineering fees, and 35% concept level contingency.	

WINTERS CHAPEL ROAD PROPOSED IMPROVEMENTS

CONCEPT OPINION OF PROBABLE COST

OPTION B (1)*

Segment 1, East side of Winters Chapel Rd. (Spalding Drive to south side of intersection at Dunwoody Club Dr.)

**Option B (1): All of Option A, and change the sidewalk on the west side from Peeler Rd. to Fontainebleau Way to a 10' wide multi-use path.*

ITEM	UNIT	UNIT COST	QUANTITY	EXTENDED COST
TRAFFIC CONTROL				
Traffic Control	HR	$39.40	400	$15,760.00
Traffic Control **(to be funded by Gwinnett SPLOST)**	HR	$39.40	800	$31,520.00
Total Traffic Control (to be funded by Gwinnett SPLOST)				$31,520.00
Total Traffic Control (not funded by Gwinnett SPLOST)				$15,760.00
EROSION CONTROL				
Temporary Silt Fence, Type C **(to be funded by Gwinnett SPLOST)**	LF	$2.79	3175	$8,858.25
Permanent Grassing **(to be funded by Gwinnett SPLOST)**	AC	$793.28	0.75	$594.96
Barrier fence, orange, 4 ft **(to be funded by Gwinnett SPLOST)**	LF	$1.53	3175	$4,857.75
Total Erosion Control (to be funded by Gwinnett SPLOST)				$14,310.96
Total Erosion Control (not funded by Gwinnett SPLOST)				$0.00
DEMOLITION				
Remove existing curb in areas where there is a single curb (price based on selective removal of reinforced concrete curb)	LF	$6.80	0	$0.00
Remove existing curb and gutter (price based on selective removal of reinforced concrete)	LF	$6.10	0	$0.00
Remove existing curb and gutter (price based on selective removal of reinforced concrete) **(to be funded by Gwinnett SPLOST)**	LF	$6.10	400	$2,440.00
Remove existing sidewalk	LF	$11.48	0	$0.00
Clearing and grubbing **(to be funded by Gwinnett SPLOST)**	AC	$5,000.00	1.1	$5,500.00
Total Demolition (to be funded by Gwinnett SPLOST)				$7,940.00
Total Demolition (not funded by Gwinnett SPLOST)				$0.00
ROADWAY IMPROVEMENTS				
Concrete curb and gutter, 6 in x 24 in, TP 2 **(to be funded by Gwinnett SPLOST)**	LF	$21.40	3175	$67,945.00
Sidewalk 4" thick, 4" gravel base, 5' wide	LF	$27.90	0	$0.00
Sidewalk 4" thick, 4" gravel base, 5' wide **(to be funded by Gwinnett SPLOST)**	LF	$27.90	3175	$88,582.50
Retrofit ADA ramp (remove conc sidewalk + new 4" conc sidewalk)	EA	$252.29	0	$0.00
Retrofit ADA ramp **(to be funded by Gwinnett SPLOST)**	EA	$252.29	18	$4,541.13
Integrally colored hot applied synthetic asphalt crosswalks	LF	$112.00	90	$10,080.00
Thermoplastic solid crosswalk stripe, 8 in, white	LF	$8.27	90	$744.66
Thermoplastic solid crosswalk stripe, 8 in, white **(to be funded by Gwinnett SPLOST)**	LF	$8.27	195	$1,613.43
Pedestrian crossing signal assembly	EA	$7,391.67	4	$29,566.68
Drainage structures **(to be funded by Gwinnett SPLOST)**	MI	$278,200.00	0.8	$222,560.00
Allowance for miscellaneous utility relocation **(to be funded by Gwinnett SPLOST)**	Allow	$80,000.00	1	$80,000.00
Total Roadway Improvements (to be funded by Gwinnett SPLOST)				$465,242.06
Total Roadway Improvements (not funded by Gwinnett SPLOST)				$40,391.34
POCKET PARKS				
Bench	EA	$1,500.00	3	$4,500.00
Waste receptacle	EA	$1,000.00	1	$1,000.00
Sidewalk 4" thick, 4" gravel base, 4' wide	LF	$23.05	50	$1,152.50
Landscape treatment	Allow	$11,000.00	1	$11,000.00
Total Pocket Parks				$17,652.50
REST AREAS				
Bench, 6' wide	EA	$1,500.00	4	$6,000.00
Waste receptacle	EA	$1,000.00	4	$4,000.00
Concrete paving stone, 4"x8"x2.5", slab on grade base, asphalt bedding	SF	$17.45	576	$10,051.20
Total Rest Areas				$20,051.20
LANDSCAPE				
3.5" caliper overstory trees every 40'	LF	$13.88	2000	$27,750.00
3.5" caliper medium trees every 40'	LF	$12.63	0	$0.00
2.5" caliper small trees every 30'	LF	$13.83	1895	$26,214.17
Total Landscape				$53,964.17

PEDESTRIAN LIGHTING				
Pedestrian light leased through GA Power, spaced every 40'	EA	$4,000.00	100	$400,000.00
Electrical distribution for pedestrian light poles	LF	$23.24	4000	$92,960.00
Total Pedestrian Lighting				$492,960.00
BUS SHELTERS				
Average price for ones shown, include concrete pad 8'x12' and electrical hookup allowance	EA	$16,573.42	0	$0.00
Total Bus Shelters				$0.00
SUBTOTAL **(to be funded by Gwinnett SPLOST)**				$519,013.02
SUBTOTAL (not funded by Gwinnett SPLOST)				$640,779.21
5% Contractor Mobilization				$32,038.96
9% Design and Engineering				$57,670.13
35% Concept Level Contingency				$224,272.72
TOTAL				**$954,761.02**

Notes:

1. Right of Way Acquisition: Estimates for right of way acquisition have not been included in this estimate. It is anticipated that this project would occur with none to minor amounts of right of way acquisitions being necessary. Temporary/Construction easements may be needed in spot areas. The actual areas of acquisition needed would need to be determined during a schematic phase utilizing field survey information.

2. Utility Relocation: It is anticipated that some utility relocation will be necessary and an allowance for that relocation has been included in this estimate. Actual costs will depend upon the specific streetscape features and assessments of the utility companies.

3. Pricing estimate for LMIG and SPLOST projects are approximate. Actual estimates to be confirmed by Peachtree Corners.

WINTERS CHAPEL ROAD PROPOSED IMPROVEMENTS

CONCEPT OPINION OF PROBABLE COST

OPTION B (1)*

Segment 1, West side of Winters Chapel Rd. (Spalding Drive to south side of intersection at Dunwoody Club Dr.)

**Option B (1): All of Option A, and change the sidewalk on the west side from Peeler Rd. to Fontainebleau Way to a 10' wide multi-use path.*

ITEM	UNIT	UNIT COST	QUANTITY	EXTENDED COST
TRAFFIC CONTROL				
Traffic Control	HR	$39.40	1200	$47,280.00
Total Traffic Control				$47,280.00
EROSION CONTROL				
Temporary Silt Fence, Type C	LF	$2.79	3630	$10,127.70
Permanent Grassing	AC	$793.28	0.85	$674.29
Barrier fence, orange, 4 ft	LF	$1.53	3630	$5,553.90
Total Erosion Control				$16,355.89
DEMOLITION				
Remove existing curb in areas where there is a single curb (price based on selective removal of reinforced concrete curb)	LF	$6.80	0	$0.00
Remove existing curb and gutter (price based on selective removal of reinforced concrete)	LF	$6.10	560	$3,416.00
Remove existing sidewalk	LF	$11.48	0	$0.00
Clearing and grubbing	AC	$5,000.00	1.25	$6,250.00
Total Demolition				$9,666.00
ROADWAY IMPROVEMENTS				
Concrete curb and gutter, 6 in x 24 in, TP 2	LF	$21.40	3630	$77,682.00
Sidewalk 4" thick, 4" gravel base, 5' wide	LF	$27.90	3630	$101,277.00
Retrofit ADA ramp (remove conc sidewalk + new 4" conc sidewalk)	EA	$252.29	36	$9,082.26
Integrally colored hot applied synthetic asphalt crosswalks	LF	$112.00	65	$7,280.00
Thermoplastic solid crosswalk stripe, 8 in, white	LF	$8.27	238	$1,969.21
Pedestrian crossing signal assembly	EA	$7,391.67	4	$29,566.68
Reset guardrail	LF	$25.45	245	$6,235.25
Allowance for drainage structures	MI	$278,200.00	0.8	$222,560.00
Allowance for miscellaneous utility relocation	Allow	$80,000.00	1	$80,000.00
Total Roadway Improvements				$535,652.40
POCKET PARKS				
Bench	EA	$1,500.00	0	$0.00
Waste receptacle	EA	$1,000.00	0	$0.00
Sidewalk 4" thick, 4" gravel base, 4' wide	LF	$23.05	0	$0.00
Landscape treatment	Allow	$11,000.00	0	$0.00
Total Pocket Parks				$0.00
REST AREAS				
Bench, 6' wide	EA	$1,500.00	4	$6,000.00
Waste receptacle	EA	$1,000.00	4	$4,000.00
Concrete paving stone, 4"x8"x2.5", slab on grade base, asphalt bedding	SF	$17.45	576	$10,051.20
Total Rest Areas				$20,051.20
LANDSCAPE				
3.5" caliper overstory trees every 40'	LF	$13.88	845	$11,724.38
3.5" caliper medium trees every 40'	LF	$12.63	0	$0.00
2.5" caliper small trees every 30'	LF	$13.83	3050	$42,191.67
Total Landscape				$53,916.04
PEDESTRIAN LIGHTING				
Pedestrian light leased through GA Power, spaced every 40'	EA	$4,000.00	100	$400,000.00
Electrical distribution for pedestrian light poles	LF	$23.24	4000	$92,960.00
Total Pedestrian Lighting				$492,960.00
BUS SHELTERS				
Average price for ones shown, include concrete pad 8'x12' and electrical hookup allowance	EA	$16,573.42	0	$0.00
Total Bus Shelters				$0.00

SUBTOTAL				$1,175,881.53
5% Contractor Mobilization				$58,794.08
9% Design and Engineering				$105,829.34
35% Concept Level Contingency				$411,558.54
TOTAL				**$1,752,063.48**

Notes:

1. Right of Way Acquisition: Estimates for right of way acquisition have not been included in this estimate. It is anticipated that this project would occur with none to minor amounts of right of way acquisitions being necessary. Temporary/Construction easements may be needed in spot areas. The actual areas of acquisition needed would need to be determined during a schematic phase utilizing field survey information.

2. Utility Relocation: It is anticipated that some utility relocation will be necessary and an allowance for that relocation has been included in this estimate. Actual costs will depend upon the specific streetscape features and assessments of the utility companies.

3. Pricing estimate for LMIG and SPLOST projects are approximate. Actual estimates to be confirmed by Peachtree Corners.

WINTERS CHAPEL ROAD PROPOSED IMPROVEMENTS

CONCEPT OPINION OF PROBABLE COST

OPTION B (1)*

Segment 2, East side of Winters Chapel Rd. (Dunwoody Club Dr. to south side of intersection at Peeler Rd.)

**Option B (1): All of Option A, and change the sidewalk on the west side from Peeler Rd. to Fontainebleau Way to a 10' wide multi-use path.*

ITEM	UNIT	UNIT COST	QUANTITY	EXTENDED COST
TRAFFIC CONTROL				
Traffic Control	HR	$39.40	400	$15,760.00
Total Traffic Control				$15,760.00
EROSION CONTROL				
Temporary Silt Fence, Type C	LF	$2.79	675	$1,883.25
Permanent Grassing	AC	$793.28	0.2	$158.66
Barrier fence, orange, 4 ft	LF	$1.53	675	$1,032.75
Total Erosion Control				$3,074.66
DEMOLITION				
Remove existing curb in areas where there is a single curb (price based on selective removal of reinforced concrete curb)	LF	$6.80	0	$0.00
Remove existing curb and gutter (price based on selective removal of reinforced concrete)	LF	$6.10	0	$0.00
Remove existing sidewalk	LF	$11.48	0	$0.00
Clearing and grubbing	AC	$5,000.00	0	$0.00
Total Demolition				$0.00
ROADWAY IMPROVEMENTS				
Concrete curb and gutter, 6 in x 24 in, TP 2	LF	$21.40	675	$14,445.00
Sidewalk 4" thick, 4" gravel base, 5' wide	LF	$27.90	0	$0.00
Retrofit ADA ramp (remove conc sidewalk + new 4" conc sidewalk)	EA	$252.29	0	$0.00
Integrally colored hot applied synthetic asphalt crosswalks	LF	$112.00	90	$10,080.00
Thermoplastic solid crosswalk stripe, 8 in, white	LF	$8.27	85	$703.29
Mid block pedestrian crossing at Beth Shalom (thermoplastic crosswalk only)	LF	$8.27	18	$148.93
Pedestrian crossing signal assembly	EA	$7,391.67	0	$0.00
Allowance for drainage structures	MI	$278,200.00	0.25	$69,550.00
Allowance for miscellaneous utilitiy relocation	Allow	$80,000.00	0.5	$40,000.00
Total Roadway Improvements				$134,927.22
POCKET PARKS				
Bench	EA	$1,500.00	6	$9,000.00
Waste receptacle	EA	$1,000.00	2	$2,000.00
Sidewalk 4" thick, 4" gravel base, 4' wide	LF	$23.05	100	$2,305.00
Landscape treatment	Allow	$11,000.00	2	$22,000.00
Total Pocket Parks				$35,305.00
REST AREAS				
Bench, 6' wide	EA	$1,500.00	6	$9,000.00
Waste receptacle	EA	$1,000.00	6	$6,000.00
Concrete paving stone, 4"x8"x2.5", slab on grade base, asphalt bedding	SF	$17.45	864	$15,076.80
Total Rest Areas				$30,076.80
LANDSCAPE				
3.5" caliper overstory trees every 40'	LF	$13.88	1840	$25,530.00
3.5" caliper medium trees every 40'	LF	$12.63	0	$0.00
2.5" caliper small trees every 30'	LF	$13.83	2650	$36,658.33
Total Landscape				$62,188.33
PEDESTRIAN LIGHTING				
Pedestrian light leased through GA Power, spaced every 40'	EA	$4,000.00	112	$448,000.00
Electrical distribution for pedestrian light poles	LF	$23.24	4500	$104,580.00
Total Pedestrian Lighting				$552,580.00
BUS SHELTERS				
Average price for ones shown, include concrete pad 8'x12' and electrical hookup allowance	EA	$16,573.42	0	$0.00
Total Bus Shelters				$0.00

SUBTOTAL				$833,912.01
5% Contractor Mobilization				$41,695.60
9% Design and Engineering				$75,052.08
35% Concept Level Contingency				$291,869.20
TOTAL				**$1,242,528.90**

Notes:

1. Right of Way Acquisition: Estimates for right of way acquisition have not been included in this estimate. It is anticipated that this project would occur with none to minor amounts of right of way acquisitions being necessary. Temporary/Construction easements may be needed in spot areas. The actual areas of acquisition needed would need to be determined during a schematic phase utilizing field survey information.

2. Utility Relocation: It is anticipated that some utility relocation will be necessary and an allowance for that relocation has been included in this estimate. Actual costs will depend upon the specific streetscape features and assessments of the utility companies.

3. Pricing estimate for LMIG and SPLOST projects are approximate. Actual estimates to be confirmed by Peachtree Corners.

WINTERS CHAPEL ROAD PROPOSED IMPROVEMENTS

CONCEPT OPINION OF PROBABLE COST

OPTION B (1)*

Segment 2, West side of Winters Chapel Rd. (Dunwoody Club Dr. to south side of intersection at Peeler Rd.)

**Option B (1): All of Option A, and change the sidewalk on the west side from Peeler Rd. to Fontainebleau Way to a 10' wide multi-use path.*

ITEM	UNIT	UNIT COST	QUANTITY	EXTENDED COST
TRAFFIC CONTROL				
Traffic Control	HR	$39.40	1200	$47,280.00
Total Traffic Control				$47,280.00
EROSION CONTROL				
Temporary Silt Fence, Type C	LF	$2.79	3975	$11,090.25
Permanent Grassing	AC	$793.28	0.95	$753.62
Barrier fence, orange, 4 ft	LF	$1.53	3975	$6,081.75
Total Erosion Control				$17,925.62
DEMOLITION				
Remove existing curb in areas where there is a single curb (price based on selective removal of reinforced concrete curb)	LF	$6.80	1175	$7,990.00
Remove existing curb and gutter (price based on selective removal of reinforced concrete)	LF	$6.10	605	$3,690.50
Remove existing sidewalk	LF	$11.48	0	$0.00
Clearing and grubbing	AC	$5,000.00	1.4	$7,000.00
Total Demolition				$18,680.50
ROADWAY IMPROVEMENTS				
Concrete curb and gutter, 6 in x 24 in, TP 2	LF	$21.40	3975	$85,065.00
Sidewalk 4" thick, 4" gravel base, 5' wide	LF	$27.90	500	$13,950.00
Multi-use Path 4" thick, 4" gravel base, 10' wide (Peeler Rd. to Fontainebleau Way)	LF	$55.80	3475	$193,905.00
Retrofit ADA ramp (remove conc sidewalk + new 4" conc sidewalk)	EA	$252.29	37	$9,334.55
Integrally colored hot applied synthetic asphalt crosswalks	LF	$112.00	130	$14,560.00
Thermoplastic solid crosswalk stripe, 8 in, white	LF	$8.27	460	$3,806.04
Mid block pedestrian crossing at Beth Shalom (thermoplastic crosswalk only)	LF	$8.27	18	$148.93
Pedestrian crossing signal assembly	EA	$7,391.67	0	$0.00
Allowance for drainage structures	MI	$278,200.00	0.9	$250,380.00
Allowance for miscellaneous utilitiy relocation	Allow	$80,000.00	2	$160,000.00
Total Roadway Improvements				$731,149.52
POCKET PARKS				
Bench	EA	$1,500.00	3	$4,500.00
Waste receptacle	EA	$1,000.00	1	$1,000.00
Sidewalk 4" thick, 4" gravel base, 4' wide	LF	$23.05	50	$1,152.50
Landscape treatment	Allow	$11,000.00	1	$11,000.00
Total Pocket Parks				$17,652.50
REST AREAS				
Bench, 6' wide	EA	$1,500.00	6	$9,000.00
Waste receptacle	EA	$1,000.00	6	$6,000.00
Concrete paving stone, 4"x8"x2.5", slab on grade base, asphalt bedding	SF	$17.45	864	$15,076.80
Total Rest Areas				$30,076.80
LANDSCAPE				
3.5" caliper overstory trees every 40'	LF	$13.88	1300	$18,037.50
3.5" caliper medium trees every 40'	LF	$12.63	0	$0.00
2.5" caliper small trees every 30'	LF	$13.83	3190	$44,128.33
Total Landscape				$62,165.83
PEDESTRIAN LIGHTING				
Pedestrian light leased through GA Power, spaced every 40'	EA	$4,000.00	112	$448,000.00
Electrical distribution for pedestrian light poles	LF	$23.24	4500	$104,580.00
Total Pedestrian Lighting				$552,580.00
BUS SHELTERS				
Average price for ones shown, include concrete pad 8'x12' and electrical hookup allowance	EA	$16,573.42	0	$0.00
Total Bus Shelters				$0.00

SUBTOTAL				$1,477,510.77
5% Contractor Mobilization				$73,875.54
9% Design and Engineering				$132,975.97
35% Concept Level Contingency				$517,128.77
TOTAL				**$2,201,491.04**

Notes:

1. Right of Way Acquisition: Estimates for right of way acquisition have not been included in this estimate. It is anticipated that this project would occur with none to minor amounts of right of way acquisitions being necessary. Temporary/Construction easements may be needed in spot areas. The actual areas of acquisition needed would need to be determined during a schematic phase utilizing field survey information.

2. Utility Relocation: It is anticipated that some utility relocation will be necessary and an allowance for that relocation has been included in this estimate. Actual costs will depend upon the specific streetscape features and assessments of the utility companies.

3. Pricing estimate for LMIG and SPLOST projects are approximate. Actual estimates to be confirmed by Peachtree Corners.

WINTERS CHAPEL ROAD PROPOSED IMPROVEMENTS

CONCEPT OPINION OF PROBABLE COST

OPTION B (1)*

Segment 3, East side of Winters Chapel Rd. (Peeler Rd. to south side of intersection at Peachtree Industrial Blvd.)

**Option B (1): All of Option A, and change the sidewalk on the west side from Peeler Rd. to Fontainebleau Way to a 10' wide multi-use path.*

ITEM	UNIT	UNIT COST	QUANTITY	EXTENDED COST
TRAFFIC CONTROL				
Traffic Control	HR	$39.40	200	$7,880.00
Traffic Control **(to be funded by Peachtree Corners LMIG)**	HR	$39.40	600	$23,640.00
Total Traffic Control (to be funded by Peachtree Corners LMIG)				$23,640.00
Total Traffic Control (not funded by Peachtree Corners LMIG)				$7,880.00
EROSION CONTROL				
Temporary Silt Fence, Type C **(to be funded by Peachtree Corners LMIG)**	LF	$2.79	2675	$7,463.25
Permanent Grassing **(to be funded by Peachtree Corners LMIG)**	AC	$793.28	0.65	$515.63
Barrier fence, orange, 4 ft **(to be funded by Peachtree Corners LMIG)**	LF	$1.53	2675	$4,092.75
Total Erosion Control (to be funded by Peachtree Corners LMIG)				$12,071.63
Total Erosion Control (not funded by Peachtree Corners LMIG)				$0.00
DEMOLITION				
Remove existing curb in areas where there is a single curb (price based on selective removal of reinforced concrete curb)	LF	$6.80	0	$0.00
Remove existing curb and gutter (price based on selective removal of reinforced concrete)	LF	$6.10	0	$0.00
Remove existing curb and gutter (price based on selective removal of reinforced concrete) **(to be funded by Peachtree Corners LMIG)**	LF	$6.10	2675	$16,317.50
Remove existing sidewalk	LF	$11.48	0	$0.00
Clearing and grubbing **(to be funded by Peachtree Corners LMIG)**	AC	$5,000.00	0.95	$4,750.00
Total Demolition (to be funded by Peachtree Corners LMIG)				$21,067.50
Total Demolition (not funded by Peachtree Corners LMIG)				$0.00
ROADWAY IMPROVEMENTS				
Concrete curb and gutter, 6 in x 24 in, TP 2 **(to be funded by Peachtree Corners LMIG)**	LF	$21.40	2675	$57,245.00
Sidewalk 4" thick, 4" gravel base, 5' wide	LF	$27.90	0	$0.00
Sidewalk 4" thick, 4" gravel base, 5' wide **(to be funded by Peachtree Corners LMIG)**	LF	$27.90	2675	$74,632.50
Retrofit ADA ramp (remove conc sidewalk + new 4" conc sidewalk)	EA	$252.29	8	$2,018.28
Retrofit ADA ramp **(to be funded by Peachtree Corners LMIG)**	EA	$252.29	49	$12,361.97
Integrally colored hot applied synthetic asphalt crosswalks	LF	$112.00	175	$19,600.00
Thermoplastic solid crosswalk stripe, 8 in, white	LF	$8.27	0	$0.00
Thermoplastic solid crosswalk stripe, 8 in, white **(to be funded by Peachtree Corners LMIG)**	LF	$8.27	210	$1,737.54
Mid block pedestrian crossing at Womack Dr. (thermoplastic crosswalk only)	LF	$8.27	20	$165.48
Pedestrian crossing signal assembly	EA	$7,391.67	4	$29,566.68
Drainage structures **(to be funded by Peachtree Corners LMIG)**	MI	$278,200.00	0.5	$139,100.00
Allowance for drainage improvements	Allow	$80,000.00	1	$80,000.00
Allowance for miscellaneous utility relocation **(to be funded by Peachtree Corners LMIG)**	Allow	$80,000.00	1	$80,000.00
Total Roadway Improvements (to be funded by Peachtree Corners LMIG)				$365,077.01
Total Roadway Improvements (not funded by Peachtree Corners LMIG)				$131,350.44
POCKET PARKS				
Bench	EA	$1,500.00	0	$0.00
Waste receptacle	EA	$1,000.00	0	$0.00
Sidewalk 4" thick, 4" gravel base, 4' wide	LF	$23.05	0	$0.00
Landscape treatment	Allow	$11,000.00	0	$0.00
Total Pocket Parks				$0.00
REST AREAS				
Bench, 6' wide	EA	$1,500.00	8	$12,000.00
Waste receptacle	EA	$1,000.00	8	$8,000.00
Concrete paving stone, 4"x8"x2.5", slab on grade base, asphalt bedding	SF	$17.45	1152	$20,102.40
Total Rest Areas				$40,102.40

LANDSCAPE				
3.5" caliper overstory trees every 40'	LF	$13.88	0	$0.00
3.5" caliper medium trees every 40'	LF	$12.63	0	$0.00
2.5" caliper small trees, landscape enhancement areas, 12 trees per 100 LF	LF	$49.78	1350	$67,203.00
2.5" caliper small trees every 30'	LF	$13.83	2900	$40,116.67
6x26 landscape beds, landscape enhancement areas	EA	$1,684.18	40	$67,367.20
Total Landscape				$174,686.87
PEDESTRIAN LIGHTING				
Pedestrian light leased through GA Power, spaced every 40'	EA	$4,000.00	102	$408,000.00
Electrical distribution for pedestrian light poles	LF	$23.24	4100	$95,284.00
Total Pedestrian Lighting				$503,284.00
BUS SHELTERS				
Average price for ones shown, include concrete pad 8'x12' and electrical hookup allowance	EA	$16,573.42	0	$0.00
Total Bus Shelters				$0.00
SUBTOTAL **(to be funded by Peachtree Corners LMIG)**				$421,856.14
SUBTOTAL (not funded by Peachtree Corners LMIG)				$857,303.71
5% Contractor Mobilization				$42,865.19
9% Design and Engineering				$77,157.33
35% Concept Level Contingency				$300,056.30
TOTAL				**$1,277,382.52**

Notes:

1. Right of Way Acquisition: Estimates for right of way acquisition have not been included in this estimate. It is anticipated that this project would occur with none to minor amounts of right of way acquisitions being necessary. Temporary/Construction easements may be needed in spot areas. The actual areas of acquisition needed would need to be determined during a schematic phase utilizing field survey information.

2. Utility Relocation: It is anticipated that some utility relocation will be necessary and an allowance for that relocation has been included in this estimate. Actual costs will depend upon the specific streetscape features and assessments of the utility companies.

3. Pricing estimate for LMIG and SPLOST projects are approximate. Actual estimates to be confirmed by Peachtree Corners.

WINTERS CHAPEL ROAD PROPOSED IMPROVEMENTS

CONCEPT OPINION OF PROBABLE COST

OPTION B (1)*

Segment 3, West side of Winters Chapel Rd. (Peeler Rd. to south side of intersection at Peachtree Industrial Blvd.)

**Option B (1): All of Option A, and change the sidewalk on the west side from Peeler Rd. to Fontainebleau Way to a 10' wide multi-use path.*

ITEM	UNIT	UNIT COST	QUANTITY	EXTENDED COST
TRAFFIC CONTROL				
Traffic Control	HR	$39.40	400	$15,760.00
Total Traffic Control				$15,760.00
EROSION CONTROL				
Temporary Silt Fence, Type C	LF	$2.79	0	$0.00
Permanent Grassing	AC	$793.28	0	$0.00
Barrier fence, orange, 4 ft	LF	$1.53	0	$0.00
Total Erosion Control				$0.00
DEMOLITION				
Remove existing curb in areas where there is a single curb (price based on selective removal of reinforced concrete curb)	LF	$6.80	0	$0.00
Remove existing curb and gutter (price based on selective removal of reinforced concrete)	LF	$6.10	0	$0.00
Remove existing sidewalk	LF	$11.48	0	$0.00
Clearing and grubbing	AC	$5,000.00	0	$0.00
Total Demolition				$0.00
ROADWAY IMPROVEMENTS				
Concrete curb and gutter, 6 in x 24 in, TP 2	LF	$21.40	0	$0.00
Sidewalk 4" thick, 4" gravel base, 5' wide	LF	$27.90	0	$0.00
Retrofit ADA ramp (remove conc sidewalk + new 4" conc sidewalk)	EA	$252.29	12	$3,027.42
Integrally colored hot applied synthetic asphalt crosswalks	LF	$112.00	190	$21,280.00
Thermoplastic solid crosswalk stripe, 8 in, white	LF	$8.27	275	$2,275.35
Mid block pedestrian crossing at Womack Dr. (thermoplastic crosswalk only)	LF	$8.27	20	$165.48
Pedestrian crossing signal assembly	EA	$7,391.67	3	$22,175.01
Allowance for drainage structures	MI	$278,200.00	0.25	$69,550.00
Allowance for miscellaneous utility relocation	Allow	$80,000.00	0	$0.00
Total Roadway Improvements				$118,473.26
POCKET PARKS				
Bench	EA	$1,500.00	3	$4,500.00
Waste receptacle	EA	$1,000.00	1	$1,000.00
Sidewalk 4" thick, 4" gravel base, 4' wide	LF	$23.05	50	$1,152.50
Landscape treatment	Allow	$11,000.00	1	$11,000.00
Total Pocket Parks				$17,652.50
REST AREAS				
Bench, 6' wide	EA	$1,500.00	8	$12,000.00
Waste receptacle	EA	$1,000.00	8	$8,000.00
Concrete paving stone, 4"x8"x2.5", slab on grade base, asphalt bedding	SF	$17.45	1152	$20,102.40
Total Rest Areas				$40,102.40
LANDSCAPE				
3.5" caliper overstory trees every 40'	LF	$13.88	4250	$58,968.75
3.5" caliper medium trees every 40'	LF	$12.63	0	$0.00
2.5" caliper small trees every 30'	LF	$13.83	0	$0.00
Total Landscape				$58,968.75
PEDESTRIAN LIGHTING				
Pedestrian light leased through GA Power, spaced every 40'	EA	$4,000.00	102	$408,000.00
Electrical distribution for pedestrian light poles	LF	$23.24	4100	$95,284.00
Total Pedestrian Lighting				$503,284.00
BUS SHELTERS				
Average price for ones shown, include concrete pad 8'x12' and electrical hookup allowance	EA	$16,573.42	6	$99,440.50
Total Bus Shelters				$99,440.50

SUBTOTAL				$853,681.41
5% Contractor Mobilization				$42,684.07
9% Design and Engineering				$76,831.33
35% Concept Level Contingency				$298,788.49
TOTAL				**$1,271,985.30**

Notes:

1. Right of Way Acquisition: Estimates for right of way acquisition have not been included in this estimate. It is anticipated that this project would occur with none to minor amounts of right of way acquisitions being necessary. Temporary/Construction easements may be needed in spot areas. The actual areas of acquisition needed would need to be determined during a schematic phase utilizing field survey information.

2. Utility Relocation: It is anticipated that some utility relocation will be necessary and an allowance for that relocation has been included in this estimate. Actual costs will depend upon the specific streetscape features and assessments of the utility companies.

3. Pricing estimate for LMIG and SPLOST projects are approximate. Actual estimates to be confirmed by Peachtree Corners.

WINTERS CHAPEL ROAD PROPOSED IMPROVEMENTS CONCEPT OPINION OF PROBABLE COST	
OPTION B (2)	
TOTAL Segment 1, East side of Winters Chapel Rd. (not funded by Gwinnett SPLOST)	$954,761.02
TOTAL Segment 1, West side of Winters Chapel Rd.	$2,082,527.30
TOTAL Segment 2, East side of Winters Chapel Rd.	$1,242,528.90
TOTAL Segment 2, West side of Winters Chapel Rd.	$2,288,374.43
TOTAL Segment 3, East side of Winters Chapel Rd. (not funded by Peachtree Corners LMIG)	$1,277,382.52
TOTAL Segment 3, West side of Winters Chapel Rd.	$1,271,985.30
TOTAL Winters Chapel Road Proposed Improvements	**$9,117,559.48**
Total includes 5% contractor mobilization, 9% design and engineering fees, and 35% concept level contingency.	

WINTERS CHAPEL ROAD PROPOSED IMPROVEMENTS

CONCEPT OPINION OF PROBABLE COST

OPTION B (2)*

Segment 1, East side of Winters Chapel Rd. (Spalding Drive to south side of intersection at Dunwoody Club Dr.)

**Option B (2): All of Option A, and change the sidewalk on the west side from Peeler Rd. to Spalding Dr. to a 12' wide multi-use path.*

ITEM	UNIT	UNIT COST	QUANTITY	EXTENDED COST
TRAFFIC CONTROL				
Traffic Control	HR	$39.40	400	$15,760.00
Traffic Control **(to be funded by Gwinnett SPLOST)**	HR	$39.40	800	$31,520.00
Total Traffic Control (to be funded by Gwinnett SPLOST)				$31,520.00
Total Traffic Control (not funded by Gwinnett SPLOST)				$15,760.00
EROSION CONTROL				
Temporary Silt Fence, Type C **(to be funded by Gwinnett SPLOST)**	LF	$2.79	3175	$8,858.25
Permanent Grassing **(to be funded by Gwinnett SPLOST)**	AC	$793.28	0.75	$594.96
Barrier fence, orange, 4 ft **(to be funded by Gwinnett SPLOST)**	LF	$1.53	3175	$4,857.75
Total Erosion Control (to be funded by Gwinnett SPLOST)				$14,310.96
Total Erosion Control (not funded by Gwinnett SPLOST)				$0.00
DEMOLITION				
Remove existing curb in areas where there is a single curb (price based on selective removal of reinforced concrete curb)	LF	$6.80	0	$0.00
Remove existing curb and gutter (price based on selective removal of reinforced concrete)	LF	$6.10	0	$0.00
Remove existing curb and gutter (price based on selective removal of reinforced concrete) **(to be funded by Gwinnett SPLOST)**	LF	$6.10	400	$2,440.00
Remove existing sidewalk	LF	$11.48	0	$0.00
Clearing and grubbing **(to be funded by Gwinnett SPLOST)**	AC	$5,000.00	1.1	$5,500.00
Total Demolition (to be funded by Gwinnett SPLOST)				$7,940.00
Total Demolition (not funded by Gwinnett SPLOST)				$0.00
ROADWAY IMPROVEMENTS				
Concrete curb and gutter, 6 in x 24 in, TP 2 **(to be funded by Gwinnett SPLOST)**	LF	$21.40	3175	$67,945.00
Sidewalk 4" thick, 4" gravel base, 5' wide	LF	$27.90	0	$0.00
Sidewalk 4" thick, 4" gravel base, 5' wide **(to be funded by Gwinnett SPLOST)**	LF	$27.90	3175	$88,582.50
Retrofit ADA ramp (remove conc sidewalk + new 4" conc sidewalk)	EA	$252.29	0	$0.00
Retrofit ADA ramp **(to be funded by Gwinnett SPLOST)**	EA	$252.29	18	$4,541.13
Integrally colored hot applied synthetic asphalt crosswalks	LF	$112.00	90	$10,080.00
Thermoplastic solid crosswalk stripe, 8 in, white	LF	$8.27	90	$744.66
Thermoplastic solid crosswalk stripe, 8 in, white **(to be funded by Gwinnett SPLOST)**	LF	$8.27	195	$1,613.43
Pedestrian crossing signal assembly	EA	$7,391.67	4	$29,566.68
Drainage structures **(to be funded by Gwinnett SPLOST)**	MI	$278,200.00	0.8	$222,560.00
Allowance for miscellaneous utility relocation **(to be funded by Gwinnett SPLOST)**	Allow	$80,000.00	1	$80,000.00
Total Roadway Improvements (to be funded by Gwinnett SPLOST)				$465,242.06
Total Roadway Improvements (not funded by Gwinnett SPLOST)				$40,391.34
POCKET PARKS				
Bench	EA	$1,500.00	3	$4,500.00
Waste receptacle	EA	$1,000.00	1	$1,000.00
Sidewalk 4" thick, 4" gravel base, 4' wide	LF	$23.05	50	$1,152.50
Landscape treatment	Allow	$11,000.00	1	$11,000.00
Total Pocket Parks				$17,652.50
REST AREAS				
Bench, 6' wide	EA	$1,500.00	4	$6,000.00
Waste receptacle	EA	$1,000.00	4	$4,000.00
Concrete paving stone, 4"x8"x2.5", slab on grade base, asphalt bedding	SF	$17.45	576	$10,051.20
Total Rest Areas				$20,051.20
LANDSCAPE				
3.5" caliper overstory trees every 40'	LF	$13.88	2000	$27,750.00
3.5" caliper medium trees every 40'	LF	$12.63	0	$0.00
2.5" caliper small trees every 30'	LF	$13.83	1895	$26,214.17
Total Landscape				$53,964.17

PEDESTRIAN LIGHTING				
Pedestrian light leased through GA Power, spaced every 40'	EA	$4,000.00	100	$400,000.00
Electrical distribution for pedestrian light poles	LF	$23.24	4000	$92,960.00
Total Pedestrian Lighting				$492,960.00
BUS SHELTERS				
Average price for ones shown, include concrete pad 8'x12' and electrical hookup allowance	EA	$16,573.42	0	$0.00
Total Bus Shelters				$0.00
SUBTOTAL **(to be funded by Gwinnett SPLOST)**				$519,013.02
SUBTOTAL (not funded by Gwinnett SPLOST)				$640,779.21
5% Contractor Mobilization				$32,038.96
9% Design and Engineering				$57,670.13
35% Concept Level Contingency				$224,272.72
TOTAL				**$954,761.02**

Notes:

1. Right of Way Acquisition: Estimates for right of way acquisition have not been included in this estimate. It is anticipated that this project would occur with none to minor amounts of right of way acquisitions being necessary. Temporary/Construction easements may be needed in spot areas. The actual areas of acquisition needed would need to be determined during a schematic phase utilizing field survey information.

2. Utility Relocation: It is anticipated that some utility relocation will be necessary and an allowance for that relocation has been included in this estimate. Actual costs will depend upon the specific streetscape features and assessments of the utility companies.

3. Pricing estimate for LMIG and SPLOST projects are approximate. Actual estimates to be confirmed by Peachtree Corners.

WINTERS CHAPEL ROAD PROPOSED IMPROVEMENTS

CONCEPT OPINION OF PROBABLE COST

OPTION B (2)*

Segment 1, West side of Winters Chapel Rd. (Spalding Drive to south side of intersection at Dunwoody Club Dr.)

**Option B (2): All of Option A, and change the sidewalk on the west side from Peeler Rd. to Spalding Dr. to a 12' wide multi-use path.*

ITEM	UNIT	UNIT COST	QUANTITY	EXTENDED COST
TRAFFIC CONTROL				
Traffic Control	HR	$39.40	1200	$47,280.00
Total Traffic Control				$47,280.00
EROSION CONTROL				
Temporary Silt Fence, Type C	LF	$2.79	3630	$10,127.70
Permanent Grassing	AC	$793.28	0.85	$674.29
Barrier fence, orange, 4 ft	LF	$1.53	3630	$5,553.90
Total Erosion Control				$16,355.89
DEMOLITION				
Remove existing curb in areas where there is a single curb (price based on selective removal of reinforced concrete curb)	LF	$6.80	0	$0.00
Remove existing curb and gutter (price based on selective removal of reinforced concrete)	LF	$6.10	560	$3,416.00
Remove existing sidewalk	LF	$11.48	0	$0.00
Clearing and grubbing	AC	$5,000.00	1.25	$6,250.00
Total Demolition				$9,666.00
ROADWAY IMPROVEMENTS				
Concrete curb and gutter, 6 in x 24 in, TP 2	LF	$21.40	3630	$77,682.00
Sidewalk 4" thick, 4" gravel base, 5' wide	LF	$27.90	0	$0.00
Multi-use Path 4" thick, 4" gravel base, 10' wide (Dunwoody Club Dr. to Spalding Dr.)	LF	$55.80	3630	$202,554.00
Additional 2' wide paving 4" thick, 4" gravel base (Dunwoody Club Dr. to Spalding Dr.) {*This line item, when combined with cost of 10' wide Multi-use Path above, give total cost of 12' wide Multi-use Path*}	LF	$11.16	3630	$40,510.80
Retrofit ADA ramp (remove conc sidewalk + new 4" conc sidewalk)	EA	$252.29	36	$9,082.26
Integrally colored hot applied synthetic asphalt crosswalks	LF	$112.00	65	$7,280.00
Thermoplastic solid crosswalk stripe, 8 in, white	LF	$8.27	238	$1,969.21
Pedestrian crossing signal assembly	EA	$7,391.67	4	$29,566.68
Reset guardrail	LF	$25.45	245	$6,235.25
Allowance for drainage structures	MI	$278,200.00	0.8	$222,560.00
Allowance for miscellaneous utility relocation	Allow	$80,000.00	2	$160,000.00
Total Roadway Improvements				$757,440.20
POCKET PARKS				
Bench	EA	$1,500.00	0	$0.00
Waste receptacle	EA	$1,000.00	0	$0.00
Sidewalk 4" thick, 4" gravel base, 4' wide	LF	$23.05	0	$0.00
Landscape treatment	Allow	$11,000.00	0	$0.00
Total Pocket Parks				$0.00
REST AREAS				
Bench, 6' wide	EA	$1,500.00	4	$6,000.00
Waste receptacle	EA	$1,000.00	4	$4,000.00
Concrete paving stone, 4"x8"x2.5", slab on grade base, asphalt bedding	SF	$17.45	576	$10,051.20
Total Rest Areas				$20,051.20
LANDSCAPE				
3.5" caliper overstory trees every 40'	LF	$13.88	845	$11,724.38
3.5" caliper medium trees every 40'	LF	$12.63	0	$0.00
2.5" caliper small trees every 30'	LF	$13.83	3050	$42,191.67
Total Landscape				$53,916.04
PEDESTRIAN LIGHTING				
Pedestrian light leased through GA Power, spaced every 40'	EA	$4,000.00	100	$400,000.00
Electrical distribution for pedestrian light poles	LF	$23.24	4000	$92,960.00
Total Pedestrian Lighting				$492,960.00
BUS SHELTERS				
Average price for ones shown, include concrete pad 8'x12' and electrical hookup allowance	EA	$16,573.42	0	$0.00
Total Bus Shelters				$0.00

SUBTOTAL				$1,397,669.33
5% Contractor Mobilization				$69,883.47
9% Design and Engineering				$125,790.24
35% Concept Level Contingency				$489,184.27
TOTAL				**$2,082,527.30**

Notes:

1. Right of Way Acquisition: Estimates for right of way acquisition have not been included in this estimate. It is anticipated that this project would occur with none to minor amounts of right of way acquisitions being necessary. Temporary/Construction easements may be needed in spot areas. The actual areas of acquisition needed would need to be determined during a schematic phase utilizing field survey information.

2. Utility Relocation: It is anticipated that some utility relocation will be necessary and an allowance for that relocation has been included in this estimate. Actual costs will depend upon the specific streetscape features and assessments of the utility companies.

3. Pricing estimate for LMIG and SPLOST projects are approximate. Actual estimates to be confirmed by Peachtree Corners.

WINTERS CHAPEL ROAD PROPOSED IMPROVEMENTS

CONCEPT OPINION OF PROBABLE COST

OPTION B (2)*

Segment 2, East side of Winters Chapel Rd. (Dunwoody Club Dr. to south side of intersection at Peeler Rd.)

**Option B (2): All of Option A, and change the sidewalk on the west side from Peeler Rd. to Spalding Dr. to a 12' wide multi-use path.*

ITEM	UNIT	UNIT COST	QUANTITY	EXTENDED COST
TRAFFIC CONTROL				
Traffic Control	HR	$39.40	400	$15,760.00
Total Traffic Control				$15,760.00
EROSION CONTROL				
Temporary Silt Fence, Type C	LF	$2.79	675	$1,883.25
Permanent Grassing	AC	$793.28	0.2	$158.66
Barrier fence, orange, 4 ft	LF	$1.53	675	$1,032.75
Total Erosion Control				$3,074.66
DEMOLITION				
Remove existing curb in areas where there is a single curb (price based on selective removal of reinforced concrete curb)	LF	$6.80	0	$0.00
Remove existing curb and gutter (price based on selective removal of reinforced concrete)	LF	$6.10	0	$0.00
Remove existing sidewalk	LF	$11.48	0	$0.00
Clearing and grubbing	AC	$5,000.00	0	$0.00
Total Demolition				$0.00
ROADWAY IMPROVEMENTS				
Concrete curb and gutter, 6 in x 24 in, TP 2	LF	$21.40	675	$14,445.00
Sidewalk 4" thick, 4" gravel base, 5' wide	LF	$27.90	0	$0.00
Retrofit ADA ramp (remove conc sidewalk + new 4" conc sidewalk)	EA	$252.29	0	$0.00
Integrally colored hot applied synthetic asphalt crosswalks	LF	$112.00	90	$10,080.00
Thermoplastic solid crosswalk stripe, 8 in, white	LF	$8.27	85	$703.29
Mid block pedestrian crossing at Beth Shalom (thermoplastic crosswalk only)	LF	$8.27	18	$148.93
Pedestrian crossing signal assembly	EA	$7,391.67	0	$0.00
Allowance for drainage structures	MI	$278,200.00	0.25	$69,550.00
Allowance for miscellaneous utility relocation	Allow	$80,000.00	0.5	$40,000.00
Total Roadway Improvements				$134,927.22
POCKET PARKS				
Bench	EA	$1,500.00	6	$9,000.00
Waste receptacle	EA	$1,000.00	2	$2,000.00
Sidewalk 4" thick, 4" gravel base, 4' wide	LF	$23.05	100	$2,305.00
Landscape treatment	Allow	$11,000.00	2	$22,000.00
Total Pocket Parks				$35,305.00
REST AREAS				
Bench, 6' wide	EA	$1,500.00	6	$9,000.00
Waste receptacle	EA	$1,000.00	6	$6,000.00
Concrete paving stone, 4"x8"x2.5", slab on grade base, asphalt bedding	SF	$17.45	864	$15,076.80
Total Rest Areas				$30,076.80
LANDSCAPE				
3.5" caliper overstory trees every 40'	LF	$13.88	1840	$25,530.00
3.5" caliper medium trees every 40'	LF	$12.63	0	$0.00
2.5" caliper small trees every 30'	LF	$13.83	2650	$36,658.33
Total Landscape				$62,188.33
PEDESTRIAN LIGHTING				
Pedestrian light leased through GA Power, spaced every 40'	EA	$4,000.00	112	$448,000.00
Electrical distribution for pedestrian light poles	LF	$23.24	4500	$104,580.00
Total Pedestrian Lighting				$552,580.00
BUS SHELTERS				
Average price for ones shown, include concrete pad 8'x12' and electrical hookup allowance	EA	$16,573.42	0	$0.00
Total Bus Shelters				$0.00

SUBTOTAL				$833,912.01
5% Contractor Mobilization				$41,695.60
9% Design and Engineering				$75,052.08
35% Concept Level Contingency				$291,869.20
TOTAL				**$1,242,528.90**

Notes:

1. Right of Way Acquisition: Estimates for right of way acquisition have not been included in this estimate. It is anticipated that this project would occur with none to minor amounts of right of way acquisitions being necessary. Temporary/Construction easements may be needed in spot areas. The actual areas of acquisition needed would need to be determined during a schematic phase utilizing field survey information.

2. Utility Relocation: It is anticipated that some utility relocation will be necessary and an allowance for that relocation has been included in this estimate. Actual costs will depend upon the specific streetscape features and assessments of the utility companies.

3. Pricing estimate for LMIG and SPLOST projects are approximate. Actual estimates to be confirmed by Peachtree Corners.

WINTERS CHAPEL ROAD PROPOSED IMPROVEMENTS

CONCEPT OPINION OF PROBABLE COST

OPTION B (2)*

Segment 2, West side of Winters Chapel Rd. (Dunwoody Club Dr. to south side of intersection at Peeler Rd.)

**Option B (2): All of Option A, and change the sidewalk on the west side from Peeler Rd. to Spalding Dr. to a 12' wide multi-use path.*

ITEM	UNIT	UNIT COST	QUANTITY	EXTENDED COST
TRAFFIC CONTROL				
Traffic Control	HR	$39.40	1200	$47,280.00
Total Traffic Control				$47,280.00
EROSION CONTROL				
Temporary Silt Fence, Type C	LF	$2.79	3975	$11,090.25
Permanent Grassing	AC	$793.28	0.95	$753.62
Barrier fence, orange, 4 ft	LF	$1.53	3975	$6,081.75
Total Erosion Control				$17,925.62
DEMOLITION				
Remove existing curb in areas where there is a single curb (price based on selective removal of reinforced concrete curb)	LF	$6.80	1175	$7,990.00
Remove existing curb and gutter (price based on selective removal of reinforced concrete)	LF	$6.10	605	$3,690.50
Remove existing sidewalk	LF	$11.48	0	$0.00
Clearing and grubbing	AC	$5,000.00	1.4	$7,000.00
Total Demolition				$18,680.50
ROADWAY IMPROVEMENTS				
Concrete curb and gutter, 6 in x 24 in, TP 2	LF	$21.40	3975	$85,065.00
Sidewalk 4" thick, 4" gravel base, 5' wide	LF	$27.90	0	$0.00
Multi-use Path 4" thick, 4" gravel base, 10' wide (Peeler Rd. to Dunwoody Club Dr.)	LF	$55.80	3975	$221,805.00
Additional 2' wide paving 4" thick, 4" gravel base (Peeler Rd. to Dunwoody Club Dr.) {*This line item, when combined with cost of 10' wide Multi-use Path above, give total cost of 12' wide Multi-use Path*}	LF	$11.16	3975	$44,361.00
Retrofit ADA ramp (remove conc sidewalk + new 4" conc sidewalk)	EA	$252.29	37	$9,334.55
Integrally colored hot applied synthetic asphalt crosswalks	LF	$112.00	130	$14,560.00
Thermoplastic solid crosswalk stripe, 8 in, white	LF	$8.27	460	$3,806.04
Mid block pedestrian crossing at Beth Shalom (thermoplastic crosswalk only)	LF	$8.27	18	$148.93
Pedestrian crossing signal assembly	EA	$7,391.67	0	$0.00
Allowance for drainage structures	MI	$278,200.00	0.9	$250,380.00
Allowance for miscellaneous utility relocation	Allow	$80,000.00	2	$160,000.00
Total Roadway Improvements				$789,460.52
POCKET PARKS				
Bench	EA	$1,500.00	3	$4,500.00
Waste receptacle	EA	$1,000.00	1	$1,000.00
Sidewalk 4" thick, 4" gravel base, 4' wide	LF	$23.05	50	$1,152.50
Landscape treatment	Allow	$11,000.00	1	$11,000.00
Total Pocket Parks				$17,652.50
REST AREAS				
Bench, 6' wide	EA	$1,500.00	6	$9,000.00
Waste receptacle	EA	$1,000.00	6	$6,000.00
Concrete paving stone, 4"x8"x2.5", slab on grade base, asphalt bedding	SF	$17.45	864	$15,076.80
Total Rest Areas				$30,076.80
LANDSCAPE				
3.5" caliper overstory trees every 40'	LF	$13.88	1300	$18,037.50
3.5" caliper medium trees every 40'	LF	$12.63	0	$0.00
2.5" caliper small trees every 30'	LF	$13.83	3190	$44,128.33
Total Landscape				$62,165.83
PEDESTRIAN LIGHTING				
Pedestrian light leased through GA Power, spaced every 40'	EA	$4,000.00	112	$448,000.00
Electrical distribution for pedestrian light poles	LF	$23.24	4500	$104,580.00
Total Pedestrian Lighting				$552,580.00
BUS SHELTERS				
Average price for ones shown, include concrete pad 8'x12' and electrical hookup allowance	EA	$16,573.42	0	$0.00
Total Bus Shelters				$0.00

SUBTOTAL				$1,535,821.77
5% Contractor Mobilization				$76,791.09
9% Design and Engineering				$138,223.96
35% Concept Level Contingency				$537,537.62
TOTAL				**$2,288,374.43**

Notes:

1. Right of Way Acquisition: Estimates for right of way acquisition have not been included in this estimate. It is anticipated that this project would occur with none to minor amounts of right of way acquisitions being necessary. Temporary/Construction easements may be needed in spot areas. The actual areas of acquisition needed would need to be determined during a schematic phase utilizing field survey information.

2. Utility Relocation: It is anticipated that some utility relocation will be necessary and an allowance for that relocation has been included in this estimate. Actual costs will depend upon the specific streetscape features and assessments of the utility companies.

3. Pricing estimate for LMIG and SPLOST projects are approximate. Actual estimates to be confirmed by Peachtree Corners.

WINTERS CHAPEL ROAD PROPOSED IMPROVEMENTS

CONCEPT OPINION OF PROBABLE COST

OPTION B (2)*

Segment 3, East side of Winters Chapel Rd. (Peeler Rd. to south side of intersection at Peachtree Industrial Blvd.)

**Option B (2): All of Option A, and change the sidewalk on the west side from Peeler Rd. to Spalding Dr. to a 12' wide multi-use path.*

ITEM	UNIT	UNIT COST	QUANTITY	EXTENDED COST
TRAFFIC CONTROL				
Traffic Control	HR	$39.40	200	$7,880.00
Traffic Control **(to be funded by Peachtree Corners LMIG)**	HR	$39.40	600	$23,640.00
Total Traffic Control (to be funded by Peachtree Corners LMIG)				$23,640.00
Total Traffic Control (not funded by Peachtree Corners LMIG)				$7,880.00
EROSION CONTROL				
Temporary Silt Fence, Type C **(to be funded by Peachtree Corners LMIG)**	LF	$2.79	2675	$7,463.25
Permanent Grassing **(to be funded by Peachtree Corners LMIG)**	AC	$793.28	0.65	$515.63
Barrier fence, orange, 4 ft **(to be funded by Peachtree Corners LMIG)**	LF	$1.53	2675	$4,092.75
Total Erosion Control (to be funded by Peachtree Corners LMIG)				$12,071.63
Total Erosion Control (not funded by Peachtree Corners LMIG)				$0.00
DEMOLITION				
Remove existing curb in areas where there is a single curb (price based on selective removal of reinforced concrete curb)	LF	$6.80	0	$0.00
Remove existing curb and gutter (price based on selective removal of reinforced concrete)	LF	$6.10	0	$0.00
Remove existing curb and gutter (price based on selective removal of reinforced concrete) **(to be funded by Peachtree Corners LMIG)**	LF	$6.10	2675	$16,317.50
Remove existing sidewalk	LF	$11.48	0	$0.00
Clearing and grubbing **(to be funded by Peachtree Corners LMIG)**	AC	$5,000.00	0.95	$4,750.00
Total Demolition (to be funded by Peachtree Corners LMIG)				$21,067.50
Total Demolition (not funded by Peachtree Corners LMIG)				$0.00
ROADWAY IMPROVEMENTS				
Concrete curb and gutter, 6 in x 24 in, TP 2 **(to be funded by Peachtree Corners LMIG)**	LF	$21.40	2675	$57,245.00
Sidewalk 4" thick, 4" gravel base, 5' wide	LF	$27.90	0	$0.00
Sidewalk 4" thick, 4" gravel base, 5' wide **(to be funded by Peachtree Corners LMIG)**	LF	$27.90	2675	$74,632.50
Retrofit ADA ramp (remove conc sidewalk + new 4" conc sidewalk)	EA	$252.29	8	$2,018.28
Retrofit ADA ramp **(to be funded by Peachtree Corners LMIG)**	EA	$252.29	49	$12,361.97
Integrally colored hot applied synthetic asphalt crosswalks	LF	$112.00	175	$19,600.00
Thermoplastic solid crosswalk stripe, 8 in, white	LF	$8.27	0	$0.00
Thermoplastic solid crosswalk stripe, 8 in, white **(to be funded by Peachtree Corners LMIG)**	LF	$8.27	210	$1,737.54
Mid block pedestrian crossing at Womack Dr. (thermoplastic crosswalk only)	LF	$8.27	20	$165.48
Pedestrian crossing signal assembly	EA	$7,391.67	4	$29,566.68
Drainage structures **(to be funded by Peachtree Corners LMIG)**	MI	$278,200.00	0.5	$139,100.00
Allowance for drainage improvements	Allow	$80,000.00	1	$80,000.00
Allowance for miscellaneous utility relocation **(to be funded by Peachtree Corners LMIG)**	Allow	$80,000.00	1	$80,000.00
Total Roadway Improvements (to be funded by Peachtree Corners LMIG)				$365,077.01
Total Roadway Improvements (not funded by Peachtree Corners LMIG)				$131,350.44
POCKET PARKS				
Bench	EA	$1,500.00	0	$0.00
Waste receptacle	EA	$1,000.00	0	$0.00
Sidewalk 4" thick, 4" gravel base, 4' wide	LF	$23.05	0	$0.00
Landscape treatment	Allow	$11,000.00	0	$0.00
Total Pocket Parks				$0.00
REST AREAS				
Bench, 6' wide	EA	$1,500.00	8	$12,000.00
Waste receptacle	EA	$1,000.00	8	$8,000.00
Concrete paving stone, 4"x8"x2.5", slab on grade base, asphalt bedding	SF	$17.45	1152	$20,102.40
Total Rest Areas				$40,102.40

LANDSCAPE				
3.5" caliper overstory trees every 40'	LF	$13.88	0	$0.00
3.5" caliper medium trees every 40'	LF	$12.63	0	$0.00
2.5" caliper small trees, landscape enhancement areas, 12 trees per 100 LF	LF	$49.78	1350	$67,203.00
2.5" caliper small trees every 30'	LF	$13.83	2900	$40,116.67
6x26 landscape beds, landscape enhancement areas	EA	$1,684.18	40	$67,367.20
Total Landscape				$174,686.87
PEDESTRIAN LIGHTING				
Pedestrian light leased through GA Power, spaced every 40'	EA	$4,000.00	102	$408,000.00
Electrical distribution for pedestrian light poles	LF	$23.24	4100	$95,284.00
Total Pedestrian Lighting				$503,284.00
BUS SHELTERS				
Average price for ones shown, include concrete pad 8'x12' and electrical hookup allowance	EA	$16,573.42	0	$0.00
Total Bus Shelters				$0.00
SUBTOTAL **(to be funded by Peachtree Corners LMIG)**				$421,856.14
SUBTOTAL (not funded by Peachtree Corners LMIG)				$857,303.71
5% Contractor Mobilization				$42,865.19
9% Design and Engineering				$77,157.33
35% Concept Level Contingency				$300,056.30
TOTAL				**$1,277,382.52**

Notes:

1. Right of Way Acquisition: Estimates for right of way acquisition have not been included in this estimate. It is anticipated that this project would occur with none to minor amounts of right of way acquisitions being necessary. Temporary/Construction easements may be needed in spot areas. The actual areas of acquisition needed would need to be determined during a schematic phase utilizing field survey information.

2. Utility Relocation: It is anticipated that some utility relocation will be necessary and an allowance for that relocation has been included in this estimate. Actual costs will depend upon the specific streetscape features and assessments of the utility companies.

3. Pricing estimate for LMIG and SPLOST projects are approximate. Actual estimates to be confirmed by Peachtree Corners.

WINTERS CHAPEL ROAD PROPOSED IMPROVEMENTS

CONCEPT OPINION OF PROBABLE COST

OPTION B (2)*

Segment 3, West side of Winters Chapel Rd. (Peeler Rd. to south side of intersection at Peachtree Industrial Blvd.)

**Option B (2): All of Option A, and change the sidewalk on the west side from Peeler Rd. to Spalding Dr. to a 12' wide multi-use path.*

ITEM	UNIT	UNIT COST	QUANTITY	EXTENDED COST
TRAFFIC CONTROL				
Traffic Control	HR	$39.40	400	$15,760.00
Total Traffic Control				$15,760.00
EROSION CONTROL				
Temporary Silt Fence, Type C	LF	$2.79	0	$0.00
Permanent Grassing	AC	$793.28	0	$0.00
Barrier fence, orange, 4 ft	LF	$1.53	0	$0.00
Total Erosion Control				$0.00
DEMOLITION				
Remove existing curb in areas where there is a single curb (price based on selective removal of reinforced concrete curb)	LF	$6.80	0	$0.00
Remove existing curb and gutter (price based on selective removal of reinforced concrete)	LF	$6.10	0	$0.00
Remove existing sidewalk	LF	$11.48	0	$0.00
Clearing and grubbing	AC	$5,000.00	0	$0.00
Total Demolition				$0.00
ROADWAY IMPROVEMENTS				
Concrete curb and gutter, 6 in x 24 in, TP 2	LF	$21.40	0	$0.00
Sidewalk 4" thick, 4" gravel base, 5' wide	LF	$27.90	0	$0.00
Retrofit ADA ramp (remove conc sidewalk + new 4" conc sidewalk)	EA	$252.29	12	$3,027.42
Integrally colored hot applied synthetic asphalt crosswalks	LF	$112.00	190	$21,280.00
Thermoplastic solid crosswalk stripe, 8 in, white	LF	$8.27	275	$2,275.35
Mid block pedestrian crossing at Womack Dr. (thermoplastic crosswalk only)	LF	$8.27	20	$165.48
Pedestrian crossing signal assembly	EA	$7,391.67	3	$22,175.01
Allowance for drainage structures	MI	$278,200.00	0.25	$69,550.00
Allowance for miscellaneous utility relocation	Allow	$80,000.00	0	$0.00
Total Roadway Improvements				$118,473.26
POCKET PARKS				
Bench	EA	$1,500.00	3	$4,500.00
Waste receptacle	EA	$1,000.00	1	$1,000.00
Sidewalk 4" thick, 4" gravel base, 4' wide	LF	$23.05	50	$1,152.50
Landscape treatment	Allow	$11,000.00	1	$11,000.00
Total Pocket Parks				$17,652.50
REST AREAS				
Bench, 6' wide	EA	$1,500.00	8	$12,000.00
Waste receptacle	EA	$1,000.00	8	$8,000.00
Concrete paving stone, 4"x8"x2.5", slab on grade base, asphalt bedding	SF	$17.45	1152	$20,102.40
Total Rest Areas				$40,102.40
LANDSCAPE				
3.5" caliper overstory trees every 40'	LF	$13.88	4250	$58,968.75
3.5" caliper medium trees every 40'	LF	$12.63	0	$0.00
2.5" caliper small trees every 30'	LF	$13.83	0	$0.00
Total Landscape				$58,968.75
PEDESTRIAN LIGHTING				
Pedestrian light leased through GA Power, spaced every 40'	EA	$4,000.00	102	$408,000.00
Electrical distribution for pedestrian light poles	LF	$23.24	4100	$95,284.00
Total Pedestrian Lighting				$503,284.00
BUS SHELTERS				
Average price for ones shown, include concrete pad 8'x12' and electrical hookup allowance	EA	$16,573.42	6	$99,440.50
Total Bus Shelters				$99,440.50

SUBTOTAL				$853,681.41
5% Contractor Mobilization				$42,684.07
9% Design and Engineering				$76,831.33
35% Concept Level Contingency				$298,788.49
TOTAL				**$1,271,985.30**

Notes:

1. Right of Way Acquisition: Estimates for right of way acquisition have not been included in this estimate. It is anticipated that this project would occur with none to minor amounts of right of way acquisitions being necessary. Temporary/Construction easements may be needed in spot areas. The actual areas of acquisition needed would need to be determined during a schematic phase utilizing field survey information.

2. Utility Relocation: It is anticipated that some utility relocation will be necessary and an allowance for that relocation has been included in this estimate. Actual costs will depend upon the specific streetscape features and assessments of the utility companies.

3. Pricing estimate for LMIG and SPLOST projects are approximate. Actual estimates to be confirmed by Peachtree Corners.

WINTERS CHAPEL ROAD PROPOSED IMPROVEMENTS CONCEPT OPINION OF PROBABLE COST	
OPTION C	
TOTAL Segment 1, East side of Winters Chapel Rd. (not funded by Gwinnett SPLOST)	$1,286,195.08
TOTAL Segment 1, West side of Winters Chapel Rd.	$2,022,166.21
TOTAL Segment 2, East side of Winters Chapel Rd.	$2,048,868.53
TOTAL Segment 2, West side of Winters Chapel Rd.	$2,222,276.54
TOTAL Segment 3, East side of Winters Chapel Rd.	$2,411,709.19
TOTAL Segment 3, West side of Winters Chapel Rd.	$2,286,843.12
TOTAL Winters Chapel Road Proposed Improvements	**$12,278,058.67**
Total includes 5% contractor mobilization, 9% design and engineering fees, and 35% concept level contingency.	

WINTERS CHAPEL ROAD PROPOSED IMPROVEMENTS

CONCEPT OPINION OF PROBABLE COST

OPTION C*

Segment 1, East side of Winters Chapel Rd. (Spalding Drive to south side of intersection at Dunwoody Club Dr.)

**Option C: All of Option A, and change ALL the sidewalks along the corridor to a 10' wide multi-use path.*

ITEM	UNIT	UNIT COST	QUANTITY	EXTENDED COST
TRAFFIC CONTROL				
Traffic Control	HR	$39.40	1200	$47,280.00
Total Traffic Control				$47,280.00
EROSION CONTROL				
Temporary Silt Fence, Type C	LF	$2.79	3710	$10,350.90
Permanent Grassing	AC	$793.28	0.85	$674.29
Barrier fence, orange, 4 ft	LF	$1.53	3710	$5,676.30
Total Erosion Control				$16,701.49
DEMOLITION				
Remove existing curb in areas where there is a single curb (price based on selective removal of reinforced concrete curb)	LF	$6.80	0	$0.00
Remove existing curb and gutter (price based on selective removal of reinforced concrete)	LF	$6.10	935	$5,703.50
Remove existing sidewalk	LF	$11.48	535	$6,143.58
Clearing and grubbing	AC	$5,000.00	1.1	$5,500.00
Total Demolition				$17,347.08
ROADWAY IMPROVEMENTS				
Concrete curb and gutter, 6 in x 24 in, TP 2	LF	$21.40	3710	$79,394.00
Multi-use Path 4" thick, 4" gravel base, 10' wide	LF	$55.80	3710	$207,018.00
ADA ramp	EA	$252.29	21	$5,297.99
Integrally colored hot applied synthetic asphalt crosswalks	LF	$112.00	90	$10,080.00
Thermoplastic solid crosswalk stripe, 8 in, white	LF	$8.27	285	$2,358.09
Pedestrian crossing signal assembly	EA	$7,391.67	4	$29,566.68
Allowance for drainage structures	MI	$278,200.00	0.8	$222,560.00
Allowance for miscellaneous utility relocation	Allow	$80,000.00	2	$160,000.00
Total Roadway Improvements				$716,274.76
POCKET PARKS				
Bench	EA	$1,500.00	3	$4,500.00
Waste receptacle	EA	$1,000.00	1	$1,000.00
Sidewalk 4" thick, 4" gravel base, 4' wide	LF	$23.05	50	$1,152.50
Landscape treatment	Allow	$11,000.00	1	$11,000.00
Total Pocket Parks				$17,652.50
REST AREAS				
Bench, 6' wide	EA	$1,500.00	4	$6,000.00
Waste receptacle	EA	$1,000.00	4	$4,000.00
Concrete paving stone, 4"x8"x2.5", slab on grade base, asphalt bedding	SF	$17.45	576	$10,051.20
Total Rest Areas				$20,051.20
LANDSCAPE				
3.5" caliper overstory trees every 40'	LF	$13.88	2000	$27,750.00
3.5" caliper medium trees every 40'	LF	$12.63	0	$0.00
2.5" caliper small trees every 30'	LF	$13.83	1895	$26,214.17
Total Landscape				$53,964.17
PEDESTRIAN LIGHTING				
Pedestrian light leased through GA Power, spaced every 40'	EA	$4,000.00	100	$400,000.00
Electrical distribution for pedestrian light poles	LF	$23.24	4000	$92,960.00
Total Pedestrian Lighting				$492,960.00
BUS SHELTERS				
Average price for ones shown, include concrete pad 8'x12' and electrical hookup allowance	EA	$16,573.42	0	$0.00
Total Bus Shelters				$0.00

SUBTOTAL				$1,382,231.19
Funding by Gwinnett SPLOST from Option A: Deduct from Subtotal				$519,013.02
SUBTOTAL: with SPLOST funds deducted				$863,218.17
5% Contractor Mobilization				$43,160.91
9% Design and Engineering				$77,689.64
35% Concept Level Contingency				$302,126.36
TOTAL				**$1,286,195.08**

Notes:

1. Right of Way Acquisition: Estimates for right of way acquisition have not been included in this estimate. It is anticipated that this project will incur both temporary and permanent construction/ right of way acquisition. The actual areas of acquisition needed would need to be determined during a schematic phase utilizing field survey information.

2. Utility Relocation: It is anticipated that some utility relocation will be necessary and an allowance for that relocation has been included in this estimate. Actual costs will depend upon the specific streetscape features and assessments of the utility companies.

3. Total value does not include any funding by Peachtree Corners LMIG.

4. Pricing estimate for LMIG and SPLOST projects are approximate. Actual estimates to be confirmed by Peachtree Corners.

5. Assumes SPLOST funding for sidewalks can be applied toward multi-use paths.

WINTERS CHAPEL ROAD PROPOSED IMPROVEMENTS

CONCEPT OPINION OF PROBABLE COST

OPTION C*

Segment 1, West side of Winters Chapel Rd. (Spalding Drive to south side of intersection at Dunwoody Club Dr.)

**Option C: All of Option A, and change ALL the sidewalks along the corridor to a 10' wide multi-use path.*

ITEM	UNIT	UNIT COST	QUANTITY	EXTENDED COST
TRAFFIC CONTROL				
Traffic Control	HR	$39.40	1200	$47,280.00
Total Traffic Control				$47,280.00
EROSION CONTROL				
Temporary Silt Fence, Type C	LF	$2.79	3630	$10,127.70
Permanent Grassing	AC	$793.28	0.85	$674.29
Barrier fence, orange, 4 ft	LF	$1.53	3630	$5,553.90
Total Erosion Control				$16,355.89
DEMOLITION				
Remove existing curb in areas where there is a single curb (price based on selective removal of reinforced concrete curb)	LF	$6.80	0	$0.00
Remove existing curb and gutter (price based on selective removal of reinforced concrete)	LF	$6.10	560	$3,416.00
Remove existing sidewalk	LF	$11.48	0	$0.00
Clearing and grubbing	AC	$5,000.00	1.25	$6,250.00
Total Demolition				$9,666.00
ROADWAY IMPROVEMENTS				
Concrete curb and gutter, 6 in x 24 in, TP 2	LF	$21.40	3630	$77,682.00
Multi-use Path 4" thick, 4" gravel base, 10' wide	LF	$55.80	3630	$202,554.00
ADA ramp	EA	$252.29	36	$9,082.26
Integrally colored hot applied synthetic asphalt crosswalks	LF	$112.00	65	$7,280.00
Thermoplastic solid crosswalk stripe, 8 in, white	LF	$8.27	238	$1,969.21
Pedestrian crossing signal assembly	EA	$7,391.67	4	$29,566.68
Reset guardrail	LF	$25.45	245	$6,235.25
Allowance for drainage structures	MI	$278,200.00	0.8	$222,560.00
Allowance for miscellaneous utility relocation	Allow	$80,000.00	2	$160,000.00
Total Roadway Improvements				$716,929.40
POCKET PARKS				
Bench	EA	$1,500.00	0	$0.00
Waste receptacle	EA	$1,000.00	0	$0.00
Sidewalk 4" thick, 4" gravel base, 4' wide	LF	$23.05	0	$0.00
Landscape treatment	Allow	$11,000.00	0	$0.00
Total Pocket Parks				$0.00
REST AREAS				
Bench, 6' wide	EA	$1,500.00	4	$6,000.00
Waste receptacle	EA	$1,000.00	4	$4,000.00
Concrete paving stone, 4"x8"x2.5", slab on grade base, asphalt bedding	SF	$17.45	576	$10,051.20
Total Rest Areas				$20,051.20
LANDSCAPE				
3.5" caliper overstory trees every 40'	LF	$13.88	845	$11,724.38
3.5" caliper medium trees every 40'	LF	$12.63	0	$0.00
2.5" caliper small trees every 30'	LF	$13.83	3050	$42,191.67
Total Landscape				$53,916.04
PEDESTRIAN LIGHTING				
Pedestrian light leased through GA Power, spaced every 40'	EA	$4,000.00	100	$400,000.00
Electrical distribution for pedestrian light poles	LF	$23.24	4000	$92,960.00
Total Pedestrian Lighting				$492,960.00
BUS SHELTERS				
Average price for ones shown, include concrete pad 8'x12' and electrical hookup allowance	EA	$16,573.42	0	$0.00
Total Bus Shelters				$0.00

SUBTOTAL				$1,357,158.53
5% Contractor Mobilization				$67,857.93
9% Design and Engineering				$122,144.27
35% Concept Level Contingency				$475,005.49
TOTAL				**$2,022,166.21**

Notes:

1. Right of Way Acquisition: Estimates for right of way acquisition have not been included in this estimate. It is anticipated that this project will incur both temporary and permanent construction/ right of way acquisition. The actual areas of acquisition needed would need to be determined during a schematic phase utilizing field survey information.

2. Utility Relocation: It is anticipated that some utility relocation will be necessary and an allowance for that relocation has been included in this estimate. Actual costs will depend upon the specific streetscape features and assessments of the utility companies.

3. Total value does not include any funding by Peachtree Corners LMIG.

4. Pricing estimate for LMIG and SPLOST projects are approximate. Actual estimates to be confirmed by Peachtree Corners.

WINTERS CHAPEL ROAD PROPOSED IMPROVEMENTS

CONCEPT OPINION OF PROBABLE COST

OPTION C*

Segment 2, East side of Winters Chapel Rd. (Dunwoody Club Dr. to south side of intersection at Peeler Rd.)

**Option C: All of Option A, and change ALL the sidewalks along the corridor to a 10' wide multi-use path.*

ITEM	UNIT	UNIT COST	QUANTITY	EXTENDED COST
TRAFFIC CONTROL				
Traffic Control	HR	$39.40	1200	$47,280.00
Total Traffic Control				$47,280.00
EROSION CONTROL				
Temporary Silt Fence, Type C	LF	$2.79	3900	$10,881.00
Permanent Grassing	AC	$793.28	0.9	$713.95
Barrier fence, orange, 4 ft	LF	$1.53	3900	$5,967.00
Total Erosion Control				$17,561.95
DEMOLITION				
Remove existing curb in areas where there is a single curb (price based on selective removal of reinforced concrete curb)	LF	$6.80	3325	$22,610.00
Remove existing curb and gutter (price based on selective removal of reinforced concrete)	LF	$6.10	0	$0.00
Remove existing sidewalk	LF	$11.48	3900	$44,785.00
Clearing and grubbing	AC	$5,000.00	1.35	$6,750.00
Total Demolition				$74,145.00
ROADWAY IMPROVEMENTS				
Concrete curb and gutter, 6 in x 24 in, TP 2	LF	$21.40	3900	$83,460.00
Multi-use Path 4" thick, 4" gravel base, 10' wide	LF	$55.80	3900	$217,620.00
ADA ramp	EA	$252.29	57	$14,380.25
Integrally colored hot applied synthetic asphalt crosswalks	LF	$112.00	90	$10,080.00
Thermoplastic solid crosswalk stripe, 8 in, white	LF	$8.27	85	$703.29
Mid block pedestrian crossing at Beth Shalom (thermoplastic crosswalk only)	LF	$8.27	18	$148.93
Pedestrian crossing signal assembly	EA	$7,391.67	0	$0.00
Allowance for drainage structures	MI	$278,200.00	0.25	$69,550.00
Allowance for miscellaneous utility relocation	Allow	$80,000.00	2	$160,000.00
Total Roadway Improvements				$555,942.47
POCKET PARKS				
Bench	EA	$1,500.00	6	$9,000.00
Waste receptacle	EA	$1,000.00	2	$2,000.00
Sidewalk 4" thick, 4" gravel base, 4' wide	LF	$23.05	100	$2,305.00
Landscape treatment	Allow	$11,000.00	2	$22,000.00
Total Pocket Parks				$35,305.00
REST AREAS				
Bench, 6' wide	EA	$1,500.00	6	$9,000.00
Waste receptacle	EA	$1,000.00	6	$6,000.00
Concrete paving stone, 4"x8"x2.5", slab on grade base, asphalt bedding	SF	$17.45	864	$15,076.80
Total Rest Areas				$30,076.80
LANDSCAPE				
3.5" caliper overstory trees every 40'	LF	$13.88	1840	$25,530.00
3.5" caliper medium trees every 40'	LF	$12.63	0	$0.00
2.5" caliper small trees every 30'	LF	$13.83	2650	$36,658.33
Total Landscape				$62,188.33
PEDESTRIAN LIGHTING				
Pedestrian light leased through GA Power, spaced every 40'	EA	$4,000.00	112	$448,000.00
Electrical distribution for pedestrian light poles	LF	$23.24	4500	$104,580.00
Total Pedestrian Lighting				$552,580.00
BUS SHELTERS				
Average price for ones shown, include concrete pad 8'x12' and electrical hookup allowance	EA	$16,573.42	0	$0.00
Total Bus Shelters				$0.00

SUBTOTAL				$1,375,079.55
5% Contractor Mobilization				$68,753.98
9% Design and Engineering				$123,757.16
35% Concept Level Contingency				$481,277.84
TOTAL				**$2,048,868.53**

Notes:

1. Right of Way Acquisition: Estimates for right of way acquisition have not been included in this estimate. It is anticipated that this project will incur both temporary and permanent construction/ right of way acquisition. The actual areas of acquisition needed would need to be determined during a schematic phase utilizing field survey information.

2. Utility Relocation: It is anticipated that some utility relocation will be necessary and an allowance for that relocation has been included in this estimate. Actual costs will depend upon the specific streetscape features and assessments of the utility companies.

3. Total value does not include any funding by Peachtree Corners LMIG.

4. Pricing estimate for LMIG and SPLOST projects are approximate. Actual estimates to be confirmed by Peachtree Corners.

WINTERS CHAPEL ROAD PROPOSED IMPROVEMENTS

CONCEPT OPINION OF PROBABLE COST

OPTION C*

Segment 2, West side of Winters Chapel Rd. (Dunwoody Club Dr. to south side of intersection at Peeler Rd.)

**Option C: All of Option A, and change ALL the sidewalks along the corridor to a 10' wide multi-use path.*

ITEM	UNIT	UNIT COST	QUANTITY	EXTENDED COST
TRAFFIC CONTROL				
Traffic Control	HR	$39.40	1200	$47,280.00
Total Traffic Control				$47,280.00
EROSION CONTROL				
Temporary Silt Fence, Type C	LF	$2.79	3975	$11,090.25
Permanent Grassing	AC	$793.28	0.95	$753.62
Barrier fence, orange, 4 ft	LF	$1.53	3975	$6,081.75
Total Erosion Control				$17,925.62
DEMOLITION				
Remove existing curb in areas where there is a single curb (price based on selective removal of reinforced concrete curb)	LF	$6.80	1175	$7,990.00
Remove existing curb and gutter (price based on selective removal of reinforced concrete)	LF	$6.10	605	$3,690.50
Remove existing sidewalk	LF	$11.48	0	$0.00
Clearing and grubbing	AC	$5,000.00	1.4	$7,000.00
Total Demolition				$18,680.50
ROADWAY IMPROVEMENTS				
Concrete curb and gutter, 6 in x 24 in, TP 2	LF	$21.40	3975	$85,065.00
Multi-use Path 4" thick, 4" gravel base, 10' wide	LF	$55.80	3975	$221,805.00
ADA ramp	EA	$252.29	37	$9,334.55
Integrally colored hot applied synthetic asphalt crosswalks	LF	$112.00	130	$14,560.00
Thermoplastic solid crosswalk stripe, 8 in, white	LF	$8.27	460	$3,806.04
Mid block pedestrian crossing at Beth Shalom (thermoplastic crosswalk only)	LF	$8.27	18	$148.93
Pedestrian crossing signal assembly	EA	$7,391.67	0	$0.00
Allowance for drainage structures	MI	$278,200.00	0.9	$250,380.00
Allowance for miscellaneous utility relocation	Allow	$80,000.00	2	$160,000.00
Total Roadway Improvements				$745,099.52
POCKET PARKS				
Bench	EA	$1,500.00	3	$4,500.00
Waste receptacle	EA	$1,000.00	1	$1,000.00
Sidewalk 4" thick, 4" gravel base, 4' wide	LF	$23.05	50	$1,152.50
Landscape treatment	Allow	$11,000.00	1	$11,000.00
Total Pocket Parks				$17,652.50
REST AREAS				
Bench, 6' wide	EA	$1,500.00	6	$9,000.00
Waste receptacle	EA	$1,000.00	6	$6,000.00
Concrete paving stone, 4"x8"x2.5", slab on grade base, asphalt bedding	SF	$17.45	864	$15,076.80
Total Rest Areas				$30,076.80
LANDSCAPE				
3.5" caliper overstory trees every 40'	LF	$13.88	1300	$18,037.50
3.5" caliper medium trees every 40'	LF	$12.63	0	$0.00
2.5" caliper small trees every 30'	LF	$13.83	3190	$44,128.33
Total Landscape				$62,165.83
PEDESTRIAN LIGHTING				
Pedestrian light leased through GA Power, spaced every 40'	EA	$4,000.00	112	$448,000.00
Electrical distribution for pedestrian light poles	LF	$23.24	4500	$104,580.00
Total Pedestrian Lighting				$552,580.00
BUS SHELTERS				
Average price for ones shown, include concrete pad 8'x12' and electrical hookup allowance	EA	$16,573.42	0	$0.00
Total Bus Shelters				$0.00

SUBTOTAL				$1,491,460.77
5% Contractor Mobilization				$74,573.04
9% Design and Engineering				$134,231.47
35% Concept Level Contingency				$522,011.27
TOTAL				**$2,222,276.54**

Notes:

1. Right of Way Acquisition: Estimates for right of way acquisition have not been included in this estimate. It is anticipated that this project will incur both temporary and permanent construction/ right of way acquisition. The actual areas of acquisition needed would need to be determined during a schematic phase utilizing field survey information.

2. Utility Relocation: It is anticipated that some utility relocation will be necessary and an allowance for that relocation has been included in this estimate. Actual costs will depend upon the specific streetscape features and assessments of the utility companies.

3. Total value does not include any funding by Peachtree Corners LMIG.

4. Pricing estimate for LMIG and SPLOST projects are approximate. Actual estimates to be confirmed by Peachtree Corners.

WINTERS CHAPEL ROAD PROPOSED IMPROVEMENTS

CONCEPT OPINION OF PROBABLE COST

OPTION C*

Segment 3, East side of Winters Chapel Rd. (Peeler Rd. to south side of intersection at Peachtree Industrial Blvd.)

**Option C: All of Option A, and change ALL the sidewalks along the corridor to a 10' wide multi-use path.*

ITEM	UNIT	UNIT COST	QUANTITY	EXTENDED COST
TRAFFIC CONTROL				
Traffic Control	HR	$39.40	1200	$47,280.00
Total Traffic Control				$47,280.00
EROSION CONTROL				
Temporary Silt Fence, Type C	LF	$2.79	3305	$9,220.95
Permanent Grassing	AC	$793.28	0.75	$594.96
Barrier fence, orange, 4 ft	LF	$1.53	3305	$5,056.65
Total Erosion Control				$14,872.56
DEMOLITION				
Remove existing curb in areas where there is a single curb (price based on selective removal of reinforced concrete curb)	LF	$6.80	0	$0.00
Remove existing curb and gutter (price based on selective removal of reinforced concrete)	LF	$6.10	3305	$20,160.50
Remove existing sidewalk	LF	$11.48	630	$7,234.50
Clearing and grubbing	AC	$5,000.00	1.15	$5,750.00
Total Demolition				$27,395.00
ROADWAY IMPROVEMENTS				
Concrete curb and gutter, 6 in x 24 in, TP 2	LF	$21.40	3305	$70,727.00
Multi-use Path 4" thick, 4" gravel base, 10' wide	LF	$55.80	3305	$184,419.00
ADA ramp	EA	$252.29	57	$14,380.25
Integrally colored hot applied synthetic asphalt crosswalks	LF	$112.00	175	$19,600.00
Thermoplastic solid crosswalk stripe, 8 in, white	LF	$8.27	210	$1,737.54
Mid block pedestrian crossing at Womack Dr. (thermoplastic crosswalk only)	LF	$8.27	20	$165.48
Pedestrian crossing signal assembly	EA	$7,391.67	4	$29,566.68
Drainage structures	MI	$278,200.00	0.9	$250,380.00
Allowance for drainage improvements	Allow	$80,000.00	1	$80,000.00
Allowance for miscellaneous utility relocation	Allow	$80,000.00	2	$160,000.00
Total Roadway Improvements				$810,975.95
POCKET PARKS				
Bench	EA	$1,500.00	0	$0.00
Waste receptacle	EA	$1,000.00	0	$0.00
Sidewalk 4" thick, 4" gravel base, 4' wide	LF	$23.05	0	$0.00
Landscape treatment	Allow	$11,000.00	0	$0.00
Total Pocket Parks				$0.00
REST AREAS				
Bench, 6' wide	EA	$1,500.00	8	$12,000.00
Waste receptacle	EA	$1,000.00	8	$8,000.00
Concrete paving stone, 4"x8"x2.5", slab on grade base, asphalt bedding	SF	$17.45	1152	$20,102.40
Total Rest Areas				$40,102.40
LANDSCAPE				
3.5" caliper overstory trees every 40'	LF	$13.88	0	$0.00
3.5" caliper medium trees every 40'	LF	$12.63	0	$0.00
2.5" caliper small trees, landscape enhancement areas, 12 trees per 100 LF	LF	$49.78	1350	$67,203.00
2.5" caliper small trees every 30'	LF	$13.83	2900	$40,116.67
6x26 landscape beds, landscape enhancement areas	EA	$1,684.18	40	$67,367.20
Total Landscape				$174,686.87
PEDESTRIAN LIGHTING				
Pedestrian light leased through GA Power, spaced every 40'	EA	$4,000.00	102	$408,000.00
Electrical distribution for pedestrian light poles	LF	$23.24	4100	$95,284.00
Total Pedestrian Lighting				$503,284.00
BUS SHELTERS				
Average price for ones shown, include concrete pad 8'x12' and electrical hookup allowance	EA	$16,573.42	0	$0.00
Total Bus Shelters				$0.00

SUBTOTAL				$1,618,596.77
5% Contractor Mobilization				$80,929.84
9% Design and Engineering				$145,673.71
35% Concept Level Contingency				$566,508.87
TOTAL				**$2,411,709.19**

Notes:

1. Right of Way Acquisition: Estimates for right of way acquisition have not been included in this estimate. It is anticipated that this project will incur both temporary and permanent construction/ right of way acquisition. The actual areas of acquisition needed would need to be determined during a schematic phase utilizing field survey information.

2. Utility Relocation: It is anticipated that some utility relocation will be necessary and an allowance for that relocation has been included in this estimate. Actual costs will depend upon the specific streetscape features and assessments of the utility companies.

3. Total value does not include any funding by Peachtree Corners LMIG.

4. Pricing estimate for LMIG and SPLOST projects are approximate. Actual estimates to be confirmed by Peachtree Corners.

WINTERS CHAPEL ROAD PROPOSED IMPROVEMENTS

CONCEPT OPINION OF PROBABLE COST

OPTION C*

Segment 3, West side of Winters Chapel Rd. (Peeler Rd. to south side of intersection at Peachtree Industrial Blvd.)

**Option C: All of Option A, and change ALL the sidewalks along the corridor to a 10' wide multi-use path.*

ITEM	UNIT	UNIT COST	QUANTITY	EXTENDED COST
TRAFFIC CONTROL				
Traffic Control	HR	$39.40	1200	$47,280.00
Total Traffic Control				$47,280.00
EROSION CONTROL				
Temporary Silt Fence, Type C	LF	$2.79	3675	$10,253.25
Permanent Grassing	AC	$793.28	0.85	$674.29
Barrier fence, orange, 4 ft	LF	$1.53	3675	$5,622.75
Total Erosion Control				$16,550.29
DEMOLITION				
Remove existing curb in areas where there is a single curb (price based on selective removal of reinforced concrete curb)	LF	$6.80	0	$0.00
Remove existing curb and gutter (price based on selective removal of reinforced concrete)	LF	$6.10	1585	$9,668.50
Remove existing sidewalk	LF	$11.48	2700	$31,005.00
Clearing and grubbing	AC	$5,000.00	1.3	$6,500.00
Total Demolition				$47,173.50
ROADWAY IMPROVEMENTS				
Concrete curb and gutter, 6 in x 24 in, TP 2	LF	$21.40	1585	$33,919.00
Multi-use Path 4" thick, 4" gravel base, 10' wide	LF	$55.80	3675	$205,065.00
ADA ramp	EA	$252.29	36	$9,082.26
Integrally colored hot applied synthetic asphalt crosswalks	LF	$112.00	190	$21,280.00
Thermoplastic solid crosswalk stripe, 8 in, white	LF	$8.27	275	$2,275.35
Mid block pedestrian crossing at Womack Dr. (thermoplastic crosswalk only)	LF	$8.27	20	$165.48
Pedestrian crossing signal assembly	EA	$7,391.67	3	$22,175.01
Allowance for drainage structures	MI	$278,200.00	0.9	$250,380.00
Allowance for miscellaneous utility relocation	Allow	$80,000.00	2	$160,000.00
Total Roadway Improvements				$704,342.10
POCKET PARKS				
Bench	EA	$1,500.00	3	$4,500.00
Waste receptacle	EA	$1,000.00	1	$1,000.00
Sidewalk 4" thick, 4" gravel base, 4' wide	LF	$23.05	50	$1,152.50
Landscape treatment	Allow	$11,000.00	1	$11,000.00
Total Pocket Parks				$17,652.50
REST AREAS				
Bench, 6' wide	EA	$1,500.00	8	$12,000.00
Waste receptacle	EA	$1,000.00	8	$8,000.00
Concrete paving stone, 4"x8"x2.5", slab on grade base, asphalt bedding	SF	$17.45	1152	$20,102.40
Total Rest Areas				$40,102.40
LANDSCAPE				
3.5" caliper overstory trees every 40'	LF	$13.88	4250	$58,968.75
3.5" caliper medium trees every 40'	LF	$12.63	0	$0.00
2.5" caliper small trees every 30'	LF	$13.83	0	$0.00
Total Landscape				$58,968.75
PEDESTRIAN LIGHTING				
Pedestrian light leased through GA Power, spaced every 40'	EA	$4,000.00	102	$408,000.00
Electrical distribution for pedestrian light poles	LF	$23.24	4100	$95,284.00
Total Pedestrian Lighting				$503,284.00
BUS SHELTERS				
Average price for ones shown, include concrete pad 8'x12' and electrical hookup allowance	EA	$16,573.42	6	$99,440.50
Total Bus Shelters				$99,440.50

SUBTOTAL				$1,534,794.04
5% Contractor Mobilization				$76,739.70
9% Design and Engineering				$138,131.46
35% Concept Level Contingency				$537,177.91
TOTAL				**$2,286,843.12**

Notes:

1. Right of Way Acquisition: Estimates for right of way acquisition have not been included in this estimate. It is anticipated that this project will incur both temporary and permanent construction/ right of way acquisition. The actual areas of acquisition needed would need to be determined during a schematic phase utilizing field survey information.

2. Utility Relocation: It is anticipated that some utility relocation will be necessary and an allowance for that relocation has been included in this estimate. Actual costs will depend upon the specific streetscape features and assessments of the utility companies.

3. Total value does not include any funding by Peachtree Corners LMIG.

4. Pricing estimate for LMIG and SPLOST projects are approximate. Actual estimates to be confirmed by Peachtree Corners.

Attachment C:
Proposed Recommendations: Zoning and Development Code

POND

PROPOSED RECOMMENDATIONS: ZONING AND DEVELOPMENT CODE

The Site Inventory and Analysis Report recorded zoning, development and subdivision regulations employed by the two cities that impact the look, feel and function of the Winters Chapel Road corridor.

The sections below propose a set of zoning and development requirements for each city to consider adding to their codes, along with a provision to state that where conflict(s) exist with other code sections, these regulations shall take precedent.

The format and location for these recommendations will depend on the respective City preference; that is, whether to prepare an overlay district, a dedicated section in the development regulations, or to add to each applicable section that differs from what is desired for Winters Chapel an additional subsection or line item in a table (specifying the exception or additional rule for the corridor). For example, an existing table that establishes street lane, sidewalk and planting strip width by street type (local, arterial, etc.) would add another "type" – Winters Chapel – and list the associated standards.

SPECIFIC REGULATIONS

General Provisions.

- Establish the need found by the City through the Winters Chapel Design Study. Based upon detailed analysis and planning, the City finds development and design standards specific to this corridor necessary given the existing mix of uses, road speed and traffic operations, density and pedestrian activity.
- Identify that the City has adopted improvements that new development must adhere to (*should the City adopt the study's design recommendations*).
- Where other provisions conflict with those identified specifically for the Winters Chapel Road corridor, the latter shall apply/take precedence.

Applicability.

- Define boundary of affected parcels: all properties with direct access to Winters Chapel road within City boundary
- Recommended to Peachtree Corners to add language similar to Sec 16-27 of the Dunwoody code, related to triggers for requiring improvements, summarized below:

  Applicants must construct, or otherwise provide (possible fee in lieu[4]) for public ROW improvements as set forth herein if issuance of permit would result in any of the following:

  1. New access to street created
  2. 8 or more parking stalls
  3. Structural improvements that exceed 25% (in cost) of the county tax assessor's 100% assessed value of existing improvements (within the previous 12-month period)
  4. Where building floor area increased by more than 10%
  5. Where change in use or operations results in a 20% or greater increase in traffic

[4] *Revised per Peachtree Corners staff comments, 4-22-15*

Zoning.

- To help with access management: recommend prohibiting any new **single**-lot, single family residential with direct access to Winters Chapel; establish a minimum number of new units for any new subdivisions (e.g., ten or greater; actual number to be determined) and refer to requirement to add a deceleration lane for new subdivisions with that threshold number.
- Recommend restricting zoning as follows:
  - City of Dunwoody: allow any single-dwelling district subdivision (with minimum threshold of new units); allow new RM-150 to RM-85 (14 units to the acre); allow existing RM to be redeveloped to RM-75 (if redevelopment desired for aging complexes). Prohibit new C2, OD, and M.
  - City of Peachtree Corners: allow any single-dwelling district subdivision (with minimum threshold of new units); allow new RM districts. Prohibit new C-2, C-3, OBP and M (1 & 2) districts.

Use Regulations.

- To address access management: no new schools or day care, unless willing to provide decel lanes.
- Peachtree Corners: C-1 allows by SUP: car wash & fuel pumps (recommend that along Winters Chapel, not eligible for these); many OI uses allowed by SUP may be too intense for the corridor (day care, hotels and motels).
- Recommend both Cities **prohibit big-box** or otherwise limit commercial footprint to 20,000 square feet, and up to 50,000 per building envelope if providing some neighborhood open space or gathering space like public plaza, benches, etc. This does not prohibit a grocery store from having outparcels. This does not prohibit a typical big-box chain, provided they break up their total square footage of each structure.

Architectural Design.

- Recommend requiring minimum architectural design for all non-SF detached residential (all mixed-use, commercial, office, multi-family and attached).
- Peachtree Corners could simply add a provision that requires that section 1315.2 (5) Architectural Design apply to any new development and redevelopment along the corridor.
- Dunwoody may have architectural requirements that were not available/found through Municode. If none exist, the city may find it appropriate to adopt the same architectural standards as Peachtree Corner overlay, regulating:
  - Materials, prohibiting metal
  - Roof pitch and materials; parapet requirements
  - Screening of mechanical systems
  - Wall articulation/variation
  - Residential materials (50% minimum brick, stone or stucco)

Street Standards and Required Improvements.

- Regardless of whether the cities pursue infrastructure improvements along the corridor themselves or the timing of such improvements, they should give themselves the option of requiring improvements that meet the standards and dimensions of the desired streetscape and

road functioning (potentially adopted as the Winters Chapel Design Standards, proposed elsewhere in this report).

- To manage the potential phasing of improvements, each jurisdiction should give itself the option of waiving the required improvement, but allow for recapture of costs through a fee-in-lieu of provision, such as that currently specified by Dunwoody code section 16.27 and 28.
- Applicants should be required to provide the improvements indicated on adopted development standards and streetscape typical (summarized below in the table below).
- Because of varying right-of-way, shoulder width and other constraints identified in each of the Inventory Area Maps 1-5, the following table should be adopted with the option of the respective Public Works or Community Development Director to **waive, re-align, or narrow the dimensional requirements** described below:

Winters Chapel Improvement	Typical Standard or Dimension *(in feet, unless otherwise noted)*	Comment
Street Standard		
ROW	65 – 140	
Travel Lane Width	11-12	Consider narrowing to 9 or 10, if traffic calming desired and/or bicycle lanes constructed
Sidewalk	5	
Planting Strip	5	Depending on existing conditions
Utility space	3	
Curb & Gutter	2	Unless other stormwater technique with proven efficacy proposed and approved by City
Street furniture or Pad	Every 500 feet, on alternating sides of street	In residential segments of road, may be 1000
Street Tree	-Large canopy: every 40 ft; -Med. canopy: every 40 ft; -Small canopy: every 30 ft	-Large planting bed width: 6; see species list -Med. planting bed width: 4 and limited to 2” -2.5” caliper Trident maple or American Maple species -Small planting bed width 4; see species list All: locations will vary; depend upon no utility/power line interference, sufficient setback from road, and distance from intersection(s)
Curb cut & drive separation/Access	Min distance 250; 1 curb cut per 400 ft frontage max; Require inter-parcel connectivity	Prohibit new access for individual residential lot; require shared access for new commercial with ability to waive this requirement; specify inter-connectivity options as stub-outs, cross-access and/or shared access drive.

Street to entrance	Min 3 foot wide sidewalk from street to building front	Commercial and multi-family; consider requiring interior to existing parking lots when any part of property is redeveloped (or at minimum, require striping for pedestrians)
Street Tree Maintenance		Both codes already required property owner
Front Yard (yard with frontage facing Winters Chapel)		
Parking in front	Max 2 rows of parking	Require remaining parking to be distributed along side and rear of building
Parking lots	7.5 foot strip adjacent to street side with minimum 3 ft high planting	This is Dunwoody's current code; Peachtree Corners requires 10 foot strip, but you may want to reduce given the restricted front parking.
Screening		
Dumpsters	Shall be screened on all 4 sides	
HV/AC, Mechanical Equipment	Shall be screened	By parapet if on rooftops
Outdoor Display	Prohibited in front yard; screening required if in side yard	Unless for seasonal or temporary sale or event; consider allowing in the side front yard if fully screened with decorative fencing (for things like lawn equipment or plant sales for the WalMart)

PROPERTY MAINTENANCE AND CODE ENFORCEMENT

Dunwoody code Section 8-86 addresses "Maintenance of proper sanitary conditions", focusing on keeping weeds cut and trash or rubbish off of the property. It further allows the City authority to rid non-compliant properties of weeds and trash. The City also adopted the International Property Maintenance Code.

Similarly the Peachtree Corners Property Maintenance Code mirrors the 2012 International Property Maintenance Code. Sections 301 and 302 addresses property owners' requirements to maintain clean, safe secure and sanitary vacant structures and all exterior properties. The code specifies maintaining structures, drives and yards in a "proper state of repair" and also provides authority to city staff to cut and destroy weeds.

The two cities appear to share the same base level of property owner responsibilities regarding maintenance. Further protection may be desired to address vacant property requirements, specifically related to building paint or materials, parking lot plant growth (more restrictive than just the 12 inch of weeds standard), signs, and striping within parking lots and drives.

Attachment D:
Proposed Recommendations: Maintenance Plan and Schedules

POND

MAINTENANCE PLAN AND SCHEDULE

The cities shall be responsible for the general maintenance and upkeep of the streetscape between the back of the curb and the right of way, including the sidewalk, furniture, vegetation planted as part of the corridor enhancement, pedestrian lighting and trash receptacles. The adjacent property owner shall be responsible for litter pick up and grass maintenance including cleaning, weeding, reseeding and mowing.

The cities' respective Public Works departments should continue to provide basic street services from curb to curb including street sweeping, repair of streets including pavement, crosswalks, sidewalk repair and drainage and traffic control facilities.

The following are recommended guidelines for maintenance and scheduling of these activities:

MAINTENANCE OF PLANTING MATERIALS FOR POCKET PARKS AND LANDSCAPE ENHANCEMENT AREAS

Maintenance will be required for these areas on a seasonal basis. When creating planting designs, maintenance should be considered when selecting plant materials. Plants require sufficient watering during the establishment period to develop proper root systems. Even low maintenance palettes will need a certain amount of maintenance to uphold plant health and appearance. The maintenance program should include inspection in spring and fall to address:

- Replacement of damaged or dead plant materials
- Spring clean-up of prior season's growth / die-back
- Removal of refuse and leaves that have encroached into planting beds
- Seasonal weeding, pruning and dead-heading

Annual Cost estimate for maintenance of vegetation in pocket parks: an allowance of $500 year/per park (may vary depending on size of pocket park; average size 1200 sf).

STREET TREE MAINTENANCE

The cities shall be responsible for tree maintenance for trees that have been planted as part of the corridor enhancement. Maintenance shall include watering during establishment, cyclic pruning, mulching, and removal/replacement of dead, dying or hazardous trees.

Watering/Mulching During Establishment

It is recommended that trees are watered once a week from spring until fall. Newly planted trees will require watering for the first 2-3 years until they are established. Water the trees with approximately 20 gallons. During hot weather trees may require 30 gallons of water per week, applied in 2 separate waterings (15 gallons each). Consider including watering bags with installation of trees to reduce maintenance labor costs. Establish and maintain a 3" to 4" layer of decomposed wood mulch around the root zone of the trees. It is recommended that this watering and maintenance service be included with the installation contract of the trees.

Pruning

Pruning for trees planted within the right of way is recommended on a cyclic basis.

1) Trim young trees (smaller than 6" in DBH and 25' tall) to prevent tree structures that can lead to potential problems as the tree ages. Trees can be pruned from the ground with a pole pruner or pruning shear to increase structural integrity by pruning for one dominate leader (depending on species). Maintain at least 8' of clearance for pedestrians and bicyclists to avoid hazards created by low branches near sidewalks and drives. Inspect trees for dead dying and hazardous conditions at this time. After three years, newly planted trees enter a routine pruning cycle.

   Inspect and prune one third of the young tree population once each year.

   Annual Cost Estimate: $30/tree (one third of all trees per year for 5 years)

2) Trim older trees in a routine pruning cycle every 5 years to clean, reduce deadwood, improve structure and raise the crown. This will also improve tree health. Maintain at least 8' of clearance for pedestrians and bicyclists to avoid hazards created by low branches near sidewalks and drives. Inspect trees for dead dying and hazardous conditions at this time.

   Inspect and prune one third of the older tree population once each year.

   Annual Cost Estimate: $88/ tree year (one third of all trees per year) up to 18" trees.

Notes:

1. Do not remove more than 25% of the total foliage of the tree at any given time. Prune in late winter.

2. After trees achieve size of 18" or greater pruning costs will increase and costs should be reevaluated over time

Removal and Replacement

Trees should be warrantied for at least one year. Removal/Replacement should take place depending on if the tree presents a hazard or visual problem. Trees should be replaced for missing/removed trees every 5 years as needed.

SIDEWALK/ MULTI-USE PATH MAINTENANCE

In order to maintain safe and accessible sidewalks or multi use paths, inspection and maintenance will be necessary. Users may report possible deviations to the cities' public works departments, but the cities should also have a scheduled inspection and repair plan to address possible hazards or damages.

The cities should inspects corridor sidewalks and/or multi-use paths once every 5 years since this is a potential major pedestrian route. During these inspections, PROWAG guidelines shall be followed. In addition, the following deviations shall be considered in considering areas for repairs:

- Vertical separation of over .25 inches shall be beveled with a slope not steeper than 1v:2h. Changes in level greater than .5 inch shall be ramp grade or flatter, a slope of 8.33 percent or less.
- Cross slope exceeding 1" per foot.
- Holes/gaps or raised areas exceeding 3" in diameter or at any place ponding water or a drainage way has formed into the surface.

- Areas cracked into 4 or more pieces or missing a piece greater than 4 square inches.
- Where sidewalk has spalled over 50% of the surface.

If utility systems are impacted by sidewalk repairs or replacement, notify the appropriate utility system owner to coordinate mitigation of the cause of damage prior to the sidewalk repair or replacement.

Annual Cost Estimate: a) $800 /mile/per year of sidewalk

b) $1500 /mile/per year of multi-use path

Full inspection to be performed once every 5 years, but yearly maintenance budget to be allocated to deal with spot treatments as reported by residents/users.

STREETSCAPE FURNITURE MAINTENANCE

Typical street furniture problems may include dirty equipment, vandalism, broken bench seats, backrests, arms, and embedded litter. Because these problems may affect health and safety regulations, it will be important for the Cities to address these issues. The following should be included in the streetscape furniture maintenance regime:

- Site inspections: Streetscape furniture should be inspected on a yearly basis and included in City staff responsibilities

  Annual Cost Estimate: To be included in staff hours. Materials cost minimal.

- Cleaning: Cleaning of street and pocket park furnishings will typically include the removal of scuff marks, food and drink spills and stains and dust and dirt. It is best removed by pressure cleaning by hand with soapy water or brushing, scrubbing or wiping with non-abrasive rags and cleansers. Actual method to be determined at the time of inspection

  Annual Cost Estimate: To be included in staff hours. Materials cost minimal.

- Graffiti Removal: The street furniture should be selected with graffiti resistance in mind, but is not foolproof in eliminating graffiti. Removing graffiti as soon as possible limits the effect of graffiti encouraging further graffiti. Methods to remove graffiti include:
  - Use of graffiti wipes
  - Citrus cleansers
  - Abrasive cloths and solvents

  Annual Cost Estimate: To be included in staff hours. Materials cost minimal.

- Safety Evaluation and Reporting: Inspect furnishings for potential safety hazards such as sharp surfaces or unstable placement.

  Annual Cost Estimate: To be included in staff hours. Materials cost minimal.

- Furniture Repairs and Replacement: Repair of benches, trash receptacles: Repairs should be conducted after annual inspection. Repairs may include but are not limited to: Resetting benches and trash receptacles, repairing broken parts of benches and trash receptacles, repairing glass at bus shelters.

Annual Cost Estimates: Costs will vary widely—

a) Bench repair: range from $0-$800 per unit.

b) Trash receptacle repair: range from $0-$500 per unit.

c) Bush shelter repair: range from $0-$5000 per unit.

- Painting, refinishing, refurbishment and replacement of streetscape furniture

  Annual Cost Estimates: Costs will vary widely. Replacement costs will be similar to installation costs with the additional cost of removal of the previous furnishings and potential patching of pavement.

  a) Painting of benches: range from $30-$90/unit

  b) Painting of trash receptacle: range from $30-$90/unit

  c) Painting of bus shelter: range from $100-$1200/unit

TRASH RECEPTACLE/ RECYCLING PICKUP

The cities should empty trash receptacles and recycling bins weekly as a part of their regional service plans.

Note: Costs/labor hours according to City standard rates.

PEDESTRIAN LIGHTING MAINTENANCE

Lighting services will be provided by Georgia Power; lights will therefore be maintained by Georgia Power as part of the installation/maintenance agreement.

MAINTENANCE SCHEDULE SUMMARY

A summary is provided below for recommended maintenance tasks and scheduling.

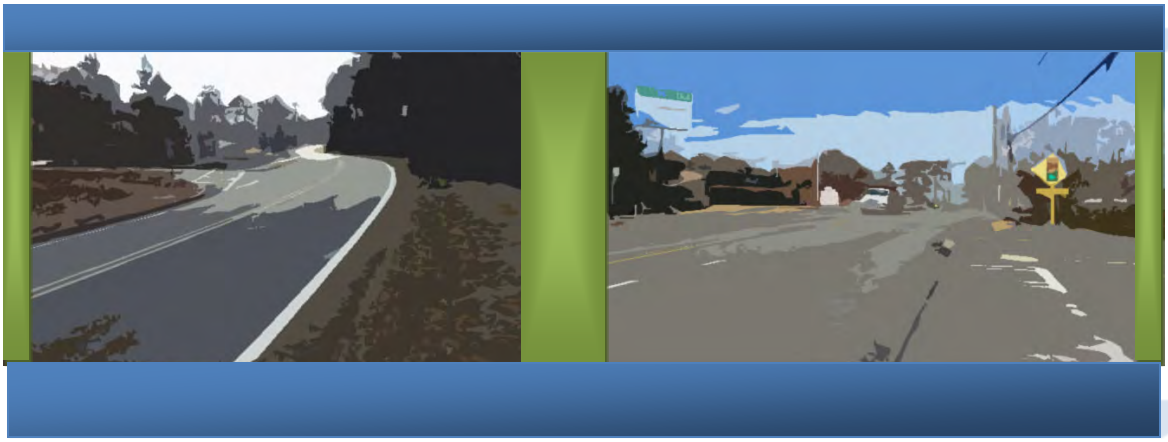
STREETSCAPE MAINTENANCE SCHEDULE	
Recurrence Rate	**Task**
Twice Weekly Minimum	1. Watering newly planted trees (in hot periods during growing season)
Weekly	1. Empty trash/ recycling containers 2. Watering newly planted trees (in growing season)
Seasonal	1. Landscape area maintenance
1x/ Year	1. Sidewalk inspection 2. Prune 1/3 of small trees 3. Mulching 4. Inspect site furnishings
1x/5 Years	1. Remove/replace dead/dying/diseased trees 2. Prune 1/5 of regular trees 3. Inspect sidewalks/multi use paths
As needed	1. Remove hazardous trees 2. Fix safety hazardous on sidewalks/multi-use paths or site furnishings 3. Fix broken site furnishings

STREET TREE AND LANDSCAPE MAINTENANCE SCHEDULE	
SPRING *16 MAR - 15 MAY*	**SUMMER** *16 MAY - 15 SEP*
1.Landscape areas: Replacement of damaged or dead plant materials	1. Landscape areas: Seasonal weeding, pruning and dead heading.
2. Landscape areas: Clean-up of prior seasons growth/die-back	2. Street Trees: Mulching
3. Landscape areas: Removal of refuse and leaves that have encroached into planting beds	3. Street Trees: Watering once to twice weekly of newly planted trees.
4. Street Trees: Watering newly planted trees during establishment	
FALL *16 SEP - NOV 15*	**WINTER** *16 NOV - 15 MAR*
1. Landscape areas: Replacement of damaged or dead plant materials	1. Street Trees: Pruning
2. Landscape areas: Clean-up of prior seasons growth/die-back	
3.Landscape areas: Removal of refuse and leaves that have encroached into planting beds	
4. Watering of newly planted trees during establishment	
5. Replacement of dead/missing trees.	

Appendix A:
Preliminary Recommendations Report (March 10,2015)

POND

Dunwoody – Peachtree Corners
Winters Chapel Design Standards
Preliminary Recommendations | March 10, 2015



POND

Winters Chapel Design Study: Preliminary Recommendations

INTRODUCTION

The Winters Chapel Corridor Design Standards public workshop was well attended. Over 170 people from the communities of Peachtree Corners, Dunwoody and Sandy Springs attended. From this meeting we collected a good deal of public input ranging from general roadway comments to specifics on visual preferences of potential site features, to locations of problem areas and proposed improvements.

After the general introduction and review of the site analysis plans, we encouraged participation at two stations for input. The first station was a large map of the corridor where people could draw or locate problem areas or desired proposed features. The second station consisted of site analysis maps for review, visual preference survey and boards to comment on various aspects of pedestrian, bicycle and open space along the corridor.

This document summarizes the preliminary recommendations from the site analysis and public input process. Additionally we have included the "raw" data collected at the public meeting. Attached to this summary are:

1) Results of the visual preference surveys and visual results.
2) Photos of overall corridor maps with markups/comments by the public.
3) Listing of written comments received on the comment boards.
4) Listing of comments written on map.
5) Additional comments received during the meeting.
6) Sign-in sheets from the meeting.

SUMMARY OF CONCERNS

Based upon the map results and comments received during the workshop there were several concerns that the public appeared to agree on and facilities that there was strong demand for. These items are as follows:

- More sidewalks within the corridor.
- Sidewalks on both sides of the corridor.
- Consider facilities for bicycles.
- Landscaping along the water treatment plant, especially along the east side.
- Improved pedestrian conditions at the Peeler Road, Dunwoody Club Drive, and Peachtree Industrial Boulevard intersections.

- Concerns about traffic operations at the Peeler Road, Dunwoody Club Drive, Peachtree Industrial Boulevard, and Spalding Drive intersections.
- Provisions to walk to the commercial district from elsewhere in the corridor.
- Improved motorist/pedestrian conditions at the curve along the east side of the roadway between Spalding Glen Drive and Winters Hill Drive.
- Improved maintenance or code enforcement in front of utility easement corridors and the old cemetery next to North Atlanta Memorial Park.
- Concerns about conditions of business signage/facades/presence through the commercial corridor.
- Safe pedestrian crossing points across Winters Chapel Road.
- Drainage improvements in spot areas.
- Pedestrian crossings and access near Beth Shalom Synagogue.
- Perception that cars are driving faster than speed limit through corridor.
- Concerns about motorist conditions around Peeler Road and Peachtree Industrial Boulevard intersections (and prior to these intersections).

Other comments received pre and post-meeting have been taken into consideration for these recommendations.

SUMMARY OF PROPOSED PROJECTS

The summary of proposed projects is classified into overall corridor and specific area projects. Attached are diagrammatic maps showing the corridor divided into 5 sub areas, with locations and types of proposed projects.

Overall Corridor

- Landscaping:
    - Proposed large trees (locations TBD). Every 40’ along roadway where no overhead powerlines or utilities interfere, sufficient setbacks from roadway and at least 6’ of planting bed width exists.
    - Proposed medium trees (locations TBD). Every 40’ along roadway where no overhead powerlines or utilities interfere, sufficient setbacks from roadway and at least 4’ of planting bed width exists.
    - Proposed small trees (locations TBD). Every 30’ along roadway where overhead power lines or utilizes interfere, sufficient setbacks from roadway and at least 4’ of planting bed width exists.

- Crosswalks /ADA:
    - Striped crosswalks at all roadway and commercial driveway crossings.
    - Stamped asphalt crosswalks at major roadways including Peachtree Industrial Boulevard, Peeler Road, Jones Mill Road, Dunwoody Club Drive and Spalding Drive.
- Bus Shelters:
    - Simple bus shelters at all stops south from Peeler Road.
- Benches/ Trash Receptacles:
    - Benches (6' wide) are proposed every 1000' along residential areas of corridor. Trash receptacle with recycling to be placed next to bench. Benches to be offset from sidewalk on minimum 5' wide concrete pad.
    - Benches (6' wide) are proposed every 500' along commercial areas of corridor. Trash receptacle with recycling to be placed next to bench. Benches to be offset from sidewalk on minimum 5' wide concrete pad.

Specific Projects: Base Projects

Area 1

Sidewalks:

1) 5' wide sidewalks are being proposed by Gwinnett County SPLOST from Dunwoody Club Drive north to Spalding Drive on the east side of the roadway. ADA curb cut ramps/features to be included. Drainage and curb and gutter to be included in selected locations along this area.
2) Sidewalks north from Peeler Road to Nesbit Ferry Road on west side of roadway are proposed. Minimum 5' wide with separation from roadway of 5' where possible. ADA curb cut ramps/features to be included.

Pedestrian Crossings/Crosswalks:

1) Stamped asphalt crosswalk across Winters Chapel Road at Spalding Drive, with pedestrian signal to north side.
2) Striped crosswalks to be included as part of Gwinnett County SPLOST across minor roadways. ADA ramps to be included.
3) Striped crosswalks at road crossings when new sidewalks installed north from Peeler Road to Nesbit Ferry Road on west side of roadway.

Proposed Lighting:

1) Pedestrian lighting or improved roadway lighting between Spalding Glen Drive and Winters Hill Drive on east side of road.

Pocket Parks:

1) Pocket park in right-of-way at large property south of Spalding Glen Drive on east side of road (where potential wetland shown).

Other:

1) Drainage improvements south of Winters Hill on east side of roadway. Type to be determined.

Area 2

Sidewalks:

1) 5' wide sidewalks are being proposed by Gwinnett County SPLOST from Dunwoody Club Drive north to Spalding Drive on the east side of the roadway. ADA curb cut ramps/features to be included. Drainage and curb and gutter to be included in selected locations along this area.

2) Sidewalks north from Peeler Road to Nesbit Ferry Road on west side of roadway are proposed. Minimum 5' wide with separation from roadway of 5' where possible. ADA curb cut ramps/features to be included.

Pedestrian Crossings/Crosswalks:

1) Stamped asphalt crosswalk across Winters Chapel Road at Dunwoody Club Drive at north side of intersection, and across Dunwoody Club Drive with pedestrian signals.

2) Mid-block crossings across Winters Chapel Road across from Congregation Beth Shalom.

3) Striped crosswalks to be included as part of Gwinnett County SPLOST across minor roadways. ADA ramps to be included.

4) Striped crosswalks along at road crossings when new sidewalks installed north from Peeler Road to Nesbit Ferry road on west side of roadway.

Proposed Lighting:

1) None in this area.

Pocket Parks/Rest Areas:

1) Pocket park within right-of-way south of Marston Way on east side of roadway, possibly under power easement.

Other:

1) Drainage improvements south of Marston Way on east side of road.

2) Drainage improvements at power easement north of Congregation Beth Shalom on east side.

3) Drainage improvements across from Congregation Beth Shalom on west side.

4) Investigate potential trail connection along Colonial Pipeline Easement west into Dunwoody.

Area 3

Sidewalks:

1) Sidewalks north from Peeler Road to Nesbit Ferry Road on west side of roadway are proposed. Proposed 5' wide sidewalks with separation from roadway where feasible. ADA curb cut ramps/features to be included.

Pedestrian Crossings/Crosswalks:

1) Stamped asphalt crosswalk at Jones Mill Road.

2) Striped crosswalks along at road crossings when new sidewalks installed north from Peeler Road to Nesbit Ferry road on west side of roadway.

Proposed Lighting:

1) Additional pedestrian lighting at Sumac Drive south to Jones Mill Road.

Pocket Parks:

1) Pocket park within right-of-way along cemetery adjacent to North Atlanta Memorial Park.

Other:

1) N/A

Area 4

Sidewalks:

1) Sidewalks north from Peeler Road to Nesbit Ferry Road on west side of roadway are proposed. Proposed 5' wide sidewalks with separation from roadway where feasible. ADA curb cut ramps/features to be included.

2) Sidewalk improvements and ADA access improvements at Peeler Road intersection.

3) 5' wide sidewalks along east side, in front of water treatment plant north to south of Winterbrook Ct. This is proposed as part of Peachtree Corners LMIG projects. Drainage and curb and gutter to be included in selected locations along this area.

Pedestrian Crossings/Crosswalks:

1) Striped crosswalks along at road crossings when new sidewalks installed north from Peeler Road to Nesbit Ferry road on west side of roadway.

Proposed Lighting:

1) Pedestrian lighting on both sides of road from power easement, through commercial district, south to southern borders of Water Treatment Plant.

Pocket Parks:

1) Pocket parks within Water Treatment Plant frontage. (Location TBD). To be coordinated with Dekalb County Watershed.

Other:

1) Bus shelters at bus stops south of Peeler Road on west side of roadway. (Alternate: research highest use bus stops and add in those areas)

2) Drainage improvements across from Winters Chapel Crossing shopping center and slightly north and south.

3) Drainage improvements south of Winters Chapel Crossing shopping center along east side of roadway/Water Treatment Plant.

4) Possible roadway modification/diet along Water Treatment Plant (both sides). To be coordinated with DeKalb County due to restricted right-of-way.

5) Landscaping improvements along Water Treatment Plant (both sides). To be coordinated with DeKalb County in areas of restricted right-of-way.

6) Trash receptacles at Peeler Road landscape island.

7) Investigate potential trail connection along power easement towards Winter Trail Road and apartments.

Area 5

Sidewalks:

1) 5' wide sidewalks along east side, in front of Water Treatment Plant north to Winterbrook Court. This is proposed as part of Peachtree Corners LMIG projects. Drainage and curb and gutter to be included in selected locations along this area.

Pedestrian Crossings/Crosswalks:

1) Stamped asphalt crosswalks across Winters Chapel Road at Peachtree Industrial Boulevard with pedestrian signals and ADA accommodations. Possible modification of refuge islands.

2) Crosswalks across Peachtree Industrial Access Road and underpass with pedestrian signalizations (to be coordinated with GDOT).

Proposed Lighting:

1) Pedestrian lighting on both sides of road from power easement, through commercial district, south to southern borders of Water Treatment Plant.

Pocket Parks:

1) Pocket parks within Water Treatment Plant frontage. (Location TBD).

2) At vacant lot north of Chevron station on west side of roadway, or acquisition of property for park.

Other:

1) Bus shelters at bus stops south of Peeler Road on west side of roadway. (Alternate: research highest use bus stops and add in those areas)

2) Possible roadway modification/diet along Water Treatment Plant (both sides). To be coordinated with DeKalb County due to restricted right-of-way.

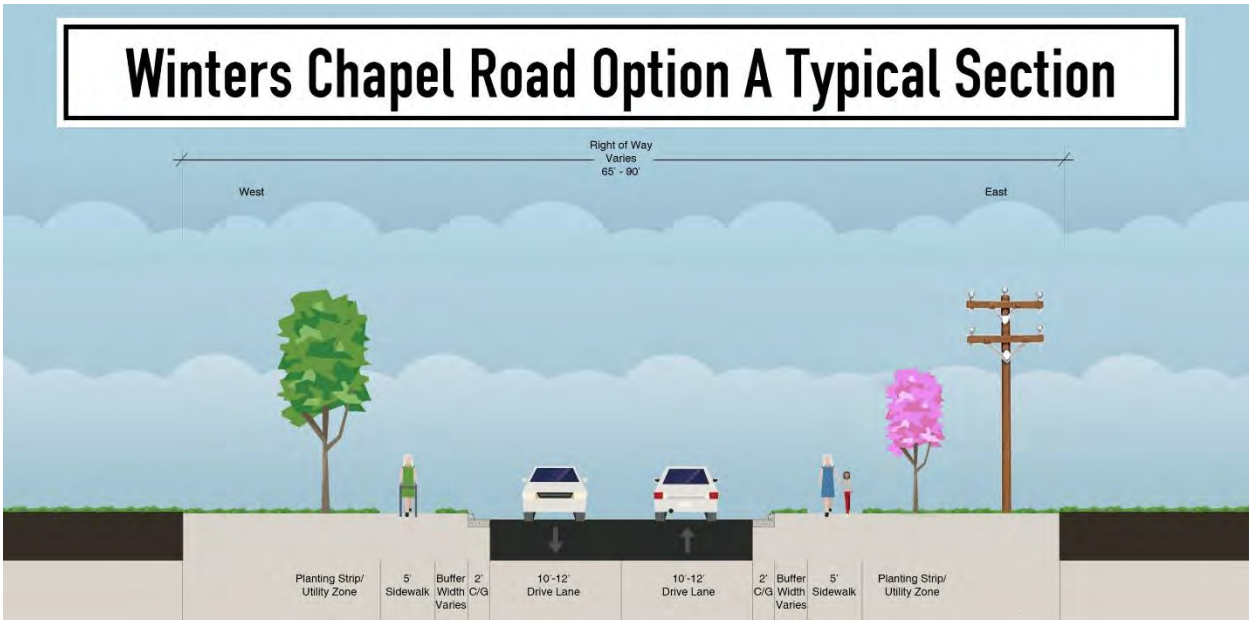
3) Landscaping improvements along Water Treatment Plant (both sides). To be coordinated with DeKalb County due to restricted right-of-way.

4) Pedestrian barrier or pedestrian island in between Wintercrest Drive and Peachtree Industrial Access Road to reconcile pedestrian/traffic conflicts.

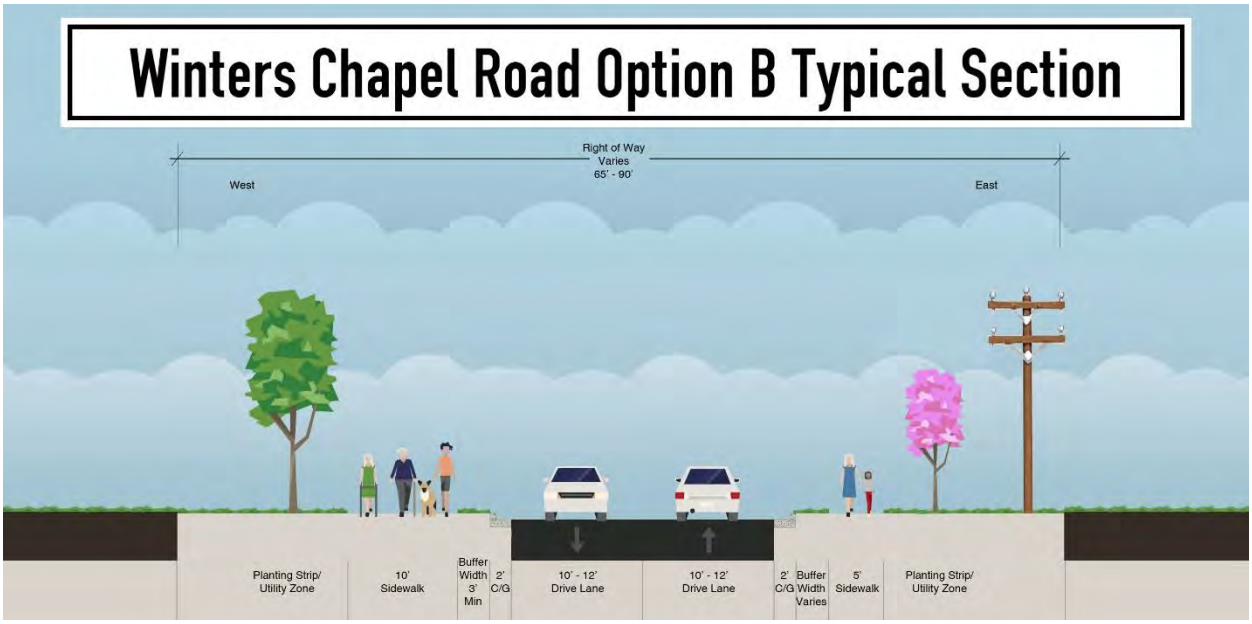
Project options

The Cities, the public and Pond all feel is important to look at the possibility of bicycle facilities in this corridor. The corridor is not currently suitable for shared lane markings for bicycles due to the posted speed limit in this area. The current pavement width does not accommodate 4'-5' wide bicycle lanes. We are presenting three different recommendation options to the Cities.

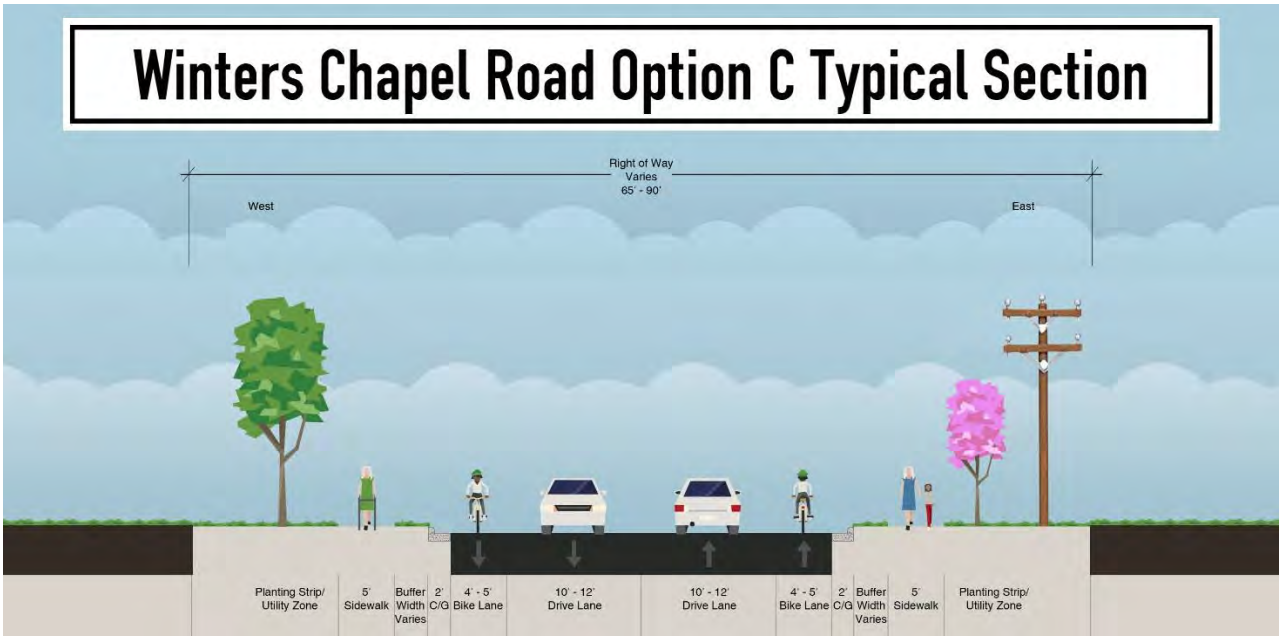
Option A) Include sidewalks for the corridor in locations as noted in the Specific Projects: Base Project List. Include all items in Specific Projects: Base Project Lists



Option B) Substitute a multi-use path for sidewalks on the west side of the road from the transmission easement north of Peeler Road to Fontainbleau Way. Include all other projects from the Specific Projects: Base Project List. Multi-use trail to be compliant with AASHTO guidelines. Associated curb and gutter, trail and roadway signage and related drainage to be included. Some utility line relocations will be required to accommodate trail.



Option C) Widen roadway from Peeler Road north to Spalding Drive to accommodate AASHTO compliant striped bicycle lanes. Include all other projects from the Specific Projects: Base Project List. Associated curb and gutter, trail and roadway signage and related drainage to be included. Utility line relocations will be required to accommodate widening. Construction easements may be needed in some areas.



SUMMARY OF VISUAL PREFERENCE SURVEY

During the workshop we set up boards for people to choose preferences for site furnishings and other streetscape features. The preferences were as follows:

- **Seating (Benches):** Dunwoody Traditional Standard Metal Bench
- **Pedestrian Lighting:** Dunwoody Village Standard, followed closely by an American Industrial Style
- **Trash Receptacles:** Contemporary style (non-metal) and recycling bins.
- **Crosswalks:** Stamped asphalt
- **Bus Shelters:** Traditional, followed by Contemporary
- **Rest Areas:** Seating separated from walkway and special accent paving.
- **Pocket Parks:** Strong preference for the 'intimate park' style.
- **Green amenities:** Preference for bioretention area between roadways.

Note: Actual furnishing types and designs of other features are to be determined. These results indicate preference for types and styles of features for the corridor.

CONCLUSIONS AND NEXT STEPS

The information included in this report gives general guidance on the types of improvements the public would like to see within the Winters Chapel Corridor. It should be noted that cooperation with GDOT, City of Sandy Springs, DeKalb County Watershed, and private landowners and subdivision groups will need to be continuous as projects are implemented. The next step in the process is input from the Planning Commissions and City Councils of the Cities of Peachtree Corners and Dunwoody. Cost estimates, guidelines for maintenance and zoning code recommended changes will be included in the final deliverables.

AREA 1 PRELIMINARY RECOMMENDATIONS

PEDESTRIAN IMPROVEMENTS

- Sidewalks are being proposed by Gwinnett County SPLOST from Dunwoody Club north to Spalding on the east side of the roadway. ADA curb cut ramps and crosswalks to be included.
- Sidewalks north from Peeler Road to Nesbit Ferry Road on west side of roadway are proposed. Minimum 5’ wide with separation from roadway. ADA curb cut ramps and crosswalks to be included.
- Stamped asphalt crosswalk across Winters Chapel at Spalding, with pedestrian signal.

KEY PLAN
NTS

EXAMPLES FOR REFERENCE ONLY

LIGHTING

- Pedestrian lighting or improved roadway lighting between Spalding Glen and Winters Hill on east side of road.

EXAMPLES FOR REFERENCE ONLY

PARK SPACE

- Pocket park in right of way at large property south of Chapel Glen and Spalding Glen on east side of road near existing wetland.

EXAMPLES FOR REFERENCE ONLY

OTHER IMPROVEMENTS

- Drainage improvements south of Winters Hill on east side of roadway.

WINTERS CHAPEL ROAD CORRIDOR

PEACHTREE CORNERS AND DUNWOODY

100 0 100 200
SCALE: 1” = 100’

Legend

- COUNTY BOUNDARY
- BUILDING FOOTPRINT
- SIDEWALK/WALKWAY
- ROAD/DRIVEWAY/ PARKING
- SURFACE WATER
- WETLANDS
- DUNWOODY PARCELS
- PEACHTREE CORNERS PARCELS
- GA POWER EASEMENT
- OVERHEAD POWER LINES
- COLONIAL GAS EASEMENT
- STREAMS
- BUS STOPS
- TRAFFIC SIGNALS
- PROPOSED SIDEWALK
- PROPOSED SIDEWALK TO BE FUNDED BY OTHERS
- POTENTIAL TRAIL CONNECTION
- PROPOSED PROJECT
- PROPOSED DRAINAGE IMPROVEMENTS

AREA 2 PRELIMINARY RECOMMENDATIONS

PEDESTRIAN IMPROVEMENTS

- Sidewalks are being proposed by Gwinnett County SPLOST from Dunwoody Club north to Spalding on the east side of the roadway. ADA curb cut ramps and crosswalks to be included.
- Sidewalks north from Peeler Road to Nesbit Ferry Road on west side of roadway are proposed. Minimum 5’ wide with separation from roadway. ADA curb cut ramps and crosswalks to be included.
- Sidewalk connection to future sidewalks planned on north side of Dunwoody Club Drive.
- Stamped asphalt crosswalk across Winters Chapel and Dunwoody Club Drive with pedestrian signal.
- Consider mid-block crossing across from Congregation Beth Shalom. Additional study required.

EXAMPLES FOR REFERENCE ONLY

PARK SPACE

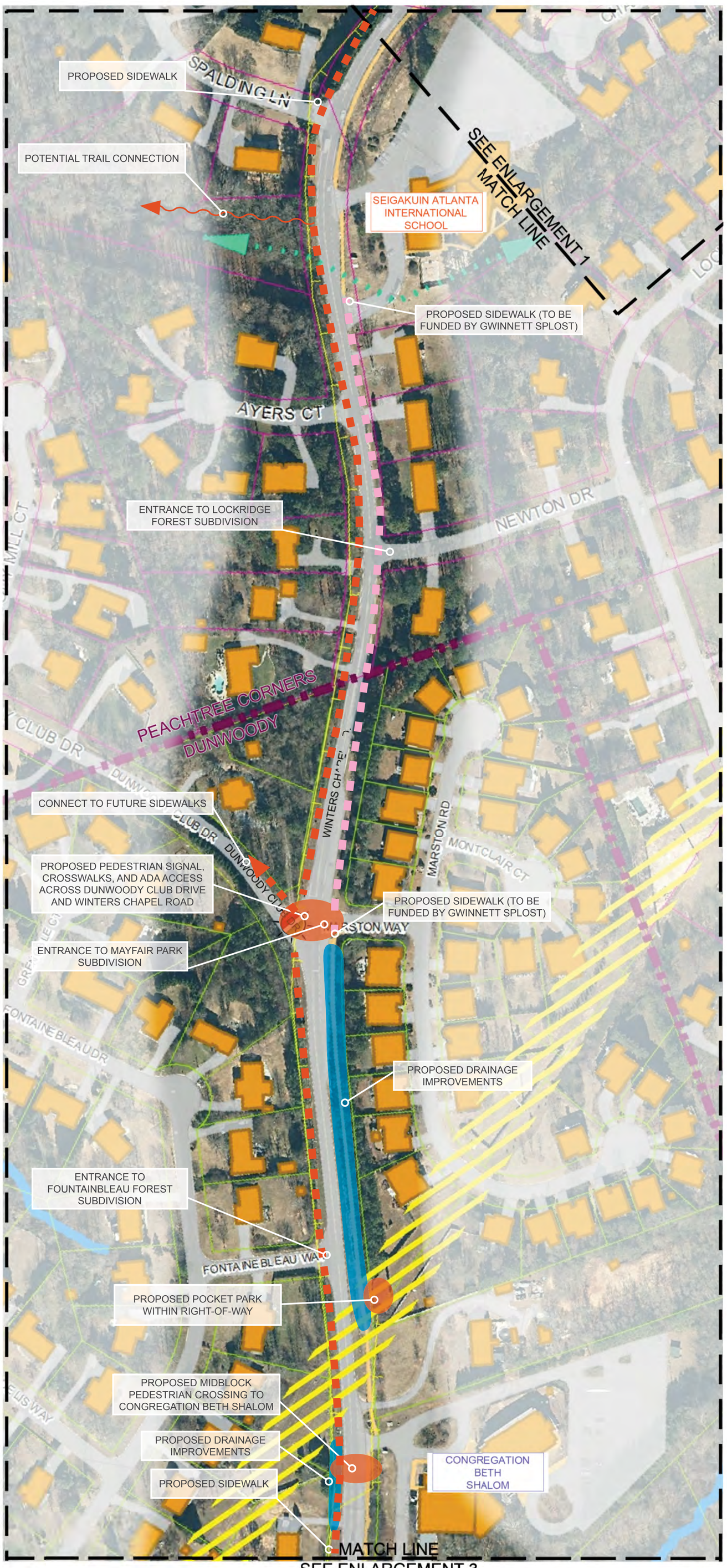
- Pocket park in right of way south of Marston Way on east side of road, possibly under power easement.
- Potential trail connection along Colonial Gas Easement west into Dunwoody should be explored.

EXAMPLES FOR REFERENCE ONLY

OTHER IMPROVEMENTS

- Drainage improvements south of Marston Way on east side of road.
- Drainage improvements at power easement north of Congregation Beth Shalom on east side of road
- Drainage improvements across from Congregation Beth Shalom on west side.

KEY PLAN
NTS



100 0 100 200
SCALE: 1” = 100’

WINTERS CHAPEL ROAD CORRIDOR

PEACHTREE CORNERS AND DUNWOODY

Legend

- COUNTY BOUNDARY
- BUILDING FOOTPRINT
- SIDEWALK/WALKWAY
- ROAD/DRIVEWAY/ PARKING
- SURFACE WATER
- WETLANDS
- DUNWOODY PARCELS
- PEACHTREE CORNERS PARCELS
- GA POWER EASEMENT
- OVERHEAD POWER LINES
- COLONIAL GAS EASEMENT
- STREAMS
- BUS STOPS
- TRAFFIC SIGNALS
- PROPOSED SIDEWALK
- PROPOSED SIDEWALK TO BE FUNDED BY OTHERS
- POTENTIAL TRAIL CONNECTION
- PROPOSED PROJECT
- PROPOSED DRAINAGE IMPROVEMENTS

City of Peachtree CORNERS Innovative & Remarkable

Dunwoody Smart people – Smart city

POND

AREA 3 PRELIMINARY RECOMMENDATIONS

PEDESTRIAN IMPROVEMENTS

- Sidewalks north from Peeler Road to Nesbit Ferry Road on west side of roadway are proposed. Minimum 5’ wide with separation from roadway. ADA curb cut ramps and crosswalks to be included.
- Stamped asphalt crosswalk at Jones Mill Road

EXAMPLES FOR REFERENCE ONLY

LIGHTING

- Additional pedestrian lighting at Sumac Drive south to Jones Mill Road

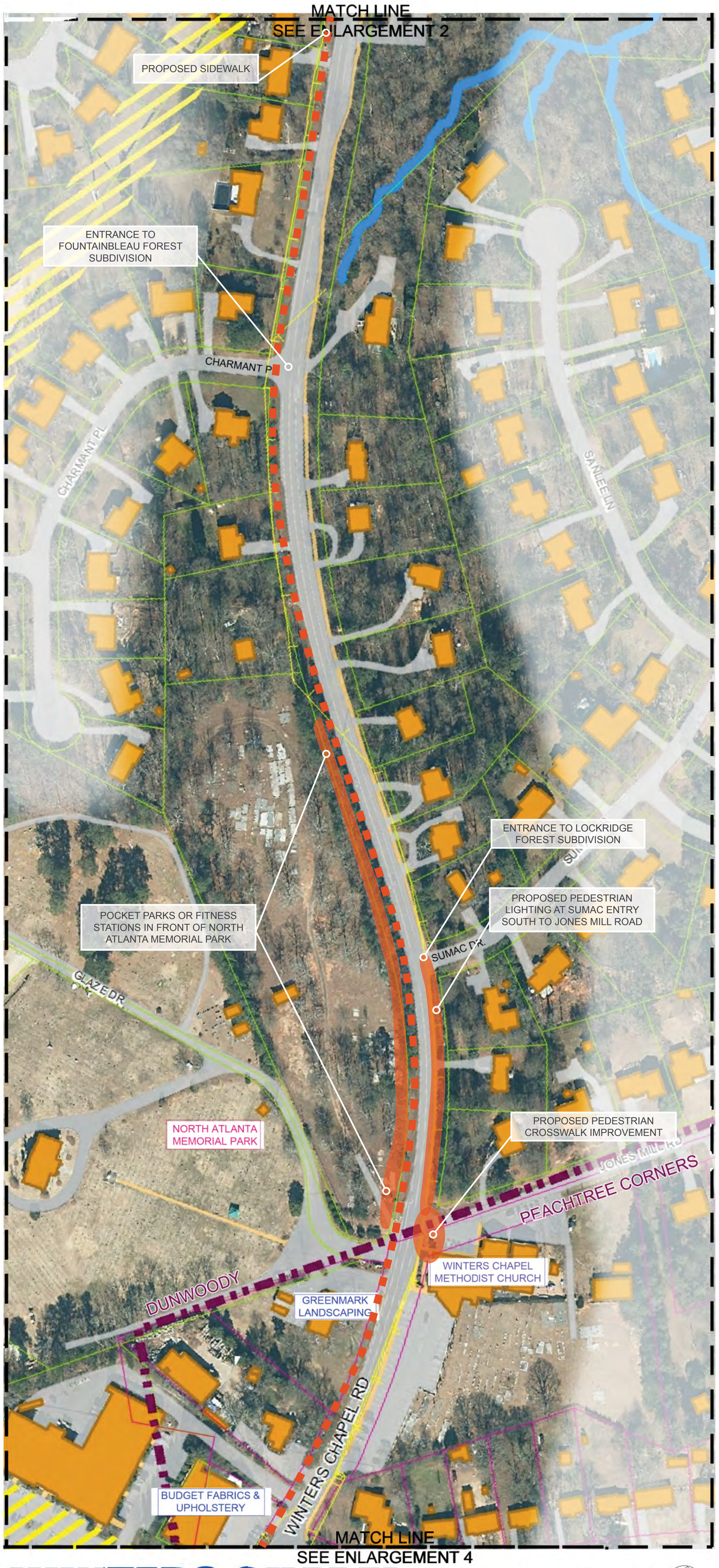
EXAMPLES FOR REFERENCE ONLY

PARK SPACE

- Pocket park in right of way adjacent to North Atlanta Memorial Park

EXAMPLES FOR REFERENCE ONLY

KEY PLAN
NTS



WINTERS CHAPEL ROAD CORRIDOR

PEACHTREE CORNERS AND DUNWOODY

100 0 100 200

SCALE: 1” = 100’

Legend

- COUNTY BOUNDARY
- BUILDING FOOTPRINT
- SIDEWALK/WALKWAY
- ROAD/DRIVEWAY/ PARKING
- SURFACE WATER
- WETLANDS
- DUNWOODY PARCELS
- PEACHTREE CORNERS PARCELS
- GA POWER EASEMENT
- OVERHEAD POWER LINES
- COLONIAL GAS EASEMENT
- STREAMS
- BUS STOPS
- TRAFFIC SIGNALS
- PROPOSED SIDEWALK
- PROPOSED SIDEWALK TO BE FUNDED BY OTHERS
- POTENTIAL TRAIL CONNECTION
- PROPOSED PROJECT
- PROPOSED DRAINAGE IMPROVEMENTS

AREA 4 PRELIMINARY RECOMMENDATIONS

PEDESTRIAN IMPROVEMENTS

- Sidewalks north from Peeler Road to Nesbit Ferry Road on west side of roadway are proposed. Minimum 5’ wide with separation from roadway. ADA curb cut ramps and crosswalks to be included.
- Sidewalks are being proposed by Peachtree Corners LMIG along the east side of Winters Chapel road in front of water treatment plant north to Winterbrook Court.

EXAMPLES FOR REFERENCE ONLY

LIGHTING

- Pedestrian lighting on both sides of road through commercial district south to southern border of water treatment plant

EXAMPLES FOR REFERENCE ONLY

PARK SPACE

- Pocket park within water treatment plant frontage (exact location TBD)
- Possible trail connection along power easement toward Winter Trail Road and apartments.
- Trail connection to Peeler Road Greenway

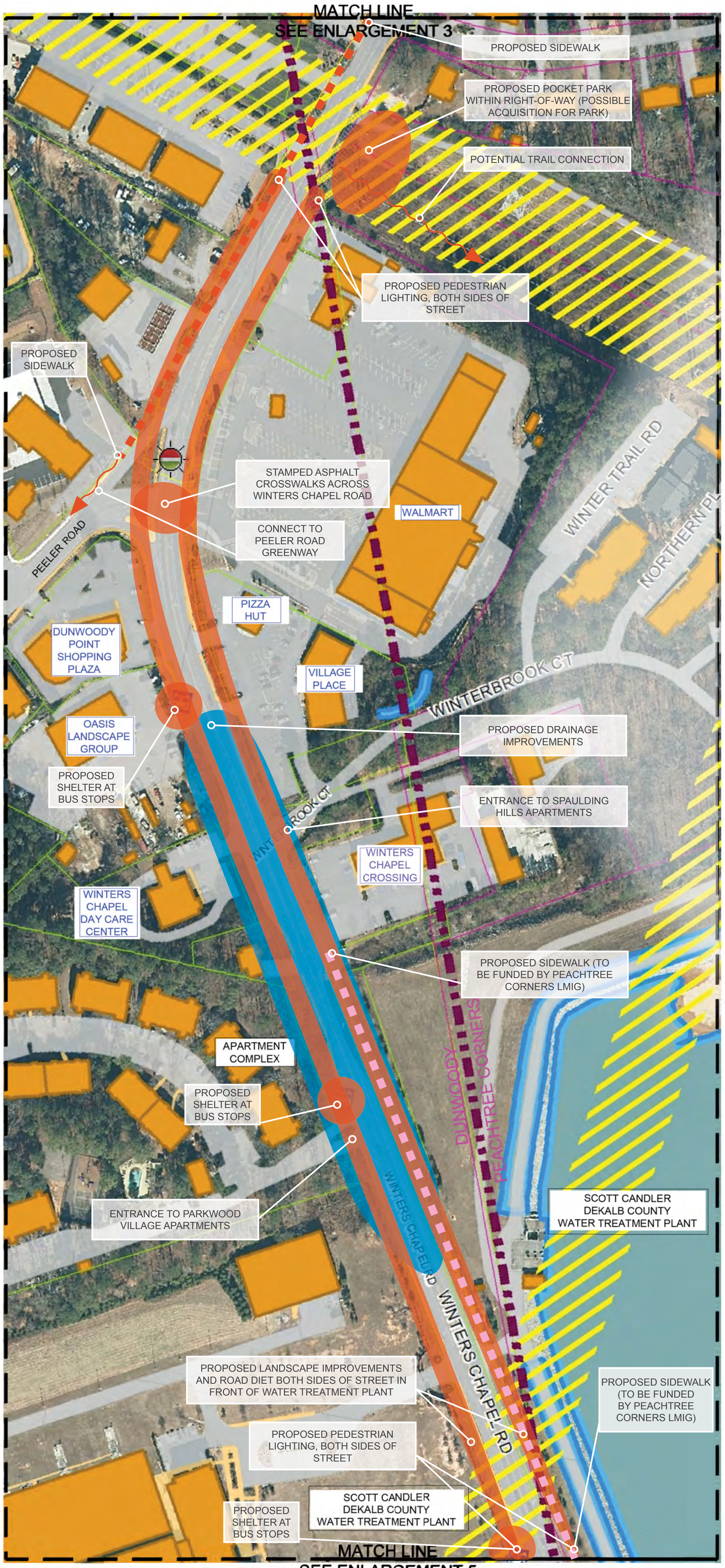
EXAMPLES FOR REFERENCE ONLY

OTHER IMPROVEMENTS

- Bus shelters at bus stops south of Peeler Road on west side of Winters Chapel. Alternately, research and install bus shelters at high-use bus stops only.
- Drainage improvements extending north and south from Winters Chapel Crossing shopping center.
- Possible road diet and landscaping along water treatment plant frontage on both sides. To be coordinated with Dekalb County due to restricted right of way.

EXAMPLES FOR REFERENCE ONLY

KEY PLAN
NTS



SEE ENLARGEMENT 5

WINTERS CHAPEL ROAD CORRIDOR

PEACHTREE CORNERS AND DUNWOODY

100 0 100 200
SCALE: 1” = 100’

Legend

- COUNTY BOUNDARY
- BUILDING FOOTPRINT
- SIDEWALK/WALKWAY
- ROAD/DRIVEWAY/ PARKING
- SURFACE WATER
- WETLANDS
- DUNWOODY PARCELS
- PEACHTREE CORNERS PARCELS
- GA POWER EASEMENT
- OVERHEAD POWER LINES
- COLONIAL GAS EASEMENT
- STREAMS
- BUS STOPS
- TRAFFIC SIGNALS
- PROPOSED SIDEWALK
- PROPOSED SIDEWALK TO BE FUNDED BY OTHERS
- POTENTIAL TRAIL CONNECTION
- PROPOSED PROJECT
- PROPOSED DRAINAGE IMPROVEMENTS

City of Peachtree CORNERS Innovative & Remarkable

Dunwoody Smart people – Smart city

POND

AREA 5 PRELIMINARY RECOMMENDATIONS

PEDESTRIAN IMPROVEMENTS

- Sidewalks are being proposed by Peachtree Corners LMIG along the east side of Winters Chapel road in front of water treatment plant north to Winterbrook Court.
- Stamped asphalt crosswalk across Winters Chapel at Peachtree Industrial Access Road with pedestrian signals and ADA accommodations. Possible modification of refuge islands.
- Crosswalks across Peachtree Industrial Access Road and underpass with pedestrian signalization (coordinate with GDOT)

EXAMPLES FOR REFERENCE ONLY

LIGHTING

- Pedestrian lighting on both sides of road through commercial district south to southern border of water treatment plant

EXAMPLES FOR REFERENCE ONLY

PARK SPACE

- Pocket park within water treatment plant frontage (exact location TBD)
- Pocket park at vacant lot north of Chevron station on west side of road, or acquisition of property for park.

EXAMPLES FOR REFERENCE ONLY

OTHER IMPROVEMENTS

- Bus shelters at bus stops south of Peeler Road on west side of Winters Chapel. Alternately, research and install bus shelters at high-use bus stops only.
- Possible road diet and landscaping along water treatment plant frontage on both sides. To be coordinate with Dekalb County due to restricted right of way.

EXAMPLES FOR REFERENCE ONLY

KEY PLAN
NTS

WINTERS CHAPEL ROAD CORRIDOR

PEACHTREE CORNERS AND DUNWOODY

100 0 100 200
SCALE: 1" = 100'

Legend

- COUNTY BOUNDARY
- BUILDING FOOTPRINT
- SIDEWALK/WALKWAY
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- BUS STOPS
- TRAFFIC SIGNALS
- PROPOSED SIDEWALK
- PROPOSED SIDEWALK TO BE FUNDED BY OTHERS
- POTENTIAL TRAIL CONNECTION
- PROPOSED PROJECT
- PROPOSED DRAINAGE IMPROVEMENTS

Appendix A: Visual Preference Survey Results

POND

Visual Preference Survey Results

Note: Yellow highlighting indicates most popular option.

Pocket Parks:

1. Dog Park Under Powerline – 6
2. Open Lawn Park – 7
3. Intimate Park – 25
4. Tot Lot – 6
5. Streetscape Park – 8
6. Fitness Trail – 8

Green Amenities:

1. Bioswale Streetscaping – 3
2. Bioretention Area Between Roadways – 12

Comments: How much right of way is required?
Who cleans out the trash and how often?

Crosswalks:

1. Striped – 4
2. Stamped Asphalt – 25
3. Pavers – 5

Comments: Brickprint keeps its color/pattern better than standard asphalt

Bus Shelters:

1. Existing—City of Dunwoody – 3
2. Traditional – 12
3. Contemporary – 9
4. Unique/Custom – 3

Rest Areas:

1. Current Standard – 3
2. Seating Separated From Walkway and Special Accent Paving – 25
3. Simple Accented Paving – 4

Seating:

1. Dunwoody Traditional Standard Metal – 20
2. Backless Traditional – 2
3. Contemporary Metal Option – 1
4. Contemporary Wood or Composite Option – 6

Pedestrian Lighting:

1. Dunwoody Village Standard – 12
2. Traditional Acorn – 2
3. Contemporary – 3
4. American Industrial – 11

Comments: Lighting should consider light pollution, i.e. “down, not up” (+ comment in agreement)
Traditional acorn – LED or solar? (+ comment in agreement)

Trash Receptacle:

1. Traditional/Current – 8
2. Contemporary – 12
3. Contemporary Metal Option – 0
4. Recycling – 16

RESULTS FROM FEBRUARY 24th PUBLIC WORKSHOP

PLEASE MARK PREFERENCES WITH A STICKER

WHICH DO YOU PREFER?

SEATING

1. Dunwoody Traditional Standard Metal

2. Backless Traditional

3. Contemporary Metal Option

4. Contemporary Wood or Composite Option

PEDESTRIAN LIGHTING

1. Dunwoody Village Standard

2. Traditional Acorn

3. Contemporary

4. American Industrial

TRASH RECEPTACLES

1. Traditional/ Current

2. Contemporary

3. Contemporary Metal Option

4. Recycling

PLEASE MARK PREFERENCES WITH A STICKER

WHICH DO YOU PREFER?

CROSSWALKS

1. Striped

2. Stamped Asphalt

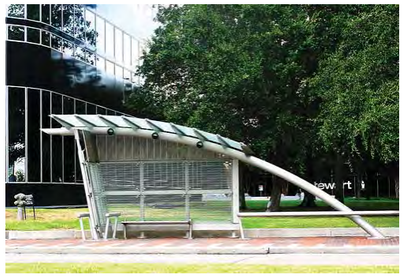
3. Pavers

BUS SHELTERS

1. Existing-City of Dunwoody

2. Traditional

3. Contemporary



4. Unique/ Custom

REST AREAS

1. Current Standard

2. Seating Separated From Walkway and Special Accent Paving

3. Simple Accented Paving

PLEASE MARK PREFERENCES WITH A STICKER

WHICH DO YOU PREFER?

POCKET PARKS

1. Dog Park Under Powerline

3. Intimate Park

2. Open Lawn Park

4. Tot Lot

5. Streetscape Park

6. Fitness Trail

GREEN AMENITIES

1. Bioswale Streetscaping

2. Bioretention Area Between Roadways

Appendix B: Corridor Maps with Public Comments


AREA 1
WINTERS CHAPEL BAPTIST CHURCH
EXISTING LARGE EVERGREEN TREES
PROPOSED SIDEWALK
NO SIDEWALKS ON WEST SIDE OF ROAD NARROW TWO-LANE ROAD
SPALDING GLEN SUBDIVISION ENTRANCE
PROPOSED SIDEWALK
POSSIBLE WETLAND
NESBIT FERRY RD
CHAPEL GLEN SUBDIVISION ENTRANCE
CHAPEL GLEN WAY
CHAPEL GLEN CT
LOCKLEAR CT
SANDY SPRINGS
PEACHTREE CORNERS
AREA 1 MATCH LINE
MATCH LINE AREA 2

Area 1


EXISTING GUARD RAIL
EXISTING SIDEWALK
AREA 1
MATCH LINE
AREA 2
SPALDING LN
LIMITED SITE DISTANCE
SEIGAKUIN ATLANTA INTERNATIONAL SCHOOL
APPROXIMATE COLONIAL PIPELINE GAS EASEMENT
LOCKRIDGE FOREST SUBDIVISION ENTRANCE
PROPOSED SIDEWALK
PEACHTREE CORNERS DUNWOODY
WAYFIELD PARK SUBDIVISION ENTRANCE
PROPOSED SIDEWALK
POWER EASEMENT/ ELECTRICAL TRANSMISSION LINE
EXISTING SIDEWALK

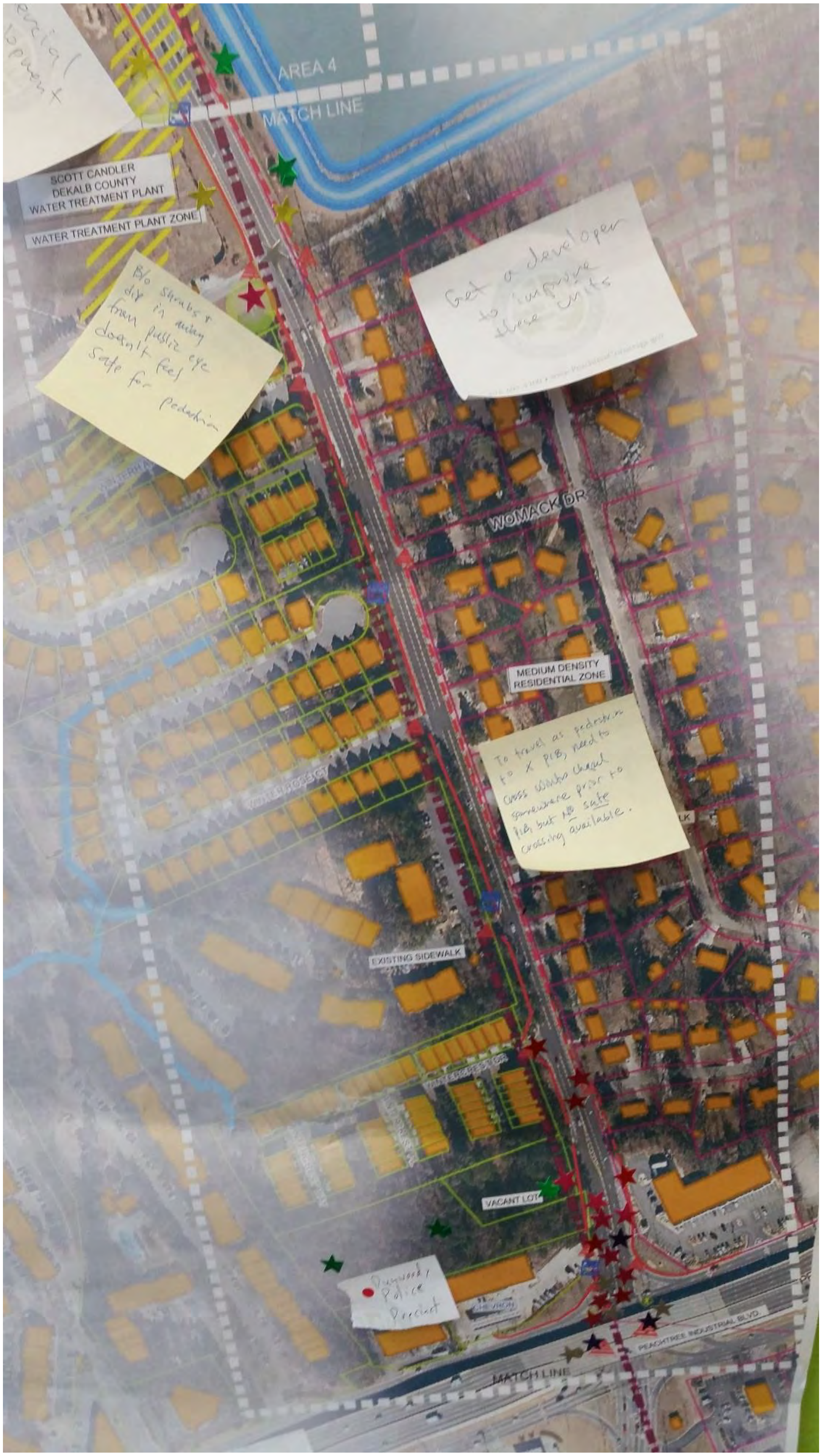
Area 2


NO SIDEWALKS ALONG WEST SIDE OF ROAD
EXISTING SIDEWALK
SUMAC DR
JONES MILL RD
NORTH ATLANTA MEMORIAL PARK
WINTERS CHAPEL METHODIST CHURCH
GREENMARK LANDSCAPING
EXISTING SIDEWALK
PROPOSED SIDEWALK
POWER EASEMENT / TRANSMISSION LINE
WINTERS CHAPEL RD
MATCH LINE
AREA 4

Area 3

Area 4


LANDSCAPE ISLAND
WALMART
DUNWOODY
PEACHTREE CORNERS
PIZZA HUT
STAR CLEANERS
VILLAGE PLACE
WINTERBROOK CT
OASIS LANDSCAPE GROUP
WINTERS CHAPEL DAY CARE CENTER
WINTERS CHAPEL CROSSING
DUNWOODY
PEACHTREE CORNERS
SCOTT CANDLER DEKALB COUNTY WATER TREATMENT PLANT
ENTRANCE TO WATER TREATMENT PLANT
WINTERS CHAPEL RD
AREA 4
MATCH LINE
SCOTT CANDLER DEKALB COUNTY WATER TREATMENT PLANT
WATER TREATMENT PLANT ZONE


AREA 4
MATCH LINE
SCOTT CANDLER
DEKALB COUNTY
WATER TREATMENT PLANT
WATER TREATMENT PLANT ZONE
Get a developer to improve these units
WOMACK DR
MEDIUM DENSITY
RESIDENTIAL ZONE
To travel as pedestrian to X PIB, need to cross Winter Chapel somewhere prior to PIB, but NO safe crossing available.
EXISTING SIDEWALK
VACANT LOT
Dunwoody Police Precinct
CHEVRON
PEACHTREE INDUSTRIAL BLVD
MATCH LINE

Area 5

Appendix C: Written Comments from Comment Boards

General Preference Survey

Recreational Activities and Open Space:

A. Would you like to see Pocket Parks or Open Space features along this corridor (Yes/No)? If yes, where and what type?
   - Yes, pocket parks – fitness, tot lots and intimate park
   - Fitness
   - Intimate park
   - Pocket parks and open green spaces
   - Yes
   - No parks
   - I would say, don't waste the money here. Focus on sidewalks and bike lanes. Little exercise areas and green spaces are a nice novelty, but then someone has to maintain them and no one will want to maintain them several years down the road.
   - Agreed. Sidewalks and bike lanes are much higher priority.
   - Please purchase the vacant abandoned land between Chevron and Wintercrest townhomes. The weeds get too high, making visibility of walkers hard and the land is full of trash and homeless people. Make it a small city park!
   - Agreed! This would be good for the vacant lot between Wintercrest and Chevron. Wooded lots can be dangerous and not safe for pedestrians. Small park or basketball court for kids.
   - Yes – wherever space is available
   - Greenspaces or small fitness parks at areas where utility right of ways exist
   - What is the ongoing cost of maintenance of each option? Who pays? Each city?
   - Community, garden, under power line
   - Any chance of sculpture or other art forms in public parks?
   - Alongside east side in front of water works/taking some land from within fence
   - East between Congregation Beth Shalom and Dunwoody Club Drive

B. Would you be interested in a Fitness Trail along this corridor (Yes/No)?
   - Yes x 15
   - No
   - No pocket parks
   - Yes – along the cemetery where shoulder of road is wide and completely unimproved could be a possibility
   - Yes, but not showing from road
   - Mark this as "Adopt a Spot" listed on Dunwoody site, no sign
   - Please maintain the grass in the traffic island of Peeler and Winters Chapel Road
   - Please provide a trash receptacle in the island of Peeler and Winters Chapel

- Please acknowledge that Dunwoody HOA has paid to maintain the grass in the island of Peeler and Winters Chapel
- Yes, but please consider making it well lighted, highly visual for safety

Bicycling:

A. Do you or your family members bicycle on this road (Yes/No)?
   - Yes but need bike path x 2
   - Yes, if not so dangerous
   - Yes x 4
   - No x 4
   - No, it's a death wish
   - Would if there was space (lanes) and better visibility. Would like to have bike lanes if space can be made available.
   - Bicycles and pedestrians prefer separate facilities to being right beside high density traffic. What is the ratio of recreational cyclists to those commuting to work by bike along this route?
   - No, I don't currently cycle. I like recreational cycling and I won't do it on Winters Chapel. Too dangerous.
   - Widen the road and cycling lanes. Do not combine cycling lanes with walk paths and crosswalks for the safety of both walkers and cyclists.
   - If install bike lane, provide funding to keep clear of debris
   - Lower the speed limit to 35mph and add bike lanes
   - We did bike until my husband had a wreck due to traffic and can't chance again.

B. Would you like to see additional bicycle facilities along this road if feasible (Yes/No)? If yes, what type?
   - Yes x 2
   - No x 3
   - No, off road bike lanes are best
   - Yes! Bike lanes are needed!
   - I think it would be a nice "value add" to include formal bicycle lanes. It changes the complexion of the area, helps brand it as "green", active, youthful and vibrant
   - Bike racks in commercial part
   - Under the power easement transmission lines corridor, east next to WalMart and crossing over alongside cemetery west wall
   - Provide bike path on Winters Chapel
   - Short-term, bike lane; long-term, bike lane continues to library on Spalding Drive
   - Only if divided from road. It is too busy to fight the cars. Bike lanes that aren't divided become right-hand passing lanes.

Walking:

A. Would you like to see more sidewalks or paths along this roadway (Yes/No)? If yes, where?
   - Yes
   - Cut bushes back so all sidewalks are visible x2
   - The area desperately needs a fitness trail and sidewalks. A shoulder for biking would be great.
   - Both sidewalks and paths, spaced accordingly.
   - Length of frontage along cemetery would make a good narrow pedestrian park, as was done along Peeler and Water Treatment facility
   - It was mentioned there are sidewalks along various portions of Winters Chapel – what sidewalks? If they exist, I never see them. It seems like a very dangerous area for anyone to walk. Please, please improve.
   - Yes, continue sidewalks x 2
   - Yes, sidewalks at least on one side from Peachtree to Spalding (to Holcomb Bridge Road) crossing at Dunwoody Club Drive
   - Need landscape buffer between sidewalk and back of curb
   - Sidewalks from Congregation Beth Shalom to Spalding Drive on the east side
   - Yes, in north section
   - Yes, Winters Chapel onto Dunwoody Club Drive is extremely dangerous. No sidewalks and no shoulder + heavy traffic = recipe for disaster for pedestrians
   - Extend sidewalks to tie to future pathways on Spalding Drive towards SR140
   - Crosswalk and finishing the sidewalks down Dunwoody Club and Winters Chapel
   - Yes, connect Lockridge Forest at Newton to all the surrounding sidewalks
   - 100% sidewalks or at least south of Peeler to PIB, both sides
   - Full completed sidewalks on both sides of WER [water treatment plant]
   - Would much rather money be spent on adding sidewalks north of Congregation Beth Shalom where there are currently NONE, rather than south of DeKalb Water where one side of the street already has continuous sidewalks
   - Completed sidewalks on west side of Winters Chapel from Peeler to PIB

B. Are pedestrian crossing signals needed (Yes/No)? If yes, where?
   - Yes
   - PIB x 5
   - Also at Dunwoody Club need another signal somewhere further north of sidewalks exist there
   - Yes, PIB. Never should have been constructed without them.
   - The underbelly of Peachtree Industrial Boulevard (*PIB*) MUST be dealt with. It is dark, no crosswalks, NOT SAFE.
   - Area 1 – sidewalks are needed most. I have almost gotten killed pushing stroller. Desperately!
   - Yes, Suwanee Drive and PIB
   - Need crosswalks at Peeler. Some people walk to Beth Shalom from Fontainbleu Way on Saturdays.

- PIB and Winters Chapel = pedestrian's deathtrap. More than 2000 residents jay walk to commercial businesses, need pedestrian lights desperately.
- Unsafe to walk on the north side of Winters Chapel between Congregation Beth Shalom and Spalding. Please add a sidewalk.
- Savewinterchapel.org
- Thank you for the new ped signals at Peeler
- Yes. Around Walmart, Peeler, near houses close to PIB
- At intersection of Winters Chapel and Dunwoody Club Drive
- Unsafe to cross Peeler by the end of it next to the stone wall. Please help. (Across from Empire Pizza shopping center.)
- Remove PIB freeway and reconnect Doraville

General Conditions:

A. Does the corridor need pedestrian lighting (Yes/No)? If so, where?
   - Yes x 4
   - Crosswalk along Winters Chapel at WCUMCPS. School signs at WCUMCPS. School speed limit at WCUMCPS. 50+ cars in and out 3 times a day.
   - Left turn signal from Winters Chapel to Dunwoody Club
   - Turn lane at Dunwoody Club and Winters Chapel
   - Turn lanes at Winters Chapel backed up at 7:20 am
   - I do not want Winters Chapel four lane, not even three. We could use turning lane for left hand turns into subdivisions and apartments.
   - Center turn lane at PIB and Winters Chapel
   - Put a traffic light at Sumac Drive and Winters Chapel
   - Beautify/spruce up right side of Winters Chapel coming from PIB to water treatment (trees/parking?)
   - Please address the power lines in area. 5 on the Peachtree Corners side of Winters Chapel Road, they appear in very poor condition.
   - Please put up a Welcome to Dunwoody sign moving onto Peeler Road
   - Shaded bus stops could have solar panels on top providing light
   - Caution/turn lights out of Lockridge Forest
   - More shade on both sides of Winters Chapel by the reservoirs
   - Yes, just to look nice, especially in front of water treatment plant. Anything to make it look better.
   - Better lighting at Sumac.
   - Street lighting light pollution downward
   - No enforcement of trashy land next to road, abandoned tires, broken down fence, weeds, half-down trees, look sloppy and the sloppiness hurts real estate values

B. The southern end of this road serves one bus route. Does the corridor need bus shelters (Yes/No)?
   - Yes
   - Sidewalk on east /northeast side now a muddy path

- Stoplight to entrances of Lockridge
- Make businesses freshen up signs and facades
- We need lighted, shaded bus stops. We need to serve all citizens, not just homeowners and car owners.
- Turning lane into Fontainebleu Blvd from Winters Chapel – messy accidents
- Need a turn lane on Winters Chapel, right and left, at Spalding Drive
- Maybe a bus lane to not hold up traffic
- Dangerous curves between Spalding Glen entrances, no lights or curbing and cars run off road
- Pedestrian crossings at Winters Chapel and PIB should all be overhead or underground, too busy for walkers and hard to see them when looking for break in traffic
- Drainage problems around the synagogue
- Entertain the installation of traffic light at Sumac and Winters Chapel
- Repave Sumac
- The Shell gas station across from WalMart is in deplorable condition. The owner needs to fix the wood fencing, paint the building and curbs, empty trash cans when filled. There is a big difference between the Shell station at Spalding and Holcomb Bridge and across from WalMart.
- Map the pedestrian flow along Winters Chapel and place the crosswalk where people cross the road, i.e. south of Winterbrook Court

General Conditions, continued:

A. What are your biggest issues/concerns with this roadway?
   - At rush hour, if you're coming from PIB headed towards Peeler Rd, traffic gets very backed up at the main light at Winters Chapel
   - The area near Winters Chapel and PIB (near the China Panda and Chevron) is dangerous for motorists and pedestrians. Pedestrians play "Frogger" dodging cars, walking from and to each side of the street. People turning left out of the Chevron cause accidents and traffic backup.
   - Want bike lanes, continuous sidewalks from PIB to Holcomb Bridge Road
   - Need turn lane into both entrances of Lockridge Forest
   - Relieve traffic by widening Winters Chapel. There are traffic jams at both ends.
   - Right turn from Winters Chapel into shopping center at China Panda is especially dangerous. Many vehicles cannot make turn if traffic exiting center is blocking driveway.
   - Sidewalks for people
   - Area just past WalMart north before power lines is a trash dump
   - Need shoulder all along Winters Chapel
   - Lack of pedestrian right of way, narrow lanes, need turn lane at Dunwoody Club
   - Please do not consider reducing the widths of road lanes or adding travel lanes. Widen to minimum 3-lanes with access road intersection, north of Dunwoody Club, 2 drive lanes with turn
   - Traffic signal at Sumac and Winters Chapel
   - Marked crosswalks between WalMart intersection and PIB, dangerous pedestrian traffic

- WalMart parking should have shade trees throughout
- PIB intersection is very wide. More better signage for turning lanes. People are confused if they don't live in the area, they get stuck in between lights.
- Keep family safe speed limit of 35
- Lower speed limit, max 35 all through corridor
- Sidewalks needed along Marston to Spalding
- Plant trees in front of SFR south of Water department
- Landscape the water areas on both sides like Peeler
- Redevelop apartments as parking for Ga Perimeter and have shuttle buses to/from college
- No new zip code
- Safety for pedestrians, sidewalks
- To look prettier, clean up area
- Bike lanes
- Please address homes in Peachtree Corners right near PIB and across of Winter Rose, Wintercrest, and Winter Haven
- Car traffic on Winters Chapel is TOO FAST to be safe for pedestrians or motorists often
- Spalding and Winters Chapel light cycle for southbound has a protected turn, so why not make right turn (few going left). Also left turn blocks all traffic.
- Do not widen Winters Chapel except for turn lanes and bike lanes.
- Thanks for mowing along PIB
- A couple more lights to make bigger gaps in traffic
- To reduce speeds, road diet in front of water treatment plant
- Origin and destination of auto traffic, local or passthrough
- Divert pass through traffic to Peachtree Parkway
- Crosswalks at more locations across Winters Chapel
- Left and right turn lanes across road
- Turn arrow at Dunwoody Club
- North intersection Spalding southbound, immediate dip in road, short sightline, danger issue
- Would love to see the City purchase the vacant lots next to WinterCrest, townhomes and the Chevron station. It's filled with debris and trash, homeless and vagrants often sleep on the land. It would make a nice park or green area.
- Would love to see some of the homes along Winters Chapel on the Gwinnett side cleaned up and code enforcement citing more.
- Winters Chapel currently just feels plain dangerous to drive and I would never consider walking along it. It also just looks ugly… sorry for the brutal honesty. You want new families to move to this area? Improve the visuals and road.
- Needs center turn lane at Winters Chapel and Dunwoody Club. Traffic backs up to turns left and cars going straight toward Spalding use the subdivision turn lanes to go around.
- Add median last hundred or so, approaching PIB. Motorists are trying to turn left across five lanes of traffic from both sides of Winters Chapel from gas station and shopping center
- Long right turn lane on Winters Chapel and PTI access road

- Peeler Road intersection is a Dunwoody gateway. It needs to be treated as one, must be distinctive. Take as much pride and make equal investment here as in Dunwoody Village.
- Add turn lanes and widen the road. Currently it's very congested and traffic stops due to people turning left.
- Examine feasibility of lowering speed limits to 35mph x2
- Improve the signal and fixed the skewed split phase at Winters Chapel and Dunwoody Club
- Wider/more lanes does not fix traffic. Worried about adding lanes. Keep it small/friendly.
- Redevelop area 5. New housing.
- Homes – more code enforcement on homes in area 5 on Peachtree Corners side
- Road diet where feasible (x2)
- Right turn lanes at all entrances to neighborhoods going north
- Need right turn lane from Winters Chapel onto Spalding. Traffic backs up if a car is going left or straight.
- Red star – Winters Chapel Road and Sumac Drive needs to have view open for cars entering Winters Chapel road to see oncoming traffic and flashing amber signal would help.
- Lockridge Forest/Sumac entrance - if turning left out of Lockridge Forest hard to see the right, can be dangerous at times
- Red star and orange star – danger to motorists southern end of Winters Chapel Road needs redesign, northbound narrows to 1 lane from 2 lanes
- Appearance is ugly and needs redevelopment
- Extend right turn lane at Winters Chapel and PIB. It's too short and causes stacking and backup (the east bound of Winters Chapel and PIB southbound turn)
- Houses on Peachtree Corners side of area 5 fronting Winters Chapel are in HORRIBLE SHAPE. Please get code enforcement on this! This is the first thing pe ople see when entering the Winters Chapel corridor.

Appendix D: Written Comments from Maps

Map Comment Notes (written on map)

Area 1

1) Don't widen lanes but make bikes priority
2) (Comment between Spalding Glen Drive and Winters Hill Drive on east side of road): Can use roadway lighting in this area, dangerous curve.

Area 2

1) (Comment just south of Segakuin School): No sidewalks, no room to even walk north to Spalding and to shopping.
2) (West side of street across from Beth Shalom): No sidewalk, muddy.

Area 3

No comments on maps

Area 4

1) (South of Power Easement adjacent to Walmart)

   On west side of road, the roadway has dangerous merging/ lane changing conditions as you approach south on peeler road.

2) Walmart crossing at street and land island. You cross a right turn lane @ Peeler:

   The auto driver can't see you because of sharp turn (have to get off island and into road!)

   When they turn right, from peeler onto Winters Chapel

3) There's a park down Peeler Road (west of corridor) but no good way to connect to it.
4) (West side of street across from Walmart-mainly south of Peeler Road): Clean up buildings and signs in this area 5) No place to cross south of Walmart (muddy/ flooding issues).

   Where sidewalk ends (on north side)

   South of Winters Chapel Crossing she crosses where no crosswalk or walk in the mud (see blue star location) (Around Winters Chapel Crossing development)

5) (South of Power Easement adjacent to Walmart): On east side of road, damage to stormwater fixtures along sidewalk create dangerous conditions.
6) (In front of apartment complex north of water treatment plant on west side): There is damage to the drainage fixtures in/around the sidewalk in this area that create dangerous conditions. (that DeKalb installed.)
7) Commercial redevelopment of the façade of the water treatment plant on the west side of Winters Chapel.

Area 5

1) Get a developer to improve the single family housing south of the water treatment plant on the east side of the roadway.
2) To travel as pedestrian to cross Winters Chapel somewhere prior to PIB (south of water treatment plant)south to Peachtree Industrial but no safe crossing available.
3) (West side of road at southernmost entrance to wastewater treatment plant at transition next to residential area): Shrubs and turn in sidewalks does not feel safe to walk through
4) Add Dunwoody Police Precinct at vacant lot north of Chevron.
5) Remove Freeway (on PIB)

Appendix E: Additional Written Comments from Meeting

Comments received at large scale map station

Pedestrian/Bicycle

- Place sidewalks on both sides of the road from PIB to Holcomb Bridge.
- Add in bicycle lanes.
- Add in bike lanes, either protected or simply striped. They will be more compatible with higher density units as this area changes over time and will provide transportation alternatives for the residents.
- Widen the road to 3 lanes from PIB to Dunwoody Club.
- Provide proper pedestrian crossings across the roadway in numerous locations.
- Look into a multi-use path or trail from the Winterbrook apartment complex down the power easement to the roadway
- Consider either striping or a wide multi-use trail to accommodate bicycles.
- Consider seeing if the private cemetery will allow a walking path around its perimeter.
- Many people that live in the apartment complex at Winterbrook do not have cars. They may benefit from more pedestrian/bicycle options.

Roadway

- The entrance to the shopping center on the north side of Winters Chapel/PIB is dangerous due to angle of turn point.
- Place a median in the roadway where it enters the commercial area near Peachtree Industrial. There are lots of pedestrians crossing the road here at unsafe points and it is a hazardous place for both cars and pedestrians.
- Place a center turn lane between the Water Treatment Plant south to PIB. People make left turns and hold up traffic on both sides of the roadway in this area.
- Speeding is a problem in front of the water treatment area. A cop car often sits in the driveway at the plant entrance.

Landscaping/Streetscape Appearance/Pocket Parks

- Look at the 'park-like setting' in front of the water treatment plant along Peeler Road. Modify the landscaping and sidewalks at this Water Treatment Plant area. Note: The neighborhood had input on the landscaping along this area of Peeler and demanded these upgraded features when the plant went in.
- Look at partnering with DeKalb County to improve the appearance and sidewalks in front of the Water Treatment Plant (both sides). Consider adding more benches/pocket parks/trash receptacles and landscaping in this area.
- Who maintains the landscape island at Peeler Road intersection? It may be a local neighborhood group.
- The west side of the road adjacent to the old part of the cemetery property should be improved and needs sidewalks and possibly would be a good location for a fitness trail or pocket parks. (This adjacent property is owned by a family and separate from the main Memorial Park).

- The west side of the road adjacent to the cemetery is unkempt and needs maintenance/improvements.
- The power easement/transmission line north of the Walmart gets lots of trash debris and is unkempt.
- Consider the power easement/transmission line for a community garden area.

Other

- Consider art along this corridor, such as in the landscape island at Peeler Road.
- The drainage fixes that DeKalb County put in around the Day Care near the apartment complex on the west side of the road (north of the water treatment plant) and other areas in the commercial district do not seem to be working. The metal grades in the sidewalk are bend and create hazardous conditions and the drainage has damaged the areas.
- The area between Spalding Glen and Winters Chapel Drive has had problems with people going off the roadway and taking out the large Leyland Cypresses and fences in the backyards of the houses. This area is not well lit and is dangerous. Lighting or other improvements in this area would help.
- MARTA is looking at changing their routes and this may affect the route in this area.
- The area between Charmant and the Congregation Beth Shalom can be dangerous. There are many families that often walk to the synagogue on Saturdays and even more so on the high holy days. More people would probably walk there if there were safer crossings in this area.

Individual comments received during meeting:

- Spalding Glenn Road-Just south, overgrown weeds, etc., raw dirt, abandoned tires, fence in need of repair.
- Nesbit Ferry Road across from it, overgrown weeds, etc.
- Cemetery to the north of it and across from the Methodist Church, weeds etc.
- Beth Shalom across from it, overgrown, weeds.
- From Peeler Road to Peachtree Industrial Blvd, Install a sidewalk on the east/north east side. Right now it is a muddy path.
- If the ordinances allow this, require the various businesses to freshen up their landscaping and install new signs.
- While the main road/city center of Rosemary Beach, Florida has some differences from Winters Chapel, it has many similarities. Further the quality of the amenities is applicable to this corridor.
  Similarities:
  - Linear connector.
  - Major road connecting to an even bigger road.
  - Transition areas: Residential to commercial and back to residential.
  - Residences facing/backing up to road.
  - 2-3 lane road.
  - Major intersection bisecting areas.
  - Adjacency to very heavily travelled highway (US 98).

Qualities/Amenities:

- Scale: This is the major quality that makes Rosemary Beach thoroughfare successful. The scale for pedestrians is different and separate from the roadway.
- Separation of bike/pedestrian circulation from roadway thru use of planting buffers.
- Change of scale for commercial areas.
- Consistent quality and design throughout.
- Amenities/intersections/attractions that have a calming effect on thru-traffic.

Appendix F: Meeting Sign-In Sheets

Peachtree Corners – Dunwoody Winters Chapel Design Standards
Community Meeting | February 24, 2015 | Winters Chapel United Methodist Church

Sign-in

Name	Email	Please ✓ check only 1 or Other: Peachtree Corners Citizen?	Dunwoody Citizen?	Other: (Write City Name)
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POND

Peachtree Corners – Dunwoody Winters Chapel Design Standards
Community Meeting | February 24, 2015 | Winters Chapel United Methodist Church

Sign-in

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POND

Peachtree Corners – Dunwoody Winters Chapel Design Standards
Community Meeting | February 24, 2015 | Winters Chapel United Methodist Church

Sign-in

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POND

Sign-in

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Peachtree Corners – Dunwoody Winters Chapel Design Standards
Community Meeting | February 24, 2015 | Winters Chapel United Methodist Church

Sign-in

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POND

Peachtree Corners – Dunwoody Winters Chapel Design Standards
Community Meeting | February 24, 2015 | Winters Chapel United Methodist Church

Sign-in

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POND

Peachtree Corners – Dunwoody Winters Chapel Design Standards
Community Meeting | February 24, 2015 | Winters Chapel United Methodist Church

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MIKE DAVIS	MAYOR		✓	

Appendix B:
City Council and Planning Commission Meetings Summary

POND

Winters Chapel Road Area Study:

City Council and Planning Commission Meetings Summary

INTRODUCTION

Planning Commission Meetings for the City of Peachtree Corners and the City of Dunwoody were simultaneously held on Tuesday, March 10. Michelle Alexander presented the Preliminary Recommendations for the City of Dunwoody and Andrea Greco presented for Peachtree Corners.

City Council and Mayor presentations of the Preliminary Recommendations were conducted March 17 and March 23, at the City of Peachtree Corners and the City of Dunwoody, respectively.

Presentations of the Draft Final Recommendations to City Council and Mayor were conducted April 20 for the City of Peachtree Corners and April 27 for the City of Dunwoody.

The following are the results from those meetings:

SUMMARY PEACHTREE CORNERS PLANNING COMMISSION (March 10)

The Planning Commission had the following comments and recommendations.

- Look into multi use trails on both sides of road north of the Peeler Area. There are numerous subdivisions on the East Side of the road that would benefit from a wide path in this area as opposed to bicycle lanes. These would probably be better used than bicycle lanes in the corridor.
- Explore the concept of bringing the multi-use trail through to the WalMart area.
- Do not let the existing SPLOST project by Gwinnett County impact your recommendations for this area. The money may be leveraged towards a modified design.
- Look into whether or not MARTA is changing the route of their 103 bus route in this area.
- There is another study getting underway for Spalding Drive. This study will include some engineering design recommendations.

Additional Recommendations from Councilman Philip Sadd and Planning Commissioner Alan Kaplan

- Place the rest area/street furniture closer (500') on both sides of the road from the commercial district south to Peachtree Industrial. Due to the intensity of use in this area they are needed more frequently.
- Through the entire corridor, stagger the rest areas on either sides of the street so that it reduces the overall distance between them.
- Consider including the entire Peachtree Industrial/Winters Chapel intersection in the study area. That whole intersection needs pedestrian improvements. Peachtree Corners

is the jurisdiction on two of the sides. Dunwoody on one and Doraville is the southeastern corner.

- There will be more demand for a multi-use trail along this area than bicycle lanes.
- Will you be able to incorporate these changes before the City Council Meeting?
- Consider including mid- block crossings along Winters Chapel close to Peachtree industrial.
- Look into adding benches next to the bus shelters as some of these stops have more people than would fit in a single shelter.
- Consider design curves (instead of a straight route) into the sidewalk design in front of the water treatment plant that is being undertaken through the Peachtree Corners LMIG project. Add landscaping in this area as well.

SUMMARY DUNWOODY PLANNING COMMISSION (March 10)

The Planning Commission had the following comments and recommendations.

- Benches should face the street.
- Yes, we do need shelters for all the bus stops.
- The nice, winding sidewalk should be the design along Winters Chapel.
- Please dedicate plantings to soften look in ROW of water treatment plant; vary heights of trees and shrubs to screen.
- Make sure multi-use trail ties into Peeler Park.
- Need to include bicycle access to cross from neighborhoods to the pre-school.
- We need to provide safe alternatives for transportation for the apartment complexes concentrated toward PIB – bicycle lanes from there westbound should be added.
- Best to actively apply complete street, context sensitive design and narrowing of auto-lane widths to:
    - Allow for **broader connectivity** than just Winters Chapel destinations – rather, to network of parks and trails from Roswell (Chattahoochee), Peachtree Corners through Dunwoody to Brookrun
    - Cost effective to create connectivity to surrounding park/recreation given few parks to serve the immediate area, so consider further segments with bicycle lanes
    - Re-stripe existing lanes to narrow widths to reduce speeds
    - Complete street elements will also help reduce speeds
- Please recommend both cities designate one speed limit for entire length (prefer 35 MPH)

SUMMARY PEACHTREE CORNERS MAYOR AND COUNCIL MEETING (March 17)

City Mayor and Council comments included:

- Once cost estimates associated with the different options, officials could determine more concretely which steps to take
- General agreement to move forward with the base recommendations of:
    - Improved sidewalk system and any improvements to increase safety for pedestrians
    - Add street trees
    - Improve general look and feel of corridor, so that it achieve the characteristic of appearing "tended to"
    - The stamped pavement at major intersections
    - Where feasible, follow the winding sidewalk design that is off Peeler
- Consider option of a ten-foot sidewalk/multi-use path along just one side of entire corridor, or at least between PIB & Peeler, or Reservoir to community shopping area.
- Consider location of the new park on Spalding that Sandy Springs may be constructing and how to connect to it from Winters Chapel

SUMMARY DUNWOODY MAYOR AND COUNCIL MEETING (March 23)

City Mayor and Council comments included:

- Both aesthetic and width of sidewalk for safe pedestrian use, especially on west side from Peachtree Industrial Blvd
- Pocket parks preferred as long as maintained and no parking
- If possible do include bicycling options
- Corridor needs one consistent speed – prefer 35 mph
- Results need to be to change the feel – that it not function as a throughway but as a residential place; need (the design) to give a sense of place
- Will we get into land use and development plans with this project?
- Need to address code enforcement and consistency of regulations w/ Peachtree Corners
- Definitely provide for sidewalks on both sides
- Please provide recommendations with priorities – what can we do immediately, what phasing and costs to address safety, aesthetics, etc.
- List what will provide the greatest impact – yes provide sidewalks; not sure priority of things like benches; make sure coordinate with Sandy Springs as well
- This is one of the most densely populated areas and the corridor needs everything; consider a full master plan (for land use and development)
- Consider multi-use at least on one side because of so many pedestrians
- Consider the parks important
- What can be done quickest?
- Identify if mid-block crossing needed and assess if it must be signalized

SUMMARY PEACHTREE CORNERS CITY COUNCIL HEARING (APRIL 21)

The City Council approved the Final Draft Recommendations for the Winters Chapel Road Study with a preference for Typical Section B2: 5' wide sidewalks on both sides of roadway and 10' multi use trail from

Spalding to Peeler Road on west side. They also requested that the following items be incorporated into the plan:

- Additional mid-block crossing at the northern end of the east side Water Treatment Plant Property (south of Winters Chapel Crossing shopping center)
- Recommendations for the sidewalks/trail in front of the Water Treatment Plant to be as follows:
    - Preferred sidewalk width on east side and west sides of Winters Chapel to be 10' wide or wider than 5' as appropriate based upon site conditions. Sidewalk design to incorporate aesthetic curves similar to the sidewalk at Peeler Road.
- The City does not want to formally commit to site furnishing model recommendations shown in the plan at this time. This includes pedestrian lighting, benches, bus shelters, trash and recycling receptacles. These will be taken as general recommendations with final selections to be decided upon/approved by City staff before design standards established.
- Include 5' wide sidewalks along Dunwoody Club Drive as a part of the recommendations.

SUMMARY DUNWOODY MAYOR AND COUNCIL MEETING (APRIL 27)

The Mayor and Council discussed the plan, moving to adopt it with the following preferences noted as amendments to their approval:

1. They preferred to see the improvements associated with Option B 2, with a **12-foot** multi-use trail from Spalding to Peeler Road on the west side.

2. The City of Dunwoody will work with Sandy Springs and Peachtree Corners to set a **consistent speed limit** for Winters Chapel Road.

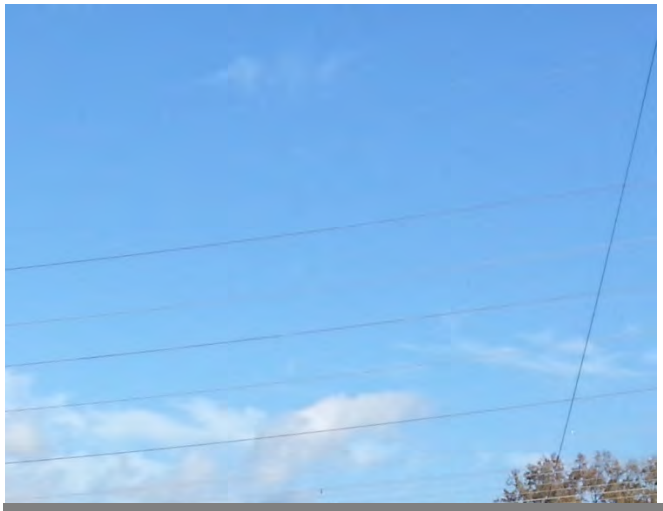
The City of Dunwoody standard for multi-use trails is 12 feet, yet acknowledged there may need to be some variation depending on site constraints. They also asked the Mayor to talk with Sandy Springs Mayor to get some coordination going since we have not heard back from them regarding the plan.

They also discussed getting the **bus shelters**. There is an existing agreement with MARTA regarding the current shelters in the City that allow ads. They want to make sure that new shelters **do not** have advertising in/on them. Recall that Pond never heard back from Mr. Rose at the MARTA bus shelter request office, so Staff will need to follow up directly with MARTA:

1. to make the requests and get the process started
2. to ask if the Cities can fund the shelters themselves should MARTA determine (a) yes, there is a need but (b) they don't have enough funding to provide them (we suspect this is likely)
3. City of Dunwoody Staff to renegotiate with MARTA regarding some of the existing bus shelters with ads (to have the ads removed)

Appendix C:
Traffic Operations Analysis

POND



WINTERS CHAPEL ROAD

TRAFFIC OPERATIONS ANALYSIS

DRAFT | APRIL 2015

POND

Architects ▪ Engineers ▪ Planners

WINTERS CHAPEL ROAD
TRAFFIC OPERATIONS ANALYSIS

DRAFT | APRIL 2015

Pond Project # 1150186

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EXECUTIVE SUMMARY & INTRODUCTION

As an addendum to an initial planning study of the Winters Chapel Road corridor, Pond & Company was asked to perform an operational review and analysis of traffic conditions along the corridor. This report documents the methods and findings of this operational review.

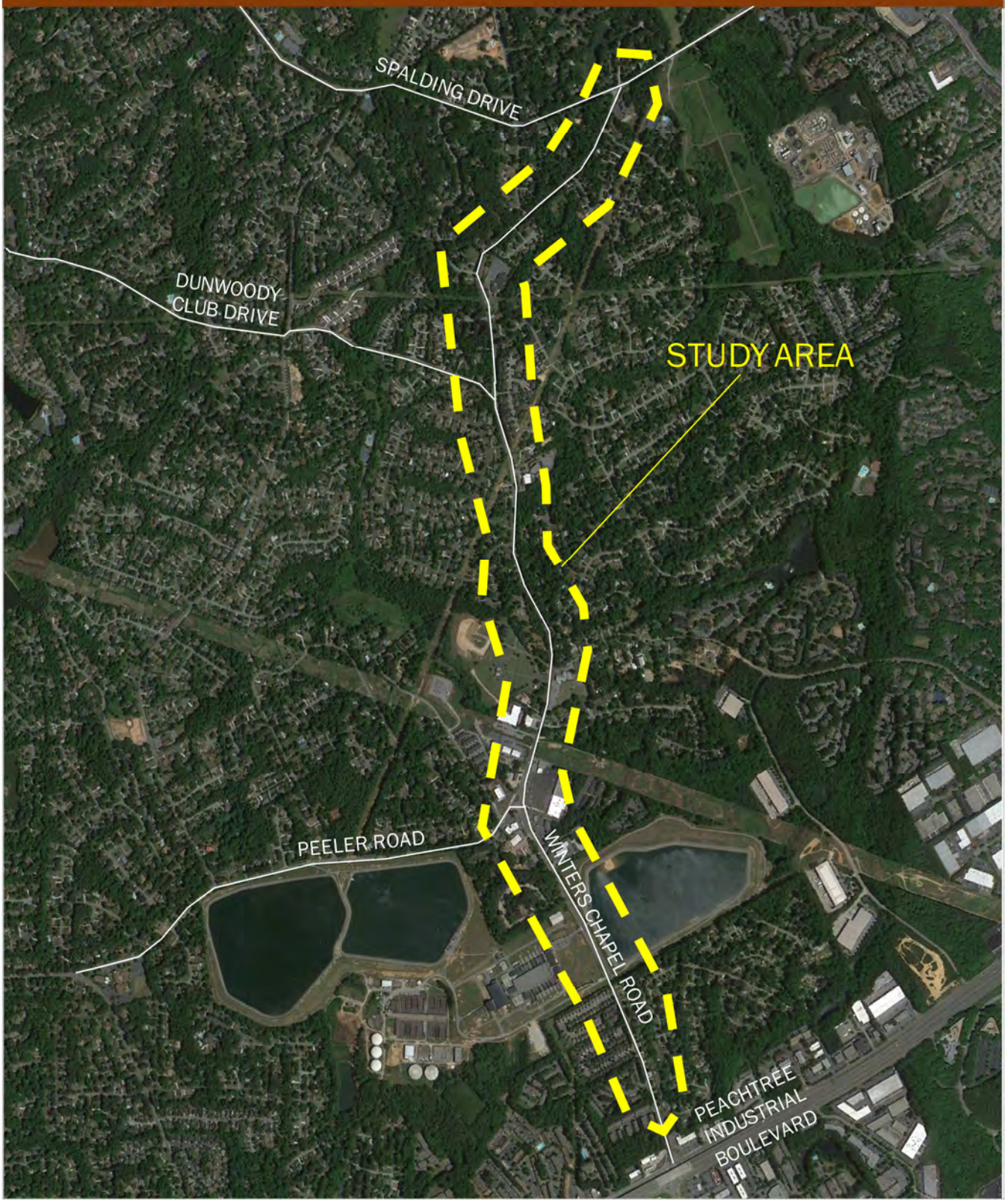
Study data included traffic counts, development of potential future traffic demand, crashes along the corridor, and field observations. The study area is depicted in **Figure 1**, and includes the entire Winters Chapel Road corridor while acknowledging traffic operations at the Peachtree Industrial Boulevard intersection are beyond the intent of this review.

A capacity analysis was performed along the corridor to quantify congestion during morning and evening peak hours in existing conditions and in anticipated year 2035 conditions. Subsequently, improvements to consider were identified and documented, as shown in the table below.

RECOMMENDED PROJECTS AND INITIATIVES

ID	IMPROVEMENT	ESTIMATED COST
Short-Term		
ST-1	Re-stripe Dunwoody Club Drive intersection for a dedicated NBL and a shared NBT/NBR. Modify signal operations to include a protected NBL phase.	$54,076
ST-2	Install and maintain RPMs throughout corridor	Varies
ST-3	Consider NBR overlap phase at Spalding Drive	$5,760
ST-4	Initiate enforcement and/or traffic calming measures to address speeding in northern half of corridor	Varies
ST-5	Re-stripe Winters Chapel Road between Peeler Road and Winter Rose Court to include a Two-Way Left Turn Lane	$370,712
Mid-Term Improvements		
MT-1	Construct a roundabout at Dunwoody Club Drive intersection	$1,595,000
MT-2	Widen Winters Chapel Road between Winter Rose Court and Spring Drive to include a Two-Way Left Turn Lane	$736,129
MT-3	Construct a southbound left turn lane and staging area for vehicles turning into and out of Sumac Drive	$265,272
Long-Term Improvements		
LT-1	Improvements to Spalding Drive intersection including minimizing vertical curve on WB approach, extending WBL turn lane, adding dedicated free-flow NBR turn lane with additional EB receiving lane.	$1,284,377

FIGURE 1
STUDY AREA



STUDY DATA

As a traffic operations review, this study focused on traffic counts, development of potential future traffic demand, crashes along the corridor, and field observations.

TRAFFIC COUNTS

Based on coordination with staff from the City of Peachtree Corners and review of public comment (as part of the ongoing Planning and Zoning Services for the Winters Chapel Road Corridor), the following ten (10) intersections were identified for conducting weekday peak period turning movement counts:

1. Winters Chapel Road and Spalding Drive
2. Winters Chapel Road and Nesbit Ferry Road
3. Winters Chapel Road and Newton Drive
4. Winters Chapel Road and Dunwoody Club Drive
5. Winters Chapel Road and Fontainebleau Way
6. Winters Chapel Road and Sumac Drive
7. Winters Chapel Road and Jones Mill Road
8. Winters Chapel Road and Peeler Road
9. Winters Chapel Road and Womack Drive
10. Winters Chapel Road and Spring Drive

These counts were conducted on Wednesday, March 18, 2015 during a typical week when nearby schools were in session. **Figure 2** indicates the peak hour turning movement volumes.

Additionally, daily vehicle counts were conducted at two locations along the corridor:

1. Winters Chapel Road, South of Spalding Drive
2. Winters Chapel Road, South of Peeler Road

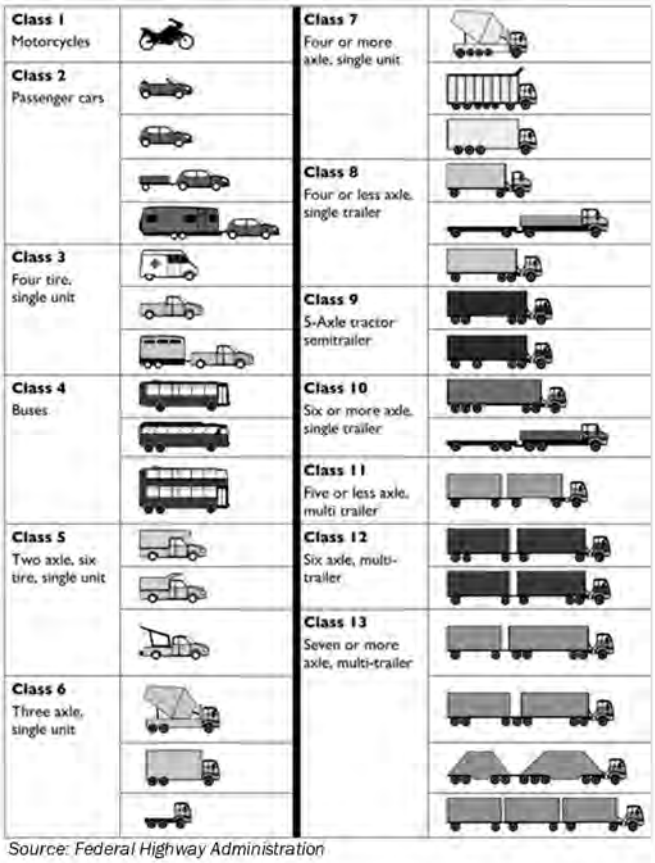
These counts were conducted Tuesday, March 17 and Wednesday, March 18, 2015. These counts reveal that there are more vehicles on the southern half of the corridor (an average of 15,400 vehicles per day) versus the northern half of the corridor (10,200 vehicles per day). The raw count volumes are provided in **Appendix A**.

In addition to measuring the amount of traffic volume over the course of the two days, vehicle speed and classification data was also collected.

- Speed: The 85th percentile speed represents the speed at or under which 85 percent of drivers are driving and is considered to be the safest level at which to set a speed limit (typically within 5 miles per hour). As shown in **Table 1**, speeds on the southern half of the corridor are in line with the posted speed but there is a mismatch on the northern half of the corridor.
- Vehicle classifications (depicted in the graphic to the top- right) indicate that on the southern half of the corridor 90 percent of the vehicles are typical passenger vehicles (Class 1-3), 5 percent are buses (Class 4), and 6 percent (Class 5-13) are other heavy vehicles. On the northern half of the corridor, 95 percent of the vehicles are typical passenger vehicles, 2 percent are buses, and 3 percent are other heavy vehicles.

TABLE 1
85TH PERCENTILE SPEED

DAY	85TH PERCENTILE SPEED (MILES PER HOUR) DIRECTION OF TRAVEL		POSTED SPEED
	SB	NB	
WINTERS CHAPEL ROAD, SOUTH OF SPALDING DRIVE			
Tuesday, March 17	44.5	45.8	35
Wednesday, March 18	45.8	44.5	35
WINTERS CHAPEL ROAD, SOUTH OF PEELER ROAD			
Tuesday, March 17	41.4	40.8	40
Wednesday, March 18	41.4	40.8	40



Source: Federal Highway Administration

TRAFFIC FORECASTING

Traffic demand for the year 2035 was forecasted by linearly applying an annual growth rate of 1 percent to the existing traffic counts. This 1 percent rate was coordinated with Peachtree Corners staff due to the lack of any identifiable and correlative long-term historical trends (which would be identified by an R^2 of over 75 percent) in Georgia Department of Transportation (GDOT) data along the corridor as depicted in the **Table 2**. This rate was applied to the existing peak hour turning movement counts to determine anticipated year 2035 peak hour demand, as depicted in **Figure 3**.

FIGURE 2
2015 AM & PM PEAK HOUR TRAFFIC VOLUMES

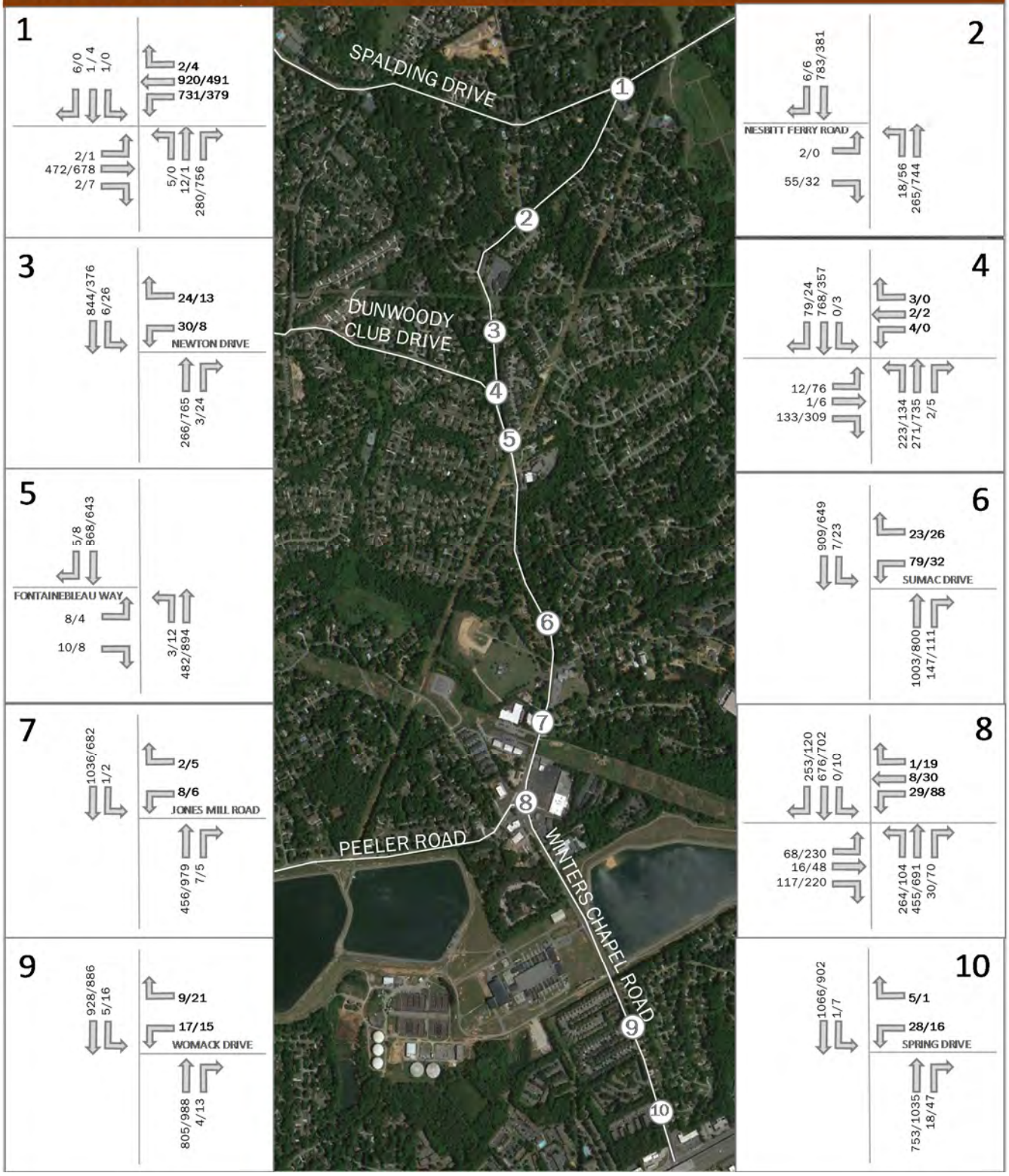


FIGURE 3
2035 ANTICIPATED AM & PM PEAK HOUR TRAFFIC VOLUMES

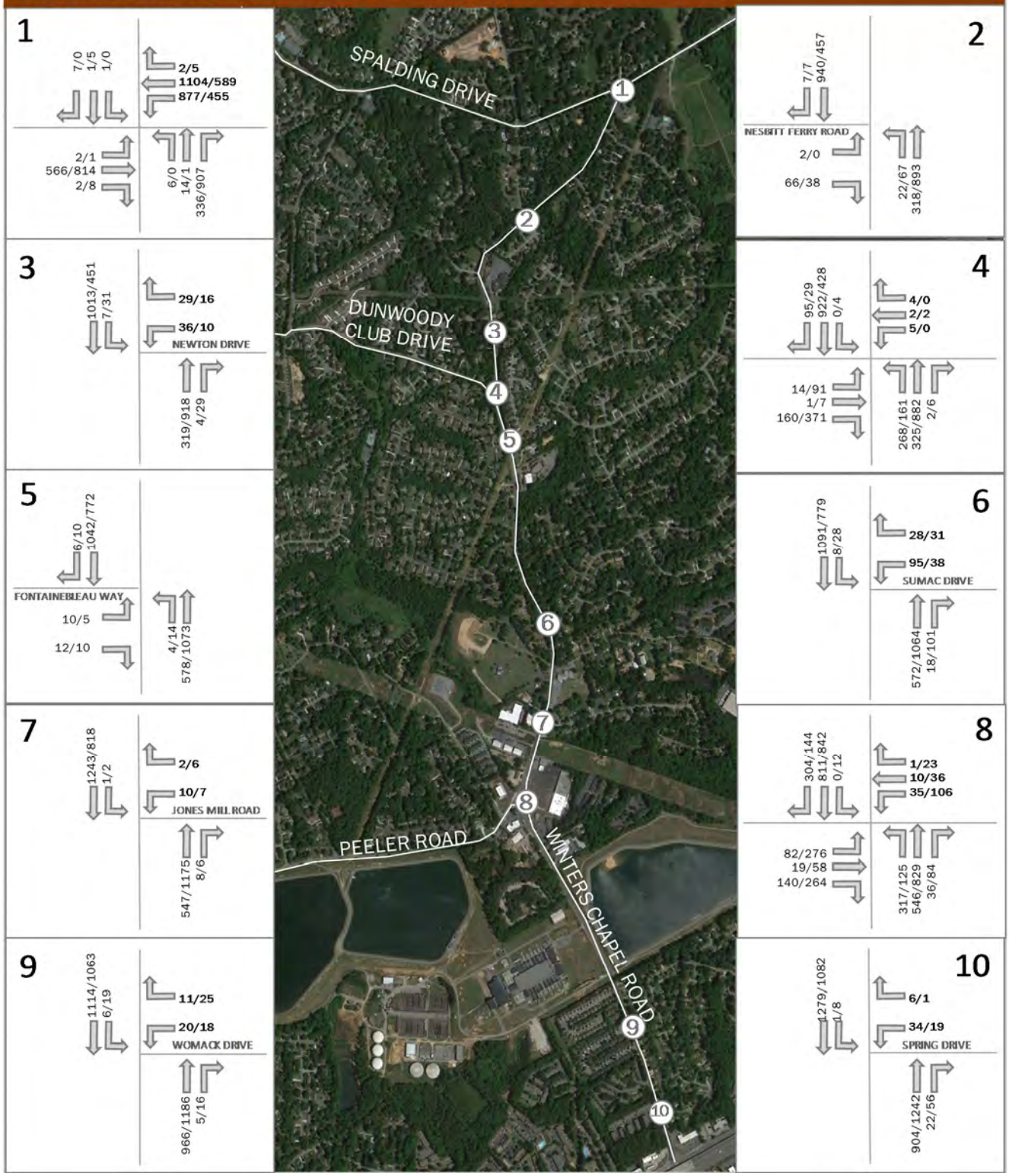


TABLE 2
HISTORICAL COUNT DATA AND TRENDS

YEAR	COUNT ID: 0893576 SOUTH OF PEELER ROAD	COUNT ID: 0893574 SOUTH OF DUNWOODY CLUB
2013	15,220	12,130
2012	15,150	12,000
2011	15,230	12,070
2010	15,250	12,080
2009	17,350	12,050
2008	17,850	12,390
2007	18,960	13,160
2006	14,580	14,260
2005	14,300	12,440
2004	15,800	12,380
2003	15,520	10,510
2002	17,048	13,819
2001	15,700	13,600
2000	17,100	13,700
1999	18,600	12,100
1998	18,200	16,200
1997	15,400	13,000
1996	15,200	13,700
1995	17,000	15,100
1994	16,700	14,100
1993	17,100	13,500
1992	15,806	13,802
1991	10,853	11,662
1990	12,389	14,167
R^2	4.3%	22.3%
Average Growth Rate	0.43%	-0.85%

Source: Georgia Department of Transportation

TABLE 3
WINTER CHAPEL ROAD CRASH SUMMARY (2012-2014)

CRASH TYPE	2012	2013	2014	TOTAL
Angled	7	9	26	42
Head On	0	0	0	0
Rear End	13	37	29	79
Sideswipe	1	5	5	11
Struck Fixed Object	1	1	3	5
Pedestrian	0	1	0	1
Other	2	5	1	8
Total	24	58	64	146
OTHER CRASH CHARACTERISTICS				
Property Damage Only	20	46	40	106
Injury Crashes	5	15	27	47
Fatality Crashes	0	0	0	0

TABLE 4
WINTER CHAPEL ROAD CRASH RATE

LOCATION	AVERAGE DAILY TRAFFIC (1)	LENGTH (MILES)	TOTAL CRASHES	CRASH RATE (2)	STATEWIDE AVERAGE CRASH (3)
Spalding Drive to Peeler Road	12,130	1.66	95	430.86	544
South of Peeler Road	15,220	0.82	36	263.43	544

(1) Average Daily Traffic from Year 2013 was utilized
(2) Per 100 Million Vehicle Miles
(3) Per 100 Million Vehicle Miles Traveled on Urban Minor Arterials (Source: GDOT Statewide Mileage, Travel & Accident Data – 2012)

CRASH DATA

Crash data along the corridor for calendar years 2012, 2013, and 2014 were collected from the Georgia Department of Transportation via direct staff contact and use of their GeoTraqs web interface. These two sources were utilized to minimize the likelihood of missing data due to three separate policing agencies along the corridor (Dunwoody, Sandy Springs, and Gwinnett County). A summary of the crash data is provided in **Table 3**. Please note that this data removes crashes associated with the Peachtree Industrial Boulevard intersection at the southern terminus of the corridor.

Due to limitations in the count data the location of fifteen crashes could not be verified. However, the remaining 131 crashes were combined with historical traffic data to determine an average crash rate along the corridor. As shown in **Table 4**, the crash rate observed along the corridor is lower than the average statewide rate for similar roadways. Even if the fifteen un-verifiable crashes were added to this analysis, both segments of the roadway would be below the statewide average.

The crash data was also observed to determine any trends or patterns in crash type throughout the corridor that may indicate the possibility of a design issue. No trends or patterns were observed in this review.

FIELD OBSERVATIONS

Field observations were conducted on Wednesday, April 1, 2015 and Thursday April 2, 2015 during normal conditions when schools were in session. This inventory was utilized to gain an understanding of the actual traffic control (number of lanes, traffic signals, stop signs, etc.) on the corridor and how traffic flow operates during peak hour conditions. The findings include:

<u>Peachtree Industrial Boulevard</u>
Significant southbound Peachtree Industrial Boulevard congestion was observed on the frontage road approaching Winters Chapel Road in the morning but this is not the focus of this study as it is related more to regional commuting movements.

<u>Spalding Drive</u>
There is notable congestion at the intersection of Winters Chapel Road and Spalding Drive, a significant amount related to the northbound to eastbound movement or the return westbound to southbound movement. On the northbound Winters Chapel Road approach, queues were observed extending past Winters Hill Drive (approximately 600 feet). However, in any given traffic signal cycle, these vehicles were largely served. This in due, in part, to a large

number of right-turn-on-red vehicles during the signal phase serving the westbound to southbound movement. Due to the lack of conflict during this signal phase, this movement operated effectively as an 'overlap' phase.

Additionally, while the high volume demand on the Spalding Drive westbound approach in both the mornings and afternoons is a major contributing factor to the congestion, the vertical curve approaching the intersection and the limited storage for the westbound left turn lane may be exacerbating the congestion.

Finally, despite signage indicating the prohibition of northbound left turning vehicles during peak times, several vehicles were observed to make this movement.

Dunwoody Club Drive

The intersection of Dunwoody Club Drive was not observed to have any notable congestion issues. However, due to the lack of a northbound left turn phase or dedicated storage lane, the presence of any northbound left turn vehicles would generate a queue for northbound through vehicles. Due to the presence of a rarely utilized northbound right turn lane approaching the intersection and a second unmarked lane north of the intersection, many of these queued vehicles would utilize this space to 'get-around' the turning vehicle creating potential safety problems.

Side Streets and Gaps

Side streets were observed to have adequate gaps to allow vehicles to turn out of neighborhoods onto Winters Chapel Road in the morning. Additionally, noticeable queues were not observed in these neighborhoods attempting to turn onto Winters Chapel Road.

Sporadic Congestion

There is a sporadic congestion effect created by transit and school buses stopping to pick up passengers or vehicles turning left from Winters Chapel Road (due to the lack of dedicated turn lanes). Typically any congestion caused by either of these events would dissipate within a few minutes but there would also be the subsequent downstream effect of large platoons of vehicles (having stacked on Winters Chapel Road) minimizing gaps and impacting traffic signal operations.

Pavement Markings

Raised pavement markers (RPMs) are retro-reflective safety devices that are installed adjacent to road centerlines and lane striping. These devices' primary function is to illuminate pavement striping and markings at night but also can serve as tactile indicators for drivers that encroach into adjacent lanes. RPMs can also help indicate road curvature when visibility is low.

These RPMs can become dislodged from the pavement through normal wear and were observed to be missing in several locations along Winters Chapel, particularly between the intersections of Peeler Road and Spalding Drive.

Overall Findings

Despite the congestion noted, the majority of the Winters Chapel Road corridor was observed to operate remarkably well given the morning and afternoon peak hour demand with recurring (not sporadic) congestion observed only at the extreme ends (Peachtree Industrial Boulevard and Spalding Drive) of the corridor where regional traffic movements are largely served.

It should be noted that the two-lane roadway nature of the corridor and its effect on turning vehicles coupled with the large distances between traffic signals creates an environment of 'random arrivals' and a lack of vehicle progression.' Any signal coordination along the corridor is likely to be ineffective due to these 'random arrivals'. From a driver's perspective, this may result in 'stopping' at every signal which may give the perception of congestion. However, the signal locations serving Winters Chapel Road were all observed to reasonably serve any stacked queues and in many cases appeared to 'gap out', meaning that the gaps between approaching vehicles was large enough that the traffic signal would switch to serve another signal phase.

To support these findings, travel time runs were subsequently conducted along the corridor on Tuesday, April 14, 2015. The runs (shown in **Figures 4** through **5**) shows travel speeds along the corridor are reasonable with noticeable stops and congestion limited to the ends of the corridor.

FIGURE 4
NORTHBOUND PEAK HOUR TRAVEL TIME AND SPEEDS

NORTHBOUND AM
DATE AND START TIME: 4/14/15 7:27 AM
DISTANCE: 2.5 MILES
CORRIDOR TRAVEL TIME: 6.3 MINUTES
AVERAGE SPEED (MPH): 23.0 MPH

NORTHBOUND PM
DATE AND START TIME: 4/14/15 5:29 PM
DISTANCE: 2.5 MILES
CORRIDOR TRAVEL TIME: 5.8 MINUTES
AVERAGE SPEED (MPH): 25.0 MPH

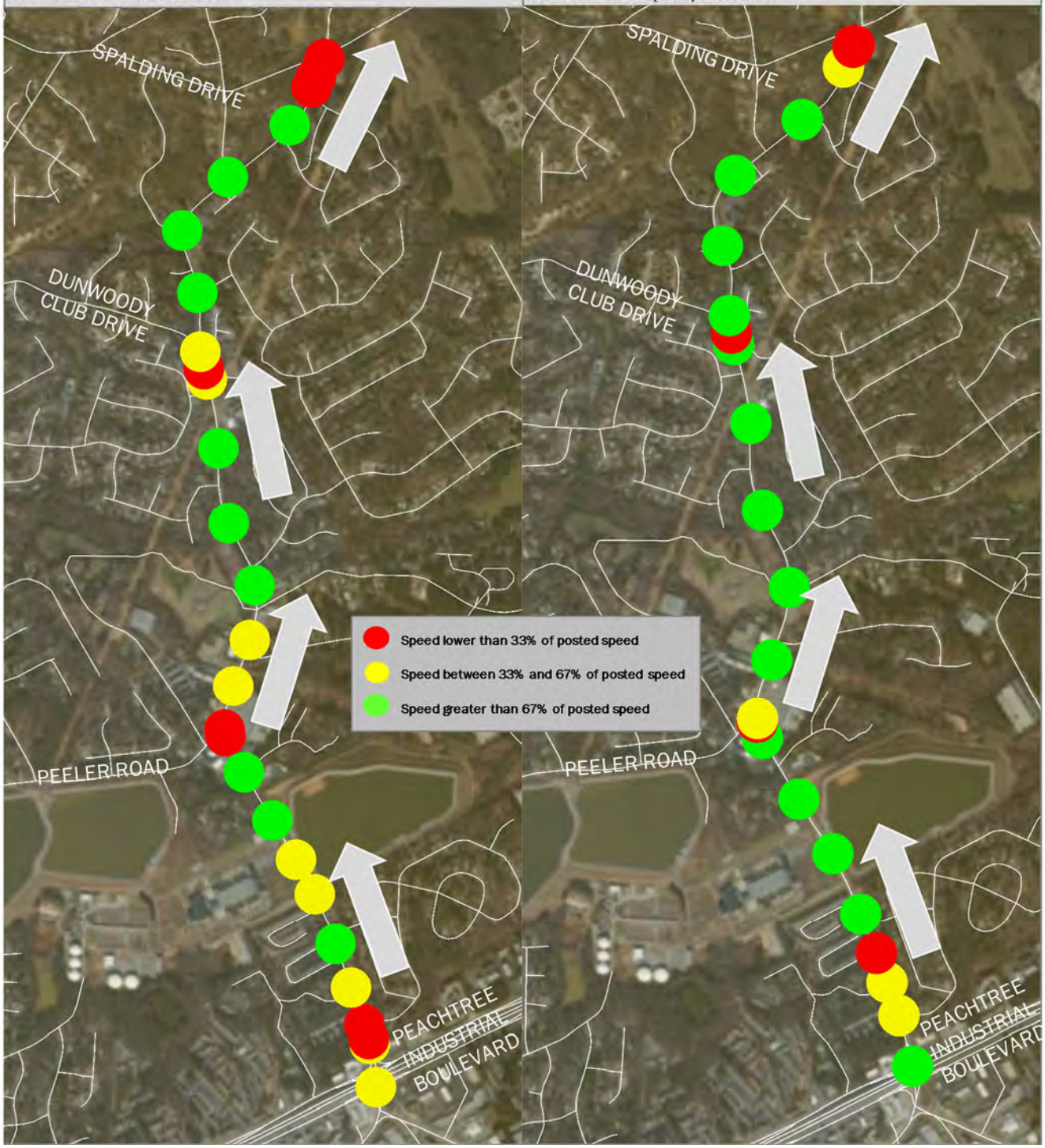


FIGURE 5
SOUTHBOUND PEAK HOUR TRAVEL TIME AND SPEEDS

SOUTHBOUND AM
DATE AND START TIME: 4/14/15 7:19 AM
DISTANCE: 2.5 MILES
CORRIDOR TRAVEL TIME: 4.9 MINUTES
AVERAGE SPEED (MPH): 30.0 MPH

SOUTHBOUND PM
DATE AND START TIME: 4/14/15 5:18 PM
DISTANCE: 2.5 MILES
CORRIDOR TRAVEL TIME: 7.5 MINUTES
AVERAGE SPEED (MPH): 19.3 MPH

ANALYSIS METHODOLOGY

The standard approach to defining traffic congestion is the use of Level of Service (LOS), a quantifiable measure of congestion that is correlated to the delay experienced by the average vehicle. LOS is measured on a letter grade scale from A to F, with LOS A indicating free-flow conditions and LOS F indicating severe congestion as shown in the graphic below. Typically, LOS D or better is considered satisfactory, with LOS E or F considered failing.

The *Highway Capacity Manual* (HCM) defines LOS at signalized intersections in terms of average control delay per vehicle, which is composed of initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Unsignalized intersection LOS is defined in similar terms, but with lower delay thresholds.

The HCM 2010 states that unsignalized intersections are associated with more uncertainty for users, as delays are less predictable than they are at signals, which can reduce a user's tolerance to delay. Unfortunately, limitations in the methodology also assume uniform gaps in traffic on major streets which often results in the analysis showing a significantly more conservative delay result for side street stop approaches.

Roundabouts share similar basic control delay formulation with two-way and all-way stop-controlled intersections, and as a result they share the same LOS thresholds as unsignalized intersections. **Table 3** presents LOS thresholds for all three intersection types.

TABLE 3
LEVEL OF SERVICE CRITERIA

LEVEL OF SERVICE	SIGNALIZED AVERAGE DELAY (SEC/VEH)	UNSIGNALIZED/ROUNDABOUT AVERAGE DELAY (SEC/VEH)
A	≤10.0	≤10.0
B	>10.0 and ≤20.0	>10.0 and ≤15.0
C	>20.0 and ≤35.0	>15.0 and ≤25.0
D	>35.0 and ≤55.0	>25.0 and ≤35.0
E	>55.0 and ≤80.0	>35.0 and ≤50.0
F	>80.0	>50.0

CAPACITY ANALYSIS RESULTS

Analysis of the signalized and unsignalized intersections along the corridor was conducted with Synchro 8.0, utilizing HCM 2010 methodology, unless otherwise noted. Roundabout analysis was conducting utilizing the Georgia Department of Transportation (GDOT) Roundabout Analysis Tool v2.1 which makes use of a modified HCM 2010 methodology that is calibrated to reflect a relative familiarity for roundabouts among road users. **Tables 4** and **5** present the Level of Service and Control Delay (average delay in seconds per vehicle) for the 2015 existing traffic and for 2035 No-Build conditions (if no improvements are made). Synchro output from the analysis is provided in **Appendix B**.

TABLE 4
2015 EXISTING DELAY AND LEVEL OF SERVICE

INTERSECTION ON WINTERS CHAPEL CORRIDOR	TRAFFIC CONTROL	AM PEAK		PM PEAK	
		LOS	DELAY	LOS	DELAY
SPALDING DRIVE	SIGNAL	D	43.1	F	152.6
NESBIT FERRY ROAD	NBL YIELD	A	9.6	A	8.3
	EB STOP	C	16.9	B	11
NEWTON DRIVE	WB STOP	C	20	C	21.5
	SBL YIELD	A	7.8	A	9.9
DUNWOODY CLUB DRIVE	SIGNAL	B	19.9	C	28.6
FONTAINEBLEAU WAY	NBL YIELD	A	9.8	A	8.9
	EB STOP	C	23.2	C	21.6
SUMAC DRIVE	WB STOP	F	68.8	E	45.5
	SBL YIELD	A	8.5	B	10.3
JONES MILL ROAD	WB STOP	D	31.3	D	32.5
	SBL YIELD	A	8.3	B	10.3
PEELER ROAD	SIGNAL	A	6.8	B	14.9
WOMACK DRIVE	WB STOP	E	48.9	F	52.2
	SBL YIELD	A	9.6	B	10.6
SPRING DRIVE	WB STOP	F	67.5	F	80.0
	SBL YIELD	A	9.3	B	10.6

TABLE 5
2035 "NO-BUILD" DELAY AND LEVEL OF SERVICE

INTERSECTION ON WINTERS CHAPEL CORRIDOR	TRAFFIC CONTROL	AM PEAK		PM PEAK	
		LOS	DELAY	LOS	DELAY
SPALDING DRIVE	SIGNAL	F	99.6	F	271.5
NESBIT FERRY ROAD	NBL YIELD	B	10.4	A	8.6
	EB STOP	C	21.4	B	11.7
NEWTON DRIVE	WB STOP	D	28.8	D	29.1
	SBL YIELD	A	8.0	B	10.7
DUNWOODY CLUB DRIVE	SIGNAL	F	129.0	F	96.4
FONTAINEBLEAU WAY	NBL YIELD	B	10.7	A	9.4
	EB STOP	D	31.8	D	28.7
SUMAC DRIVE	WB STOP	F	252.1	F	118.9
	SBL YIELD	A	8.8	B	11.4
JONES MILL ROAD	WB STOP	E	48.0	F	50.7
	SBL YIELD	A	8.6	B	11.3
PEELER ROAD	SIGNAL	A	9.0	C	28.5
WOMACK DRIVE	WB STOP	F	107.7	F	140.5
	SBL YIELD	B	10.4	B	11.8
SPRING DRIVE	WB STOP	F	180.3	F	206.1
	SBL YIELD	A	9.9	B	11.8

The capacity analysis of the intersections along the corridor under "no-build" conditions suggests that the signalized intersections at Spalding Drive and Dunwoody Club Drive will fail by the year 2035. The unsignalized side-street approaches of Sumac Drive, Jones Mill Road, Womack Drive and Spring Drive are also expected to reach failing levels of service by 2035.

Similarly, an arterial based LOS was conducted. As shown in **Table 6**, overall LOS along the corridor is and will continue to be at acceptable operating conditions, with the exception of the northern segment in the year 2035 in the northbound direction. The LOS failure along this segment is related to heavy northbound right turning movement at Spalding Drive and congestion associated with that movement.

TABLE 6
2015 & 2035 "NO-BUILD" ARTERIAL LEVEL OF SERVICE

LOCATION	2015		2035	
	AM	PM	AM	PM
Northbound				
South of Peeler Road	A	B	A	B
Between Peeler Road and Dunwoody Club Drive	A	B	A	C
Between Dunwoody Club Drive and Spalding Drive	B	D	B	F
Total Northbound	A	C	B	D
Southbound (1)				
Between Spalding Drive and Dunwoody Club Drive	B	B	B	B
Between Dunwoody Club Drive and Peeler Road	B	B	B	C
Total Southbound	B	B	B	B

(1) Arterial Level of Service is defined by downstream traffic signals. Therefore, the southbound segment located south of Peeler Road is defined by signal operations at Peachtree Industrial Boulevard.

Spalding Drive Intersection

As noted in field observations, the operations of the intersection at Spalding Drive is controlled by a heavy northbound-to-eastbound and westbound-to-southbound movement. The northbound right (NBR) turn movement effectively operates as a de-facto overlap phase with the westbound left (WBL) turn protected phase, however the installation of a signal to display a right turn arrow to northbound traffic should provide a benefit to the NBR movement's saturated flow rate. Right-turn overlap phasing is not supported by the 2010 HCM methodology, so therefore the LOS results for this improvement in the year 2015 are shown in **Table 7** using the 2000 HCM methodology. A secondary long-term solution for 2035 was studied as well. A potential long-term solution would be to create a second eastbound receiving lane for northbound right turns. A dedicated receiving lane would create a free-flow condition which would significantly improve operations, also provided in **Table 7** for the year 2035.

TABLE 7
2015 & 2035 LOS AND DELAY, WINTERS CHAPEL ROAD AT SPALDING DRIVE (HCM 2000)

SCENARIO	AM PEAK		PM PEAK	
	LOS	DELAY	LOS	DELAY
2015 EXISTING	C	24.0	E	69.6
2035 "NO-BUILD"	E	57.2	F	168.5
2015 RT OVERLAP	B	17.9	C	29.1
2035 NBR FREE MOVEMENT	D	47.6	B	11.1

Dunwoody Club Drive Intersection

The intersection of Winters Chapel Road and Dunwoody Club Drive experiences peak hour queuing due to the lack of a northbound left (NBL) turn lane. As previously noted, a NBR turn lane onto Marston Way is often used by northbound vehicles to bypass the left turns. The existing pavement on the east side of Winters Chapel Road provides the means to reconfigure the northbound approach into a dedicated left turn lane with storage and a shared through-right turn lane. The volume of NBL turns in relation to the volume of opposing southbound through (SBT) movements suggests the need for a protected phase to accompany the proposed left turn lane. Per the GDOT policy 6785-2 regarding Left Turn Phasing, this intersection currently meets the criteria for a left turn phase should a turn lane be installed at this location.

Table 8 presents the LOS and delay results of an intersection capacity analysis at Winters Chapel Road at Dunwoody Club Drive with the proposed northbound left turn lane. As an alternative to the signal, a roundabout was also considered at this intersection and the results are shown in **Table 8** as well.

TABLE 8
2015 & 2035 LOS AND DELAY, WINTERS CHAPEL ROAD AT DUNWOODY CLUB DRIVE (HCM 2010)

SCENARIO	AM PEAK		PM PEAK	
	LOS	DELAY	LOS	DELAY
2015 EXISTING	B	19.9	C	28.6
2035 "NO-BUILD"	F	129.0	F	96.4
2015 WITH NBL TURN LANE	B	18.0	B	18.9
2035 WITH NBL TURN LANE	D	50.7	D	38.1
2015 WITH ROUNDABOUT	C	22.8	C	19.9
2035 WITH ROUNDABOUT	C	23.4	C	20.9

Peeler Road Intersection

As an alternative to signalization, a roundabout was modeled for the intersection of Winters Chapel Road and Peeler Road. Roundabouts can often provide better levels of service and can reduce crash rates with lower operating costs than signals. The results of a 2035 LOS and delay analysis for a roundabout at this location are shown in **Table 9**. Due to the relative degradation in LOS provided by a roundabout, it was determined to be an insufficient traffic control measure.

TABLE 9
2035 ROUNDABOUT LOS AND DELAY, WINTERS CHAPEL ROAD AT PEELER DRIVE (HCM 2010)

SCENARIO	AM PEAK		PM PEAK	
	LOS	DELAY	LOS	DELAY
2035 "NO-BUILD"	A	9.0	C	28.5
2035 ROUNDABOUT	C	19.4	F	60.0

Unsignalized Intersections

The existing pavement width on Winters Chapel presents an opportunity to restripe a segment to include a center two-way left turn lane (TWLTL) median type. The segment with appropriate pavement width extends from south of the intersection with Peeler Road to south of the intersection with Womack Drive. A center two-way left turn lane would allow for two-stage left turns to be made from unsignalized side streets which can improve operations. A center turn lane would also reduce the probability of rear end crash occurrences for traffic on Winters Chapel Road. **Tables 10** and **11** provide the LOS and delay for the unsignalized intersections of Womack Drive and Spring Drive (respectively) with a center two-way left turn lane in place on Winters Chapel Road. Similar improvements would be recognized for driveways to multi-family developments on the west side of the street within this segment.

TABLE 10
2035 LOS AND DELAY, WINTERS CHAPEL ROAD AT WOMACK DRIVE (2010 HCM)

INTERSECTION ON WINTERS CHAPEL CORRIDOR	TRAFFIC CONTROL	AM PEAK		PM PEAK	
		LOS	DELAY	LOS	DELAY
2035 "NO-BUILD"	WB STOP	F	107.7	F	140.5
	SBL YIELD	B	10.4	B	11.8
2035 TWLTL	WB STOP	D	28	D	33.2
	SBL YIELD	B	10.4	B	11.8

TABLE 11
2035 LOS AND DELAY, WINTERS CHAPEL ROAD AT SPRING DRIVE (2010 HCM)

INTERSECTION ON WINTERS CHAPEL CORRIDOR	TRAFFIC CONTROL	AM PEAK		PM PEAK	
		LOS	DELAY	LOS	DELAY
2035 "NO-BUILD"	WB STOP	F	180.3	F	206.1
	SBL YIELD	A	9.9	B	11.8
2035 TWLTL	WB STOP	D	32.4	D	34.7
	SBL YIELD	A	9.9	B	11.8

Additionally, the inclusion of a dedicated soutbound left turn lane at Sumac Drive was considered in order to also allow a two-stage westbound left turn lane, as shown in **Table 12**.

TABLE 12
2035 LOS AND DELAY, WINTERS CHAPEL ROAD AT SUMAC DRIVE (2010 HCM)

INTERSECTION ON WINTERS CHAPEL CORRIDOR	TRAFFIC CONTROL	AM PEAK		PM PEAK	
		LOS	DELAY	LOS	DELAY
2035 "NO-BUILD"	WB STOP	F	252.1	F	118.9
	SBL YIELD	A	8.8	B	11.4
2035 SBL TURN LANE	WB STOP	E	38.7	D	31.1
	SBL YIELD	A	8.8	B	11.4

Based on the capacity analysis performed and field observations, a series of improvements for consideration have been identified. These improvements are organized as short-term, mid-term, and long-term to indicate the likely need and ease in which they can be implemented. The recommendations are planning level cost estimates (in 2015 dollars) are shown in **Table 13.** The locations of the projects are depicted in **Figures 6** through **11**. Additionally, the assumptions used to generate the planning cost estimates are provided in **Appendix C**.

TABLE 13
RECOMMENDED PROJECTS AND INITIATIVES

ID	IMPROVEMENT	ESTIMATED COST
Short-Term		
ST-1	Re-stripe Dunwoody Club Drive intersection for a dedicated NBL and a shared NBT/NBR. Modify signal operations to include a protected NBL phase.	$54,076
ST-2	Install and maintain RPMs throughout corridor	Varies
ST-3	Consider NBR overlap phase at Spalding Drive	$5,760
ST-4	Initiate enforcement and/or traffic calming measures to address speeding in northern half of corridor	Varies
ST-5	Re-stripe Winters Chapel Road between Peeler Road and Winter Rose Court to include a Two-Way Left Turn Lane	$370,712
Mid-Term Improvements		
MT-1	Construct a roundabout at Dunwoody Club Drive intersection	$1,595,000
MT-2	Widen Winters Chapel Road between Winter Rose Court and Spring Drive to include a Two-Way Left Turn Lane	$736,129
MT-3	Construct a southbound left turn lane and staging area for vehicles turning into and out of Sumac Drive	$265,272
Long-Term Improvements		
LT-1	Improvements to Spalding Drive intersection including minimizing vertical curve on WB approach, extending WBL turn lane, adding dedicated free-flow NBR turn lane with additional EB receiving lane.	$1,284,377

ST-1 Re-Stripe Dunwoody Club Drive Intersection and Modify Signal

This improvement (adding a northbound left turn lane and northbound shared through-right) can be implemented with relative ease (re-striping entirely on existing pavement) and improve safety and efficiency at the intersection. The introduction of a dedicated northbound left turn lane should also include the addition of a protected and permitted northbound left turn signal phase.

ST-2 Install and Maintain RPMs throughout corridor

While RPMs are located throughout the corridor, their use appeared to be inconsistent. Use of RPMs throughout the corridor is recommended to improve safety while being considerate of the residential character of the roadway.

ST-3 Consider NBR overlap phase at Spalding Drive

A significant majority of the traffic at this intersection is a northbound right turn lane that currently acts as an almost de-factor overlap during the westbound left turn signal phase. This improvement would simply use traffic control to allow some efficiency in this movement.

ST-4 Address speeding in northern half of corridor

As noted in the speed study, the northern section of the corridor is posted at 35 mph but 85 percent of drivers are driving at up to 45 mph. Assuming a speed limit change is not desired, law enforcement agencies should consider an enforcement campaign (including the use of speed display boards) to be coordinated with a roll out of various measures to encourage slower speeds such as posting warning signs and signals or even the reduction of lane widths through re-striping.

ST-5 Re-Stripe to Add a Two-Way Left Turn Lane

The area between Peeler Road and Winter Rose Court can be modified to include a two-way left turn lane through re-striping. This improvement can help with some of the sporadic congestion caused by left turns from Winters Chapel Road while providing a staging area for left turns onto Winters Chapel Road.

MT-1 Roundabout at Dunwoody Club Drive

As a mid-term improvement, the operational advantages of a roundabout should be considered at this intersection.

MT-2 Widen to Add a Two-Way Left Turn Lane

A short segment on the southern corridor should be widened to allow space for a two-way left turn lane that can tie into the improvements recommended as ST-5.

MT-3 Construct a Southbound Left Turn Lane at Sumac

This improvement will provide space for two-stage left turns from Sumac Drive, improving LOS and increasing safety.

LT-1 Spalding Drive Improvements

These improvements would effectively create a four lane section on Spalding Drive east of Winters Chapel Road by increasing the storage of the westbound left turn lane and adding an additional eastbound lane to act as a receiving lane for a free movement northbound right (with it's own dedicated turn lane). Additionally, to address gapping issues on westbound Spalding Drive traffic, the vertical curve should be minimized as much as possible.

FIGURE 6
RECOMMENDED PROJECTS

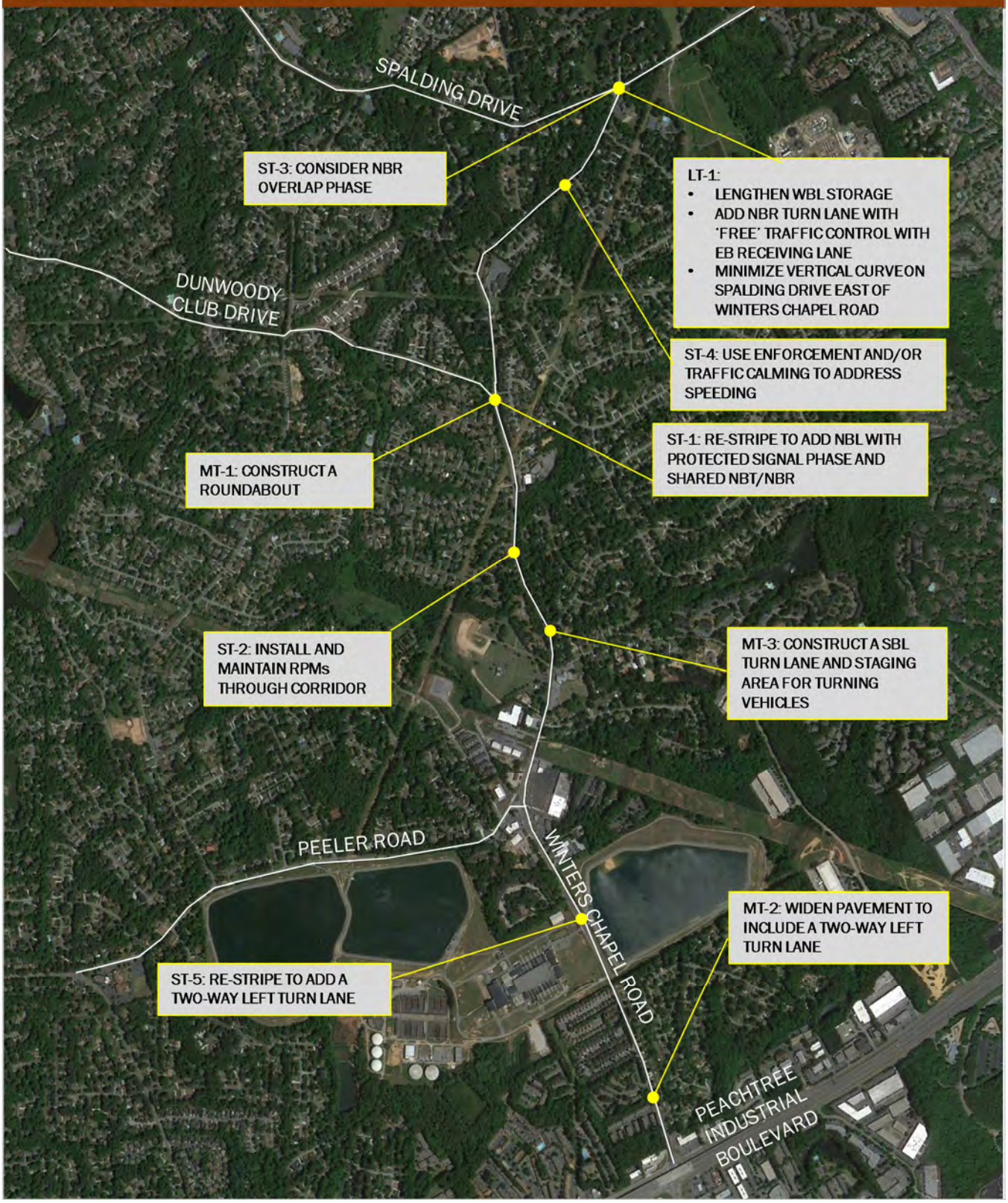


FIGURE 7
ST-1: RE-STRIPE DUNWOODY CLUB DRIVE AND MODIFY SIGNAL

FIGURE 8
ST-5 & MT-2: USE RE-STRIPING AND WIDENING TO CREATE A CONSISTENT TWO-WAY LEFT TURN LANE BETWEEN PEELER ROAD AND SPRING DRIVE

FIGURE 9
MT-1: CONSTRUCT A ROUNDABOUT AT DUNWOODY CLUB DRIVE

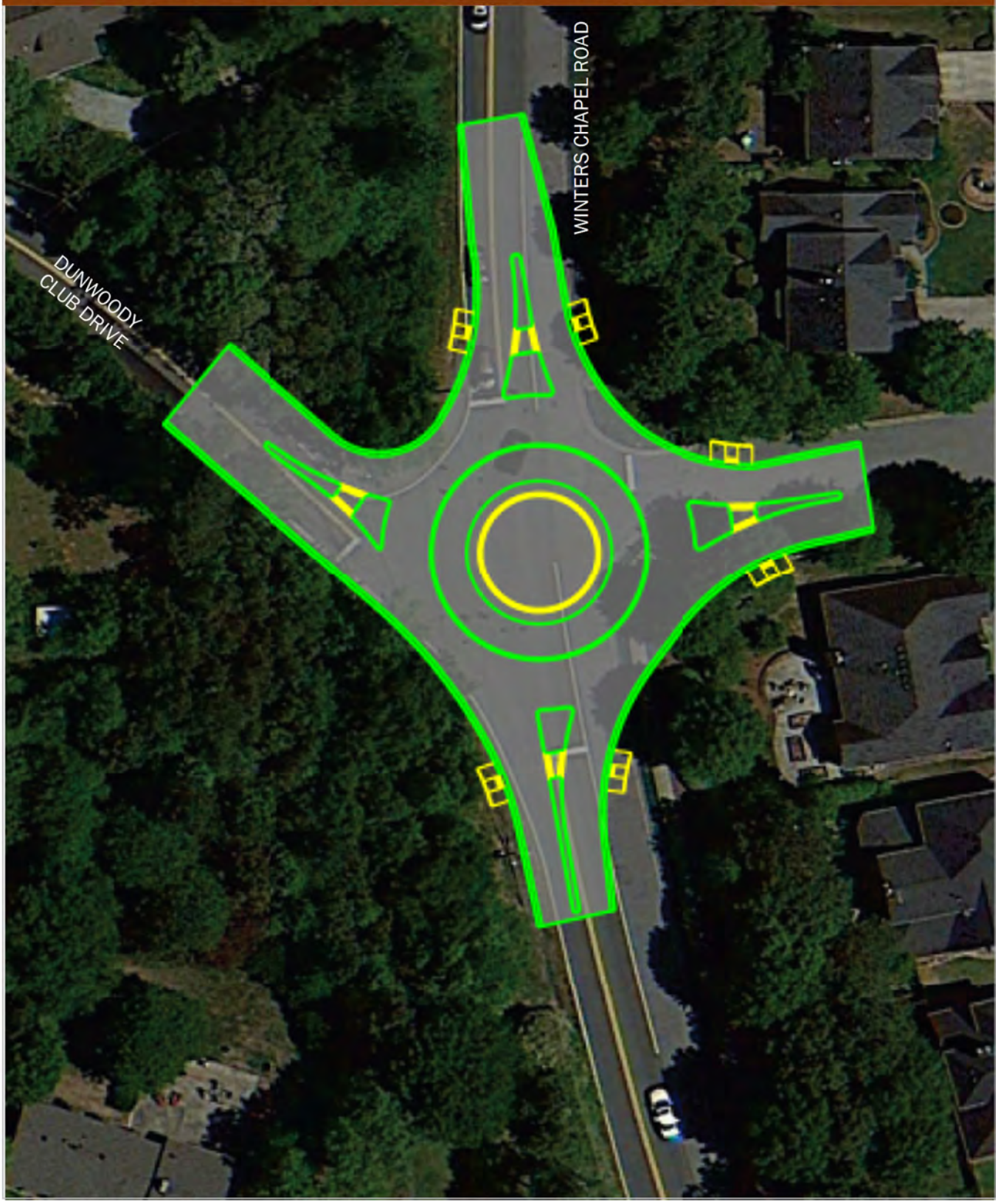
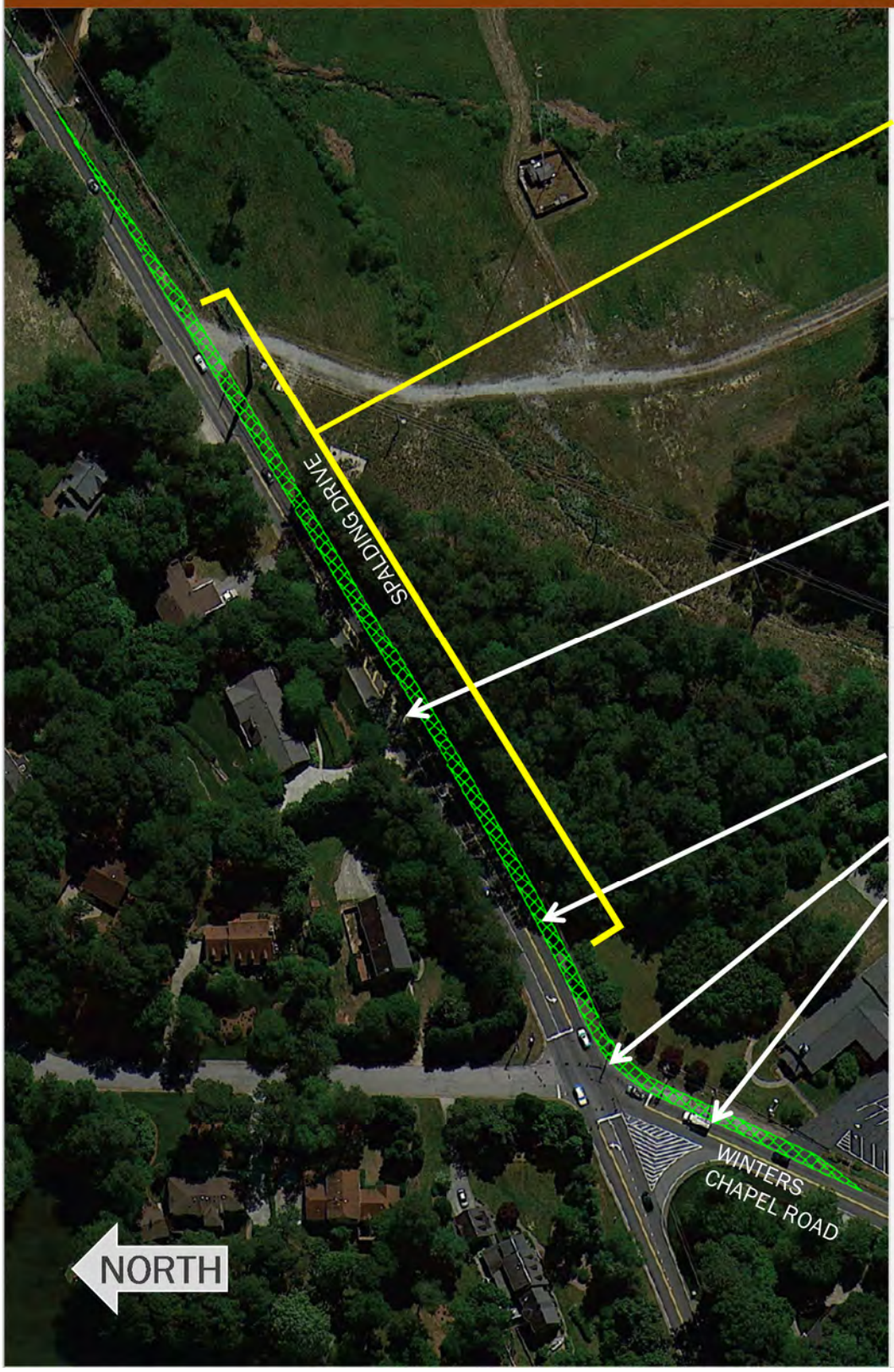


FIGURE 10
MT-3: CONSTRUCT A SOUTHBOUND LEFT TURN LANE AND STAGING AREA AT SUMAC DRIVE

FIGURE 11
LT-1: VARIOUS IMPROVEMENTS TO SPALDING DRIVE, EAST OF WINTERS CHAPEL ROAD



APPENDIX A

Traffic Counts

TRAFFIC DATA SERVICES

Phone: (678) 687-8266 Fax: (404) 294-6122

24-HOUR ADT COUNT SUMMARY

CLIENT: POND AND COMPANY
PROJECT: WINTERS CHAPEL ROAD TRAFFIC STUDY
LOCATION: #1 WINTERS CHAPEL ROAD SOUTH OF SPALDING DRIVE
DATE: TUESDAY, MARCH 17TH 2015

DIRECTION:	NB				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
0:00	3	6	6	3	18
1:00	6	5	2	1	14
2:00	2	3	2	3	10
3:00	1	4	4	0	9
4:00	3	1	6	8	18
5:00	8	6	9	7	30
6:00	9	19	28	36	92
7:00	34	41	53	57	185
8:00	59	65	56	69	249
9:00	64	73	45	72	254
10:00	55	62	55	48	220
11:00	65	48	38	57	208
12:00	54	65	55	71	245
13:00	56	84	58	74	272
14:00	75	67	82	65	289
15:00	60	71	77	88	296
16:00	117	104	138	145	504
17:00	175	155	164	141	635
18:00	158	150	118	132	558
19:00	88	77	61	56	282
20:00	50	52	46	45	193
21:00	49	31	40	23	143
22:00	22	23	22	11	78
23:00	19	8	11	8	46
				TOTAL	4848

AM PEAK HOUR	0830-0930
VOLUME	262
PM PEAK HOUR	1645-1745
VOLUME	639

DIRECTION:	SB				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
0:00	4	12	6	4	26
1:00	1	5	3	1	10
2:00	4	1	2	2	9
3:00	2	2	1	2	7
4:00	0	3	2	5	10
5:00	7	11	10	15	43
6:00	28	48	65	116	257
7:00	146	195	194	163	698
8:00	202	182	166	155	705
9:00	140	149	108	91	488
10:00	82	62	62	54	260
11:00	52	62	54	48	216
12:00	42	58	66	78	244
13:00	64	64	60	55	243
14:00	59	67	69	84	279
15:00	82	60	88	71	301
16:00	62	102	94	63	321
17:00	71	90	58	82	301
18:00	96	80	92	96	364
19:00	53	79	62	47	241
20:00	33	39	31	31	134
21:00	30	37	16	28	111
22:00	25	17	17	7	66
23:00	16	11	7	9	43
				TOTAL	5377

AM PEAK HOUR	0715-0815
VOLUME	754
PM PEAK HOUR	1800-1900
VOLUME	364

TOTAL BI-DIRECTIONAL VOLUME	10225

TRAFFIC DATA SERVICES

Phone: (678) 687-8266 Fax: (404)

SPEED SURVEYS

CLIENT: POND AND COMPANY
PROJECT: WINTERS CHAPEL ROAD TRAFFIC STUDY
DATE: TUESDAY, MARCH 17TH 2015
LOCATION: #1 WINTERS CHAPEL ROAD SOUTH OF SPALDING DRIVE
DIRECTION: NB
POSTED SPEED LIMIT: 35 MPH

BEGIN TIME	TOTAL	0-14 MPH	15-19 MPH	20-24 MPH	25-29 MPH	30-34 MPH	35-39 MPH	40-44 MPH	45-49 MPH	50-54 MPH	55-59 MPH	60-64 MPH	65-69 MPH	70-99 MPH
0:00	18	0	0	0	0	1	6	7	3	1	0	0	0	0
1:00	14	0	0	0	0	1	0	7	5	1	0	0	0	0
2:00	10	0	0	0	0	0	0	7	3	0	0	0	0	0
3:00	9	0	0	0	0	0	3	3	2	1	0	0	0	0
4:00	18	0	0	0	0	0	4	8	5	1	0	0	0	0
5:00	30	0	0	0	1	2	5	8	9	4	0	1	0	0
6:00	92	0	1	1	0	4	16	40	26	4	0	0	0	0
7:00	185	5	1	1	4	6	46	85	31	3	3	0	0	0
8:00	249	2	4	6	5	13	54	108	50	3	2	0	0	2
9:00	254	8	1	0	4	5	67	98	60	9	1	1	0	0
10:00	220	0	0	2	1	2	41	101	67	4	2	0	0	0
11:00	208	1	0	0	1	9	53	108	32	3	1	0	0	0
12:00	245	0	1	2	4	8	56	108	58	6	2	0	0	0
13:00	272	3	0	2	8	14	60	126	51	6	2	0	0	0
14:00	289	1	1	2	3	13	56	143	64	4	2	0	0	0
15:00	296	1	1	3	1	3	68	138	68	12	0	0	0	1
16:00	504	12	7	12	9	28	141	217	73	2	0	1	1	1
17:00	635	46	36	56	44	64	203	140	44	0	1	1	0	0
18:00	558	26	14	16	16	35	173	210	60	8	0	0	0	0
19:00	282	1	1	3	7	9	65	138	49	8	0	1	0	0
20:00	193	1	1	0	2	15	53	87	29	4	1	0	0	0
21:00	143	1	0	1	2	8	41	62	25	3	0	0	0	0
22:00	78	0	0	1	2	2	17	37	12	7	0	0	0	0
23:00	46	0	0	1	0	2	9	19	9	6	0	0	0	0
DAILY TOTALS:	**4848**	**108**	**69**	**109**	**114**	**244**	**1237**	**2005**	**835**	**100**	**17**	**5**	**1**	**4**
PERCENT TOTALS:		**2.2%**	**1.4%**	**2.2%**	**2.4%**	**5.0%**	**25.5%**	**41.4%**	**17.2%**	**2.1%**	**0.4%**	**0.1%**	**0.0%**	**0.1%**

PERECENTILE SPEEDS:	**10%**	**15%**	**50%**	**85%**	**90%**	**Average Minimum**

TRAFFIC DATA SERVICES

Phone: (678) 687-8266 Fax: (404)

SPEED SURVEYS

CLIENT: POND AND COMPANY
PROJECT: WINTERS CHAPEL ROAD TRAFFIC STUDY
DATE: TUESDAY, MARCH 17TH 2015
LOCATION: #1 WINTERS CHAPEL ROAD SOUTH OF SPALDING DRIVE
DIRECTION: SB
POSTED SPEED LIMIT: 35 MPH

BEGIN TIME	TOTAL	0-14 MPH	15-19 MPH	20-24 MPH	25-29 MPH	30-34 MPH	35-39 MPH	40-44 MPH	45-49 MPH	50-54 MPH	55-59 MPH	60-64 MPH	65-69 MPH	70-99 MPH
0:00	26	0	0	0	0	2	11	10	3	0	0	0	0	0
1:00	10	0	0	0	0	0	0	7	3	0	0	0	0	0
2:00	9	0	0	0	1	1	2	3	2	0	0	0	0	0
3:00	7	0	0	0	0	0	1	5	1	0	0	0	0	0
4:00	10	0	0	0	0	0	2	6	1	1	0	0	0	0
5:00	43	0	0	0	0	0	9	20	12	2	0	0	0	0
6:00	257	0	2	0	1	3	73	131	43	4	0	0	0	0
7:00	698	7	4	2	2	23	293	296	65	5	1	0	0	0
8:00	705	10	4	4	7	26	228	359	62	4	1	0	0	0
9:00	488	2	1	2	4	8	171	220	72	6	1	0	0	1
10:00	260	1	0	1	2	12	78	116	45	5	0	0	0	0
11:00	216	3	1	5	5	10	63	85	42	2	0	0	0	0
12:00	244	0	2	3	4	13	65	110	44	2	0	1	0	0
13:00	243	0	1	7	4	15	72	102	42	0	0	0	0	0
14:00	279	2	1	2	3	26	103	110	30	1	1	0	0	0
15:00	301	1	1	3	6	11	102	136	38	3	0	0	0	0
16:00	321	4	4	5	5	16	130	126	27	0	0	0	0	4
17:00	301	13	5	5	6	35	139	80	14	1	0	0	0	3
18:00	364	13	3	7	13	48	168	89	22	0	1	0	0	0
19:00	241	4	1	0	2	24	86	90	32	2	0	0	0	0
20:00	134	1	0	0	1	16	51	47	15	3	0	0	0	0
21:00	111	0	0	0	2	8	39	41	18	2	0	0	1	0
22:00	66	0	0	0	1	8	19	25	10	1	2	0	0	0
23:00	43	0	0	0	0	2	16	15	7	3	0	0	0	0
DAILY TOTALS:	**5377**	**61**	**30**	**46**	**69**	**307**	**1921**	**2229**	**650**	**47**	**7**	**1**	**1**	**8**
PERCENT TOTALS:		**1.1%**	**0.6%**	**0.9%**	**1.3%**	**5.7%**	**35.7%**	**41.5%**	**12.1%**	**0.9%**	**0.1%**	**0.0%**	**0.0%**	**0.1%**

PERECENTILE SPEEDS:	**10%**	**15%**	**50%**	**85%**	**90%**	**Average**
	35.0	36.3	40.3	44.5	45.8	**Minimum**
						Maximum

SPEED EXCEEDED:	**25 MPH**	**35 MPH**	**45 MPH**	**55 MPH**	**65 MPH**	**75MPH**
PERCENTAGE:	97.5	90.5	13.3	0.3	0.2	0.1
TOTALS:	5240	4864	714	17	9	7

10 MPH PACE SPEED: 35.9-45.9
NUMBER IN PACE: 4314
% IN PACE: 80.2

294-6122

AVG SPEED
40.3
43.4
39.3
42.8
42.5
43.4
41.7
40.0
40.1
41.0
41.2
40.2
40.9
40.2
39.8
40.3
39.6
37.3
36.9
39.7
39.6
40.8
41.0
41.4
40.0

40.0
10.1
87.6

TRAFFIC DATA SERVICES

Phone: (678) 687-8266 Fax: (404) 294-6122

AXLE CLASSIFICATION SURVEY

CLIENT: POND AND COMPANY
PROJECT: WINTERS CHAPEL ROAD TRAFFIC STUDY
DATE: TUESDAY, MARCH 17TH 2015
LOCATION: #1 WINTERS CHAPEL ROAD SOUTH OF SPALDING DRIVE
DIRECTION: NB

BEGIN TIME	TOTAL	1 BIKES	2 CARS & TLRS	3 2 AXLE LONG	4 BUSES	5 2 AXLE 6 TIRE	6 3 AXLE SINGLE	7 4 AXLE SINGLE	8 <5AXLE DOUBL	9 5 AXLE DOUBL	10 >6AXLE DOUBL	11 <6AXLE MULTI	12 6 AXLE MULTI	13 >6AXLE MULTI
0:00	18	0	15	3	0	0	0	0	0	0	0	0	0	0
1:00	14	0	12	2	0	0	0	0	0	0	0	0	0	0
2:00	10	0	6	4	0	0	0	0	0	0	0	0	0	0
3:00	9	0	7	2	0	0	0	0	0	0	0	0	0	0
4:00	18	0	17	0	0	1	0	0	0	0	0	0	0	0
5:00	30	0	29	1	0	0	0	0	0	0	0	0	0	0
6:00	92	3	67	16	2	4	0	0	0	0	0	0	0	0
7:00	185	5	125	37	4	9	1	0	2	2	0	0	0	0
8:00	249	6	186	41	5	8	0	0	3	0	0	0	0	0
9:00	254	1	196	38	4	7	1	0	6	1	0	0	0	0
10:00	220	0	171	41	2	5	0	0	0	1	0	0	0	0
11:00	208	1	171	32	1	3	0	0	0	0	0	0	0	0
12:00	245	2	188	45	0	9	0	0	1	0	0	0	0	0
13:00	272	3	215	44	2	6	1	0	1	0	0	0	0	0
14:00	289	3	239	39	2	5	0	0	1	0	0	0	0	0
15:00	296	5	244	37	3	5	0	0	1	1	0	0	0	0
16:00	504	8	423	55	9	5	1	0	3	0	0	0	0	0
17:00	635	6	527	61	18	8	0	0	15	0	0	0	0	0
18:00	558	3	477	54	14	5	0	0	5	0	0	0	0	0
19:00	282	1	257	21	1	2	0	0	0	0	0	0	0	0
20:00	193	1	169	20	1	2	0	0	0	0	0	0	0	0
21:00	143	1	125	16	1	0	0	0	0	0	0	0	0	0
22:00	78	0	71	5	0	1	0	0	1	0	0	0	0	0
23:00	46	1	42	3	0	0	0	0	0	0	0	0	0	0
DAILY TOTALS:	**4848**	**50**	**3979**	**617**	**69**	**85**	**4**	**0**	**39**	**5**	**0**	**0**	**0**	**0**
PERCENT TOTALS:		**1.03%**	**82.08%**	**12.73%**	**1.42%**	**1.75%**	**0.08%**	**0.00%**	**0.80%**	**0.10%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

TRAFFIC DATA SERVICES

Phone: (678) 687-8266 Fax: (404) 294-6122

AXLE CLASSIFICATION SURVEY

CLIENT: POND AND COMPANY
PROJECT: WINTERS CHAPEL ROAD TRAFFIC STUDY
DATE: TUESDAY, MARCH 17TH 2015
LOCATION: #1 WINTERS CHAPEL ROAD SOUTH OF SPALDING DRIVE
DIRECTION: SB

BEGIN TIME	TOTAL	1 BIKES	2 CARS & TLRS	3 2 AXLE LONG	4 BUSES	5 2 AXLE 6 TIRE	6 3 AXLE SINGLE	7 4 AXLE SINGLE	8 <5AXLE DOUBL	9 5 AXLE DOUBL	10 >6AXLE DOUBL	11 <6AXLE MULTI	12 6 AXLE MULTI	13 >6AXLE MULTI
0:00	26	0	22	4	0	0	0	0	0	0	0	0	0	0
1:00	10	0	6	3	0	1	0	0	0	0	0	0	0	0
2:00	9	0	8	0	0	1	0	0	0	0	0	0	0	0
3:00	7	0	5	2	0	0	0	0	0	0	0	0	0	0
4:00	10	0	8	1	0	1	0	0	0	0	0	0	0	0
5:00	43	1	38	3	0	1	0	0	0	0	0	0	0	0
6:00	257	1	229	25	0	2	0	0	0	0	0	0	0	0
7:00	698	2	592	80	7	15	1	0	1	0	0	0	0	0
8:00	705	5	603	73	11	9	0	0	4	0	0	0	0	0
9:00	488	3	407	64	3	9	1	0	1	0	0	0	0	0
10:00	260	0	199	53	1	5	0	0	2	0	0	0	0	0
11:00	216	0	154	49	4	4	0	0	4	1	0	0	0	0
12:00	244	2	187	37	5	11	1	0	1	0	0	0	0	0
13:00	243	2	193	41	2	5	0	0	0	0	0	0	0	0
14:00	279	1	213	43	6	13	0	0	3	0	0	0	0	0
15:00	301	4	241	47	1	5	1	0	2	0	0	0	0	0
16:00	321	5	247	51	5	11	1	0	1	0	0	0	0	0
17:00	301	7	222	42	11	10	0	0	9	0	0	0	0	0
18:00	364	5	286	50	10	9	1	0	2	0	0	1	0	0
19:00	241	0	191	40	4	6	0	0	0	0	0	0	0	0
20:00	134	1	98	27	0	8	0	0	0	0	0	0	0	0
21:00	111	0	93	14	2	2	0	0	0	0	0	0	0	0
22:00	66	1	58	6	0	1	0	0	0	0	0	0	0	0
23:00	43	0	41	2	0	0	0	0	0	0	0	0	0	0
DAILY TOTALS:	**5377**	**40**	**4341**	**757**	**72**	**129**	**6**	**0**	**30**	**1**	**0**	**1**	**0**	**0**
PERCENT TOTALS:		**0.74%**	**80.73%**	**14.08%**	**1.34%**	**2.40%**	**0.11%**	**0.00%**	**0.56%**	**0.02%**	**0.00%**	**0.02%**	**0.00%**	**0.00%**

TRAFFIC DATA SERVICES

Phone: (678) 687-8266 Fax: (404) 294-6122

24-HOUR ADT COUNT SUMMARY

CLIENT: POND AND COMPANY
PROJECT: WINTERS CHAPEL ROAD TRAFFIC STUDY
LOCATION: #1 WINTERS CHAPEL ROAD SOUTH OF SPALDING DRIVE
DATE: WEDNESDAY, MARCH 18TH 2015

DIRECTION:	NB				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
0:00	6	7	5	7	25
1:00	7	2	2	2	13
2:00	1	2	1	9	13
3:00	1	2	6	1	10
4:00	1	5	2	10	18
5:00	4	4	8	15	31
6:00	12	21	29	36	98
7:00	29	57	52	52	190
8:00	62	63	52	71	248
9:00	72	55	52	59	238
10:00	53	40	53	60	206
11:00	35	45	47	48	175
12:00	69	59	66	60	254
13:00	73	70	61	66	270
14:00	67	89	77	73	306
15:00	81	78	80	101	340
16:00	118	118	140	149	525
17:00	137	116	110	123	486
18:00	103	141	124	104	472
19:00	99	80	66	65	310
20:00	54	48	57	39	198
21:00	39	41	34	29	143
22:00	30	18	18	26	92
23:00	19	17	15	9	60
				TOTAL	4721

AM PEAK HOUR	0815-0915
VOLUME	258
PM PEAK HOUR	1615-1715
VOLUME	544

DIRECTION:	SB				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
0:00	8	9	6	2	25
1:00	9	4	4	0	17
2:00	3	2	3	2	10
3:00	2	2	0	5	9
4:00	1	6	1	4	12
5:00	5	11	10	15	41
6:00	26	45	79	99	249
7:00	160	186	186	179	711
8:00	196	162	177	161	696
9:00	155	130	114	91	490
10:00	77	62	59	52	250
11:00	73	48	67	56	244
12:00	49	54	64	71	238
13:00	72	74	62	71	279
14:00	57	78	68	78	281
15:00	61	66	68	70	265
16:00	85	79	78	77	319
17:00	71	58	68	47	244
18:00	56	51	75	85	267
19:00	101	74	82	62	319
20:00	44	45	38	40	167
21:00	39	36	25	32	132
22:00	22	21	16	12	71
23:00	8	10	5	6	29
				TOTAL	5365

AM PEAK HOUR	0715-0815
VOLUME	747
PM PEAK HOUR	1845-1945
VOLUME	342

TOTAL BI-DIRECTIONAL VOLUME	10086

TRAFFIC DATA SERVICES

Phone: (678) 687-8266 Fax: (404) 2

SPEED SURVEYS

CLIENT: POND AND COMPANY
PROJECT: WINTERS CHAPEL ROAD TRAFFIC STUDY
DATE: WEDNESDAY, MARCH 18TH 2015
LOCATION: #1 WINTERS CHAPEL ROAD SOUTH OF SPALDING DRIVE
DIRECTION: EB
POSTED SPEED LIMIT: 35 MPH

BEGIN TIME	TOTAL	0-14 MPH	15-19 MPH	20-24 MPH	25-29 MPH	30-34 MPH	35-39 MPH	40-44 MPH	45-49 MPH	50-54 MPH	55-59 MPH	60-64 MPH	65-69 MPH	70-99 MPH
0:00	25	0	0	1	0	0	1	13	5	1	2	2	0	0
1:00	13	0	0	0	0	0	3	9	1	0	0	0	0	0
2:00	13	0	0	0	1	0	3	3	4	2	0	0	0	0
3:00	10	0	0	0	0	0	0	3	7	0	0	0	0	0
4:00	18	0	0	0	1	0	1	8	5	3	0	0	0	0
5:00	31	0	0	0	1	0	0	16	8	6	0	0	0	0
6:00	98	0	0	1	2	8	22	42	19	4	0	0	0	0
7:00	190	6	3	3	1	13	45	73	38	7	1	0	0	0
8:00	248	7	4	4	2	11	70	100	37	8	4	0	1	0
9:00	238	1	2	2	4	15	52	107	43	6	4	1	0	1
10:00	206	0	1	0	2	6	55	88	47	7	0	0	0	0
11:00	175	0	0	2	1	5	40	85	32	7	2	1	0	0
12:00	254	3	2	5	3	4	66	120	43	7	0	1	0	0
13:00	270	2	2	8	7	16	60	118	47	8	1	0	0	1
14:00	306	0	2	1	1	6	86	136	67	6	0	0	0	1
15:00	340	2	1	0	1	13	88	156	74	5	0	0	0	0
16:00	525	12	6	4	7	25	161	223	77	8	0	0	0	2
17:00	486	174	90	39	21	27	56	59	18	2	0	0	0	0
18:00	472	125	94	32	14	27	48	86	41	4	0	0	1	0
19:00	310	3	1	1	4	12	75	139	66	7	1	1	0	0
20:00	198	2	0	0	2	6	70	87	28	3	0	0	0	0
21:00	143	0	0	2	1	5	32	61	38	4	0	0	0	0
22:00	92	0	0	0	2	4	13	38	28	5	2	0	0	0
23:00	60	0	0	0	1	1	9	25	18	5	1	0	0	0
DAILY TOTALS:	**4721**	**337**	**208**	**105**	**79**	**204**	**1056**	**1795**	**791**	**115**	**18**	**6**	**2**	**5**
PERCENT TOTALS:		**7.1%**	**4.4%**	**2.2%**	**1.7%**	**4.3%**	**22.4%**	**38.0%**	**16.8%**	**2.4%**	**0.4%**	**0.1%**	**0.0%**	**0.1%**

PERECENTILE SPEEDS: **10%** **15%** **50%** **85%** **90%** **Average** **Minimum**

TRAFFIC DATA SERVICES

Phone: (678) 687-8266 Fax: (404) 2

SPEED SURVEYS

CLIENT: POND AND COMPANY
PROJECT: WINTERS CHAPEL ROAD TRAFFIC STUDY
DATE: WEDNESDAY, MARCH 18TH 2015
LOCATION: #1 WINTERS CHAPEL ROAD SOUTH OF SPALDING DRIVE
DIRECTION: WB
POSTED SPEED LIMIT: 35 MPH

BEGIN TIME	TOTAL	0-14 MPH	15-19 MPH	20-24 MPH	25-29 MPH	30-34 MPH	35-39 MPH	40-44 MPH	45-49 MPH	50-54 MPH	55-59 MPH	60-64 MPH	65-69 MPH	70-99 MPH
0:00	25	0	0	0	0	1	6	14	2	1	0	1	0	0
1:00	17	0	0	0	0	0	7	7	3	0	0	0	0	0
2:00	10	0	0	0	0	0	4	1	2	1	1	1	0	0
3:00	9	0	0	0	0	0	3	3	3	0	0	0	0	0
4:00	12	0	0	0	0	0	4	3	3	2	0	0	0	0
5:00	41	0	0	0	0	1	3	18	17	2	0	0	0	0
6:00	249	0	0	0	0	3	50	125	62	9	0	0	0	0
7:00	711	6	4	9	6	36	305	282	59	3	0	0	0	1
8:00	696	10	3	4	10	31	236	316	81	2	2	0	1	0
9:00	490	7	0	1	6	21	176	213	60	5	0	1	0	0
10:00	250	0	0	2	4	23	78	107	33	3	0	0	0	0
11:00	244	1	2	0	2	9	67	116	45	2	0	0	0	0
12:00	238	1	1	2	2	13	80	95	39	5	0	0	0	0
13:00	279	2	0	2	8	21	93	111	35	5	1	1	0	0
14:00	281	1	2	2	1	8	116	116	28	4	1	1	0	1
15:00	265	3	7	3	6	21	67	128	27	3	0	0	0	0
16:00	319	11	8	3	6	25	137	103	20	5	1	0	0	0
17:00	244	27	10	10	12	32	100	49	4	0	0	0	0	0
18:00	267	5	8	7	5	25	133	71	12	1	0	0	0	0
19:00	319	3	2	4	3	21	125	116	39	3	2	1	0	0
20:00	167	1	0	1	1	18	71	55	18	2	0	0	0	0
21:00	132	0	0	0	4	5	54	55	13	0	0	0	0	1
22:00	71	0	0	0	2	9	18	27	12	2	0	0	1	0
23:00	29	0	0	0	0	0	9	15	3	1	1	0	0	0
DAILY TOTALS:	**5365**	**78**	**47**	**50**	**78**	**323**	**1942**	**2146**	**620**	**61**	**9**	**6**	**2**	**3**
PERCENT TOTALS:		**1.5%**	**0.9%**	**0.9%**	**1.5%**	**6.0%**	**36.2%**	**40.0%**	**11.6%**	**1.1%**	**0.2%**	**0.1%**	**0.0%**	**0.1%**

PERECENTILE SPEEDS:	**10%**	**15%**	**50%**	**85%**	**90%**	**Average**
	34.6	35.9	40.3	44.5	45.8	**Minimum**
						Maximum

SPEED EXCEEDED:	**25 MPH**	**35 MPH**	**45 MPH**	**55 MPH**	**65 MPH**	**75MPH**
PERCENTAGE:	93.7	89.3	13.1	0.4	0.1	0.0
TOTALS:	5190	4789	701	20	5	2

10 MPH PACE SPEED:	35.9-45.9
NUMBER IN PACE:	4223
% IN PACE:	78.7

294-6122

AVG SPEED
42.3
41.0
45.6
42.1
43.1
44.1
42.7
39.5
40.1
40.3
40.3
41.3
40.9
40.2
40.7
39.3
37.8
33.1
37.1
39.9
39.4
40.3
40.6
41.9
39.7

39.7
10.0
85.1

TRAFFIC DATA SERVICES

Phone: (678) 687-8266 Fax: (404) 294-6122

AXLE CLASSIFICATION SURVEY

CLIENT: POND AND COMPANY
PROJECT: WINTERS CHAPEL ROAD TRAFFIC STUDY
DATE: WEDNESDAY, MARCH 18TH 2015
LOCATION: #1 WINTERS CHAPEL ROAD SOUTH OF SPALDING DRIVE
DIRECTION: NB

BEGIN TIME	TOTAL	1 BIKES	2 CARS & TLRS	3 2 AXLE LONG	4 BUSES	5 2 AXLE 6 TIRE	6 3 AXLE SINGLE	7 4 AXLE SINGLE	8 <5AXLE DOUBL	9 5 AXLE DOUBL	10 >6AXLE DOUBL	11 <6AXLE MULTI	12 6 AXLE MULTI	13 >6AXLE MULTI
0:00	25	2	21	2	0	0	0	0	0	0	0	0	0	0
1:00	13	0	10	3	0	0	0	0	0	0	0	0	0	0
2:00	13	0	10	3	0	0	0	0	0	0	0	0	0	0
3:00	10	0	8	2	0	0	0	0	0	0	0	0	0	0
4:00	18	0	17	1	0	0	0	0	0	0	0	0	0	0
5:00	31	0	26	4	0	1	0	0	0	0	0	0	0	0
6:00	98	2	74	13	2	6	0	0	1	0	0	0	0	0
7:00	190	4	137	35	6	8	0	0	0	0	0	0	0	0
8:00	248	7	177	45	6	8	1	0	4	0	0	0	0	0
9:00	238	2	198	24	6	6	1	0	0	1	0	0	0	0
10:00	206	2	161	31	1	5	2	0	4	0	0	0	0	0
11:00	175	1	149	22	0	2	0	0	0	1	0	0	0	0
12:00	254	3	208	31	2	10	0	0	0	0	0	0	0	0
13:00	270	2	225	34	4	2	1	0	2	0	0	0	0	0
14:00	306	3	248	47	2	5	0	0	1	0	0	0	0	0
15:00	340	3	272	55	1	8	0	0	1	0	0	0	0	0
16:00	525	7	428	65	12	10	0	0	1	1	0	1	0	0
17:00	486	9	366	41	38	9	0	0	19	0	0	4	0	0
18:00	472	6	356	60	29	7	0	0	10	1	0	3	0	0
19:00	310	1	274	27	2	6	0	0	0	0	0	0	0	0
20:00	198	1	173	21	1	2	0	0	0	0	0	0	0	0
21:00	143	0	126	17	0	0	0	0	0	0	0	0	0	0
22:00	92	0	80	9	0	3	0	0	0	0	0	0	0	0
23:00	60	0	53	7	0	0	0	0	0	0	0	0	0	0
DAILY TOTALS:	**4721**	**55**	**3797**	**599**	**112**	**98**	**5**	**0**	**43**	**4**	**0**	**8**	**0**	**0**
PERCENT TOTALS:		**1.17%**	**80.43%**	**12.69%**	**2.37%**	**2.08%**	**0.11%**	**0.00%**	**0.91%**	**0.08%**	**0.00%**	**0.17%**	**0.00%**	**0.00%**

TRAFFIC DATA SERVICES

Phone: (678) 687-8266 Fax: (404) 294-6122

AXLE CLASSIFICATION SURVEY

CLIENT: POND AND COMPANY
PROJECT: WINTERS CHAPEL ROAD TRAFFIC STUDY
DATE: WEDNESDAY, MARCH 18TH 2015
LOCATION: #1 WINTERS CHAPEL ROAD SOUTH OF SPALDING DRIVE
DIRECTION: SB

BEGIN TIME	TOTAL	1 BIKES	2 CARS & TLRS	3 2 AXLE LONG	4 BUSES	5 2 AXLE 6 TIRE	6 3 AXLE SINGLE	7 4 AXLE SINGLE	8 <5AXLE DOUBL	9 5 AXLE DOUBL	10 >6AXLE DOUBL	11 <6AXLE MULTI	12 6 AXLE MULTI	13 >6AXLE MULTI
0:00	25	1	19	5	0	0	0	0	0	0	0	0	0	0
1:00	17	0	15	1	0	1	0	0	0	0	0	0	0	0
2:00	10	0	9	1	0	0	0	0	0	0	0	0	0	0
3:00	9	0	7	1	0	0	1	0	0	0	0	0	0	0
4:00	12	0	9	2	0	1	0	0	0	0	0	0	0	0
5:00	41	1	36	4	0	0	0	0	0	0	0	0	0	0
6:00	249	1	219	24	0	5	0	0	0	0	0	0	0	0
7:00	711	9	608	74	9	10	0	0	0	0	0	1	0	0
8:00	696	9	578	80	10	14	3	0	2	0	0	0	0	0
9:00	490	0	396	75	5	12	0	0	2	0	0	0	0	0
10:00	250	0	212	31	0	7	0	0	0	0	0	0	0	0
11:00	244	0	187	49	2	6	0	0	0	0	0	0	0	0
12:00	238	1	192	33	2	9	0	0	1	0	0	0	0	0
13:00	279	3	222	45	2	6	0	0	1	0	0	0	0	0
14:00	281	2	218	49	2	9	0	0	1	0	0	0	0	0
15:00	265	2	202	50	4	3	1	0	2	0	0	1	0	0
16:00	319	6	241	47	11	10	0	0	4	0	0	0	0	0
17:00	244	6	174	30	18	10	0	0	5	1	0	0	0	0
18:00	267	1	207	41	10	6	0	0	1	0	0	1	0	0
19:00	319	2	248	53	3	10	0	0	2	0	0	1	0	0
20:00	167	1	129	30	3	2	0	0	2	0	0	0	0	0
21:00	132	0	112	19	1	0	0	0	0	0	0	0	0	0
22:00	71	0	61	9	0	1	0	0	0	0	0	0	0	0
23:00	29	0	27	1	0	0	0	0	1	0	0	0	0	0
DAILY TOTALS:	**5365**	**45**	**4328**	**754**	**82**	**122**	**5**	**0**	**24**	**1**	**0**	**4**	**0**	**0**
PERCENT TOTALS:		**0.84%**	**80.67%**	**14.05%**	**1.53%**	**2.27%**	**0.09%**	**0.00%**	**0.45%**	**0.02%**	**0.00%**	**0.07%**	**0.00%**	**0.00%**

TRAFFIC DATA SERVICES

Phone: (678) 687-8266 Fax: (404) 294-6122

24-HOUR ADT COUNT SUMMARY

CLIENT: POND AND COMPANY
PROJECT: WINTERS CHAPEL ROAD TRAFFIC STUDY
LOCATION: #2 WINTERS CHAPEL ROAD SOUTH OF PEELER ROAD
DATE: TUESDAY, MARCH 17TH 2015

DIRECTION:	NB				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
0:00	11	12	13	15	51
1:00	10	9	7	7	33
2:00	6	4	3	2	15
3:00	4	7	9	1	21
4:00	3	6	10	6	25
5:00	9	11	15	13	48
6:00	18	65	88	89	260
7:00	104	118	138	144	504
8:00	164	164	187	156	671
9:00	159	165	127	128	579
10:00	95	90	82	91	358
11:00	94	84	63	99	340
12:00	93	99	91	88	371
13:00	105	92	93	97	387
14:00	126	111	81	122	440
15:00	126	117	135	124	502
16:00	123	114	161	164	562
17:00	219	176	156	182	733
18:00	180	179	154	159	672
19:00	130	144	102	120	496
20:00	101	109	83	84	377
21:00	79	82	79	57	297
22:00	53	58	36	35	182
23:00	30	23	25	18	96
				TOTAL	8020

AM PEAK HOUR	0800-0900
VOLUME	671
PM PEAK HOUR	1700-1800
VOLUME	733

DIRECTION:	SB				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
0:00	20	12	10	14	56
1:00	7	8	10	4	29
2:00	8	4	3	6	21
3:00	6	2	2	5	15
4:00	2	4	10	6	22
5:00	11	20	15	40	86
6:00	37	70	91	97	295
7:00	159	193	202	192	746
8:00	140	150	150	140	580
9:00	134	131	96	116	477
10:00	115	100	92	90	397
11:00	88	89	113	80	370
12:00	99	93	105	99	396
13:00	122	97	95	98	412
14:00	103	119	113	99	434
15:00	142	122	115	133	512
16:00	143	195	155	164	657
17:00	135	198	144	153	630
18:00	167	145	170	140	622
19:00	147	128	113	106	494
20:00	89	96	72	82	339
21:00	82	72	67	70	291
22:00	56	44	39	29	168
23:00	25	32	17	15	89
				TOTAL	8138

AM PEAK HOUR	0700-0800
VOLUME	746
PM PEAK HOUR	1715-1815
VOLUME	662

TOTAL BI-DIRECTIONAL VOLUME	16158

TRAFFIC DATA SERVICES

Phone: (678) 687-8266 Fax: (404) 2

SPEED SURVEYS

CLIENT: POND AND COMPANY
PROJECT: WINTERS CHAPEL ROAD TRAFFIC STUDY
DATE: TUESDAY, MARCH 17TH 2015
LOCATION: #2 WINTERS CHAPEL ROAD SOUTH OF PEELER ROAD
DIRECTION: EB
POSTED SPEED LIMIT: 35 MPH

BEGIN TIME	TOTAL	0-14 MPH	15-19 MPH	20-24 MPH	25-29 MPH	30-34 MPH	35-39 MPH	40-44 MPH	45-49 MPH	50-54 MPH	55-59 MPH	60-64 MPH	65-69 MPH	70-99 MPH
0:00	51	0	1	0	0	9	15	16	9	1	0	0	0	0
1:00	33	0	0	1	0	2	13	11	6	0	0	0	0	0
2:00	15	0	0	0	0	1	6	5	3	0	0	0	0	0
3:00	21	0	1	1	0	4	2	8	4	1	0	0	0	0
4:00	25	0	2	1	1	1	12	6	1	1	0	0	0	0
5:00	48	0	0	4	3	7	14	11	8	1	0	0	0	0
6:00	260	3	6	18	26	47	72	60	23	3	0	1	0	1
7:00	504	35	21	22	57	145	151	59	8	2	2	1	0	1
8:00	671	51	23	38	69	154	216	96	17	2	1	0	1	3
9:00	579	34	14	18	44	112	204	120	28	1	1	0	2	1
10:00	358	7	5	5	22	59	154	74	27	3	0	1	0	1
11:00	340	8	2	8	18	81	135	70	12	4	1	0	1	0
12:00	371	3	4	16	33	90	105	86	25	4	0	2	1	2
13:00	387	9	8	14	40	68	121	102	21	1	1	0	1	1
14:00	440	15	10	31	45	100	158	65	16	0	0	0	0	0
15:00	502	18	19	39	73	134	140	67	11	0	0	0	0	1
16:00	562	48	26	31	80	138	156	60	16	2	2	0	0	3
17:00	733	83	67	92	130	146	147	62	4	0	2	0	0	0
18:00	672	58	53	63	104	165	165	46	13	0	2	0	2	1
19:00	496	18	12	33	79	146	142	54	5	3	1	1	0	2
20:00	377	6	7	17	76	102	125	39	3	1	0	0	1	0
21:00	297	2	6	15	37	83	106	41	5	1	0	1	0	0
22:00	182	0	1	5	10	52	65	35	8	6	0	0	0	0
23:00	96	0	0	0	2	14	45	28	6	1	0	0	0	0
DAILY TOTALS:	**8020**	**398**	**288**	**472**	**949**	**1860**	**2469**	**1221**	**279**	**38**	**13**	**7**	**9**	**17**
PERCENT TOTALS:		**5.0%**	**3.6%**	**5.9%**	**11.8%**	**23.2%**	**30.8%**	**15.2%**	**3.5%**	**0.5%**	**0.2%**	**0.1%**	**0.1%**	**0.2%**

PERECENTILE SPEEDS: **10%** **15%** **50%** **85%** **90%** **Average** **Minimum**

TRAFFIC DATA SERVICES

Phone: (678) 687-8266 Fax: (404) 2

SPEED SURVEYS

CLIENT: POND AND COMPANY
PROJECT: WINTERS CHAPEL ROAD TRAFFIC STUDY
DATE: TUESDAY, MARCH 17TH 2015
LOCATION: #2 WINTERS CHAPEL ROAD SOUTH OF PEELER ROAD
DIRECTION: WB
POSTED SPEED LIMIT: 35 MPH

BEGIN TIME	TOTAL	0-14 MPH	15-19 MPH	20-24 MPH	25-29 MPH	30-34 MPH	35-39 MPH	40-44 MPH	45-49 MPH	50-54 MPH	55-59 MPH	60-64 MPH	65-69 MPH	70-99 MPH
0:00	56	0	1	2	4	8	20	15	5	1	0	0	0	0
1:00	29	0	0	0	2	5	13	5	4	0	0	0	0	0
2:00	21	0	0	0	1	4	11	5	0	0	0	0	0	0
3:00	15	0	0	0	2	1	1	9	1	1	0	0	0	0
4:00	22	0	0	0	0	3	6	8	5	0	0	0	0	0
5:00	86	0	2	1	2	2	18	36	22	3	0	0	0	0
6:00	295	2	7	17	21	32	83	91	38	2	2	0	0	0
7:00	746	29	31	68	103	224	207	75	6	1	1	0	1	0
8:00	580	29	21	27	56	97	206	108	31	2	1	0	0	2
9:00	477	9	6	10	33	77	190	117	30	3	2	0	0	0
10:00	397	5	5	10	11	63	141	123	32	6	0	0	1	0
11:00	370	7	4	8	21	77	145	80	23	4	0	0	1	0
12:00	396	4	7	11	20	87	161	89	12	2	1	1	0	1
13:00	412	6	3	9	28	79	154	103	25	4	1	0	0	0
14:00	434	7	12	20	44	95	173	67	12	2	1	0	0	1
15:00	512	17	4	16	49	138	203	70	11	3	1	0	0	0
16:00	657	44	19	52	70	173	219	62	11	3	2	0	1	1
17:00	630	104	81	68	107	121	117	26	5	0	0	1	0	0
18:00	622	38	29	37	56	177	210	60	12	0	0	0	0	3
19:00	494	16	11	26	52	152	156	69	10	1	0	0	0	1
20:00	339	8	6	11	45	96	116	46	10	0	1	0	0	0
21:00	291	2	3	9	21	87	107	50	11	1	0	0	0	0
22:00	168	1	1	4	12	39	65	31	14	1	0	0	0	0
23:00	89	0	0	1	5	23	29	20	8	1	2	0	0	0
DAILY TOTALS:	**8138**	**328**	**253**	**407**	**765**	**1860**	**2751**	**1365**	**338**	**41**	**15**	**2**	**4**	**9**
PERCENT TOTALS:		**4.0%**	**3.1%**	**5.0%**	**9.4%**	**22.9%**	**33.8%**	**16.8%**	**4.2%**	**0.5%**	**0.2%**	**0.0%**	**0.0%**	**0.1%**

PERECENTILE SPEEDS:	**10%**	**15%**	**50%**	**85%**	**90%**	**Average**
	23.1	26.8	35.5	41.4	42.6	**Minimum**
						Maximum

SPEED EXCEEDED:	**25 MPH**	**35 MPH**	**45 MPH**	**55 MPH**	**65 MPH**	**75MPH**
PERCENTAGE:	87.9	55.6	5.0	0.4	0.2	0.1
TOTALS:	7150	4525	409	30	13	8

10 MPH PACE SPEED:	32.0-42.0
NUMBER IN PACE:	4867
% IN PACE:	59.8

294-6122

AVG SPEED
37.3
38.1
37.4
40.1
40.6
41.8
37.8
32.0
34.6
36.8
38.0
36.8
36.6
36.9
34.9
34.7
32.4
26.7
32.5
33.8
34.3
35.6
36.5
38.0
34.3

34.3
10.0
82.7

TRAFFIC DATA SERVICES

Phone: (678) 687-8266 Fax: (404) 294-6122

AXLE CLASSIFICATION SURVEY

CLIENT: POND AND COMPANY
PROJECT: WINTERS CHAPEL ROAD TRAFFIC STUDY
DATE: TUESDAY, MARCH 17TH 2015
LOCATION: #2 WINTERS CHAPEL ROAD SOUTH OF PEELER ROAD
DIRECTION: NB

BEGIN TIME	TOTAL	1 BIKES	2 CARS & TLRS	3 2 AXLE LONG	4 BUSES	5 2 AXLE 6 TIRE	6 3 AXLE SINGLE	7 4 AXLE SINGLE	8 <5AXLE DOUBL	9 5 AXLE DOUBL	10 >6AXLE DOUBL	11 <6AXLE MULTI	12 6 AXLE MULTI	13 >6AXLE MULTI
0:00	51	0	40	10	0	1	0	0	0	0	0	0	0	0
1:00	33	0	28	5	0	0	0	0	0	0	0	0	0	0
2:00	15	0	10	3	0	2	0	0	0	0	0	0	0	0
3:00	21	0	19	2	0	0	0	0	0	0	0	0	0	0
4:00	25	0	21	2	0	1	0	0	1	0	0	0	0	0
5:00	48	0	39	5	1	3	0	0	0	0	0	0	0	0
6:00	260	1	184	44	10	17	1	0	3	0	0	0	0	0
7:00	504	15	316	99	30	27	2	0	12	1	0	2	0	0
8:00	671	18	451	117	39	23	0	1	16	4	0	1	1	0
9:00	579	8	396	113	26	22	2	0	11	1	0	0	0	0
10:00	358	0	260	74	9	12	1	0	2	0	0	0	0	0
11:00	340	4	246	66	9	11	1	0	3	0	0	0	0	0
12:00	371	3	263	75	9	14	2	0	4	1	0	0	0	0
13:00	387	5	282	73	14	10	0	0	3	0	0	0	0	0
14:00	440	4	325	75	16	16	0	0	4	0	0	0	0	0
15:00	502	9	352	100	20	16	0	0	4	1	0	0	0	0
16:00	562	18	400	73	35	23	1	1	10	1	0	0	0	0
17:00	733	20	512	97	59	15	0	0	25	1	0	3	1	0
18:00	672	20	490	90	38	17	0	0	13	2	0	2	0	0
19:00	496	6	376	82	12	9	0	0	11	0	0	0	0	0
20:00	377	5	311	51	2	7	1	0	0	0	0	0	0	0
21:00	297	5	240	46	2	2	0	0	2	0	0	0	0	0
22:00	182	1	157	21	0	2	0	0	1	0	0	0	0	0
23:00	96	0	82	14	0	0	0	0	0	0	0	0	0	0
DAILY TOTALS:	**8020**	**142**	**5800**	**1337**	**331**	**250**	**11**	**2**	**125**	**12**	**0**	**8**	**2**	**0**
PERCENT TOTALS:		**1.77%**	**72.32%**	**16.67%**	**4.13%**	**3.12%**	**0.14%**	**0.02%**	**1.56%**	**0.15%**	**0.00%**	**0.10%**	**0.02%**	**0.00%**

TRAFFIC DATA SERVICES

Phone: (678) 687-8266 Fax: (404) 294-6122

AXLE CLASSIFICATION SURVEY

CLIENT: POND AND COMPANY
PROJECT: WINTERS CHAPEL ROAD TRAFFIC STUDY
DATE: TUESDAY, MARCH 17TH 2015
LOCATION: #2 WINTERS CHAPEL ROAD SOUTH OF PEELER ROAD
DIRECTION: SB

BEGIN TIME	TOTAL	1 BIKES	2 CARS & TLRS	3 2 AXLE LONG	4 BUSES	5 2 AXLE 6 TIRE	6 3 AXLE SINGLE	7 4 AXLE SINGLE	8 <5AXLE DOUBL	9 5 AXLE DOUBL	10 >6AXLE DOUBL	11 <6AXLE MULTI	12 6 AXLE MULTI	13 >6AXLE MULTI
0:00	56	0	44	9	1	2	0	0	0	0	0	0	0	0
1:00	29	0	21	6	0	2	0	0	0	0	0	0	0	0
2:00	21	0	17	2	0	2	0	0	0	0	0	0	0	0
3:00	15	0	12	3	0	0	0	0	0	0	0	0	0	0
4:00	22	0	17	3	1	1	0	0	0	0	0	0	0	0
5:00	86	1	69	11	1	3	0	0	1	0	0	0	0	0
6:00	295	0	231	41	11	10	0	0	2	0	0	0	0	0
7:00	746	16	548	100	40	24	2	0	13	1	0	2	0	0
8:00	580	10	437	69	35	17	4	1	6	0	0	1	0	0
9:00	477	7	364	83	12	6	1	0	2	2	0	0	0	0
10:00	397	5	280	84	9	17	0	0	2	0	0	0	0	0
11:00	370	5	249	82	11	11	1	0	9	2	0	0	0	0
12:00	396	2	287	76	10	16	2	0	3	0	0	0	0	0
13:00	412	4	300	81	9	16	1	0	1	0	0	0	0	0
14:00	434	7	310	78	15	19	0	0	5	0	0	0	0	0
15:00	512	4	352	106	24	21	2	0	2	1	0	0	0	0
16:00	657	13	440	122	52	20	0	0	9	1	0	0	0	0
17:00	630	12	441	87	48	22	0	0	18	1	0	1	0	0
18:00	622	16	426	104	35	29	2	0	10	0	0	0	0	0
19:00	494	11	359	97	13	10	0	0	3	1	0	0	0	0
20:00	339	2	257	62	8	10	0	0	0	0	0	0	0	0
21:00	291	5	243	34	4	5	0	0	0	0	0	0	0	0
22:00	168	1	139	22	2	4	0	0	0	0	0	0	0	0
23:00	89	0	73	13	1	2	0	0	0	0	0	0	0	0
DAILY TOTALS:	**8138**	**121**	**5916**	**1375**	**342**	**269**	**15**	**1**	**86**	**9**	**0**	**4**	**0**	**0**
PERCENT TOTALS:		**1.49%**	**72.70%**	**16.90%**	**4.20%**	**3.31%**	**0.18%**	**0.01%**	**1.06%**	**0.11%**	**0.00%**	**0.05%**	**0.00%**	**0.00%**

TRAFFIC DATA SERVICES

Phone: (678) 687-8266 Fax: (404) 294-6122

24-HOUR ADT COUNT SUMMARY

CLIENT: POND AND COMPANY
PROJECT: WINTERS CHAPEL ROAD TRAFFIC STUDY
LOCATION: #2 WINTERS CHAPEL ROAD SOUTH OF PEELER ROAD
DATE: WEDNESDAY, MARCH 18TH 2015

DIRECTION:	NB				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
0:00	15	11	15	7	48
1:00	12	6	6	12	36
2:00	3	3	7	8	21
3:00	1	8	7	4	20
4:00	2	4	5	15	26
5:00	6	8	9	15	38
6:00	23	68	75	75	241
7:00	116	115	138	126	495
8:00	169	167	166	161	663
9:00	170	150	135	114	569
10:00	87	69	94	71	321
11:00	77	91	74	95	337
12:00	110	108	108	106	432
13:00	107	96	108	94	405
14:00	110	104	103	103	420
15:00	122	109	151	140	522
16:00	131	147	186	132	596
17:00	189	206	191	179	765
18:00	178	174	173	140	665
19:00	112	115	111	102	440
20:00	95	129	87	92	403
21:00	86	79	60	70	295
22:00	62	50	50	45	207
23:00	25	19	26	19	89
				TOTAL	8054

AM PEAK HOUR	0815-0915
VOLUME	664
PM PEAK HOUR	1700-1800
VOLUME	765

DIRECTION:	SB				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
0:00	11	17	10	5	43
1:00	10	9	11	8	38
2:00	3	6	5	6	20
3:00	1	2	2	8	13
4:00	1	7	6	10	24
5:00	9	21	21	38	89
6:00	42	65	98	102	307
7:00	131	171	198	177	677
8:00	147	146	173	143	609
9:00	114	141	120	122	497
10:00	105	93	100	79	377
11:00	92	109	112	91	404
12:00	102	98	90	104	394
13:00	110	125	106	101	442
14:00	117	115	105	90	427
15:00	115	117	97	110	439
16:00	146	156	135	161	598
17:00	130	151	149	155	585
18:00	170	176	127	153	626
19:00	188	177	143	119	627
20:00	114	96	96	69	375
21:00	81	69	69	51	270
22:00	50	52	48	30	180
23:00	23	21	18	14	76
				TOTAL	8137

AM PEAK HOUR	0715-0815
VOLUME	693
PM PEAK HOUR	1845-1945
VOLUME	661

TOTAL BI-DIRECTIONAL VOLUME	16191

TRAFFIC DATA SERVICES

Phone: (678) 687-8266 Fax: (404) 2

SPEED SURVEYS

CLIENT: POND AND COMPANY
PROJECT: WINTERS CHAPEL ROAD TRAFFIC STUDY
DATE: WEDNESDAY, MARCH 18TH 2015
LOCATION: #2 WINTERS CHAPEL ROAD SOUTH OF PEELER ROAD
DIRECTION: EB
POSTED SPEED LIMIT: 35 MPH

BEGIN TIME	TOTAL	0-14 MPH	15-19 MPH	20-24 MPH	25-29 MPH	30-34 MPH	35-39 MPH	40-44 MPH	45-49 MPH	50-54 MPH	55-59 MPH	60-64 MPH	65-69 MPH	70-99 MPH
0:00	48	0	0	1	1	9	13	18	4	1	1	0	0	0
1:00	36	0	0	0	0	6	19	5	5	1	0	0	0	0
2:00	21	0	0	0	0	2	6	5	4	4	0	0	0	0
3:00	20	0	1	0	0	2	5	8	3	1	0	0	0	0
4:00	26	0	0	2	2	6	4	11	1	0	0	0	0	0
5:00	38	0	1	0	1	2	9	19	6	0	0	0	0	0
6:00	241	3	6	8	29	62	75	41	13	3	1	0	0	0
7:00	495	36	17	27	65	109	167	60	10	2	1	0	0	1
8:00	663	61	16	27	66	191	187	76	34	4	0	0	0	1
9:00	569	22	14	28	40	119	212	96	32	4	1	0	0	1
10:00	321	5	7	9	9	38	129	87	30	5	0	1	1	0
11:00	337	5	5	5	17	61	131	81	23	7	2	0	0	0
12:00	432	11	8	13	33	95	170	80	17	3	0	0	1	1
13:00	405	12	11	17	49	77	137	78	18	3	0	0	1	2
14:00	420	21	11	28	53	100	137	53	14	1	0	1	0	1
15:00	522	23	4	28	58	116	174	94	18	4	2	0	0	1
16:00	596	42	34	41	60	149	178	74	15	2	0	0	1	0
17:00	765	89	75	103	163	158	137	30	4	0	2	1	0	3
18:00	665	61	45	60	119	166	153	40	16	3	0	2	0	0
19:00	440	11	18	34	70	123	121	48	13	1	0	0	1	0
20:00	403	7	7	15	54	125	133	51	10	0	1	0	0	0
21:00	295	3	6	20	33	70	101	51	11	0	0	0	0	0
22:00	207	0	2	5	12	38	74	55	18	2	0	1	0	0
23:00	89	0	0	2	1	9	41	25	11	0	0	0	0	0
DAILY TOTALS:	**8054**	**412**	**288**	**473**	**935**	**1833**	**2513**	**1186**	**330**	**51**	**11**	**6**	**5**	**11**
PERCENT TOTALS:		**5.1%**	**3.6%**	**5.9%**	**11.6%**	**22.8%**	**31.2%**	**14.7%**	**4.1%**	**0.6%**	**0.1%**	**0.1%**	**0.1%**	**0.1%**

PERECENTILE SPEEDS: **10%** **15%** **50%** **85%** **90%** **Average Minimum**

TRAFFIC DATA SERVICES

Phone: (678) 687-8266 Fax: (404) 2

SPEED SURVEYS

CLIENT: POND AND COMPANY
PROJECT: WINTERS CHAPEL ROAD TRAFFIC STUDY
DATE: WEDNESDAY, MARCH 18TH 2015
LOCATION: #2 WINTERS CHAPEL ROAD SOUTH OF PEELER ROAD
DIRECTION: WB
POSTED SPEED LIMIT: 35 MPH

BEGIN TIME	TOTAL	0-14 MPH	15-19 MPH	20-24 MPH	25-29 MPH	30-34 MPH	35-39 MPH	40-44 MPH	45-49 MPH	50-54 MPH	55-59 MPH	60-64 MPH	65-69 MPH	70-99 MPH
0:00	43	0	0	1	2	8	16	10	5	0	1	0	0	0
1:00	38	0	0	0	2	3	17	14	1	1	0	0	0	0
2:00	20	0	0	0	0	1	8	4	6	1	0	0	0	0
3:00	13	0	0	0	0	1	3	6	3	0	0	0	0	0
4:00	24	0	0	0	1	0	9	10	4	0	0	0	0	0
5:00	89	1	0	1	3	9	14	31	27	3	0	0	0	0
6:00	307	6	8	11	19	45	86	89	39	4	0	0	0	0
7:00	677	40	53	84	114	165	168	45	6	2	0	0	0	0
8:00	609	43	27	73	67	117	170	95	14	1	0	0	1	1
9:00	497	18	8	21	32	73	191	118	31	3	1	1	0	0
10:00	377	5	5	5	17	48	151	112	28	3	0	0	1	2
11:00	404	4	5	10	20	71	149	110	34	0	1	0	0	0
12:00	394	5	8	13	20	89	152	94	13	0	0	0	0	0
13:00	442	7	4	8	28	107	186	84	18	0	0	0	0	0
14:00	427	14	11	23	58	111	135	63	10	1	0	0	0	1
15:00	439	11	8	21	36	93	160	99	9	1	0	1	0	0
16:00	598	38	32	28	78	134	185	85	16	0	0	0	0	2
17:00	585	55	32	64	82	151	142	51	5	0	1	0	1	1
18:00	626	61	56	65	126	158	111	39	6	2	1	0	0	1
19:00	627	18	15	23	89	222	196	50	8	2	1	1	0	2
20:00	375	8	8	19	59	135	104	39	2	0	0	0	1	0
21:00	270	1	4	17	35	80	89	30	13	1	0	0	0	0
22:00	180	0	1	7	9	44	60	49	8	1	1	0	0	0
23:00	76	0	0	2	4	20	29	13	6	2	0	0	0	0
DAILY TOTALS:	**8137**	**335**	**285**	**496**	**901**	**1885**	**2531**	**1340**	**312**	**28**	**7**	**3**	**4**	**10**
PERCENT TOTALS:		**4.1%**	**3.5%**	**6.1%**	**11.1%**	**23.2%**	**31.1%**	**16.5%**	**3.8%**	**0.3%**	**0.1%**	**0.0%**	**0.0%**	**0.1%**

PERECENTILE SPEEDS:	**10%**	**15%**	**50%**	**85%**	**90%**	**Average**
	22.2	25.7	35.0	41.4	42.6	**Minimum**
						Maximum

SPEED EXCEEDED:	**25 MPH**	**35 MPH**	**45 MPH**	**55 MPH**	**65 MPH**	**75MPH**
PERCENTAGE:	86.3	52.0	4.5	0.3	0.2	0.1
TOTALS:	7021	4235	364	24	14	7

10 MPH PACE SPEED:	32.0-42.0
NUMBER IN PACE:	4658
% IN PACE:	57.2

294-6122

AVG SPEED
38.4
39.0
42.0
40.9
40.7
41.4
37.3
30.1
32.0
36.2
38.1
37.5
36.2
35.9
33.7
35.3
32.8
30.1
28.9
33.3
32.9
34.5
36.9
37.2
33.8

33.8
10.0
87.6

TRAFFIC DATA SERVICES

Phone: (678) 687-8266 Fax: (404) 294-6122

AXLE CLASSIFICATION SURVEY

CLIENT: POND AND COMPANY
PROJECT: WINTERS CHAPEL ROAD TRAFFIC STUDY
DATE: WEDNESDAY, MARCH 18TH 2015
LOCATION: #2 WINTERS CHAPEL ROAD SOUTH OF PEELER ROAD
DIRECTION: NB

BEGIN TIME	TOTAL	1 BIKES	2 CARS & TLRS	3 2 AXLE LONG	4 BUSES	5 2 AXLE 6 TIRE	6 3 AXLE SINGLE	7 4 AXLE SINGLE	8 <5AXLE DOUBL	9 5 AXLE DOUBL	10 >6AXLE DOUBL	11 <6AXLE MULTI	12 6 AXLE MULTI	13 >6AXLE MULTI
0:00	43	0	35	6	1	1	0	0	0	0	0	0	0	0
1:00	38	0	32	4	0	2	0	0	0	0	0	0	0	0
2:00	20	0	17	3	0	0	0	0	0	0	0	0	0	0
3:00	13	0	9	2	0	1	1	0	0	0	0	0	0	0
4:00	24	0	18	4	1	1	0	0	0	0	0	0	0	0
5:00	89	1	70	13	2	1	0	0	1	1	0	0	0	0
6:00	307	1	238	45	11	12	0	0	0	0	0	0	0	0
7:00	677	11	493	100	38	22	2	0	11	0	0	0	0	0
8:00	609	12	448	76	40	12	2	0	17	1	0	0	1	0
9:00	497	11	352	87	18	18	0	1	8	0	1	1	0	0
10:00	377	3	279	67	10	16	0	0	2	0	0	0	0	0
11:00	404	5	288	88	5	15	2	0	0	1	0	0	0	0
12:00	394	10	280	76	4	20	0	0	4	0	0	0	0	0
13:00	442	7	320	92	5	15	1	0	2	0	0	0	0	0
14:00	427	4	294	91	19	16	0	0	3	0	0	0	0	0
15:00	439	11	317	76	14	16	1	0	3	1	0	0	0	0
16:00	598	15	425	91	39	13	2	0	11	0	0	2	0	0
17:00	585	22	391	81	51	19	2	0	12	2	0	3	0	2
18:00	626	14	427	105	45	19	0	0	14	1	0	1	0	0
19:00	627	15	447	112	17	24	1	0	11	0	0	0	0	0
20:00	375	5	282	68	10	9	0	0	1	0	0	0	0	0
21:00	270	5	213	45	1	4	0	0	2	0	0	0	0	0
22:00	180	2	154	21	1	0	0	0	2	0	0	0	0	0
23:00	76	0	64	6	1	2	0	0	1	2	0	0	0	0
DAILY TOTALS:	**8137**	**154**	**5893**	**1359**	**333**	**258**	**14**	**1**	**105**	**9**	**1**	**7**	**1**	**2**
PERCENT TOTALS:		**1.89%**	**72.42%**	**16.70%**	**4.09%**	**3.17%**	**0.17%**	**0.01%**	**1.29%**	**0.11%**	**0.01%**	**0.09%**	**0.01%**	**0.02%**

TRAFFIC DATA SERVICES

Phone: (678) 687-8266 Fax: (404) 294-6122

AXLE CLASSIFICATION SURVEY

CLIENT: POND AND COMPANY
PROJECT: WINTERS CHAPEL ROAD TRAFFIC STUDY
DATE: WEDNESDAY, MARCH 18TH 2015
LOCATION: #2 WINTERS CHAPEL ROAD SOUTH OF PEELER ROAD
DIRECTION: SB

BEGIN TIME	TOTAL	1 BIKES	2 CARS & TLRS	3 2 AXLE LONG	4 BUSES	5 2 AXLE 6 TIRE	6 3 AXLE SINGLE	7 4 AXLE SINGLE	8 <5AXLE DOUBL	9 5 AXLE DOUBL	10 >6AXLE DOUBL	11 <6AXLE MULTI	12 6 AXLE MULTI	13 >6AXLE MULTI
0:00	10	0	8	1	0	0	0	0	0	1	0	0	0	0
1:00	10	0	8	1	0	0	0	0	0	1	0	0	0	0
2:00	9	0	7	1	1	0	0	0	0	0	0	0	0	0
3:00	15	0	11	3	0	1	0	0	0	0	0	0	0	0
4:00	27	0	16	8	1	1	0	0	0	1	0	0	0	0
5:00	81	0	49	26	2	4	0	0	0	0	0	0	0	0
6:00	203	0	135	44	8	13	1	0	0	0	0	1	0	1
7:00	442	2	290	80	27	22	3	0	16	1	0	0	0	1
8:00	342	8	218	73	14	11	1	0	13	1	0	1	0	2
9:00	416	3	272	85	23	17	1	0	14	1	0	0	0	0
10:00	394	2	255	82	22	17	2	3	6	2	0	2	0	1
11:00	479	3	305	97	32	21	0	0	17	1	0	1	0	2
12:00	523	2	330	89	52	20	1	0	22	3	0	2	0	2
13:00	519	3	324	87	39	29	0	0	30	2	0	5	0	0
14:00	415	3	267	78	29	19	0	0	13	3	0	0	1	2
15:00	480	6	303	103	28	18	1	0	18	1	0	1	0	1
16:00	475	3	297	80	41	19	0	0	24	0	0	7	1	3
17:00	490	6	318	68	43	20	0	0	27	0	0	4	1	3
18:00	302	3	197	59	22	11	0	0	10	0	0	0	0	0
19:00	290	3	205	53	8	8	1	0	9	2	0	1	0	0
20:00	299	0	219	57	7	7	0	0	9	0	0	0	0	0
21:00	153	3	108	31	4	4	0	0	3	0	0	0	0	0
22:00	82	0	68	10	1	3	0	0	0	0	0	0	0	0
23:00	30	1	26	2	0	1	0	0	0	0	0	0	0	0
DAILY TOTALS:	**6486**	**51**	**4236**	**1218**	**404**	**266**	**11**	**3**	**231**	**20**	**0**	**25**	**3**	**18**
PERCENT TOTALS:		**0.79%**	**65.31%**	**18.78%**	**6.23%**	**4.10%**	**0.17%**	**0.05%**	**3.56%**	**0.31%**	**0.00%**	**0.39%**	**0.05%**	**0.28%**

TRAFFIC DATA SERVICES

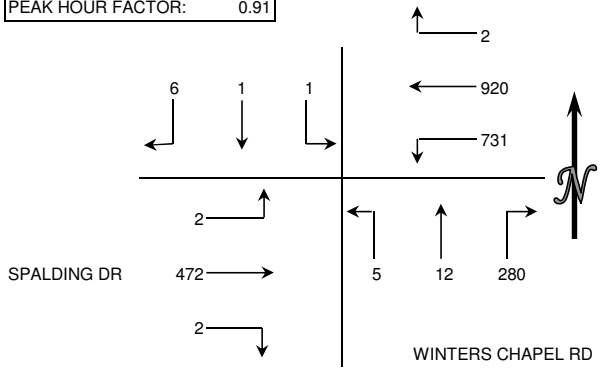
Phone: (678) 687-8266 Fax: (404) 294-6122

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: POND AND COMPANY
PROJECT: WINTERS CHAPEL ROAD TRAFFIC STUDY LOC #1
DATE: WEDNESDAY, MARCH 18TH 2015
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S WINTERS CHAPEL ROAD
E/W SPALDING DRIVE

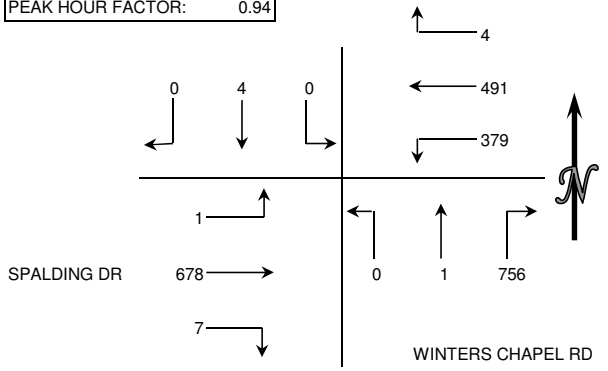
15 MIN COUNTS	7:00 AM TO 9:00 AM												
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	0	0	0	0	176	151	33	0	0	1	55	0	416
715-730	0	0	0	0	200	191	70	0	1	0	74	0	536
730-745	0	1	0	0	207	194	66	1	0	1	76	0	546
745-800	0	0	0	0	224	187	65	1	2	2	86	0	567
800-815	5	1	0	1	214	198	85	0	1	2	161	1	669
815-830	1	0	0	1	232	163	65	2	2	0	102	0	568
830-845	0	0	1	0	237	184	60	10	1	0	104	0	597
845-900	0	0	0	0	237	186	70	0	1	0	105	1	600
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	0	1	0	0	807	723	234	2	3	4	291	0	2065
715-815	5	2	0	1	845	770	286	2	4	5	397	1	2318
730-830	6	2	0	2	877	742	281	4	5	5	425	1	2350
745-845	6	1	1	2	907	732	275	13	6	4	453	1	2401
800-900	6	1	1	2	920	731	280	12	5	2	472	2	2434

AM PEAK HOUR: 800-900
PEAK HOUR FACTOR: 0.91



15 MIN COUNTS	4:00 PM TO 6:00 PM												
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	0	0	2	1	101	92	108	0	1	2	141	0	448
415-430	1	0	0	0	108	82	140	1	0	3	166	0	501
430-445	0	0	1	0	112	95	137	0	1	2	152	1	501
445-500	2	0	0	2	141	88	166	0	1	4	175	0	579
500-515	0	0	0	0	121	88	155	0	0	2	174	0	540
515-530	0	0	0	1	115	96	192	0	0	2	162	1	569
530-545	0	4	0	2	138	100	201	0	0	3	167	0	615
545-600	0	0	0	1	117	95	208	1	0	0	175	0	597
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	3	0	3	3	462	357	551	1	3	11	634	1	2029
415-515	3	0	1	2	482	353	598	1	2	11	667	1	2121
430-530	2	0	1	3	489	367	650	0	2	10	663	2	2189
445-545	2	4	0	5	515	372	714	0	1	11	678	1	2303
500-600	0	4	0	4	491	379	756	1	0	7	678	1	2321

PM PEAK HOUR: 500-600
PEAK HOUR FACTOR: 0.94



TRAFFIC DATA SERVICES

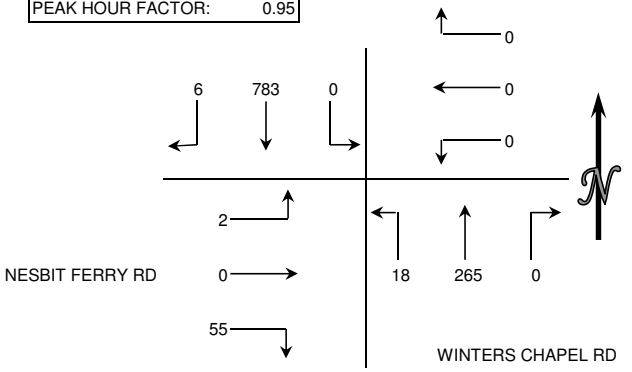
Phone: (678) 687-8266 Fax: (404) 294-6122

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: POND AND COMPANY
PROJECT: WINTERS CHAPEL ROAD TRAFFIC STUDY LOC #2
DATE: WEDNESDAY, MARCH 18TH 2015
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S WINTERS CHAPEL ROAD
E/W NESBIT FERRY ROAD

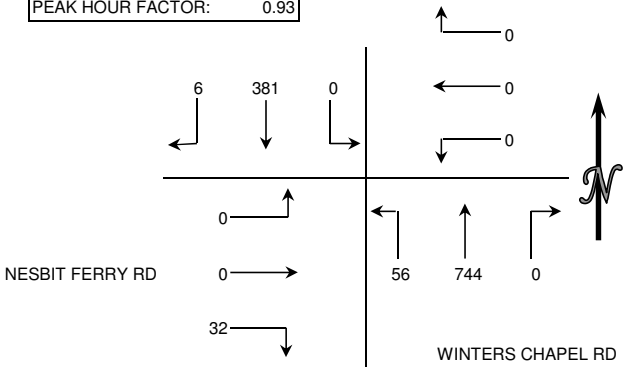
15 MIN COUNTS	7:00 AM TO 9:00 AM												
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	1	167	0	0	0	0	0	29	2	17	0	0	216
715-730	2	193	0	0	0	0	0	61	3	11	0	0	270
730-745	1	197	0	0	0	0	0	61	5	22	0	2	288
745-800	3	196	0	0	0	0	0	62	3	11	0	0	275
800-815	0	197	0	0	0	0	0	81	7	11	0	0	296
815-830	1	181	0	0	0	0	0	57	5	14	0	0	258
830-845	0	192	0	0	0	0	0	64	2	14	0	0	272
845-900	0	170	0	0	0	0	0	80	4	11	0	0	265
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	7	753	0	0	0	0	0	213	13	61	0	2	1049
715-815	6	783	0	0	0	0	0	265	18	55	0	2	1129
730-830	5	771	0	0	0	0	0	261	20	58	0	2	1117
745-845	4	766	0	0	0	0	0	264	17	50	0	0	1101
800-900	1	740	0	0	0	0	0	282	18	50	0	0	1091

AM PEAK HOUR: 715-815
PEAK HOUR FACTOR: 0.95



15 MIN COUNTS	4:00 PM TO 6:00 PM												
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	2	95	0	0	0	0	0	120	10	15	0	0	242
415-430	1	88	0	0	0	0	0	133	10	7	0	0	239
430-445	0	96	0	0	0	0	0	148	16	10	0	1	271
445-500	0	94	0	0	0	0	0	165	17	9	0	0	285
500-515	2	91	0	0	0	0	0	160	11	9	0	0	273
515-530	2	86	0	0	0	0	0	201	20	7	0	0	316
530-545	1	100	0	0	0	0	0	179	14	9	0	0	303
545-600	1	104	0	0	0	0	0	204	11	7	0	0	327
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	3	373	0	0	0	0	0	566	53	41	0	1	1037
415-515	3	369	0	0	0	0	0	606	54	35	0	1	1068
430-530	4	367	0	0	0	0	0	674	64	35	0	1	1145
445-545	5	371	0	0	0	0	0	705	62	34	0	0	1177
500-600	6	381	0	0	0	0	0	744	56	32	0	0	1219

PM PEAK HOUR: 500-600
PEAK HOUR FACTOR: 0.93



TRAFFIC DATA SERVICES

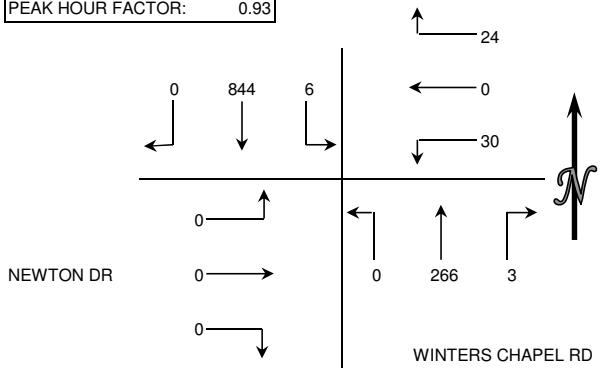
Phone: (678) 687-8266 Fax: (404) 294-6122

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: POND AND COMPANY
PROJECT: WINTERS CHAPEL ROAD TRAFFIC STUDY LOC #3
DATE: WEDNESDAY, MARCH 18TH 2015
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S WINTERS CHAPEL ROAD
E/W NEWTON DRIVE

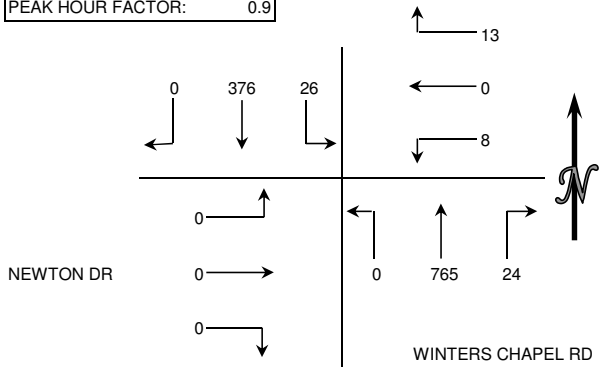
15 MIN COUNTS	7:00 AM TO 9:00 AM												
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	0	174	1	2	0	5	1	37	0	0	0	0	220
715-730	0	204	1	6	0	9	0	58	0	0	0	0	278
730-745	0	214	1	6	0	6	0	61	0	0	0	0	288
745-800	0	215	1	4	0	4	2	64	0	0	0	0	290
800-815	0	211	3	8	0	11	1	83	0	0	0	0	317
815-830	0	192	0	1	0	7	1	63	0	0	0	0	264
830-845	0	196	1	5	0	8	1	62	0	0	0	0	273
845-900	0	167	18	4	0	3	0	84	0	0	0	0	276
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	0	807	4	18	0	24	3	220	0	0	0	0	1076
715-815	0	844	6	24	0	30	3	266	0	0	0	0	1173
730-830	0	832	5	19	0	28	4	271	0	0	0	0	1159
745-845	0	814	5	18	0	30	5	272	0	0	0	0	1144
800-900	0	766	22	18	0	29	3	292	0	0	0	0	1130

AM PEAK HOUR: 715-815
PEAK HOUR FACTOR: 0.93



15 MIN COUNTS	4:00 PM TO 6:00 PM												
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	0	103	5	5	0	3	6	120	0	0	0	0	242
415-430	0	98	2	6	0	1	5	141	0	0	0	0	253
430-445	0	100	7	3	0	6	3	156	0	0	0	0	275
445-500	0	90	4	2	0	4	6	174	0	0	0	0	280
500-515	0	89	7	1	0	1	4	175	0	0	0	0	277
515-530	0	96	4	7	0	1	3	226	0	0	0	0	337
530-545	0	99	8	1	0	2	12	188	0	0	0	0	310
545-600	0	92	7	4	0	4	5	176	0	0	0	0	288
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	0	391	18	16	0	14	20	591	0	0	0	0	1050
415-515	0	377	20	12	0	12	18	646	0	0	0	0	1085
430-530	0	375	22	13	0	12	16	731	0	0	0	0	1169
445-545	0	374	23	11	0	8	25	763	0	0	0	0	1204
500-600	0	376	26	13	0	8	24	765	0	0	0	0	1212

PM PEAK HOUR: 500-600
PEAK HOUR FACTOR: 0.9



TRAFFIC DATA SERVICES

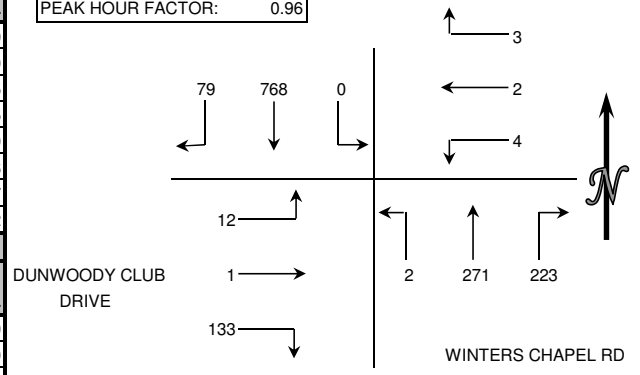
Phone: (678) 687-8266 Fax: (404) 294-6122

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: POND AND COMPANY
PROJECT: WINTERS CHAPEL ROAD TRAFFIC STUDY LOC #4
DATE: WEDNESDAY, MARCH 18TH 2015
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S WINTERS CHAPEL ROAD
E/W DUNWOODY CLUB DRIVE

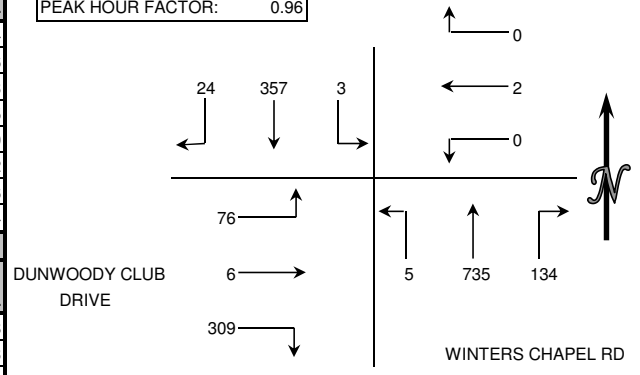
15 MIN COUNTS	7:00 AM TO 9:00 AM												
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	12	167	0	0	0	0	34	40	1	11	0	4	269
715-730	27	189	1	2	2	7	43	55	0	19	1	4	350
730-745	7	214	0	3	1	2	42	59	2	33	1	1	365
745-800	15	199	0	1	0	2	49	69	0	29	0	1	365
800-815	21	200	0	0	0	0	56	81	1	30	0	1	390
815-830	30	170	0	1	1	1	52	59	0	38	1	3	356
830-845	13	199	0	1	1	1	66	62	1	36	0	7	387
845-900	20	163	2	2	1	2	66	74	1	27	0	4	362
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	61	769	1	6	3	11	168	223	3	92	2	10	1349
715-815	70	802	1	6	3	11	190	264	3	111	2	7	1470
730-830	73	783	0	5	2	5	199	268	3	130	2	6	1476
745-845	79	768	0	3	2	4	223	271	2	133	1	12	1498
800-900	84	732	2	4	3	4	240	276	3	131	1	15	1495

AM PEAK HOUR: 745-845
PEAK HOUR FACTOR: 0.96



15 MIN COUNTS	4:00 PM TO 6:00 PM												
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	6	103	0	0	1	0	16	117	1	56	1	13	314
415-430	10	69	0	1	2	0	15	134	2	56	1	16	306
430-445	16	105	1	0	1	1	28	150	1	59	0	11	373
445-500	7	92	0	0	0	1	26	164	2	68	3	22	385
500-515	3	81	0	0	1	0	40	171	0	66	1	16	379
515-530	7	88	0	0	0	0	28	214	3	74	2	16	432
530-545	9	91	3	0	1	0	33	177	1	83	1	27	426
545-600	5	97	0	0	0	0	33	173	1	86	2	17	414
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	39	369	1	1	4	2	85	565	6	239	5	62	1378
415-515	36	347	1	1	4	2	109	619	5	249	5	65	1443
430-530	33	366	1	0	2	2	122	699	6	267	6	65	1569
445-545	26	352	3	0	2	1	127	726	6	291	7	81	1622
500-600	24	357	3	0	2	0	134	735	5	309	6	76	1651

PM PEAK HOUR: 500-600
PEAK HOUR FACTOR: 0.96



TRAFFIC DATA SERVICES

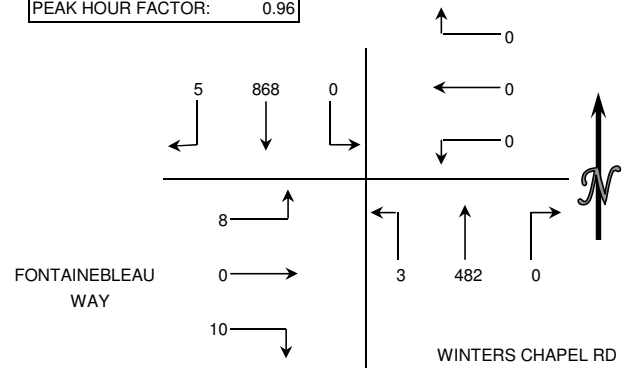
Phone: (678) 687-8266 Fax: (404) 294-6122

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: POND AND COMPANY
PROJECT: WINTERS CHAPEL ROAD TRAFFIC STUDY LOC #5
DATE: WEDNESDAY, MARCH 18TH 2015
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S WINTERS CHAPEL ROAD
E/W FONTAINEBLEAU WAY

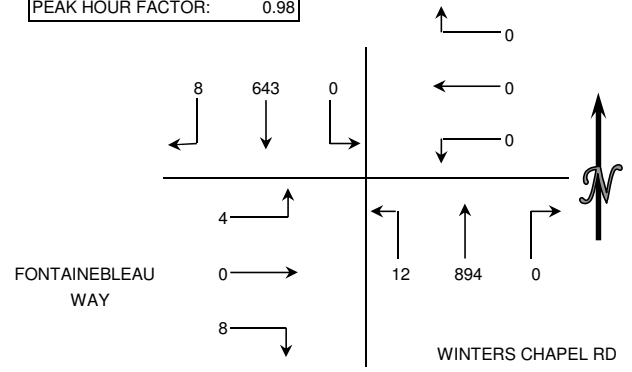
15 MIN COUNTS	7:00 AM TO 9:00 AM												
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	0	178	0	0	0	0	0	76	0	2	0	2	258
715-730	2	205	0	0	0	0	0	94	0	4	0	2	307
730-745	0	245	0	0	0	0	0	93	1	7	0	1	347
745-800	2	225	0	0	0	0	0	112	1	2	0	1	343
800-815	0	221	0	0	0	0	0	128	1	0	0	2	352
815-830	0	202	0	0	0	0	0	117	0	3	0	2	324
830-845	3	220	0	0	0	0	0	125	1	5	0	3	357
845-900	1	189	0	0	0	0	0	137	0	1	0	2	330
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	4	853	0	0	0	0	0	375	2	15	0	6	1255
715-815	4	896	0	0	0	0	0	427	3	13	0	6	1349
730-830	2	893	0	0	0	0	0	450	3	12	0	6	1366
745-845	5	868	0	0	0	0	0	482	3	10	0	8	1376
800-900	4	832	0	0	0	0	0	507	2	9	0	9	1363

AM PEAK HOUR: 745-845
PEAK HOUR FACTOR: 0.96



15 MIN COUNTS	4:00 PM TO 6:00 PM												
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	1	158	0	0	0	0	0	133	1	2	0	1	296
415-430	1	126	0	0	0	0	0	152	0	0	0	1	280
430-445	2	162	0	0	0	0	0	181	4	1	0	0	350
445-500	0	150	0	0	0	0	0	190	4	0	0	2	346
500-515	0	152	0	0	0	0	0	216	3	1	0	1	373
515-530	2	148	0	0	0	0	0	246	3	2	0	1	402
530-545	1	173	0	0	0	0	0	213	4	1	0	1	393
545-600	5	170	0	0	0	0	0	219	2	4	0	1	401
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	4	596	0	0	0	0	0	656	9	3	0	4	1272
415-515	3	590	0	0	0	0	0	739	11	2	0	4	1349
430-530	4	612	0	0	0	0	0	833	14	4	0	4	1471
445-545	3	623	0	0	0	0	0	865	14	4	0	5	1514
500-600	8	643	0	0	0	0	0	894	12	8	0	4	1569

PM PEAK HOUR: 500-600
PEAK HOUR FACTOR: 0.98



TRAFFIC DATA SERVICES

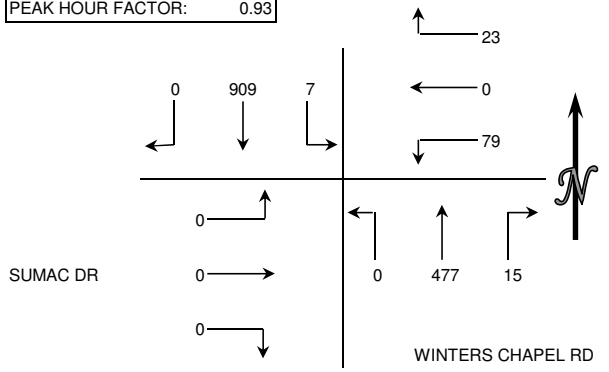
Phone: (678) 687-8266 Fax: (404) 294-6122

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: POND AND COMPANY
PROJECT: WINTERS CHAPEL ROAD TRAFFIC STUDY LOC #6
DATE: WEDNESDAY, MARCH 18TH 2015
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S WINTERS CHAPEL ROAD
E/W SUMAC DRIVE

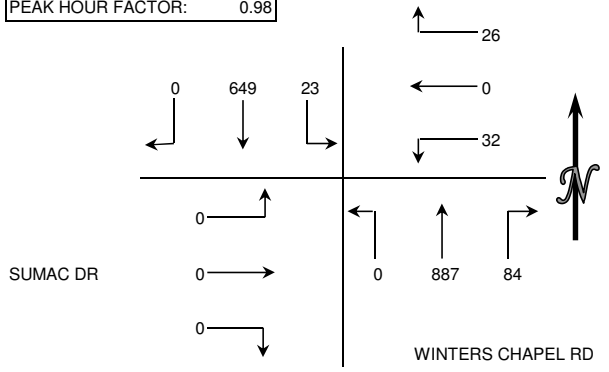
15 MIN COUNTS	7:00 AM TO 9:00 AM												
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	0	173	1	5	0	25	8	66	0	0	0	0	278
715-730	0	212	1	5	0	20	5	96	0	0	0	0	339
730-745	0	255	0	4	0	27	1	95	0	0	0	0	382
745-800	0	229	2	6	0	16	4	113	0	0	0	0	370
800-815	0	228	1	3	0	23	5	131	0	0	0	0	391
815-830	0	207	3	5	0	17	4	107	0	0	0	0	343
830-845	0	245	1	9	0	23	2	126	0	0	0	0	406
845-900	0	184	5	6	0	14	6	119	0	0	0	0	334
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	0	869	4	20	0	88	18	370	0	0	0	0	1369
715-815	0	924	4	18	0	86	15	435	0	0	0	0	1482
730-830	0	919	6	18	0	83	14	446	0	0	0	0	1486
745-845	0	909	7	23	0	79	15	477	0	0	0	0	1510
800-900	0	864	10	23	0	77	17	483	0	0	0	0	1474

AM PEAK HOUR: 745-845
PEAK HOUR FACTOR: 0.93



15 MIN COUNTS	4:00 PM TO 6:00 PM												
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	0	149	6	4	0	7	9	129	0	0	0	0	304
415-430	0	128	5	3	0	10	17	158	0	0	0	0	321
430-445	0	162	9	5	0	9	16	182	0	0	0	0	383
445-500	0	145	4	4	0	7	15	184	0	0	0	0	359
500-515	0	144	4	9	0	7	22	225	0	0	0	0	411
515-530	0	161	8	8	0	8	18	227	0	0	0	0	430
530-545	0	172	5	2	0	9	19	227	0	0	0	0	434
545-600	0	172	6	7	0	8	25	208	0	0	0	0	426
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	0	584	24	16	0	33	57	653	0	0	0	0	1367
415-515	0	579	22	21	0	33	70	749	0	0	0	0	1474
430-530	0	612	25	26	0	31	71	818	0	0	0	0	1583
445-545	0	622	21	23	0	31	74	863	0	0	0	0	1634
500-600	0	649	23	26	0	32	84	887	0	0	0	0	1701

PM PEAK HOUR: 500-600
PEAK HOUR FACTOR: 0.98



TRAFFIC DATA SERVICES

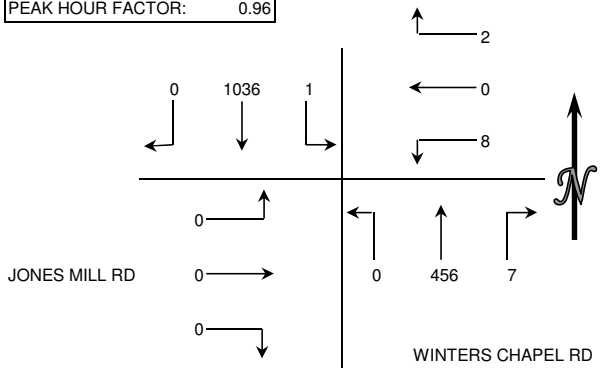
Phone: (678) 687-8266 Fax: (404) 294-6122

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: POND AND COMPANY
PROJECT: WINTERS CHAPEL ROAD TRAFFIC STUDY LOC #7
DATE: WEDNESDAY, MARCH 18TH 2015
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S WINTERS CHAPEL ROAD
E/W JONES MILL ROAD

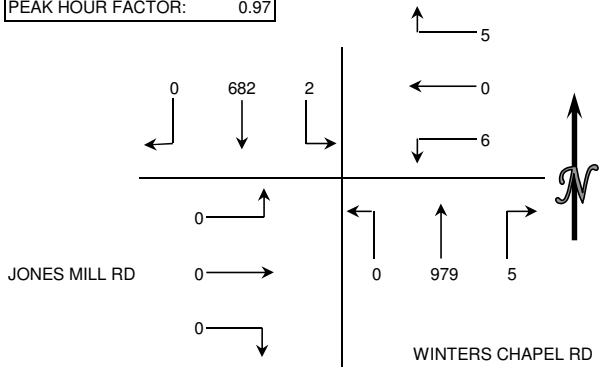
15 MIN COUNTS	7:00 AM TO 9:00 AM												
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	0	205	0	0	0	2	1	76	0	0	0	0	284
715-730	0	241	0	1	0	2	2	104	0	0	0	0	350
730-745	0	288	0	1	0	1	3	102	0	0	0	0	395
745-800	0	252	0	0	0	0	1	117	0	0	0	0	370
800-815	0	255	1	0	0	5	1	133	0	0	0	0	395
815-830	0	222	2	0	0	1	0	121	0	0	0	0	346
830-845	0	263	2	2	0	0	2	127	0	0	0	0	396
845-900	0	202	3	2	0	4	9	124	0	0	0	0	344
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	0	986	0	2	0	5	7	399	0	0	0	0	1399
715-815	0	1036	1	2	0	8	7	456	0	0	0	0	1510
730-830	0	1017	3	1	0	7	5	473	0	0	0	0	1506
745-845	0	992	5	2	0	6	4	498	0	0	0	0	1507
800-900	0	942	8	4	0	10	12	505	0	0	0	0	1481

AM PEAK HOUR: 715-815
PEAK HOUR FACTOR: 0.96



15 MIN COUNTS	4:00 PM TO 6:00 PM												
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	0	161	0	2	0	2	0	136	0	0	0	0	301
415-430	0	128	1	0	0	0	0	180	0	0	0	0	309
430-445	0	169	1	0	0	0	1	207	0	0	0	0	378
445-500	0	156	2	2	0	2	1	205	0	0	0	0	368
500-515	0	157	0	2	0	1	1	249	0	0	0	0	410
515-530	0	162	1	1	0	0	1	247	0	0	0	0	412
530-545	0	175	0	2	0	0	1	246	0	0	0	0	424
545-600	0	188	1	0	0	5	2	237	0	0	0	0	433
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	0	614	4	4	0	4	2	728	0	0	0	0	1356
415-515	0	610	4	4	0	3	3	841	0	0	0	0	1465
430-530	0	644	4	5	0	3	4	908	0	0	0	0	1568
445-545	0	650	3	7	0	3	4	947	0	0	0	0	1614
500-600	0	682	2	5	0	6	5	979	0	0	0	0	1679

PM PEAK HOUR: 500-600
PEAK HOUR FACTOR: 0.97



TRAFFIC DATA SERVICES

Phone: (678) 687-8266 Fax: (404) 294-6122

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: POND AND COMPANY
PROJECT: WINTERS CHAPEL ROAD TRAFFIC STUDY LOC #8
DATE: WEDNESDAY, MARCH 18TH 2015
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S WINTERS CHAPEL ROAD
E/W PEELER ROAD

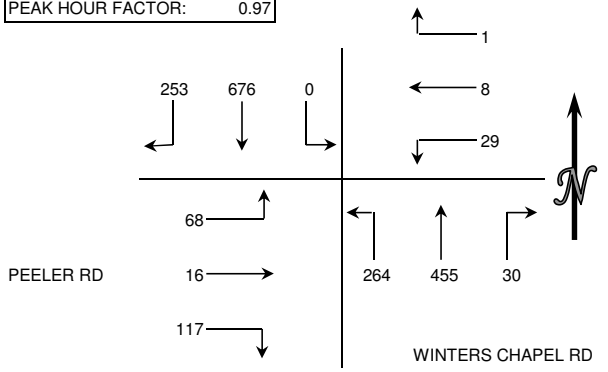
15 MIN COUNTS — 7:00 AM TO 9:00 AM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	57	167	0	0	0	4	7	66	37	14	0	9	361
715-730	77	172	0	0	4	8	7	63	53	29	0	13	426
730-745	69	196	0	0	1	8	4	80	64	21	2	20	465
745-800	76	169	0	0	0	5	3	101	49	31	0	17	451
800-815	73	169	0	0	3	5	6	104	74	40	6	16	496
815-830	68	170	0	0	2	10	4	116	64	18	2	12	466
830-845	62	162	0	0	1	3	11	115	61	30	6	18	469
845-900	50	175	0	1	2	11	9	120	65	29	2	22	486

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	279	704	0	0	5	25	21	310	203	95	2	59	1703
715-815	295	706	0	0	8	26	20	348	240	121	8	66	1838
730-830	286	704	0	0	6	28	17	401	251	110	10	65	1878
745-845	279	670	0	0	6	23	24	436	248	119	14	63	1882
800-900	253	676	0	1	8	29	30	455	264	117	16	68	1917

AM PEAK HOUR: 800-900
PEAK HOUR FACTOR: 0.97



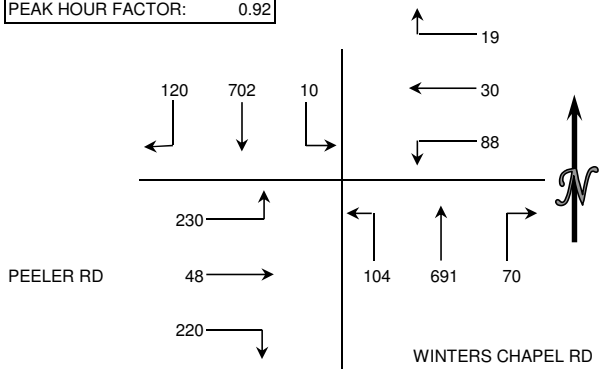
15 MIN COUNTS — 4:00 PM TO 6:00 PM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	15	113	3	3	3	20	23	117	17	40	12	40	406
415-430	29	120	4	2	4	23	20	108	18	48	8	48	432
430-445	19	122	4	4	10	31	16	160	18	45	12	41	482
445-500	20	144	3	0	9	22	21	152	17	56	7	68	519
500-515	16	163	3	4	5	11	15	135	29	55	6	66	508
515-530	28	163	3	4	6	33	16	177	32	61	16	81	620
530-545	40	190	3	3	8	23	21	213	28	56	12	34	631
545-600	36	186	1	8	11	21	18	166	15	48	14	49	573

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	83	499	14	9	26	96	80	537	70	189	39	197	1839
415-515	84	549	14	10	28	87	72	555	82	204	33	223	1941
430-530	83	592	13	12	30	97	68	624	96	217	41	256	2129
445-545	104	660	12	11	28	89	73	677	106	228	41	249	2278
500-600	120	702	10	19	30	88	70	691	104	220	48	230	2332

PM PEAK HOUR: 500-600
PEAK HOUR FACTOR: 0.92



TRAFFIC DATA SERVICES

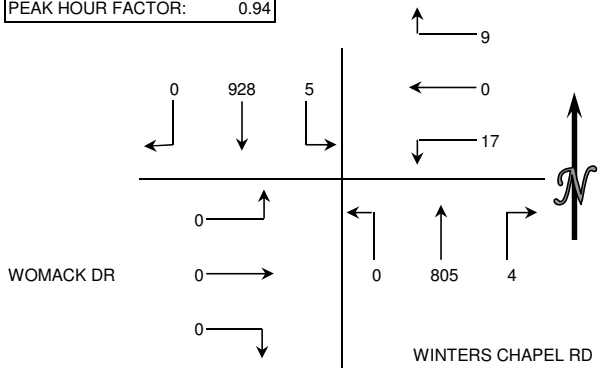
Phone: (678) 687-8266 Fax: (404) 294-6122

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: POND AND COMPANY
PROJECT: WINTERS CHAPEL ROAD TRAFFIC STUDY LOC #9
DATE: WEDNESDAY, MARCH 18TH 2015
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S WINTERS CHAPEL ROAD
E/W WOMACK DRIVE

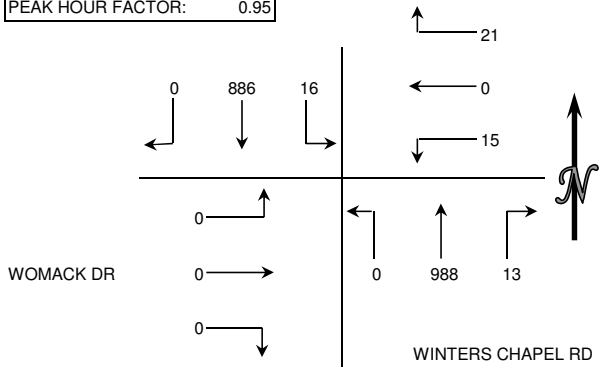
15 MIN COUNTS	7:00 AM TO 9:00 AM												
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	0	153	0	2	0	3	0	137	0	0	0	0	295
715-730	0	229	0	3	0	6	2	139	0	0	0	0	379
730-745	0	268	3	5	0	5	0	164	0	0	0	0	445
745-800	0	224	1	0	0	7	1	142	0	0	0	0	375
800-815	0	222	2	0	0	5	0	207	0	0	0	0	436
815-830	0	244	1	4	0	2	1	217	0	0	0	0	469
830-845	0	263	1	3	0	5	1	192	0	0	0	0	465
845-900	0	199	1	2	0	5	2	189	0	0	0	0	398
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	0	874	4	10	0	21	3	582	0	0	0	0	1494
715-815	0	943	6	8	0	23	3	652	0	0	0	0	1635
730-830	0	958	7	9	0	19	2	730	0	0	0	0	1725
745-845	0	953	5	7	0	19	3	758	0	0	0	0	1745
800-900	0	928	5	9	0	17	4	805	0	0	0	0	1768

AM PEAK HOUR: 800-900
PEAK HOUR FACTOR: 0.94



15 MIN COUNTS	4:00 PM TO 6:00 PM												
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	0	177	3	2	0	1	1	153	0	0	0	0	337
415-430	0	206	3	2	0	1	2	189	0	0	0	0	403
430-445	0	209	2	0	0	4	0	217	0	0	0	0	432
445-500	0	207	7	2	0	3	1	203	0	0	0	0	423
500-515	0	204	5	3	0	3	3	245	0	0	0	0	463
515-530	0	222	5	4	0	3	4	270	0	0	0	0	508
530-545	0	235	3	7	0	7	0	239	0	0	0	0	491
545-600	0	225	3	7	0	2	6	234	0	0	0	0	477
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	0	799	15	6	0	9	4	762	0	0	0	0	1595
415-515	0	826	17	7	0	11	6	854	0	0	0	0	1721
430-530	0	842	19	9	0	13	8	935	0	0	0	0	1826
445-545	0	868	20	16	0	16	8	957	0	0	0	0	1885
500-600	0	886	16	21	0	15	13	988	0	0	0	0	1939

PM PEAK HOUR: 500-600
PEAK HOUR FACTOR: 0.95



TRAFFIC DATA SERVICES

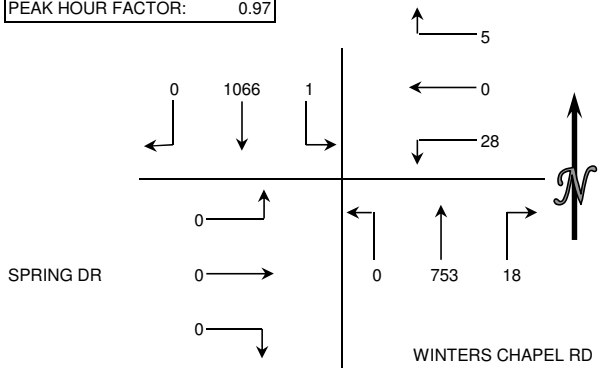
Phone: (678) 687-8266 Fax: (404) 294-6122

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: POND AND COMPANY
PROJECT: WINTERS CHAPEL ROAD TRAFFIC STUDY LOC #10
DATE: WEDNESDAY, MARCH 18TH 2015
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S WINTERS CHAPEL ROAD
E/W SPRING DRIVE

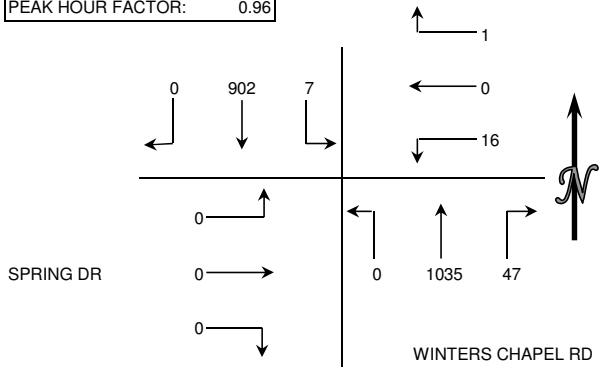
15 MIN COUNTS	7:00 AM TO 9:00 AM												
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	0	190	0	0	0	11	7	126	0	0	0	0	334
715-730	0	236	1	1	0	10	6	134	0	0	0	0	388
730-745	0	289	0	2	0	8	1	141	0	0	0	0	441
745-800	0	268	0	1	0	8	5	152	0	0	0	0	434
800-815	0	254	0	0	0	9	3	206	0	0	0	0	472
815-830	0	265	1	3	0	5	5	204	0	0	0	0	483
830-845	0	279	0	1	0	6	5	191	0	0	0	0	482
845-900	0	213	0	1	0	6	1	186	0	0	0	0	407
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	0	983	1	4	0	37	19	553	0	0	0	0	1597
715-815	0	1047	1	4	0	35	15	633	0	0	0	0	1735
730-830	0	1076	1	6	0	30	14	703	0	0	0	0	1830
745-845	0	1066	1	5	0	28	18	753	0	0	0	0	1871
800-900	0	1011	1	5	0	26	14	787	0	0	0	0	1844

AM PEAK HOUR: 745-845
PEAK HOUR FACTOR: 0.97



15 MIN COUNTS	4:00 PM TO 6:00 PM												
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	0	178	0	0	0	5	8	166	0	0	0	0	357
415-430	0	213	0	0	0	3	4	191	0	0	0	0	411
430-445	0	223	0	2	0	2	11	224	0	0	0	0	462
445-500	0	217	0	0	0	6	10	201	0	0	0	0	434
500-515	0	212	2	0	0	4	11	254	0	0	0	0	483
515-530	0	227	1	0	0	6	7	280	0	0	0	0	521
530-545	0	234	4	0	0	2	19	259	0	0	0	0	518
545-600	0	229	0	1	0	4	10	242	0	0	0	0	486
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	0	831	0	2	0	16	33	782	0	0	0	0	1664
415-515	0	865	2	2	0	15	36	870	0	0	0	0	1790
430-530	0	879	3	2	0	18	39	959	0	0	0	0	1900
445-545	0	890	7	0	0	18	47	994	0	0	0	0	1956
500-600	0	902	7	1	0	16	47	1035	0	0	0	0	2008

PM PEAK HOUR: 500-600
PEAK HOUR FACTOR: 0.96



APPENDIX B

Capacity Analysis Output

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	472	2	731	920	2	5	12	280	1	1	6
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	1	1	1	1	0	0	1	0	0	1	0
Cap, veh/h	290	748	635	814	1441	3	35	12	225	47	43	185
Arrive On Green	0.40	0.40	0.00	0.34	0.78	0.78	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	554	1863	1583	1774	1858	4	9	79	1506	66	288	1237
Grp Volume(v), veh/h	2	519	0	803	0	1013	326	0	0	9	0	0
Grp Sat Flow(s),veh/h/ln	554	1863	1583	1774	0	1862	1594	0	0	1590	0	0
Q Serve(g_s), s	0.2	24.7	0.0	34.8	0.0	28.6	5.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	24.7	0.0	34.8	0.0	28.6	16.0	0.0	0.0	0.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	0.02		0.94	0.11		0.78
Lane Grp Cap(c), veh/h	290	748	635	814	0	1444	273	0	0	275	0	0
V/C Ratio(X)	0.01	0.69	0.00	0.99	0.00	0.70	1.20	0.00	0.00	0.03	0.00	0.00
Avail Cap(c_a), veh/h	410	1150	978	814	0	1846	273	0	0	275	0	0
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.2	26.6	0.0	21.6	0.0	5.9	46.4	0.0	0.0	38.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.2	0.0	28.0	0.0	0.9	117.9	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.0	11.2	0.0	14.4	0.0	9.3	16.3	0.0	0.0	0.2	0.0	0.0
Lane Grp Delay (d), s/veh	19.2	27.7	0.0	49.7	0.0	6.8	164.3	0.0	0.0	38.9	0.0	0.0
Lane Grp LOS	B	C		D		A	F			D		
Approach Vol, veh/h		521			1816			326			9	
Approach Delay, s/veh		27.7			25.7			164.3			38.9	
Approach LOS		C			C			F			D	

Timer												
Assigned Phs		2		1	6			4			8	
Phs Duration (G+Y+Rc), s		46.9		40.0	86.9			20.0			20.0	
Change Period (Y+Rc), s		4.0		4.0	4.0			4.0			4.0	
Max Green Setting (Gmax), s		66.0		36.0	106.0			16.0			16.0	
Max Q Clear Time (g_c+I1), s		26.7		36.8	30.6			18.0			2.5	
Green Ext Time (p_c), s		16.2		0.0	19.0			0.0			1.7	

Intersection Summary		
HCM 2010 Ctrl Delay	43.1	
HCM 2010 LOS	D	

Notes

Intersection	
Intersection Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	2	55	18	265	783	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0	0			0
Median Width	12			0	0	
Grade, %	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	58	19	279	824	6
Number of Lanes	1	0	0	1	1	0

Major/Minor				Major 1	Major 2	
Conflicting Flow All	1144	827	831	0	-	0
Stage 1	827	-	-	-	-	-
Stage 2	317	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	221	371	801	-	-	-
Stage 1	430	-	-	-	-	-
Stage 2	738	-	-	-	-	-
Time blocked-Platoon, %	0	0	0	-	-	-
Mov Capacity-1 Maneuver	215	371	801	-	-	-
Mov Capacity-2 Maneuver	215	-	-	-	-	-
Stage 1	430	-	-	-	-	-
Stage 2	717	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.9	0.6	0
HCM LOS	C	-	-

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Cap, veh/h	801	-	362	-	-
HCM Control Delay, s	9.603	0	16.9	-	-
HCM Lane V/C Ratio	0.02	-	0.17	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th-tile Q, veh	0.1	-	0.6	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	30	24	266	3	6	844
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	26	286	3	6	908
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	1208	288	0	0	289	0
Stage 1	288	-	-	-	-	-
Stage 2	920	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	202	751	-	-	1273	-
Stage 1	761	-	-	-	-	-
Stage 2	388	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	200	751	-	-	1273	-
Mov Capacity-2 Maneuver	200	-	-	-	-	-
Stage 1	761	-	-	-	-	-
Stage 2	384	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20	0	0.1
HCM LOS	C	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	297	1273	-
HCM Control Delay, s	-	-	20	7.842	0
HCM Lane V/C Ratio	-	-	0.20	0.01	-
HCM Lane LOS	-	-	C	A	A
HCM 95th-tile Q, veh	-	-	0.7	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	12	1	133	4	2	3	223	271	2	0	768	79
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Cap, veh/h	15	1	174	7	3	5	269	303	2	0	1190	122
Arrive On Green	0.12	0.12	0.12	0.01	0.01	0.01	0.72	0.72	0.72	0.00	0.72	0.72
Sat Flow, veh/h	126	11	1462	766	383	574	280	423	3	0	1662	170
Grp Volume(v), veh/h	152	0	0	9	0	0	516	0	0	0	0	882
Grp Sat Flow(s),veh/h/ln	1598	0	0	1723	0	0	706	0	0	0	0	1833
Q Serve(g_s), s	7.1	0.0	0.0	0.4	0.0	0.0	34.7	0.0	0.0	0.0	0.0	20.3
Cycle Q Clear(g_c), s	7.1	0.0	0.0	0.4	0.0	0.0	55.0	0.0	0.0	0.0	0.0	20.3
Prop In Lane	0.08		0.91	0.44		0.33	0.45		0.00	0.00		0.09
Lane Grp Cap(c), veh/h	190	0	0	16	0	0	573	0	0	0	0	1312
V/C Ratio(X)	0.80	0.00	0.00	0.57	0.00	0.00	0.90	0.00	0.00	0.00	0.00	0.67
Avail Cap(c_a), veh/h	333	0	0	157	0	0	573	0	0	0	0	1312
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	33.0	0.0	0.0	37.9	0.0	0.0	17.2	0.0	0.0	0.0	0.0	6.0
Incr Delay (d2), s/veh	7.5	0.0	0.0	29.0	0.0	0.0	17.2	0.0	0.0	0.0	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	3.1	0.0	0.0	0.3	0.0	0.0	11.8	0.0	0.0	0.0	0.0	7.4
Lane Grp Delay (d), s/veh	40.5	0.0	0.0	67.0	0.0	0.0	34.4	0.0	0.0	0.0	0.0	7.3
Lane Grp LOS	D			E			C					A
Approach Vol, veh/h		152			9			516			882	
Approach Delay, s/veh		40.5			67.0			34.4			7.3	
Approach LOS		D			E			C			A	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		13.1			4.7			59.0			59.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		16.0			7.0			55.0			55.0	
Max Q Clear Time (g_c+I1), s		9.1			2.4			57.0			22.3	
Green Ext Time (p_c), s		0.4			0.0			0.0			13.4	

Intersection Summary												
HCM 2010 Ctrl Delay			19.9									
HCM 2010 LOS			B									

Notes

Intersection	
Intersection Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	8	10	3	482	868	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	Free	Free	None	None
Storage Length	0	0	0			0
Median Width	12			0	0	
Grade, %	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	10	3	502	904	5
Number of Lanes	1	0	0	1	1	0

Major/Minor				Major 1	Major 2	
Conflicting Flow All	1415	907	909	0	-	0
Stage 1	907	-	-	-	-	-
Stage 2	508	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	151	334	749	-	-	-
Stage 1	394	-	-	-	-	-
Stage 2	604	-	-	-	-	-
Time blocked-Platoon, %	0	0	0	-	-	-
Mov Capacity-1 Maneuver	150	334	749	-	-	-
Mov Capacity-2 Maneuver	150	-	-	-	-	-
Stage 1	394	-	-	-	-	-
Stage 2	600	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.2	0.1	0
HCM LOS	C	-	-

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Cap, veh/h	749	-	216	-	-
HCM Control Delay, s	9.827	0	23.2	-	-
HCM Lane V/C Ratio	0.00	-	0.09	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th-tile Q, veh	0.0	-	0.3	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	4.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	79	23	477	15	7	909
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	25	513	16	8	977
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	1513	521	0	0	529	0
Stage 1	521	-	-	-	-	-
Stage 2	992	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	132	555	-	-	1038	-
Stage 1	596	-	-	-	-	-
Stage 2	359	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	130	555	-	-	1038	-
Mov Capacity-2 Maneuver	130	-	-	-	-	-
Stage 1	596	-	-	-	-	-
Stage 2	353	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	68.8	0	0.1
HCM LOS	F	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	157	1038	-
HCM Control Delay, s	-	-	68.8	8.494	0
HCM Lane V/C Ratio	-	-	0.70	0.01	-
HCM Lane LOS	-	-	F	A	A
HCM 95th-tile Q, veh	-	-	4.1	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	8	2	456	7	1	1036
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		100	0	
Median Width	12		12			12
Grade, %	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	2	475	7	1	1079
Number of Lanes	1	0	1	1	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	1556	475	0	0	475	0
Stage 1	475	-	-	-	-	-
Stage 2	1081	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	124	590	-	-	1087	-
Stage 1	626	-	-	-	-	-
Stage 2	326	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	124	590	-	-	1087	-
Mov Capacity-2 Maneuver	124	-	-	-	-	-
Stage 1	626	-	-	-	-	-
Stage 2	325	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	31.3	0	0
HCM LOS	D	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	147	1087	-
HCM Control Delay, s	-	-	31.3	8.315	0
HCM Lane V/C Ratio	-	-	0.07	0.00	-
HCM Lane LOS	-	-	D	A	A
HCM 95th-tile Q, veh	-	-	0.2	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	68	16	117	29	8	1	264	455	30	0	676	253
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	1	1	1	1	0	1	1	0	1	1	1
Cap, veh/h	235	149	126	230	130	16	576	1341	89	130	1141	970
Arrive On Green	0.08	0.08	0.00	0.08	0.08	0.08	0.09	0.78	0.78	0.00	0.61	0.00
Sat Flow, veh/h	1400	1863	1583	1392	1624	203	1774	1728	114	894	1863	1583
Grp Volume(v), veh/h	70	16	0	30	0	9	272	0	500	0	697	0
Grp Sat Flow(s),veh/h/ln	1400	1863	1583	1392	0	1827	1774	0	1843	894	1863	1583
Q Serve(g_s), s	2.7	0.4	0.0	1.1	0.0	0.3	2.6	0.0	4.6	0.0	12.9	0.0
Cycle Q Clear(g_c), s	3.0	0.4	0.0	1.6	0.0	0.3	2.6	0.0	4.6	0.0	12.9	0.0
Prop In Lane	1.00		1.00	1.00		0.11	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	235	149	126	230	0	146	576	0	1430	130	1141	970
V/C Ratio(X)	0.30	0.11	0.00	0.13	0.00	0.06	0.47	0.00	0.35	0.00	0.61	0.00
Avail Cap(c_a), veh/h	527	537	456	520	0	527	861	0	2855	678	2282	1940
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	25.0	23.7	0.0	24.4	0.0	23.6	5.3	0.0	1.9	0.0	6.7	0.0
Incr Delay (d2), s/veh	0.7	0.3	0.0	0.3	0.0	0.2	0.6	0.0	0.1	0.0	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.9	0.2	0.0	0.4	0.0	0.1	0.8	0.0	0.8	0.0	4.0	0.0
Lane Grp Delay (d), s/veh	25.7	24.0	0.0	24.7	0.0	23.8	6.0	0.0	2.1	0.0	7.2	0.0
Lane Grp LOS	C	C		C		C	A		A		A	
Approach Vol, veh/h		86			39			772			697	
Approach Delay, s/veh		25.4			24.5			3.4			7.2	
Approach LOS		C			C			A			A	

Timer												
Assigned Phs		4			8		5	2			6	
Phs Duration (G+Y+Rc), s		8.4			8.4		9.1	47.1			38.0	
Change Period (Y+Rc), s		4.0			4.0		4.0	4.0			4.0	
Max Green Setting (Gmax), s		16.0			16.0		14.0	86.0			68.0	
Max Q Clear Time (g_c+I1), s		5.0			3.6		4.6	6.6			14.9	
Green Ext Time (p_c), s		0.2			0.3		0.5	10.2			10.0	

Intersection Summary		
HCM 2010 Ctrl Delay		6.8
HCM 2010 LOS		A

Notes

Intersection	
Intersection Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	17	9	805	4	5	928
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		12			12
Grade, %	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	10	856	4	5	987
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	1857	859	0	0	861	0
Stage 1	859	-	-	-	-	-
Stage 2	998	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	81	356	-	-	781	-
Stage 1	415	-	-	-	-	-
Stage 2	357	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	80	356	-	-	781	-
Mov Capacity-2 Maneuver	80	-	-	-	-	-
Stage 1	415	-	-	-	-	-
Stage 2	352	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	48.9	0	0.1
HCM LOS	E	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	109	781	-
HCM Control Delay, s	-	-	48.9	9.641	0
HCM Lane V/C Ratio	-	-	0.25	0.01	-
HCM Lane LOS	-	-	E	A	A
HCM 95th-tile Q, veh	-	-	0.9	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	28	5	753	18	1	1066
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	5	776	19	1	1099
Number of Lanes	1	0	1	1	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	1877	776	0	0	776	0
Stage 1	776	-	-	-	-	-
Stage 2	1101	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	79	397	-	-	840	-
Stage 1	454	-	-	-	-	-
Stage 2	318	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	79	397	-	-	840	-
Mov Capacity-2 Maneuver	79	-	-	-	-	-
Stage 1	454	-	-	-	-	-
Stage 2	317	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	67.5	0	0
HCM LOS	F	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	90	840	-
HCM Control Delay, s	-	-	67.5	9.291	0
HCM Lane V/C Ratio	-	-	0.38	0.00	-
HCM Lane LOS	-	-	F	A	A
HCM 95th-tile Q, veh	-	-	1.5	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Arterial Level of Service: NB Winters Chapel Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Shopping Center	II	40	76.5	3.8	80.3	0.85	38.1	A
Dunwoody Club Drive	II	38	83.0	42.5	125.5	0.88	25.4	C
Spalding Drive	II	40	69.7	17.9	87.6	0.77	31.8	B
Total	II		229.2	64.2	293.4	2.51	30.8	B

Arterial Level of Service: SB Winters Chapel Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Dunwoody Club Drive	II	38	73.4	7.7	81.1	0.77	34.4	B
Peeler Road	II	40	79.7	17.4	97.1	0.88	32.8	B
Total	II		153.1	25.1	178.2	1.66	33.5	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	678	7	379	491	4	0	1	756	0	4	0
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	1	1	1	1	0	0	1	0	0	1	0
Cap, veh/h	441	817	694	431	1194	9	0	1	457	0	538	0
Arrive On Green	0.44	0.44	0.00	0.18	0.65	0.65	0.00	0.29	0.29	0.00	0.29	0.00
Sat Flow, veh/h	873	1863	1583	1774	1846	14	0	2	1582	0	1863	0
Grp Volume(v), veh/h	1	721	0	403	0	526	0	0	805	0	4	0
Grp Sat Flow(s),veh/h/ln	873	1863	1583	1774	0	1860	0	0	1584	0	1863	0
Q Serve(g_s), s	0.1	44.2	0.0	19.4	0.0	17.3	0.0	0.0	36.0	0.0	0.2	0.0
Cycle Q Clear(g_c), s	0.1	44.2	0.0	19.4	0.0	17.3	0.0	0.0	36.0	0.0	0.2	0.0
Prop In Lane	1.00		1.00	1.00		0.01	0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	441	817	694	431	0	1203	0	0	458	0	538	0
V/C Ratio(X)	0.00	0.88	0.00	0.93	0.00	0.44	0.00	0.00	1.76	0.00	0.01	0.00
Avail Cap(c_a), veh/h	521	987	839	489	0	1434	0	0	458	0	538	0
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	19.7	32.0	0.0	33.0	0.0	10.8	0.0	0.0	44.3	0.0	31.5	0.0
Incr Delay (d2), s/veh	0.0	8.3	0.0	23.8	0.0	0.3	0.0	0.0	350.2	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.0	21.7	0.0	15.7	0.0	7.1	0.0	0.0	58.8	0.0	0.1	0.0
Lane Grp Delay (d), s/veh	19.7	40.3	0.0	56.8	0.0	11.1	0.0	0.0	394.5	0.0	31.5	0.0
Lane Grp LOS	B	D		E		B			F		C	
Approach Vol, veh/h		722			929			805			4	
Approach Delay, s/veh		40.3			30.9			394.5			31.5	
Approach LOS		D			C			F			C	

Timer												
Assigned Phs		2		1	6			4			8	
Phs Duration (G+Y+Rc), s		58.6		25.9	84.5			40.0			40.0	
Change Period (Y+Rc), s		4.0		4.0	4.0			4.0			4.0	
Max Green Setting (Gmax), s		66.0		26.0	96.0			36.0			36.0	
Max Q Clear Time (g_c+I1), s		46.2		21.4	19.3			38.0			2.2	
Green Ext Time (p_c), s		8.4		0.6	11.6			0.0			7.4	

Intersection Summary		
HCM 2010 Ctrl Delay	152.6	
HCM 2010 LOS	F	

Notes

Intersection	
Intersection Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	32	56	744	381	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0	0			0
Median Width	12			0	0	
Grade, %	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	34	60	800	410	6
Number of Lanes	1	0	0	1	1	0

Major/Minor				Major 1	Major 2	
Conflicting Flow All	1333	413	416	0	-	0
Stage 1	413	-	-	-	-	-
Stage 2	920	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	170	639	1143	-	-	-
Stage 1	668	-	-	-	-	-
Stage 2	388	-	-	-	-	-
Time blocked-Platoon, %	0	0	0	-	-	-
Mov Capacity-1 Maneuver	154	639	1143	-	-	-
Mov Capacity-2 Maneuver	154	-	-	-	-	-
Stage 1	668	-	-	-	-	-
Stage 2	352	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11	0.6	0
HCM LOS	B	-	-

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Cap, veh/h	1143	-	639	-	-
HCM Control Delay, s	8.325	0	11	-	-
HCM Lane V/C Ratio	0.05	-	0.05	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th-tile Q, veh	0.2	-	0.2	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	8	13	765	24	26	376
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	14	850	27	29	418
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	1339	863	0	0	877	0
Stage 1	863	-	-	-	-	-
Stage 2	476	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	168	354	-	-	770	-
Stage 1	413	-	-	-	-	-
Stage 2	625	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	160	354	-	-	770	-
Mov Capacity-2 Maneuver	160	-	-	-	-	-
Stage 1	413	-	-	-	-	-
Stage 2	594	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.5	0	0.6
HCM LOS	C	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	242	770	-
HCM Control Delay, s	-	-	21.5	9.857	0
HCM Lane V/C Ratio	-	-	0.10	0.04	-
HCM Lane LOS	-	-	C	A	A
HCM 95th-tile Q, veh	-	-	0.3	0.1	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	76	6	309	0	2	0	134	735	5	3	357	24
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Cap, veh/h	90	7	365	0	4	0	176	785	5	53	934	62
Arrive On Green	0.28	0.28	0.28	0.00	0.00	0.00	0.54	0.54	0.54	0.54	0.54	0.54
Sat Flow, veh/h	315	24	1282	0	1863	0	215	1449	9	3	1724	115
Grp Volume(v), veh/h	407	0	0	0	2	0	911	0	0	400	0	0
Grp Sat Flow(s),veh/h/ln	1621	0	0	0	1863	0	1674	0	0	1841	0	0
Q Serve(g_s), s	16.8	0.0	0.0	0.0	0.1	0.0	29.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	16.8	0.0	0.0	0.0	0.1	0.0	38.0	0.0	0.0	8.9	0.0	0.0
Prop In Lane	0.19		0.79	0.00		0.00	0.15		0.01	0.01		0.06
Lane Grp Cap(c), veh/h	462	0	0	0	4	0	966	0	0	1049	0	0
V/C Ratio(X)	0.88	0.00	0.00	0.00	0.49	0.00	0.94	0.00	0.00	0.38	0.00	0.00
Avail Cap(c_a), veh/h	555	0	0	0	159	0	966	0	0	1049	0	0
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	23.9	0.0	0.0	0.0	35.0	0.0	15.8	0.0	0.0	9.4	0.0	0.0
Incr Delay (d2), s/veh	13.5	0.0	0.0	0.0	71.0	0.0	16.9	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	8.1	0.0	0.0	0.0	0.1	0.0	18.7	0.0	0.0	3.7	0.0	0.0
Lane Grp Delay (d), s/veh	37.4	0.0	0.0	0.0	105.9	0.0	32.7	0.0	0.0	9.6	0.0	0.0
Lane Grp LOS	D				F		C			A		
Approach Vol, veh/h		407			2			911			400	
Approach Delay, s/veh		37.4			105.9			32.7			9.6	
Approach LOS		D			F			C			A	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		24.0			4.2			42.0			42.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		24.0			6.0			38.0			38.0	
Max Q Clear Time (g_c+I1), s		18.8			2.1			40.0			10.9	
Green Ext Time (p_c), s		1.2			0.0			0.0			11.6	

Intersection Summary												
HCM 2010 Ctrl Delay			28.6									
HCM 2010 LOS			C									

Notes

Intersection	
Intersection Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	4	8	12	894	643	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	Free	Free	None	None
Storage Length	0	0	0			0
Median Width	12			0	0	
Grade, %	0%			0%	0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	8	12	912	656	8
Number of Lanes	1	0	0	1	1	0

Major/Minor				Major 1	Major 2	
Conflicting Flow All	1597	660	664	0	-	0
Stage 1	660	-	-	-	-	-
Stage 2	937	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	117	463	925	-	-	-
Stage 1	514	-	-	-	-	-
Stage 2	381	-	-	-	-	-
Time blocked-Platoon, %	0	0	0	-	-	-
Mov Capacity-1 Maneuver	114	463	925	-	-	-
Mov Capacity-2 Maneuver	114	-	-	-	-	-
Stage 1	514	-	-	-	-	-
Stage 2	371	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.6	0.1	0
HCM LOS	C	-	-

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Cap, veh/h	925	-	229	-	-
HCM Control Delay, s	8.944	0	21.6	-	-
HCM Lane V/C Ratio	0.01	-	0.05	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th-tile Q, veh	0.0	-	0.2	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	32	26	887	84	23	649
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	27	905	86	23	662
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	1657	948	0	0	991	0
Stage 1	948	-	-	-	-	-
Stage 2	709	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	108	316	-	-	698	-
Stage 1	377	-	-	-	-	-
Stage 2	488	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	102	316	-	-	698	-
Mov Capacity-2 Maneuver	102	-	-	-	-	-
Stage 1	377	-	-	-	-	-
Stage 2	463	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	45.5	0	0.4
HCM LOS	E	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	146	698	-
HCM Control Delay, s	-	-	45.5	10.337	0
HCM Lane V/C Ratio	-	-	0.41	0.03	-
HCM Lane LOS	-	-	E	B	A
HCM 95th-tile Q, veh	-	-	1.8	0.1	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	6	5	979	5	2	682
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		100	0	
Median Width	12		12			12
Grade, %	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	5	1009	5	2	703
Number of Lanes	1	0	1	1	0	1

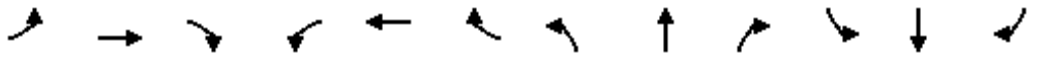
Major/Minor			Major 1		Major 2	
Conflicting Flow All	1716	1009	0	0	1009	0
Stage 1	1009	-	-	-	-	-
Stage 2	707	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	99	292	-	-	687	-
Stage 1	352	-	-	-	-	-
Stage 2	489	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	99	292	-	-	687	-
Mov Capacity-2 Maneuver	99	-	-	-	-	-
Stage 1	352	-	-	-	-	-
Stage 2	487	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	32.5	0	0
HCM LOS	D	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	142	687	-
HCM Control Delay, s	-	-	32.5	10.256	0
HCM Lane V/C Ratio	-	-	0.08	0.00	-
HCM Lane LOS	-	-	D	B	A
HCM 95th-tile Q, veh	-	-	0.3	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	230	48	220	88	30	19	104	691	70	10	702	120
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	1	1	1	1	0	1	1	0	1	1	1
Cap, veh/h	416	462	392	420	264	168	326	1039	105	323	941	800
Arrive On Green	0.25	0.25	0.00	0.25	0.25	0.25	0.05	0.62	0.62	0.51	0.51	0.00
Sat Flow, veh/h	1345	1863	1583	1347	1065	678	1774	1665	168	660	1863	1583
Grp Volume(v), veh/h	250	52	0	96	0	54	113	0	827	11	763	0
Grp Sat Flow(s),veh/h/ln	1345	1863	1583	1347	0	1743	1774	0	1833	660	1863	1583
Q Serve(g_s), s	11.1	1.4	0.0	3.7	0.0	1.5	1.7	0.0	19.3	0.7	21.5	0.0
Cycle Q Clear(g_c), s	12.6	1.4	0.0	5.1	0.0	1.5	1.7	0.0	19.3	12.6	21.5	0.0
Prop In Lane	1.00		1.00	1.00		0.39	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	416	462	392	420	0	432	326	0	1144	323	941	800
V/C Ratio(X)	0.60	0.11	0.00	0.23	0.00	0.13	0.35	0.00	0.72	0.03	0.81	0.00
Avail Cap(c_a), veh/h	534	626	532	538	0	585	541	0	1495	370	1072	912
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	23.1	18.2	0.0	20.2	0.0	18.3	10.8	0.0	8.0	14.9	13.0	0.0
Incr Delay (d2), s/veh	1.4	0.1	0.0	0.3	0.0	0.1	0.6	0.0	1.2	0.0	4.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	3.6	0.6	0.0	1.2	0.0	0.6	0.6	0.0	6.6	0.1	9.0	0.0
Lane Grp Delay (d), s/veh	24.5	18.3	0.0	20.4	0.0	18.4	11.4	0.0	9.3	14.9	17.2	0.0
Lane Grp LOS	C	B		C		B	B		A	B	B	
Approach Vol, veh/h		302			150			940			774	
Approach Delay, s/veh		23.5			19.7			9.5			17.2	
Approach LOS		C			B			A			B	

Timer												
Assigned Phs		4			8		5	2			6	
Phs Duration (G+Y+Rc), s		19.5			19.5		7.4	43.0			35.6	
Change Period (Y+Rc), s		4.0			4.0		4.0	4.0			4.0	
Max Green Setting (Gmax), s		21.0			21.0		11.0	51.0			36.0	
Max Q Clear Time (g_c+I1), s		14.6			7.1		3.7	21.3			23.5	
Green Ext Time (p_c), s		0.9			1.4		0.1	13.8			8.1	

Intersection Summary		
HCM 2010 Ctrl Delay	14.9	
HCM 2010 LOS	B	

Notes

Intersection	
Intersection Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	15	21	988	13	16	886
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		12			12
Grade, %	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	22	1040	14	17	933
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	2013	1047	0	0	1054	0
Stage 1	1047	-	-	-	-	-
Stage 2	966	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	65	277	-	-	661	-
Stage 1	338	-	-	-	-	-
Stage 2	369	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	62	277	-	-	661	-
Mov Capacity-2 Maneuver	62	-	-	-	-	-
Stage 1	338	-	-	-	-	-
Stage 2	349	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	52.2	0	0.2
HCM LOS	F	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	113	661	-
HCM Control Delay, s	-	-	52.2	10.589	0
HCM Lane V/C Ratio	-	-	0.34	0.03	-
HCM Lane LOS	-	-	F	B	A
HCM 95th-tile Q, veh	-	-	1.3	0.1	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	16	1	1035	47	7	902
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	1	1078	49	7	940
Number of Lanes	1	0	1	1	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	2032	1078	0	0	1078	0
Stage 1	1078	-	-	-	-	-
Stage 2	954	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	63	266	-	-	647	-
Stage 1	327	-	-	-	-	-
Stage 2	374	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	62	266	-	-	647	-
Mov Capacity-2 Maneuver	62	-	-	-	-	-
Stage 1	327	-	-	-	-	-
Stage 2	365	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	80	0	0.1
HCM LOS	F	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	65	647	-
HCM Control Delay, s	-	-	80	10.628	0
HCM Lane V/C Ratio	-	-	0.27	0.01	-
HCM Lane LOS	-	-	F	B	A
HCM 95th-tile Q, veh	-	-	1.0	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Arterial Level of Service: NB Winters Chapel Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Shopping Center	II	40	76.5	13.6	90.1	0.85	34.0	B
Dunwoody Club Drive	II	38	83.0	25.3	108.3	0.88	29.4	B
Spalding Drive	II	40	69.7	73.2	142.9	0.77	19.5	D
Total	II		229.2	112.1	341.3	2.51	26.5	C

Arterial Level of Service: SB Winters Chapel Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Dunwoody Club Drive	II	38	73.4	8.4	81.8	0.77	34.1	B
Peeler Road	II	40	79.7	28.7	108.4	0.88	29.4	B
Total	II		153.1	37.1	190.2	1.66	31.4	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	566	2	877	1104	2	6	14	336	1	1	7
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	1	1	1	1	0	0	1	0	0	1	0
Cap, veh/h	251	854	726	751	1482	2	33	11	204	41	36	175
Arrive On Green	0.46	0.46	0.00	0.30	0.80	0.80	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	458	1863	1583	1774	1859	3	12	78	1504	57	266	1289
Grp Volume(v), veh/h	2	622	0	964	0	1215	391	0	0	10	0	0
Grp Sat Flow(s),veh/h/ln	458	1863	1583	1774	0	1862	1593	0	0	1612	0	0
Q Serve(g_s), s	0.3	32.1	0.0	36.0	0.0	45.1	6.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.4	32.1	0.0	36.0	0.0	45.1	16.0	0.0	0.0	0.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	0.02		0.94	0.10		0.80
Lane Grp Cap(c), veh/h	251	854	726	751	0	1484	247	0	0	252	0	0
V/C Ratio(X)	0.01	0.73	0.00	1.28	0.00	0.82	1.58	0.00	0.00	0.04	0.00	0.00
Avail Cap(c_a), veh/h	297	1040	884	751	0	1670	247	0	0	252	0	0
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.3	26.0	0.0	26.6	0.0	7.0	52.1	0.0	0.0	44.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.1	0.0	137.9	0.0	3.0	281.7	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.0	14.7	0.0	51.5	0.0	15.8	26.7	0.0	0.0	0.3	0.0	0.0
Lane Grp Delay (d), s/veh	20.3	28.1	0.0	164.5	0.0	10.0	333.8	0.0	0.0	44.5	0.0	0.0
Lane Grp LOS	C	C		F		B	F			D		
Approach Vol, veh/h		624			2179			391			10	
Approach Delay, s/veh		28.0			78.4			333.8			44.5	
Approach LOS		C			E			F			D	

Timer												
Assigned Phs		2		1	6			4			8	
Phs Duration (G+Y+Rc), s		58.2		40.0	98.2			20.0			20.0	
Change Period (Y+Rc), s		4.0		4.0	4.0			4.0			4.0	
Max Green Setting (Gmax), s		66.0		36.0	106.0			16.0			16.0	
Max Q Clear Time (g_c+I1), s		34.1		38.0	47.1			18.0			2.6	
Green Ext Time (p_c), s		20.1		0.0	28.0			0.0			2.1	

Intersection Summary		
HCM 2010 Ctrl Delay	99.6	
HCM 2010 LOS	F	

Notes

Intersection	
Intersection Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	2	66	21	318	939	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0	0			0
Median Width	12			0	0	
Grade, %	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	69	22	335	988	7
Number of Lanes	1	0	0	1	1	0

Major/Minor				Major 1	Major 2	
Conflicting Flow All	1371	992	996	0	-	0
Stage 1	992	-	-	-	-	-
Stage 2	379	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	161	298	695	-	-	-
Stage 1	359	-	-	-	-	-
Stage 2	692	-	-	-	-	-
Time blocked-Platoon, %	0	0	0	-	-	-
Mov Capacity-1 Maneuver	155	298	695	-	-	-
Mov Capacity-2 Maneuver	155	-	-	-	-	-
Stage 1	359	-	-	-	-	-
Stage 2	665	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.4	0.6	0
HCM LOS	C	-	-

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Cap, veh/h	695	-	290	-	-
HCM Control Delay, s	10.35	0	21.4	-	-
HCM Lane V/C Ratio	0.03	-	0.25	-	-
HCM Lane LOS	B	A	C	-	-
HCM 95th-tile Q, veh	0.1	-	1.0	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	36	28	319	3	7	1012
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	30	343	3	8	1088
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	1448	345	0	0	346	0
Stage 1	345	-	-	-	-	-
Stage 2	1103	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	145	698	-	-	1213	-
Stage 1	717	-	-	-	-	-
Stage 2	318	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	143	698	-	-	1213	-
Mov Capacity-2 Maneuver	143	-	-	-	-	-
Stage 1	717	-	-	-	-	-
Stage 2	313	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	28.8	0	0.1
HCM LOS	D	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	219	1213	-
HCM Control Delay, s	-	-	28.8	7.986	0
HCM Lane V/C Ratio	-	-	0.31	0.01	-
HCM Lane LOS	-	-	D	A	A
HCM 95th-tile Q, veh	-	-	1.3	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	14	1	159	4	2	3	267	325	2	0	921	94
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Cap, veh/h	18	1	202	7	3	5	181	182	1	0	1163	119
Arrive On Green	0.14	0.14	0.14	0.01	0.01	0.01	0.70	0.70	0.70	0.00	0.70	0.70
Sat Flow, veh/h	132	9	1458	766	383	574	163	260	1	0	1663	170
Grp Volume(v), veh/h	182	0	0	9	0	0	619	0	0	0	0	1057
Grp Sat Flow(s),veh/h/ln	1599	0	0	1723	0	0	424	0	0	0	0	1833
Q Serve(g_s), s	8.7	0.0	0.0	0.4	0.0	0.0	22.8	0.0	0.0	0.0	0.0	32.2
Cycle Q Clear(g_c), s	8.7	0.0	0.0	0.4	0.0	0.0	55.0	0.0	0.0	0.0	0.0	32.2
Prop In Lane	0.08		0.91	0.44		0.33	0.45		0.00	0.00		0.09
Lane Grp Cap(c), veh/h	222	0	0	16	0	0	363	0	0	0	0	1282
V/C Ratio(X)	0.82	0.00	0.00	0.58	0.00	0.00	1.70	0.00	0.00	0.00	0.00	0.82
Avail Cap(c_a), veh/h	325	0	0	153	0	0	363	0	0	0	0	1282
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	32.9	0.0	0.0	38.8	0.0	0.0	25.0	0.0	0.0	0.0	0.0	8.4
Incr Delay (d2), s/veh	10.2	0.0	0.0	29.2	0.0	0.0	328.4	0.0	0.0	0.0	0.0	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	4.0	0.0	0.0	0.3	0.0	0.0	40.2	0.0	0.0	0.0	0.0	13.4
Lane Grp Delay (d), s/veh	43.1	0.0	0.0	68.0	0.0	0.0	353.4	0.0	0.0	0.0	0.0	12.9
Lane Grp LOS	D			E			F					B
Approach Vol, veh/h		182			9			619			1057	
Approach Delay, s/veh		43.1			68.0			353.4			12.9	
Approach LOS		D			E			F			B	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		14.9			4.7			59.0			59.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		16.0			7.0			55.0			55.0	
Max Q Clear Time (g_c+I1), s		10.7			2.4			57.0			34.2	
Green Ext Time (p_c), s		0.4			0.0			0.0			13.6	

Intersection Summary		
HCM 2010 Ctrl Delay	129.0	
HCM 2010 LOS	F	

Notes

Intersection	
Intersection Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	9	12	3	578	1041	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	Free	Free	None	None
Storage Length	0	0	0			0
Median Width	12			0	0	
Grade, %	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	13	3	602	1084	6
Number of Lanes	1	0	0	1	1	0

Major/Minor				Major 1	Major 2	
Conflicting Flow All	1696	1088	1091	0	-	0
Stage 1	1088	-	-	-	-	-
Stage 2	608	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	102	262	640	-	-	-
Stage 1	323	-	-	-	-	-
Stage 2	543	-	-	-	-	-
Time blocked-Platoon, %	0	0	0	-	-	-
Mov Capacity-1 Maneuver	101	262	640	-	-	-
Mov Capacity-2 Maneuver	101	-	-	-	-	-
Stage 1	323	-	-	-	-	-
Stage 2	539	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	31.8	0.1	0
HCM LOS	D	-	-

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Cap, veh/h	640	-	156	-	-
HCM Control Delay, s	10.653	0	31.8	-	-
HCM Lane V/C Ratio	0.01	-	0.14	-	-
HCM Lane LOS	B	A	D	-	-
HCM 95th-tile Q, veh	0.0	-	0.5	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	16.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	94	27	572	18	8	1090
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	101	29	615	19	9	1172
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	1814	625	0	0	634	0
Stage 1	625	-	-	-	-	-
Stage 2	1189	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	# 86	485	-	-	949	-
Stage 1	534	-	-	-	-	-
Stage 2	289	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	# 84	485	-	-	949	-
Mov Capacity-2 Maneuver	# 84	-	-	-	-	-
Stage 1	534	-	-	-	-	-
Stage 2	281	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	252.1	0	0.1
HCM LOS	F	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	103	949	-
HCM Control Delay, s	-	-	252.1	8.828	0
HCM Lane V/C Ratio	-	-	1.26	0.01	-
HCM Lane LOS	-	-	F	A	A
HCM 95th-tile Q, veh	-	-	8.9	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	9	2	547	8	1	1243
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		100	0	
Median Width	12		12			12
Grade, %	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	2	570	8	1	1295
Number of Lanes	1	0	1	1	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	1867	570	0	0	570	0
Stage 1	570	-	-	-	-	-
Stage 2	1297	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	80	521	-	-	1002	-
Stage 1	566	-	-	-	-	-
Stage 2	256	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	80	521	-	-	1002	-
Mov Capacity-2 Maneuver	80	-	-	-	-	-
Stage 1	566	-	-	-	-	-
Stage 2	255	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	48	0	0
HCM LOS	E	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	95	1002	-
HCM Control Delay, s	-	-	48	8.597	0
HCM Lane V/C Ratio	-	-	0.12	0.00	-
HCM Lane LOS	-	-	E	A	A
HCM 95th-tile Q, veh	-	-	0.4	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	81	19	140	34	9	1	316	546	36	0	811	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	1	1	1	1	0	1	1	0	1	1	1
Cap, veh/h	247	174	148	239	154	17	484	1330	87	124	1111	944
Arrive On Green	0.09	0.09	0.00	0.09	0.09	0.09	0.10	0.77	0.77	0.00	0.60	0.00
Sat Flow, veh/h	1399	1863	1583	1386	1647	183	1774	1729	114	815	1863	1583
Grp Volume(v), veh/h	84	20	0	35	0	10	326	0	600	0	836	0
Grp Sat Flow(s),veh/h/ln	1399	1863	1583	1386	0	1830	1774	0	1843	815	1863	1583
Q Serve(g_s), s	3.4	0.6	0.0	1.4	0.0	0.3	3.5	0.0	6.5	0.0	19.1	0.0
Cycle Q Clear(g_c), s	3.7	0.6	0.0	2.0	0.0	0.3	3.5	0.0	6.5	0.0	19.1	0.0
Prop In Lane	1.00		1.00	1.00		0.10	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	247	174	148	239	0	171	484	0	1418	124	1111	944
V/C Ratio(X)	0.34	0.12	0.00	0.15	0.00	0.06	0.67	0.00	0.42	0.00	0.75	0.00
Avail Cap(c_a), veh/h	501	512	435	491	0	503	725	0	2720	589	2174	1848
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	25.8	24.2	0.0	25.1	0.0	24.1	9.9	0.0	2.3	0.0	8.6	0.0
Incr Delay (d2), s/veh	0.8	0.3	0.0	0.3	0.0	0.1	1.6	0.0	0.2	0.0	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.2	0.3	0.0	0.5	0.0	0.1	2.5	0.0	1.2	0.0	6.6	0.0
Lane Grp Delay (d), s/veh	26.6	24.5	0.0	25.4	0.0	24.2	11.5	0.0	2.5	0.0	9.7	0.0
Lane Grp LOS	C	C		C		C	B		A		A	
Approach Vol, veh/h		104			45			926			836	
Approach Delay, s/veh		26.2			25.1			5.7			9.7	
Approach LOS		C			C			A			A	
Timer												
Assigned Phs		4			8		5	2			6	
Phs Duration (G+Y+Rc), s		9.4			9.4		10.1	48.8			38.7	
Change Period (Y+Rc), s		4.0			4.0		4.0	4.0			4.0	
Max Green Setting (Gmax), s		16.0			16.0		14.0	86.0			68.0	
Max Q Clear Time (g_c+I1), s		5.7			4.0		5.5	8.5			21.1	
Green Ext Time (p_c), s		0.3			0.3		0.6	14.5			13.6	
Intersection Summary												
HCM 2010 Ctrl Delay			9.0									
HCM 2010 LOS			A									
Notes												

Intersection	
Intersection Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	20	10	966	4	6	1113
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		12			12
Grade, %	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	11	1028	4	6	1184
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	2227	1030	0	0	1032	0
Stage 1	1030	-	-	-	-	-
Stage 2	1197	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	47	283	-	-	673	-
Stage 1	344	-	-	-	-	-
Stage 2	286	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	46	283	-	-	673	-
Mov Capacity-2 Maneuver	46	-	-	-	-	-
Stage 1	344	-	-	-	-	-
Stage 2	279	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	107.7	0	0.1
HCM LOS	F	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	64	673	-
HCM Control Delay, s	-	-	107.7	10.4	0
HCM Lane V/C Ratio	-	-	0.50	0.01	-
HCM Lane LOS	-	-	F	B	A
HCM 95th-tile Q, veh	-	-	2.0	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	33	6	903	21	1	1279
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	6	931	22	1	1319
Number of Lanes	1	0	1	1	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	2252	931	0	0	931	0
Stage 1	931	-	-	-	-	-
Stage 2	1321	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	46	324	-	-	735	-
Stage 1	384	-	-	-	-	-
Stage 2	249	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	46	324	-	-	735	-
Mov Capacity-2 Maneuver	46	-	-	-	-	-
Stage 1	384	-	-	-	-	-
Stage 2	248	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	180.3	0	0
HCM LOS	F	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	53	735	-
HCM Control Delay, s	-	-	180.3	9.905	0
HCM Lane V/C Ratio	-	-	0.76	0.00	-
HCM Lane LOS	-	-	F	A	A
HCM 95th-tile Q, veh	-	-	3.2	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Arterial Level of Service: NB Winters Chapel Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Shopping Center	II	40	76.5	4.3	80.8	0.85	37.9	A
Dunwoody Club Drive	II	38	83.0	398.1	481.1	0.88	6.6	F
Spalding Drive	II	40	69.7	20.9	90.6	0.77	30.8	B
Total	II		229.2	423.3	652.5	2.51	13.8	E

Arterial Level of Service: SB Winters Chapel Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Dunwoody Club Drive	II	38	73.4	11.5	84.9	0.77	32.8	B
Peeler Road	II	40	79.7	21.6	101.3	0.88	31.4	B
Total	II		153.1	33.1	186.2	1.66	32.1	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	813	8	454	589	4	0	1	907	0	4	0
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	1	1	1	1	0	0	1	0	0	1	0
Cap, veh/h	425	878	746	389	1268	8	0	0	407	0	479	0
Arrive On Green	0.47	0.47	0.00	0.19	0.69	0.69	0.00	0.26	0.26	0.00	0.26	0.00
Sat Flow, veh/h	792	1863	1583	1774	1849	12	0	2	1582	0	1863	0
Grp Volume(v), veh/h	1	865	0	483	0	631	0	0	966	0	4	0
Grp Sat Flow(s),veh/h/ln	792	1863	1583	1774	0	1861	0	0	1584	0	1863	0
Q Serve(g_s), s	0.1	64.2	0.0	26.0	0.0	22.6	0.0	0.0	36.0	0.0	0.2	0.0
Cycle Q Clear(g_c), s	0.1	64.2	0.0	26.0	0.0	22.6	0.0	0.0	36.0	0.0	0.2	0.0
Prop In Lane	1.00		1.00	1.00		0.01	0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	425	878	746	389	0	1276	0	0	407	0	479	0
V/C Ratio(X)	0.00	0.99	0.00	1.24	0.00	0.49	0.00	0.00	2.37	0.00	0.01	0.00
Avail Cap(c_a), veh/h	425	878	746	389	0	1276	0	0	407	0	479	0
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	19.6	36.5	0.0	47.9	0.0	10.5	0.0	0.0	52.0	0.0	38.7	0.0
Incr Delay (d2), s/veh	0.0	26.6	0.0	128.4	0.0	0.3	0.0	0.0	625.1	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.0	35.6	0.0	20.3	0.0	9.2	0.0	0.0	85.1	0.0	0.1	0.0
Lane Grp Delay (d), s/veh	19.6	63.1	0.0	176.3	0.0	10.8	0.0	0.0	677.1	0.0	38.7	0.0
Lane Grp LOS	B	E		F		B			F		D	
Approach Vol, veh/h		866			1114			966			4	
Approach Delay, s/veh		63.1			82.6			677.1			38.7	
Approach LOS		E			F			F			D	

Timer												
Assigned Phs		2		1	6			4			8	
Phs Duration (G+Y+Rc), s		70.0		30.0	100.0			40.0			40.0	
Change Period (Y+Rc), s		4.0		4.0	4.0			4.0			4.0	
Max Green Setting (Gmax), s		66.0		26.0	96.0			36.0			36.0	
Max Q Clear Time (g_c+I1), s		66.2		28.0	24.6			38.0			2.2	
Green Ext Time (p_c), s		0.0		0.0	16.7			0.0			10.2	

Intersection Summary		
HCM 2010 Ctrl Delay		271.5
HCM 2010 LOS		F

Notes

Intersection	
Intersection Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	38	67	892	457	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0	0			0
Median Width	12			0	0	
Grade, %	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	41	72	959	491	8
Number of Lanes	1	0	0	1	1	0

Major/Minor				Major 1	Major 2	
Conflicting Flow All	1598	495	499	0	-	0
Stage 1	495	-	-	-	-	-
Stage 2	1103	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	117	575	1065	-	-	-
Stage 1	613	-	-	-	-	-
Stage 2	318	-	-	-	-	-
Time blocked-Platoon, %	0	0	0	-	-	-
Mov Capacity-1 Maneuver	100	575	1065	-	-	-
Mov Capacity-2 Maneuver	100	-	-	-	-	-
Stage 1	613	-	-	-	-	-
Stage 2	272	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.7	0.6	0
HCM LOS	B	-	-

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Cap, veh/h	1065	-	575	-	-
HCM Control Delay, s	8.625	0	11.7	-	-
HCM Lane V/C Ratio	0.07	-	0.07	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th-tile Q, veh	0.2	-	0.2	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	9	15	918	28	31	451
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	17	1020	31	34	501
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	1606	1036	0	0	1051	0
Stage 1	1036	-	-	-	-	-
Stage 2	570	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	116	281	-	-	662	-
Stage 1	342	-	-	-	-	-
Stage 2	566	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	108	281	-	-	662	-
Mov Capacity-2 Maneuver	108	-	-	-	-	-
Stage 1	342	-	-	-	-	-
Stage 2	526	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	29.1	0	0.7
HCM LOS	D	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	176	662	-
HCM Control Delay, s	-	-	29.1	10.736	0
HCM Lane V/C Ratio	-	-	0.15	0.05	-
HCM Lane LOS	-	-	D	B	A
HCM 95th-tile Q, veh	-	-	0.5	0.2	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	91	7	370	0	2	0	160	882	6	3	428	28
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Cap, veh/h	101	7	411	0	4	0	163	685	4	50	889	58
Arrive On Green	0.32	0.32	0.32	0.00	0.00	0.00	0.51	0.51	0.51	0.51	0.51	0.51
Sat Flow, veh/h	316	23	1281	0	1863	0	208	1332	9	2	1728	112
Grp Volume(v), veh/h	487	0	0	0	2	0	1092	0	0	478	0	0
Grp Sat Flow(s),veh/h/ln	1621	0	0	0	1863	0	1549	0	0	1842	0	0
Q Serve(g_s), s	21.5	0.0	0.0	0.0	0.1	0.0	25.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	21.5	0.0	0.0	0.0	0.1	0.0	38.0	0.0	0.0	12.6	0.0	0.0
Prop In Lane	0.20		0.79	0.00		0.00	0.15		0.01	0.01		0.06
Lane Grp Cap(c), veh/h	520	0	0	0	4	0	853	0	0	997	0	0
V/C Ratio(X)	0.94	0.00	0.00	0.00	0.49	0.00	1.28	0.00	0.00	0.48	0.00	0.00
Avail Cap(c_a), veh/h	527	0	0	0	151	0	853	0	0	997	0	0
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.3	0.0	0.0	0.0	36.8	0.0	19.5	0.0	0.0	11.8	0.0	0.0
Incr Delay (d2), s/veh	24.3	0.0	0.0	0.0	71.1	0.0	135.1	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	11.6	0.0	0.0	0.0	0.1	0.0	47.2	0.0	0.0	5.3	0.0	0.0
Lane Grp Delay (d), s/veh	48.6	0.0	0.0	0.0	107.9	0.0	154.6	0.0	0.0	12.1	0.0	0.0
Lane Grp LOS	D				F		F			B		
Approach Vol, veh/h		487			2			1092			478	
Approach Delay, s/veh		48.6			107.9			154.6			12.1	
Approach LOS		D			F			F			B	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		27.7			4.2			42.0			42.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		24.0			6.0			38.0			38.0	
Max Q Clear Time (g_c+I1), s		23.5			2.1			40.0			14.6	
Green Ext Time (p_c), s		0.2			0.0			0.0			14.0	

Intersection Summary		
HCM 2010 Ctrl Delay	96.4	
HCM 2010 LOS	F	

Notes

Intersection	
Intersection Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	4	9	14	1072	771	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	Free	Free	None	None
Storage Length	0	0	0			0
Median Width	12			0	0	
Grade, %	0%			0%	0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	9	14	1094	787	9
Number of Lanes	1	0	0	1	1	0

Major/Minor				Major 1	Major 2	
Conflicting Flow All	1913	791	796	0	-	0
Stage 1	791	-	-	-	-	-
Stage 2	1122	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	75	390	826	-	-	-
Stage 1	447	-	-	-	-	-
Stage 2	311	-	-	-	-	-
Time blocked-Platoon, %	0	0	0	-	-	-
Mov Capacity-1 Maneuver	72	390	826	-	-	-
Mov Capacity-2 Maneuver	72	-	-	-	-	-
Stage 1	447	-	-	-	-	-
Stage 2	298	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	28.7	0.1	0
HCM LOS	D	-	-

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Cap, veh/h	826	-	165	-	-
HCM Control Delay, s	9.435	0	28.7	-	-
HCM Lane V/C Ratio	0.02	-	0.08	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th-tile Q, veh	0.1	-	0.3	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	4.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	38	31	1064	100	27	778
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	32	1086	102	28	794
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	1986	1137	0	0	1188	0
Stage 1	1137	-	-	-	-	-
Stage 2	849	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	67	246	-	-	588	-
Stage 1	306	-	-	-	-	-
Stage 2	419	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	61	246	-	-	588	-
Mov Capacity-2 Maneuver	61	-	-	-	-	-
Stage 1	306	-	-	-	-	-
Stage 2	383	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	118.9	0	0.4
HCM LOS	F	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	92	588	-
HCM Control Delay, s	-	-	118.9	11.423	0
HCM Lane V/C Ratio	-	-	0.77	0.05	-
HCM Lane LOS	-	-	F	B	A
HCM 95th-tile Q, veh	-	-	4.0	0.1	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	7	6	1174	6	2	818
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		100	0	
Median Width	12		12			12
Grade, %	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	6	1210	6	2	843
Number of Lanes	1	0	1	1	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	2057	1210	0	0	1210	0
Stage 1	1210	-	-	-	-	-
Stage 2	847	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	61	223	-	-	577	-
Stage 1	282	-	-	-	-	-
Stage 2	420	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	61	223	-	-	577	-
Mov Capacity-2 Maneuver	61	-	-	-	-	-
Stage 1	282	-	-	-	-	-
Stage 2	417	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	50.7	0	0
HCM LOS	F	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	92	577	-
HCM Control Delay, s	-	-	50.7	11.262	0
HCM Lane V/C Ratio	-	-	0.15	0.00	-
HCM Lane LOS	-	-	F	B	A
HCM 95th-tile Q, veh	-	-	0.5	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	276	57	264	105	36	22	124	829	84	12	842	144
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	1	1	1	1	0	1	1	0	1	1	1
Cap, veh/h	428	512	436	431	297	183	217	1027	104	191	939	798
Arrive On Green	0.28	0.28	0.00	0.28	0.28	0.28	0.06	0.62	0.62	0.50	0.50	0.00
Sat Flow, veh/h	1334	1863	1583	1335	1080	665	1774	1665	168	565	1863	1583
Grp Volume(v), veh/h	300	62	0	114	0	63	135	0	992	13	915	0
Grp Sat Flow(s),veh/h/ln	1334	1863	1583	1335	0	1745	1774	0	1833	565	1863	1583
Q Serve(g_s), s	16.2	1.9	0.0	5.2	0.0	2.0	2.5	0.0	33.5	1.5	35.5	0.0
Cycle Q Clear(g_c), s	18.2	1.9	0.0	7.0	0.0	2.0	2.5	0.0	33.5	26.6	35.5	0.0
Prop In Lane	1.00		1.00	1.00		0.38	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	428	512	436	431	0	480	217	0	1131	191	939	798
V/C Ratio(X)	0.70	0.12	0.00	0.26	0.00	0.13	0.62	0.00	0.88	0.07	0.97	0.00
Avail Cap(c_a), veh/h	439	528	449	442	0	494	376	0	1261	191	939	798
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.0	20.1	0.0	22.8	0.0	20.2	17.1	0.0	11.8	26.4	17.9	0.0
Incr Delay (d2), s/veh	4.8	0.1	0.0	0.3	0.0	0.1	2.9	0.0	6.7	0.1	23.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	5.6	0.8	0.0	1.7	0.0	0.8	2.6	0.0	14.0	0.2	20.0	0.0
Lane Grp Delay (d), s/veh	31.9	20.3	0.0	23.1	0.0	20.3	20.0	0.0	18.6	26.6	41.2	0.0
Lane Grp LOS	C	C		C		C	B		B	C	D	
Approach Vol, veh/h		362			177			1127			928	
Approach Delay, s/veh		29.9			22.1			18.8			41.0	
Approach LOS		C			C			B			D	

Timer												
Assigned Phs		4			8		5	2			6	
Phs Duration (G+Y+Rc), s		24.4			24.4		8.4	49.7			41.4	
Change Period (Y+Rc), s		4.0			4.0		4.0	4.0			4.0	
Max Green Setting (Gmax), s		21.0			21.0		11.0	51.0			36.0	
Max Q Clear Time (g_c+I1), s		20.2			9.0		4.5	35.5			37.5	
Green Ext Time (p_c), s		0.2			1.6		0.2	10.2			0.0	

Intersection Summary		
HCM 2010 Ctrl Delay	28.5	
HCM 2010 LOS	C	

Notes

Intersection	
Intersection Delay, s/veh	2.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	18	25	1185	15	19	1063
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		12			12
Grade, %	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	19	26	1247	16	20	1119
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1			Major 2
Conflicting Flow All	2414	1255	0	0	1263	0
Stage 1	1255	-	-	-	-	-
Stage 2	1159	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	36	209	-	-	550	-
Stage 1	268	-	-	-	-	-
Stage 2	299	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	33	209	-	-	550	-
Mov Capacity-2 Maneuver	33	-	-	-	-	-
Stage 1	268	-	-	-	-	-
Stage 2	270	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	140.5	0	0.2
HCM LOS	F	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	65	550	-
HCM Control Delay, s	-	-	140.5	11.792	0
HCM Lane V/C Ratio	-	-	0.70	0.04	-
HCM Lane LOS	-	-	F	B	A
HCM 95th-tile Q, veh	-	-	3.1	0.1	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	19	1	1242	56	8	1082
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	1	1294	58	8	1127
Number of Lanes	1	0	1	1	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	2438	1294	0	0	1294	0
Stage 1	1294	-	-	-	-	-
Stage 2	1144	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	35	199	-	-	536	-
Stage 1	257	-	-	-	-	-
Stage 2	304	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	34	199	-	-	536	-
Mov Capacity-2 Maneuver	34	-	-	-	-	-
Stage 1	257	-	-	-	-	-
Stage 2	292	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	206.1	0	0.1
HCM LOS	F	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	35	536	-
HCM Control Delay, s	-	-	206.1	11.822	0
HCM Lane V/C Ratio	-	-	0.59	0.02	-
HCM Lane LOS	-	-	F	B	A
HCM 95th-tile Q, veh	-	-	2.0	0.0	-

Notes

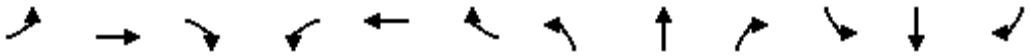
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Arterial Level of Service: NB Winters Chapel Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Shopping Center	II	40	76.5	20.6	97.1	0.85	31.5	B
Dunwoody Club Drive	II	38	83.0	94.4	177.4	0.88	18.0	D
Spalding Drive	II	40	69.7	209.5	279.2	0.77	10.0	F
Total	II		229.2	324.5	553.7	2.51	16.3	E

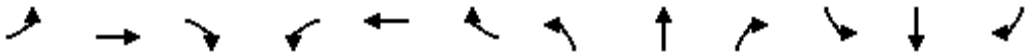
Arterial Level of Service: SB Winters Chapel Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Dunwoody Club Drive	II	38	73.4	10.5	83.9	0.77	33.2	B
Peeler Road	II	40	79.7	49.4	129.1	0.88	24.7	C
Total	II		153.1	59.9	213.0	1.66	28.0	B



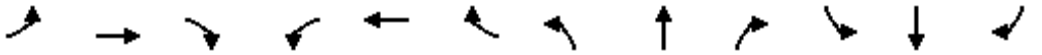
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	472	2	731	920	2	5	12	280	1	1	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00			0.87			0.90	
Flt Protected	0.95	1.00	1.00	0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1770	1863	1583	1770	1862			1624			1658	
Flt Permitted	0.30	1.00	1.00	0.15	1.00			1.00			0.93	
Satd. Flow (perm)	554	1863	1583	274	1862			1619			1550	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	2	519	2	803	1011	2	5	13	308	1	1	7
RTOR Reduction (vph)	0	0	1	0	0	0	0	278	0	0	6	0
Lane Group Flow (vph)	2	519	1	803	1013	0	0	48	0	0	3	0
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			4			8	
Permitted Phases	2		2	6			4			8		
Actuated Green, G (s)	29.7	29.7	29.7	70.5	70.5			8.4			8.4	
Effective Green, g (s)	29.7	29.7	29.7	70.5	70.5			8.4			8.4	
Actuated g/C Ratio	0.34	0.34	0.34	0.81	0.81			0.10			0.10	
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)	189	636	541	855	1510			156			149	
v/s Ratio Prot		0.28		c0.40	0.54							
v/s Ratio Perm	0.00		0.00	c0.36				c0.03			0.00	
v/c Ratio	0.01	0.82	0.00	0.94	0.67			0.31			0.02	
Uniform Delay, d1	18.9	26.1	18.8	18.7	3.4			36.5			35.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.0	8.0	0.0	17.6	1.2			1.1			0.0	
Delay (s)	18.9	34.1	18.8	36.3	4.6			37.7			35.6	
Level of Service	B	C	B	D	A			D			D	
Approach Delay (s)		34.0			18.6			37.7			35.6	
Approach LOS		C			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	24.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	86.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	94.2%	ICU Level of Service	F
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)	2	472	2	731	920	2	0	0	280	1	1	6
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	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00				1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00				0.86		0.90	
Flt Protected	0.95	1.00	1.00	0.95	1.00				1.00		0.99	
Satd. Flow (prot)	1770	1863	1583	1770	1862				1611		1658	
Flt Permitted	0.30	1.00	1.00	0.15	1.00				1.00		0.99	
Satd. Flow (perm)	554	1863	1583	280	1862				1611		1658	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	2	519	2	803	1011	2	0	0	308	1	1	7
RTOR Reduction (vph)	0	0	1	0	0	0	0	0	141	0	6	0
Lane Group Flow (vph)	2	519	1	803	1013	0	0	0	167	0	3	0
Turn Type	Perm	NA	Perm	pm+pt	NA				custom	Perm	NA	
Protected Phases		2		1	6				1		8	
Permitted Phases	2		2	6					8	8		
Actuated Green, G (s)	28.2	28.2	28.2	68.5	68.5				42.2		5.9	
Effective Green, g (s)	28.2	28.2	28.2	68.5	68.5				42.2		5.9	
Actuated g/C Ratio	0.34	0.34	0.34	0.83	0.83				0.51		0.07	
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)	189	637	541	889	1547				903		118	
v/s Ratio Prot		0.28		c0.40	0.54				c0.08			
v/s Ratio Perm	0.00		0.00	c0.35					0.02		0.00	
v/c Ratio	0.01	0.81	0.00	0.90	0.65				0.18		0.02	
Uniform Delay, d1	17.9	24.7	17.8	16.4	2.6				10.8		35.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00				1.00		1.00	
Incremental Delay, d2	0.0	7.9	0.0	12.4	1.0				0.1		0.1	
Delay (s)	17.9	32.6	17.8	28.8	3.6				10.9		35.6	
Level of Service	B	C	B	C	A				B		D	
Approach Delay (s)		32.5			14.7			10.9			35.6	
Approach LOS		C			B			B			D	

Intersection Summary			
HCM 2000 Control Delay	17.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	82.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	12	1	133	4	2	3	223	271	2	0	768	79
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	0	1	0	0	1	0	1	1	0	0	1	0
Cap, veh/h	14	1	165	7	4	5	354	1310	9	0	950	97
Arrive On Green	0.11	0.11	0.11	0.01	0.01	0.01	0.08	0.71	0.71	0.00	0.57	0.57
Sat Flow, veh/h	126	11	1462	766	383	574	1774	1847	13	0	1662	170
Grp Volume(v), veh/h	152	0	0	9	0	0	232	0	284	0	0	882
Grp Sat Flow(s),veh/h/ln	1598	0	0	1723	0	0	1774	0	1860	0	0	1833
Q Serve(g_s), s	6.6	0.0	0.0	0.4	0.0	0.0	3.4	0.0	3.7	0.0	0.0	28.2
Cycle Q Clear(g_c), s	6.6	0.0	0.0	0.4	0.0	0.0	3.4	0.0	3.7	0.0	0.0	28.2
Prop In Lane	0.08		0.91	0.44		0.33	1.00		0.01	0.00		0.09
Lane Grp Cap(c), veh/h	180	0	0	16	0	0	354	0	1319	0	0	1047
V/C Ratio(X)	0.84	0.00	0.00	0.57	0.00	0.00	0.66	0.00	0.22	0.00	0.00	0.84
Avail Cap(c_a), veh/h	180	0	0	97	0	0	536	0	1993	0	0	1524
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	30.9	0.0	0.0	35.0	0.0	0.0	14.0	0.0	3.5	0.0	0.0	12.6
Incr Delay (d2), s/veh	28.7	0.0	0.0	28.5	0.0	0.0	2.1	0.0	0.1	0.0	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	3.9	0.0	0.0	0.3	0.0	0.0	4.2	0.0	1.3	0.0	0.0	12.1
Lane Grp Delay (d), s/veh	59.6	0.0	0.0	63.5	0.0	0.0	16.1	0.0	3.6	0.0	0.0	15.5
Lane Grp LOS	E			E			B		A			B
Approach Vol, veh/h		152			9			516			882	
Approach Delay, s/veh		59.6			63.5			9.2			15.5	
Approach LOS		E			E			A			B	

Timer												
Assigned Phs		4			8		5	2			6	
Phs Duration (G+Y+Rc), s		12.0			4.6		9.7	54.3			44.5	
Change Period (Y+Rc), s		4.0			4.0		4.0	4.0			4.0	
Max Green Setting (Gmax), s		8.0			4.0		13.0	76.0			59.0	
Max Q Clear Time (g_c+I1), s		8.6			2.4		5.4	5.7			30.2	
Green Ext Time (p_c), s		0.0			0.0		0.4	12.4			10.3	

Intersection Summary		
HCM 2010 Ctrl Delay	18.0	
HCM 2010 LOS	B	

Notes

Intersection	
Intersection Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	79	23	477	15	7	909
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	25	513	16	8	977
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	1513	521	0	0	529	0
Stage 1	521	-	-	-	-	-
Stage 2	992	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	132	555	-	-	1038	-
Stage 1	596	-	-	-	-	-
Stage 2	359	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	130	555	-	-	1038	-
Mov Capacity-2 Maneuver	256	-	-	-	-	-
Stage 1	596	-	-	-	-	-
Stage 2	353	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24.7	0	0.1
HCM LOS	C	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	291	1038	-
HCM Control Delay, s	-	-	24.7	8.494	0
HCM Lane V/C Ratio	-	-	0.38	0.01	-
HCM Lane LOS	-	-	C	A	A
HCM 95th-tile Q, veh	-	-	1.7	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	17	9	805	4	5	928
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		12			12
Grade, %	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	10	856	4	5	987
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	1857	859	0	0	861	0
Stage 1	859	-	-	-	-	-
Stage 2	998	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	81	356	-	-	781	-
Stage 1	415	-	-	-	-	-
Stage 2	357	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	80	356	-	-	781	-
Mov Capacity-2 Maneuver	210	-	-	-	-	-
Stage 1	415	-	-	-	-	-
Stage 2	352	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.6	0	0.1
HCM LOS	C	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	245	781	-
HCM Control Delay, s	-	-	21.6	9.641	0
HCM Lane V/C Ratio	-	-	0.11	0.01	-
HCM Lane LOS	-	-	C	A	A
HCM 95th-tile Q, veh	-	-	0.4	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	28	5	753	18	1	1066
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	5	776	19	1	1099
Number of Lanes	1	0	1	1	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	1877	776	0	0	776	0
Stage 1	776	-	-	-	-	-
Stage 2	1101	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	79	397	-	-	840	-
Stage 1	454	-	-	-	-	-
Stage 2	318	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	79	397	-	-	840	-
Mov Capacity-2 Maneuver	205	-	-	-	-	-
Stage 1	454	-	-	-	-	-
Stage 2	317	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24.2	0	0
HCM LOS	C	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	221	840	-
HCM Control Delay, s	-	-	24.2	9.291	0
HCM Lane V/C Ratio	-	-	0.15	0.00	-
HCM Lane LOS	-	-	C	A	A
HCM 95th-tile Q, veh	-	-	0.5	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	678	7	379	491	4	0	1	756	0	4	0
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	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00			0.87			1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1861			1612			1863	
Flt Permitted	0.47	1.00	1.00	0.07	1.00			1.00			1.00	
Satd. Flow (perm)	873	1863	1583	129	1861			1612			1863	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1	721	7	403	522	4	0	1	804	0	4	0
RTOR Reduction (vph)	0	0	4	0	0	0	0	294	0	0	0	0
Lane Group Flow (vph)	1	721	3	403	526	0	0	511	0	0	4	0
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			4			8	
Permitted Phases	2		2	6			4			8		
Actuated Green, G (s)	53.6	53.6	53.6	82.3	82.3			36.4			36.4	
Effective Green, g (s)	53.6	53.6	53.6	82.3	82.3			36.4			36.4	
Actuated g/C Ratio	0.42	0.42	0.42	0.65	0.65			0.29			0.29	
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)	369	788	669	403	1208			463			535	
v/s Ratio Prot		0.39		c0.19	0.28			c0.32			0.00	
v/s Ratio Perm	0.00		0.00	c0.45								
v/c Ratio	0.00	0.91	0.00	1.00	0.44			1.10			0.01	
Uniform Delay, d1	21.1	34.4	21.1	42.1	10.8			45.2			32.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.0	15.1	0.0	44.8	0.3			72.8			0.0	
Delay (s)	21.1	49.5	21.1	86.9	11.1			118.0			32.3	
Level of Service	C	D	C	F	B			F			C	
Approach Delay (s)		49.2			44.0			118.0			32.3	
Approach LOS		D			D			F			C	

Intersection Summary			
HCM 2000 Control Delay	69.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	126.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	113.5%	ICU Level of Service	H
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)	1	678	7	379	491	4	0	0	756	0	4	0
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	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00				1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00				0.86		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00				1.00		1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1861				1611		1863	
Flt Permitted	0.47	1.00	1.00	0.11	1.00				1.00		1.00	
Satd. Flow (perm)	873	1863	1583	205	1861				1611		1863	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1	721	7	403	522	4	0	0	804	0	4	0
RTOR Reduction (vph)	0	0	4	0	0	0	0	0	90	0	0	0
Lane Group Flow (vph)	1	721	3	403	526	0	0	0	714	0	4	0
Turn Type	Perm	NA	Perm	pm+pt	NA				custom	Perm	NA	
Protected Phases		2		1	6				1		8	
Permitted Phases	2		2	6					8	8		
Actuated Green, G (s)	32.4	32.4	32.4	63.4	63.4				27.9		0.9	
Effective Green, g (s)	32.4	32.4	32.4	63.4	63.4				27.9		0.9	
Actuated g/C Ratio	0.45	0.45	0.45	0.88	0.88				0.39		0.01	
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)	391	834	709	764	1631				710		23	
v/s Ratio Prot		c0.39		0.20	0.28				c0.38		0.00	
v/s Ratio Perm	0.00		0.00	0.27					0.07			
v/c Ratio	0.00	0.86	0.00	0.53	0.32				1.01		0.17	
Uniform Delay, d1	11.0	18.0	11.0	12.1	0.8				22.2		35.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00				1.00		1.00	
Incremental Delay, d2	0.0	9.3	0.0	0.7	0.1				35.3		3.6	
Delay (s)	11.0	27.2	11.0	12.8	0.9				57.5		38.9	
Level of Service	B	C	B	B	A				E		D	
Approach Delay (s)		27.1			6.0			57.5			38.9	
Approach LOS		C			A			E			D	

Intersection Summary			
HCM 2000 Control Delay	29.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	72.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	95.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	76	6	309	0	2	0	134	735	5	3	357	24
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	0	1	0	0	1	0	1	1	0	0	1	0
Cap, veh/h	91	7	369	0	4	0	448	962	6	58	678	45
Arrive On Green	0.29	0.29	0.29	0.00	0.00	0.00	0.06	0.52	0.52	0.39	0.39	0.39
Sat Flow, veh/h	315	24	1282	0	1863	0	1774	1849	12	3	1720	115
Grp Volume(v), veh/h	407	0	0	0	2	0	140	0	771	400	0	0
Grp Sat Flow(s),veh/h/ln	1621	0	0	0	1863	0	1774	0	1861	1838	0	0
Q Serve(g_s), s	15.1	0.0	0.0	0.0	0.1	0.0	2.8	0.0	21.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	15.1	0.0	0.0	0.0	0.1	0.0	2.8	0.0	21.5	10.6	0.0	0.0
Prop In Lane	0.19		0.79	0.00		0.00	1.00		0.01	0.01		0.06
Lane Grp Cap(c), veh/h	466	0	0	0	4	0	448	0	968	781	0	0
V/C Ratio(X)	0.87	0.00	0.00	0.00	0.49	0.00	0.31	0.00	0.80	0.51	0.00	0.00
Avail Cap(c_a), veh/h	563	0	0	0	177	0	448	0	1470	1272	0	0
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.4	0.0	0.0	0.0	31.5	0.0	10.4	0.0	12.4	14.8	0.0	0.0
Incr Delay (d2), s/veh	12.3	0.0	0.0	0.0	70.7	0.0	0.4	0.0	1.8	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	7.1	0.0	0.0	0.0	0.1	0.0	1.1	0.0	9.1	4.6	0.0	0.0
Lane Grp Delay (d), s/veh	33.7	0.0	0.0	0.0	102.2	0.0	10.8	0.0	14.2	15.4	0.0	0.0
Lane Grp LOS	C				F		B		B	B		
Approach Vol, veh/h		407			2			911			400	
Approach Delay, s/veh		33.7			102.2			13.7			15.4	
Approach LOS		C			F			B			B	

Timer												
Assigned Phs		4			8		5	2			6	
Phs Duration (G+Y+Rc), s		22.2			4.1		8.0	36.9			28.9	
Change Period (Y+Rc), s		4.0			4.0		4.0	4.0			4.0	
Max Green Setting (Gmax), s		22.0			6.0		4.0	50.0			42.0	
Max Q Clear Time (g_c+I1), s		17.1			2.1		4.8	23.5			12.6	
Green Ext Time (p_c), s		1.1			0.0		0.0	9.5			9.8	

Intersection Summary		
HCM 2010 Ctrl Delay		18.9
HCM 2010 LOS		B

Notes

Intersection	
Intersection Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	32	26	887	84	23	649
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	27	905	86	23	662
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	1657	948	0	0	991	0
Stage 1	948	-	-	-	-	-
Stage 2	709	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	108	316	-	-	698	-
Stage 1	377	-	-	-	-	-
Stage 2	488	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	102	316	-	-	698	-
Mov Capacity-2 Maneuver	236	-	-	-	-	-
Stage 1	377	-	-	-	-	-
Stage 2	463	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.4	0	0.4
HCM LOS	C	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	266	698	-
HCM Control Delay, s	-	-	22.4	10.337	0
HCM Lane V/C Ratio	-	-	0.22	0.03	-
HCM Lane LOS	-	-	C	B	A
HCM 95th-tile Q, veh	-	-	0.8	0.1	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	15	21	988	13	16	886
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		12			12
Grade, %	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	22	1040	14	17	933
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	2013	1047	0	0	1054	0
Stage 1	1047	-	-	-	-	-
Stage 2	966	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	65	277	-	-	661	-
Stage 1	338	-	-	-	-	-
Stage 2	369	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	62	277	-	-	661	-
Mov Capacity-2 Maneuver	185	-	-	-	-	-
Stage 1	338	-	-	-	-	-
Stage 2	349	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.8	0	0.2
HCM LOS	C	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	229	661	-
HCM Control Delay, s	-	-	23.8	10.589	0
HCM Lane V/C Ratio	-	-	0.17	0.03	-
HCM Lane LOS	-	-	C	B	A
HCM 95th-tile Q, veh	-	-	0.6	0.1	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	16	1	1035	47	7	902
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	1	1078	49	7	940
Number of Lanes	1	0	1	1	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	2032	1078	0	0	1078	0
Stage 1	1078	-	-	-	-	-
Stage 2	954	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	63	266	-	-	647	-
Stage 1	327	-	-	-	-	-
Stage 2	374	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	62	266	-	-	647	-
Mov Capacity-2 Maneuver	186	-	-	-	-	-
Stage 1	327	-	-	-	-	-
Stage 2	365	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26	0	0.1
HCM LOS	D	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	189	647	-
HCM Control Delay, s	-	-	26	10.628	0
HCM Lane V/C Ratio	-	-	0.09	0.01	-
HCM Lane LOS	-	-	D	B	A
HCM 95th-tile Q, veh	-	-	0.3	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	566	2	877	1104	2	6	14	336	1	1	7
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	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00			0.87			0.89	
Flt Protected	0.95	1.00	1.00	0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1862			1624			1653	
Flt Permitted	0.25	1.00	1.00	0.12	1.00			1.00			0.94	
Satd. Flow (perm)	458	1863	1583	230	1862			1617			1555	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	2	622	2	964	1213	2	7	15	369	1	1	8
RTOR Reduction (vph)	0	0	1	0	0	0	0	336	0	0	7	0
Lane Group Flow (vph)	2	622	1	964	1215	0	0	55	0	0	3	0
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			4			8	
Permitted Phases	2		2	6			4			8		
Actuated Green, G (s)	39.0	39.0	39.0	80.2	80.2			8.8			8.8	
Effective Green, g (s)	39.0	39.0	39.0	80.2	80.2			8.8			8.8	
Actuated g/C Ratio	0.40	0.40	0.40	0.83	0.83			0.09			0.09	
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)	184	749	636	780	1539			146			141	
v/s Ratio Prot		0.33		c0.47	0.65							
v/s Ratio Perm	0.00		0.00	c0.55				c0.03			0.00	
v/c Ratio	0.01	0.83	0.00	1.24	0.79			0.38			0.02	
Uniform Delay, d1	17.4	26.0	17.3	24.5	4.2			41.5			40.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.0	7.8	0.0	117.1	2.8			1.7			0.1	
Delay (s)	17.4	33.8	17.3	141.6	7.0			43.2			40.2	
Level of Service	B	C	B	F	A			D			D	
Approach Delay (s)		33.7			66.5			43.2			40.2	
Approach LOS		C			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	57.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	97.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	111.2%	ICU Level of Service	H
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)	2	566	2	877	1104	2	6	14	336	1	1	7
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	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00			1.00	0.85		0.89	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.98	1.00		1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1862			1834	1583		1653	
Flt Permitted	0.25	1.00	1.00	0.11	1.00			0.91	1.00		0.97	
Satd. Flow (perm)	458	1863	1583	213	1862			1692	1583		1618	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	2	622	2	964	1213	2	7	15	369	1	1	8
RTOR Reduction (vph)	0	0	1	0	0	0	0	0	0	0	7	0
Lane Group Flow (vph)	2	622	1	964	1215	0	0	22	369	0	3	0
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA	Free	Perm	NA	
Protected Phases		2		1	6			4			8	
Permitted Phases	2		2	6			4		Free	8		
Actuated Green, G (s)	35.9	35.9	35.9	76.4	76.4			6.9	91.3		6.9	
Effective Green, g (s)	35.9	35.9	35.9	76.4	76.4			6.9	91.3		6.9	
Actuated g/C Ratio	0.39	0.39	0.39	0.84	0.84			0.08	1.00		0.08	
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)	180	732	622	800	1558			127	1583		122	
v/s Ratio Prot		0.33		c0.48	0.65							
v/s Ratio Perm	0.00		0.00	c0.53				0.01	c0.23		0.00	
v/c Ratio	0.01	0.85	0.00	1.21	0.78			0.17	0.23		0.02	
Uniform Delay, d1	16.9	25.2	16.8	22.9	3.5			39.5	0.0		39.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	9.1	0.0	104.0	2.5			0.7	0.3		0.1	
Delay (s)	16.9	34.4	16.8	126.9	6.0			40.2	0.3		39.1	
Level of Service	B	C	B	F	A			D	A		D	
Approach Delay (s)		34.2			59.5			2.6			39.1	
Approach LOS		C			E			A			D	

Intersection Summary			
HCM 2000 Control Delay	47.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	91.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	91.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	14	1	159	4	2	3	267	325	2	0	921	94
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	0	1	0	0	1	0	1	1	0	0	1	0
Cap, veh/h	9	1	105	7	3	5	321	1435	8	0	1065	109
Arrive On Green	0.07	0.07	0.07	0.01	0.01	0.01	0.09	0.78	0.78	0.00	0.64	0.64
Sat Flow, veh/h	132	9	1458	766	383	574	1774	1850	11	0	1663	170
Grp Volume(v), veh/h	182	0	0	9	0	0	278	0	341	0	0	1057
Grp Sat Flow(s),veh/h/ln	1599	0	0	1723	0	0	1774	0	1861	0	0	1833
Q Serve(g_s), s	6.0	0.0	0.0	0.4	0.0	0.0	4.9	0.0	4.2	0.0	0.0	41.0
Cycle Q Clear(g_c), s	6.0	0.0	0.0	0.4	0.0	0.0	4.9	0.0	4.2	0.0	0.0	41.0
Prop In Lane	0.08		0.91	0.44		0.33	1.00		0.01	0.00		0.09
Lane Grp Cap(c), veh/h	115	0	0	16	0	0	321	0	1444	0	0	1174
V/C Ratio(X)	1.59	0.00	0.00	0.58	0.00	0.00	0.87	0.00	0.24	0.00	0.00	0.90
Avail Cap(c_a), veh/h	115	0	0	82	0	0	442	0	1736	0	0	1337
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	38.8	0.0	0.0	41.3	0.0	0.0	21.4	0.0	2.6	0.0	0.0	12.8
Incr Delay (d2), s/veh	301.2	0.0	0.0	29.7	0.0	0.0	12.5	0.0	0.1	0.0	0.0	7.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	12.0	0.0	0.0	0.3	0.0	0.0	6.9	0.0	1.4	0.0	0.0	19.0
Lane Grp Delay (d), s/veh	340.0	0.0	0.0	71.0	0.0	0.0	33.9	0.0	2.7	0.0	0.0	20.7
Lane Grp LOS	F			E			C		A			C
Approach Vol, veh/h		182			9			619			1057	
Approach Delay, s/veh		340.0			71.0			16.7			20.7	
Approach LOS		F			E			B			C	

Timer												
Assigned Phs		4			8		5	2			6	
Phs Duration (G+Y+Rc), s		10.0			4.8		11.3	68.9			57.6	
Change Period (Y+Rc), s		4.0			4.0		4.0	4.0			4.0	
Max Green Setting (Gmax), s		6.0			4.0		13.0	78.0			61.0	
Max Q Clear Time (g_c+I1), s		8.0			2.4		6.9	6.2			43.0	
Green Ext Time (p_c), s		0.0			0.0		0.4	18.6			10.6	

Intersection Summary		
HCM 2010 Ctrl Delay		50.7
HCM 2010 LOS		D

Notes

Intersection	
Intersection Delay, s/veh	2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	94	27	572	18	8	1090
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	101	29	615	19	9	1172
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	1814	625	0	0	634	0
Stage 1	625	-	-	-	-	-
Stage 2	1189	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	# 86	485	-	-	949	-
Stage 1	534	-	-	-	-	-
Stage 2	289	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	# 84	485	-	-	949	-
Mov Capacity-2 Maneuver	202	-	-	-	-	-
Stage 1	534	-	-	-	-	-
Stage 2	281	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	38.7	0	0.1
HCM LOS	E	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	232	949	-
HCM Control Delay, s	-	-	38.7	8.828	0
HCM Lane V/C Ratio	-	-	0.56	0.01	-
HCM Lane LOS	-	-	E	A	A
HCM 95th-tile Q, veh	-	-	3.1	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	20	10	966	4	6	1113
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		12			12
Grade, %	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	11	1028	4	6	1184
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	2227	1030	0	0	1032	0
Stage 1	1030	-	-	-	-	-
Stage 2	1197	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	47	283	-	-	673	-
Stage 1	344	-	-	-	-	-
Stage 2	286	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	46	283	-	-	673	-
Mov Capacity-2 Maneuver	161	-	-	-	-	-
Stage 1	344	-	-	-	-	-
Stage 2	279	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	28	0	0.1
HCM LOS	D	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	188	673	-
HCM Control Delay, s	-	-	28	10.4	0
HCM Lane V/C Ratio	-	-	0.17	0.01	-
HCM Lane LOS	-	-	D	B	A
HCM 95th-tile Q, veh	-	-	0.6	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	33	6	903	21	1	1279
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		12			12
Grade, %	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	6	931	22	1	1319
Number of Lanes	1	0	1	1	0	1

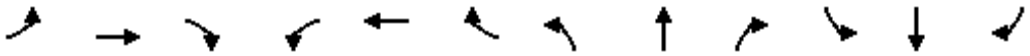
Major/Minor			Major 1		Major 2	
Conflicting Flow All	2252	931	0	0	931	0
Stage 1	931	-	-	-	-	-
Stage 2	1321	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	46	324	-	-	735	-
Stage 1	384	-	-	-	-	-
Stage 2	249	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	46	324	-	-	735	-
Mov Capacity-2 Maneuver	157	-	-	-	-	-
Stage 1	384	-	-	-	-	-
Stage 2	248	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	32.4	0	0
HCM LOS	D	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	171	735	-
HCM Control Delay, s	-	-	32.4	9.905	0
HCM Lane V/C Ratio	-	-	0.24	0.00	-
HCM Lane LOS	-	-	D	A	A
HCM 95th-tile Q, veh	-	-	0.9	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	813	8	454	589	4	0	1	907	0	4	0
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	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00			0.87			1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1861			1612			1863	
Flt Permitted	0.43	1.00	1.00	0.06	1.00			1.00			1.00	
Satd. Flow (perm)	792	1863	1583	106	1861			1612			1863	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1	865	9	483	627	4	0	1	965	0	4	0
RTOR Reduction (vph)	0	0	5	0	0	0	0	280	0	0	0	0
Lane Group Flow (vph)	1	865	4	483	631	0	0	686	0	0	4	0
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			4			8	
Permitted Phases	2		2	6			4			8		
Actuated Green, G (s)	66.0	66.0	66.0	96.0	96.0			36.0			36.0	
Effective Green, g (s)	66.0	66.0	66.0	96.0	96.0			36.0			36.0	
Actuated g/C Ratio	0.47	0.47	0.47	0.69	0.69			0.26			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)	373	878	746	381	1276			414			479	
v/s Ratio Prot		0.46		c0.24	0.34			c0.43			0.00	
v/s Ratio Perm	0.00		0.00	c0.63								
v/c Ratio	0.00	0.99	0.01	1.27	0.49			1.66			0.01	
Uniform Delay, d1	19.6	36.5	19.6	48.7	10.5			52.0			38.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.0	26.5	0.0	139.8	0.3			306.2			0.0	
Delay (s)	19.6	63.0	19.6	188.5	10.8			358.2			38.7	
Level of Service	B	E	B	F	B			F			D	
Approach Delay (s)		62.5			87.8			358.2			38.7	
Approach LOS		E			F			F			D	

Intersection Summary			
HCM 2000 Control Delay	168.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	134.2%	ICU Level of Service	H
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)	1	813	8	454	589	4	0	1	907	0	4	0
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	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00			1.00	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00			1.00	1.00		1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1861			1863	1583		1863	
Flt Permitted	0.43	1.00	1.00	0.12	1.00			1.00	1.00		1.00	
Satd. Flow (perm)	792	1863	1583	226	1861			1863	1583		1863	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1	865	9	483	627	4	0	1	965	0	4	0
RTOR Reduction (vph)	0	0	4	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	1	865	5	483	631	0	0	1	965	0	4	0
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA	Free	Perm	NA	
Protected Phases		2		1	6			4			8	
Permitted Phases	2		2	6			4		Free	8		
Actuated Green, G (s)	52.5	52.5	52.5	82.9	82.9			1.0	91.9		1.0	
Effective Green, g (s)	52.5	52.5	52.5	82.9	82.9			1.0	91.9		1.0	
Actuated g/C Ratio	0.57	0.57	0.57	0.90	0.90			0.01	1.00		0.01	
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)	452	1064	904	647	1678			20	1583		20	
v/s Ratio Prot		c0.46		c0.21	0.34			0.00			0.00	
v/s Ratio Perm	0.00		0.00	0.46					c0.61			
v/c Ratio	0.00	0.81	0.01	0.75	0.38			0.05	0.61		0.20	
Uniform Delay, d1	8.5	15.8	8.5	21.0	0.7			45.0	0.0		45.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	4.8	0.0	4.7	0.1			1.0	1.8		4.9	
Delay (s)	8.5	20.6	8.5	25.7	0.8			46.0	1.8		49.9	
Level of Service	A	C	A	C	A			D	A		D	
Approach Delay (s)		20.5			11.6			1.8			49.9	
Approach LOS		C			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	91.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	81.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	91	7	370	0	2	0	160	882	6	3	428	28
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	0	1	0	0	1	0	1	1	0	0	1	0
Cap, veh/h	86	6	348	0	4	0	442	1055	7	48	806	52
Arrive On Green	0.27	0.27	0.27	0.00	0.00	0.00	0.05	0.57	0.57	0.47	0.47	0.47
Sat Flow, veh/h	316	23	1281	0	1863	0	1774	1849	12	2	1725	112
Grp Volume(v), veh/h	487	0	0	0	2	0	167	0	925	478	0	0
Grp Sat Flow(s),veh/h/ln	1621	0	0	0	1863	0	1774	0	1861	1838	0	0
Q Serve(g_s), s	21.0	0.0	0.0	0.0	0.1	0.0	3.7	0.0	32.8	0.0	0.0	0.0
Cycle Q Clear(g_c), s	21.0	0.0	0.0	0.0	0.1	0.0	3.7	0.0	32.8	14.4	0.0	0.0
Prop In Lane	0.20		0.79	0.00		0.00	1.00		0.01	0.01		0.06
Lane Grp Cap(c), veh/h	441	0	0	0	4	0	442	0	1062	906	0	0
V/C Ratio(X)	1.11	0.00	0.00	0.00	0.49	0.00	0.38	0.00	0.87	0.53	0.00	0.00
Avail Cap(c_a), veh/h	441	0	0	0	145	0	442	0	1228	1068	0	0
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	28.1	0.0	0.0	0.0	38.5	0.0	11.0	0.0	14.2	14.8	0.0	0.0
Incr Delay (d2), s/veh	74.7	0.0	0.0	0.0	71.3	0.0	0.5	0.0	6.3	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	17.1	0.0	0.0	0.0	0.1	0.0	1.5	0.0	15.5	6.4	0.0	0.0
Lane Grp Delay (d), s/veh	102.8	0.0	0.0	0.0	109.8	0.0	11.5	0.0	20.5	15.3	0.0	0.0
Lane Grp LOS	F				F		B		C	B		
Approach Vol, veh/h		487			2			1092			478	
Approach Delay, s/veh		102.8			109.8			19.1			15.3	
Approach LOS		F			F			B			B	

Timer												
Assigned Phs		4			8		5	2			6	
Phs Duration (G+Y+Rc), s		25.0			4.2		8.0	48.1			40.1	
Change Period (Y+Rc), s		4.0			4.0		4.0	4.0			4.0	
Max Green Setting (Gmax), s		21.0			6.0		4.0	51.0			43.0	
Max Q Clear Time (g_c+I1), s		23.0			2.1		5.7	34.8			16.4	
Green Ext Time (p_c), s		0.0			0.0		0.0	9.3			12.4	

Intersection Summary		
HCM 2010 Ctrl Delay	38.1	
HCM 2010 LOS	D	

Notes

Intersection	
Intersection Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	38	31	1064	100	27	778
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		12			12
Grade, %	0%		0%			0%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	32	1086	102	28	794
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	1986	1137	0	0	1188	0
Stage 1	1137	-	-	-	-	-
Stage 2	849	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	67	246	-	-	588	-
Stage 1	306	-	-	-	-	-
Stage 2	419	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	61	246	-	-	588	-
Mov Capacity-2 Maneuver	183	-	-	-	-	-
Stage 1	306	-	-	-	-	-
Stage 2	383	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	31.1	0	0.4
HCM LOS	D	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	207	588	-
HCM Control Delay, s	-	-	31.1	11.423	0
HCM Lane V/C Ratio	-	-	0.34	0.05	-
HCM Lane LOS	-	-	D	B	A
HCM 95th-tile Q, veh	-	-	1.4	0.1	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	18	25	1185	15	19	1063
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		12			12
Grade, %	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	19	26	1247	16	20	1119
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	2414	1255	0	0	1263	0
Stage 1	1255	-	-	-	-	-
Stage 2	1159	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	36	209	-	-	550	-
Stage 1	268	-	-	-	-	-
Stage 2	299	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	33	209	-	-	550	-
Mov Capacity-2 Maneuver	138	-	-	-	-	-
Stage 1	268	-	-	-	-	-
Stage 2	270	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	33.2	0	0.2
HCM LOS	D	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	172	550	-
HCM Control Delay, s	-	-	33.2	11.792	0
HCM Lane V/C Ratio	-	-	0.26	0.04	-
HCM Lane LOS	-	-	D	B	A
HCM 95th-tile Q, veh	-	-	1.0	0.1	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	19	1	1242	56	8	1082
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		12			12
Grade, %	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	1	1294	58	8	1127
Number of Lanes	1	0	1	1	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	2438	1294	0	0	1294	0
Stage 1	1294	-	-	-	-	-
Stage 2	1144	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	35	199	-	-	536	-
Stage 1	257	-	-	-	-	-
Stage 2	304	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	34	199	-	-	536	-
Mov Capacity-2 Maneuver	140	-	-	-	-	-
Stage 1	257	-	-	-	-	-
Stage 2	292	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	34.7	0	0.1
HCM LOS	D	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	142	536	-
HCM Control Delay, s	-	-	34.7	11.822	0
HCM Lane V/C Ratio	-	-	0.15	0.02	-
HCM Lane LOS	-	-	D	B	A
HCM 95th-tile Q, veh	-	-	0.5	0.0	-

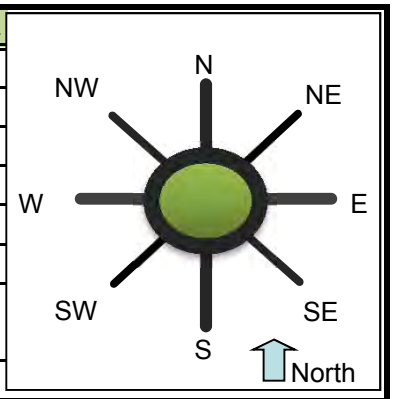
Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

General & Site Information

v2.1

Analyst:	Graham Malone
Agency/Co:	Pond & Company
Date:	4/21/2015
Project or PI#:	Winters Chapel Road Traffic Study
Year, Peak Hour:	2015, AM Peak
County/District:	Gwinnett Co./Fulton Co.
Intersection Name:	Winters Chapel Road at Dunwoody Club Drive



Volumes

		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
	N (1), vph			3		271		12	
Exit	NE (2), vph								
Legs	E (3), vph	0				2		1	
(TO)	SE (4), vph								
	S (5), vph	768		4				0	
	SW (6), vph								
	W (7), vph	0		2		223			
	NW (8), vph								
Output	Total Vehicles	768	0	9	0	496	0	13	0

Volume Characteristics

	N	NE	E	SE	S	SW	W	NW
% Cars	98%	100%	98%	100%	98%	100%	98%	100%
% Heavy Vehicles	2%	0%	2%	0%	2%	0%	2%	0%
% Bicycle	0%	0%	0%	0%	0%	0%	0%	0%
# of Pedestrians (ped/hr)	0	0	0	0	0	0	0	0
PHF	*0.96*	*0.92*	*0.96*	*0.92*	*0.96*	*0.92*	*0.96*	*0.92*
F_{HV}	0.980	1.000	0.980	1.000	0.980	1.000	0.980	1.000
F_{ped}	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows

	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	3	0	288	0	13	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	0	0	0	0	2	0	1	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	816	0	4	0	0	0	0	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	0	0	2	0	237	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	816	0	10	0	527	0	14	0
Conflicting flow, pcu/h	243	0	538	0	14	0	820	0

Roundabout Type

Standard Single Lane or Urban Compact

Enter type here… Standard Single Lane

Results: Approach Measures of Effectiveness

HCM 2010 Model (build)	N	NE	E	SE	S	SW	W	NW
Entry Capacity, vph	869	NA	647	NA	1093	NA	488	NA
Entry Flow Rates, vph	800	NA	9	NA	517	NA	14	NA
V/C ratio	**0.92**		**0.01**		**0.47**		**0.03**	
Control Delay, s/veh	**36**		**6**		**9**		**8**	
LOS	E		A		A		A	
95th % Queue (ft)	**346**		**1**		**66**		**2**	
Calibrated Model (future)	**N**	**NE**	**E**	**SE**	**S**	**SW**	**W**	**NW**
Entry Capacity, vph	1076	NA	850	NA	1293	NA	678	NA
Entry Flow Rates, vph	800	NA	9	NA	517	NA	14	NA
V/C ratio	**0.76**		**0.01**		**0.41**		**0.02**	
Control Delay, sec/pcu	**17**		**4**		**7**		**6**	
LOS	C		A		A		A	
95th % Queue (ft)	**195**		**1**		**52**		**2**	

Notes: v2.1

Unit Legend:
vph = vehicles per hour
PHF = peak hour factor
F_{HV} = heavy vehicle factor
pcu = passenger car unit

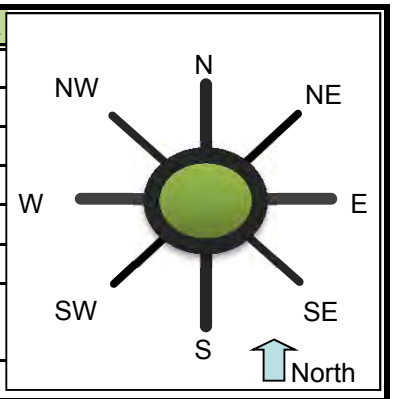
Bypass Lane Merge Point Analysis (if applicable)

Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)	**N (1)**	**W (7)**				
Select Exit Leg for Bypass (TO)	**W (7)**	**S (5)**				
Does the bypass have a dedicated receiving lane?	**No**	**No**				
Volumes						
Right Turn Volume removed from Entry Leg	**79**	**133**				
Volume Characteristics (for entry leg)						
PHF	0.96	0.96				
F_{HV}	0.98	0.98				
F_{ped}	1.00	1.00				
NOTE: Volume Characteristics for Exit Leg are already taken into account						
Entry/Conflicting Flows						
Entry Flow, pcu/hr	84	141				
Conflicting Flow, pcu/hr	239	820				
Bypass Lane Results (HCM 2010 Model)						
Entry Capacity of Bypass, vph	872	488				
Flow Rates of Exiting Traffic, vph	82	139				
V/C ratio	**0.09**	**0.29**				
Control Delay, s/veh	**5.0**	**11.8**				
LOS	A	B				
95th % Queue (ft)	**8**	**30**				
Approach w/Bypass Delay, s/veh	***33.2***	***11.4***				
Approach w/Bypass LOS	*D*	*B*				

General & Site Information

v2.1

Analyst:	Graham Malone
Agency/Co:	Pond & Company
Date:	4/21/2015
Project or PI#:	Winters Chapel Road Traffic Study
Year, Peak Hour:	2015, PM Peak
County/District:	Gwinnett Co./Fulton Co.
Intersection Name:	Winters Chapel Road at Dunwoody Club Drive



Volumes

		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
	N (1), vph			0		**735**		**76**	
Exit	NE (2), vph								
Legs	E (3), vph	**3**				**5**		**6**	
(TO)	SE (4), vph								
	S (5), vph	**357**		0				0	
	SW (6), vph								
	W (7), vph	0		**2**		**134**			
	NW (8), vph								
Output	Total Vehicles	360	0	2	0	874	0	82	0

Volume Characteristics

	N	NE	E	SE	S	SW	W	NW
% Cars	98%	100%	98%	100%	98%	100%	98%	100%
% Heavy Vehicles	**2%**	0%	**2%**	0%	**2%**	0%	**2%**	0%
% Bicycle	0%	0%	0%	0%	0%	0%	0%	0%
# of Pedestrians **(ped/hr)**	0	0	0	0	0	0	0	0
PHF	*0.96*	*0.92*	*0.96*	*0.92*	*0.96*	*0.92*	*0.96*	*0.92*
F_{HV}	0.980	1.000	0.980	1.000	0.980	1.000	0.980	1.000
F_{ped}	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows

	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	0	0	781	0	81	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	3	0	0	0	5	0	6	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	379	0	0	0	0	0	0	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	0	0	2	0	142	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	383	0	2	0	929	0	87	0
Conflicting flow, pcu/h	145	0	1004	0	90	0	383	0

Roundabout Type

Standard Single Lane or Urban Compact

Enter type here… Standard Single Lane

Results: Approach Measures of Effectiveness

HCM 2010 Model (build)	N	NE	E	SE	S	SW	W	NW
Entry Capacity, vph	959	NA	406	NA	1012	NA	756	NA
Entry Flow Rates, vph	375	NA	2	NA	910	NA	85	NA
V/C ratio	**0.39**		**0.01**		**0.90**		**0.11**	
Control Delay, s/veh	**8**		**9**		**30**		**6**	
LOS	A		A		D		A	
95th % Queue (ft)	**48**		**0**		**336**		**10**	
Calibrated Model (future)	**N**	**NE**	**E**	**SE**	**S**	**SW**	**W**	**NW**
Entry Capacity, vph	1164	NA	585	NA	1216	NA	962	NA
Entry Flow Rates, vph	375	NA	2	NA	910	NA	85	NA
V/C ratio	**0.33**		**0.00**		**0.76**		**0.09**	
Control Delay, sec/pcu	**6**		**6**		**16**		**5**	
LOS	A		A		C		A	
95th % Queue (ft)	**37**		**0**		**203**		**8**	

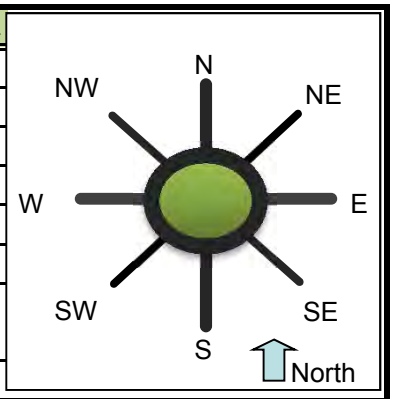
Notes: v2.1

Unit Legend:
vph = vehicles per hour
PHF = peak hour factor
F_{HV} = heavy vehicle factor
pcu = passenger car unit

Bypass Lane Merge Point Analysis (if applicable)

Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)	**N (1)**	**W (7)**				
Select Exit Leg for Bypass (TO)	**W (7)**	**S (5)**				
Does the bypass have a dedicated receiving lane?	**No**	**No**				
Volumes						
Right Turn Volume removed from Entry Leg	**24**	**309**				
Volume Characteristics (for entry leg)						
PHF	0.96	0.96				
F_{HV}	0.98	0.98				
F_{ped}	1.00	1.00				
NOTE: Volume Characteristics for Exit Leg are already taken into account						
Entry/Conflicting Flows						
Entry Flow, pcu/hr	26	328				
Conflicting Flow, pcu/hr	145	379				
Bypass Lane Results (HCM 2010 Model)						
Entry Capacity of Bypass, vph	959	758				
Flow Rates of Exiting Traffic, vph	25	322				
V/C ratio	**0.03**	**0.43**				
Control Delay, s/veh	**4.0**	**10.5**				
LOS	A	B				
95th % Queue (ft)	**2**	**56**				
Approach w/Bypass Delay, s/veh	***7.8***	***9.5***				
Approach w/Bypass LOS	*A*	*A*				

General & Site Information	v2.1
Analyst:	Graham Malone
Agency/Co:	Pond & Company
Date:	4/21/2015
Project or PI#:	Winters Chapel Road Traffic Study
Year, Peak Hour:	2035, AM Peak
County/District:	Gwinnett Co./Fulton Co.
Intersection Name:	Winters Chapel Road at Dunwoody Club Drive



Volumes		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
	N (1), vph			4		325		14	
Exit	NE (2), vph								
Legs	E (3), vph	0				2		1	
(TO)	SE (4), vph								
	S (5), vph	922		5				0	
	SW (6), vph								
	W (7), vph	0		2		268			
	NW (8), vph								
Output	Total Vehicles	922	0	11	0	595	0	15	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	98%	100%	98%	100%	98%	100%	98%	100%
% Heavy Vehicles	2%	0%	2%	0%	2%	0%	2%	0%
% Bicycle	0%	0%	0%	0%	0%	0%	0%	0%
# of Pedestrians (ped/hr)	0	0	0	0	0	0	0	0
PHF	*0.96*	*0.92*	*0.96*	*0.92*	*0.96*	*0.92*	*0.96*	*0.92*
F_{HV}	0.980	1.000	0.980	1.000	0.980	1.000	0.980	1.000
F_{ped}	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	4	0	345	0	15	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	0	0	0	0	2	0	1	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	980	0	5	0	0	0	0	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	0	0	2	0	285	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	980	0	12	0	632	0	16	0
Conflicting flow, pcu/h	292	0	645	0	16	0	985	0

Roundabout Type	Standard Single Lane or Urban Compact
Enter type here…	Standard Single Lane

Results: Approach Measures of Effectiveness

HCM 2010 Model (build)	N	NE	E	SE	S	SW	W	NW
Entry Capacity, vph	827	NA	581	NA	1090	NA	414	NA
Entry Flow Rates, vph	960	NA	11	NA	620	NA	16	NA
V/C ratio	**1.16**		**0.02**		**0.57**		**0.04**	
Control Delay, s/veh	**106**		**6**		**10**		**9**	
LOS	F		A		B		A	
95th % Queue (ft)	**741**		**2**		**95**		**3**	
Calibrated Model (future)	**N**	**NE**	**E**	**SE**	**S**	**SW**	**W**	**NW**
Entry Capacity, vph	1034	NA	780	NA	1290	NA	594	NA
Entry Flow Rates, vph	960	NA	11	NA	620	NA	16	NA
V/C ratio	**0.95**		**0.01**		**0.49**		**0.03**	
Control Delay, sec/pcu	**37**		**5**		**8**		**6**	
LOS	E		A		A		A	
95th % Queue (ft)	**409**		**1**		**71**		**2**	

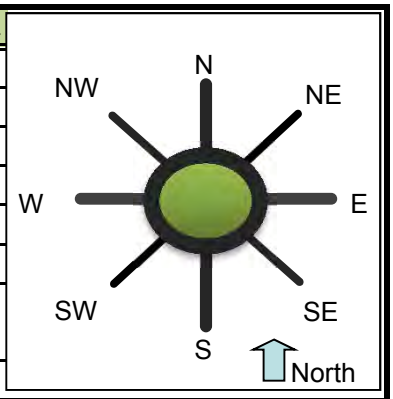
Notes: v2.1

Unit Legend:
vph = vehicles per hour
PHF = peak hour factor
F_{HV} = heavy vehicle factor
pcu = passenger car unit

Bypass Lane Merge Point Analysis (if applicable)

Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)	**N (1)**	**W (7)**				
Select Exit Leg for Bypass (TO)	**W (7)**	**S (5)**				
Does the bypass have a dedicated receiving lane?	**No**	**No**				
Volumes						
Right Turn Volume removed from Entry Leg	**95**	**160**				
Volume Characteristics (for entry leg)						
PHF	0.96	0.96				
F_{HV}	0.98	0.98				
F_{ped}	1.00	1.00				
NOTE: Volume Characteristics for Exit Leg are already taken into account						
Entry/Conflicting Flows						
Entry Flow, pcu/hr	101	170				
Conflicting Flow, pcu/hr	287	985				
Bypass Lane Results (HCM 2010 Model)						
Entry Capacity of Bypass, vph	832	414				
Flow Rates of Exiting Traffic, vph	99	167				
V/C ratio	**0.12**	**0.41**				
Control Delay, s/veh	**5.5**	**16.7**				
LOS	A	C				
95th % Queue (ft)	**10**	**50**				
Approach w/Bypass Delay, s/veh	***96.2***	***16.1***				
Approach w/Bypass LOS	*F*	*C*				

General & Site Information	v2.1
Analyst:	Graham Malone
Agency/Co:	Pond & Company
Date:	4/21/2015
Project or PI#:	Winters Chapel Road Traffic Study
Year, Peak Hour:	2035, PM Peak
County/District:	Gwinnett Co./Fulton Co.
Intersection Name:	Winters Chapel Road at Dunwoody Club Drive



Volumes		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
	N (1), vph			0		**882**		**91**	
Exit	NE (2), vph								
Legs	E (3), vph	**4**				**6**		**7**	
(TO)	SE (4), vph								
	S (5), vph	**428**		0				0	
	SW (6), vph								
	W (7), vph	0		**2**		**161**			
	NW (8), vph								
Output	Total Vehicles	432	0	2	0	1049	0	98	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	98%	100%	98%	100%	98%	100%	98%	100%
% Heavy Vehicles	**2%**	0%	**2%**	0%	**2%**	0%	**2%**	0%
% Bicycle	0%	0%	0%	0%	0%	0%	0%	0%
# of Pedestrians **(ped/hr)**	0	0	0	0	0	0	0	0
PHF	*0.96*	*0.92*	*0.96*	*0.92*	*0.96*	*0.92*	*0.96*	*0.92*
F_{HV}	0.980	1.000	0.980	1.000	0.980	1.000	0.980	1.000
F_{ped}	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	0	0	937	0	97	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	4	0	0	0	6	0	7	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	455	0	0	0	0	0	0	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	0	0	2	0	171	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	459	0	2	0	1115	0	104	0
Conflicting flow, pcu/h	173	0	1205	0	108	0	459	0

Roundabout Type	Standard Single Lane or Urban Compact
Enter type here…	Standard Single Lane

Results: Approach Measures of Effectiveness

HCM 2010 Model (build)	N	NE	E	SE	S	SW	W	NW
Entry Capacity, vph	932	NA	332	NA	994	NA	700	NA
Entry Flow Rates, vph	450	NA	2	NA	1093	NA	102	NA
V/C ratio	**0.48**		**0.01**		**1.10**		**0.15**	
Control Delay, s/veh	**10**		**11**		**79**		**7**	
LOS	A		B		F		A	
95th % Queue (ft)	**68**		**0**		**697**		**13**	
Calibrated Model (future)	**N**	**NE**	**E**	**SE**	**S**	**SW**	**W**	**NW**
Entry Capacity, vph	1138	NA	498	NA	1198	NA	905	NA
Entry Flow Rates, vph	450	NA	2	NA	1093	NA	102	NA
V/C ratio	**0.40**		**0.00**		**0.93**		**0.12**	
Control Delay, sec/pcu	**7**		**7**		**31**		**5**	
LOS	A		A		D		A	
95th % Queue (ft)	**51**		**0**		**405**		**10**	

Notes: v2.1

Unit Legend:
vph = vehicles per hour
PHF = peak hour factor
F_{HV} = heavy vehicle factor
pcu = passenger car unit

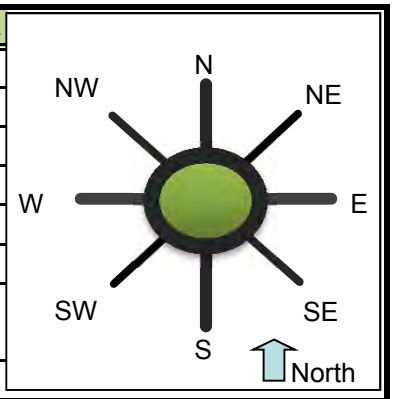
Bypass Lane Merge Point Analysis (if applicable)

Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)	**N (1)**	**W (7)**				
Select Exit Leg for Bypass (TO)	**W (7)**	**S (5)**				
Does the bypass have a dedicated receiving lane?	**No**	**No**				
Volumes						
Right Turn Volume removed from Entry Leg	**29**	**371**				
Volume Characteristics (for entry leg)						
PHF	0.96	0.96				
F_{HV}	0.98	0.98				
F_{ped}	1.00	1.00				
NOTE: Volume Characteristics for Exit Leg are already taken into account						
Entry/Conflicting Flows						
Entry Flow, pcu/hr	31	394				
Conflicting Flow, pcu/hr	173	455				
Bypass Lane Results (HCM 2010 Model)						
Entry Capacity of Bypass, vph	932	703				
Flow Rates of Exiting Traffic, vph	30	386				
V/C ratio	**0.03**	**0.56**				
Control Delay, s/veh	**4.2**	**14.3**				
LOS	A	B				
95th % Queue (ft)	**3**	**89**				
Approach w/Bypass Delay, s/veh	***9.5***	***12.7***				
Approach w/Bypass LOS	*A*	*B*				

General & Site Information

v2.1

Analyst:	Graham Malone
Agency/Co:	Pond & Company
Date:	4/21/2015
Project or PI#:	Winters Chapel Road Traffic Study
Year, Peak Hour:	2035, AM Peak
County/District:	Gwinnett Co./Fulton Co.
Intersection Name:	Winters Chapel Road at Peeler Road



Volumes

		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
	N (1), vph			1		546		82	
Exit	NE (2), vph								
Legs	E (3), vph	0				36		19	
(TO)	SE (4), vph								
	S (5), vph	811		35				0	
	SW (6), vph								
	W (7), vph	0		10		317			
	NW (8), vph								
Output	Total Vehicles	811	0	46	0	899	0	101	0

Volume Characteristics

	N	NE	E	SE	S	SW	W	NW
% Cars	98%	100%	98%	100%	98%	100%	98%	100%
% Heavy Vehicles	2%	0%	2%	0%	2%	0%	2%	0%
% Bicycle	0%	0%	0%	0%	0%	0%	0%	0%
# of Pedestrians (ped/hr)	0	0	0	0	0	0	0	0
PHF	*0.97*	*0.92*	*0.97*	*0.92*	*0.97*	*0.92*	*0.97*	*0.92*
F_{HV}	0.980	1.000	0.980	1.000	0.980	1.000	0.980	1.000
F_{ped}	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows

	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	1	0	574	0	86	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	0	0	0	0	38	0	20	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	853	0	37	0	0	0	0	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	0	0	11	0	333	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	853	0	48	0	945	0	106	0
Conflicting flow, pcu/h	381	0	994	0	106	0	890	0

Roundabout Type

Standard Single Lane or Urban Compact

Enter type here… Standard Single Lane

Results: Approach Measures of Effectiveness

HCM 2010 Model (build)	N	NE	E	SE	S	SW	W	NW
Entry Capacity, vph	757	NA	410	NA	996	NA	455	NA
Entry Flow Rates, vph	836	NA	47	NA	927	NA	104	NA
V/C ratio	**1.10**		**0.12**		**0.93**		**0.23**	
Control Delay, s/veh	**87**		**11**		**35**		**11**	
LOS	F		B		D		B	
95th % Queue (ft)	**595**		**10**		**377**		**22**	
Calibrated Model (future)	**N**	**NE**	**E**	**SE**	**S**	**SW**	**W**	**NW**
Entry Capacity, vph	964	NA	590	NA	1200	NA	641	NA
Entry Flow Rates, vph	836	NA	47	NA	927	NA	104	NA
V/C ratio	**0.88**		**0.08**		**0.79**		**0.17**	
Control Delay, sec/pcu	**29**		**7**		**17**		**8**	
LOS	D		A		C		A	
95th % Queue (ft)	**312**		**7**		**223**		**15**	

Notes: v2.1

Unit Legend:
vph = vehicles per hour
PHF = peak hour factor
F_{HV} = heavy vehicle factor
pcu = passenger car unit

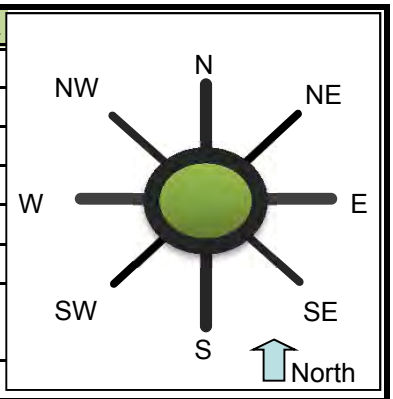
Bypass Lane Merge Point Analysis (if applicable)

Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)	**N (1)**	**W (7)**				
Select Exit Leg for Bypass (TO)	**W (7)**	**S (5)**				
Does the bypass have a dedicated receiving lane?	**No**	**No**				
Volumes						
Right Turn Volume removed from Entry Leg	**304**	**140**				
Volume Characteristics (for entry leg)						
PHF	0.97	0.97				
F_{HV}	0.98	0.98				
F_{ped}	1.00	1.00				
NOTE: Volume Characteristics for Exit Leg are already taken into account						
Entry/Conflicting Flows						
Entry Flow, pcu/hr	320	147				
Conflicting Flow, pcu/hr	344	890				
Bypass Lane Results (HCM 2010 Model)						
Entry Capacity of Bypass, vph	785	455				
Flow Rates of Exiting Traffic, vph	313	144				
V/C ratio	**0.40**	**0.32**				
Control Delay, s/veh	**9.6**	**13.3**				
LOS	A	B				
95th % Queue (ft)	**49**	**35**				
Approach w/Bypass Delay, s/veh	***66.0***	***12.5***				
Approach w/Bypass LOS	*F*	*B*				

General & Site Information

v2.1

Analyst:	Graham Malone
Agency/Co:	Pond & Company
Date:	4/21/2015
Project or PI#:	Winters Chapel Road Traffic Study
Year, Peak Hour:	2035, PM Peak
County/District:	Gwinnett Co./Fulton Co.
Intersection Name:	Winters Chapel Road at Peeler Road



Volumes

		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
	N (1), vph			**23**		**829**		**276**	
Exit	NE (2), vph								
Legs	E (3), vph	**12**				**84**		**58**	
(TO)	SE (4), vph								
	S (5), vph	**842**		**106**				0	
	SW (6), vph								
	W (7), vph	0		**36**		**125**			
	NW (8), vph								
Output	Total Vehicles	854	0	165	0	1038	0	334	0

Volume Characteristics

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	98%	100%	98%	100%	98%	100%	98%	100%
% Heavy Vehicles	**2%**	0%	**2%**	0%	**2%**	0%	**2%**	0%
% Bicycle	0%	0%	0%	0%	0%	0%	0%	0%
# of Pedestrians **(ped/hr)**	0	0	0	0	0	0	0	0
PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
F_{HV}	0.980	1.000	0.980	1.000	0.980	1.000	0.980	1.000
F_{ped}	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	26	0	919	0	306	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	13	0	0	0	93	0	64	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	934	0	118	0	0	0	0	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	0	0	40	0	139	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	947	0	183	0	1151	0	370	0
Conflicting flow, pcu/h	296	0	1364	0	384	0	1064	0

Roundabout Type

Standard Single Lane or Urban Compact

Enter type here… Standard Single Lane

Results: Approach Measures of Effectiveness

HCM 2010 Model (build)	N	NE	E	SE	S	SW	W	NW
Entry Capacity, vph	824	NA	283	NA	755	NA	382	NA
Entry Flow Rates, vph	928	NA	179	NA	1128	NA	363	NA
V/C ratio	**1.13**		**0.63**		**1.49**		**0.95**	
Control Delay, s/veh	**93**		**35**		**246**		**67**	
LOS	F		E		F		F	
95th % Queue (ft)	**670**		**101**		**1388**		**269**	
Calibrated Model (future)	**N**	**NE**	**E**	**SE**	**S**	**SW**	**W**	**NW**
Entry Capacity, vph	1031	NA	439	NA	962	NA	558	NA
Entry Flow Rates, vph	928	NA	179	NA	1128	NA	363	NA
V/C ratio	**0.92**		**0.42**		**1.20**		**0.66**	
Control Delay, sec/pcu	**32**		**16**		**116**		**22**	
LOS	D		C		F		C	
95th % Queue (ft)	**364**		**51**		**911**		**125**	

Notes: v2.1

Unit Legend:
vph = vehicles per hour
PHF = peak hour factor
F_{HV} = heavy vehicle factor
pcu = passenger car unit

Bypass Lane Merge Point Analysis (if applicable)

Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)	**N (1)**	**W (7)**				
Select Exit Leg for Bypass (TO)	**W (7)**	**S (5)**				
Does the bypass have a dedicated receiving lane?	**No**	**No**				
Volumes						
Right Turn Volume removed from Entry Leg	**144**	**264**				
Volume Characteristics (for entry leg)						
PHF	0.92	0.92				
F_{HV}	0.98	0.98				
F_{ped}	1.00	1.00				
NOTE: Volume Characteristics for Exit Leg are already taken into account						
Entry/Conflicting Flows						
Entry Flow, pcu/hr	160	293				
Conflicting Flow, pcu/hr	179	1051				
Bypass Lane Results (HCM 2010 Model)						
Entry Capacity of Bypass, vph	927	387				
Flow Rates of Exiting Traffic, vph	157	287				
V/C ratio	**0.17**	**0.76**				
Control Delay, s/veh	**5.5**	**36.7**				
LOS	A	E				
95th % Queue (ft)	**15**	**156**				
Approach w/Bypass Delay, s/veh	***80.2***	***53.8***				
Approach w/Bypass LOS	*F*	*F*				

APPENDIX C

Planning Level Cost Estimate Assumptoins

ST -1 Dunwoody Club

		Cost/Unit	Qty	Costs	
Pavement		-	-	$	25,078.55
Mill Asphalt Pavement (SY)		$ 3.32	2706	$	8,983.92
Pavement Marking		-	-	$	3,000.00
Traffic Signal Modification		$ 5,000.00		$	5,000.00
Traffic Control		$ 3,000.00	1	$	3,000.00
	Subtotal =			$	45,062.47
Engineering Costs (10 % Construction Costs)				$	4,506.25
Micellaneous (10% Construction Costs)				$	4,506.25
		Total Construction Costs=		$	54,074.96

ST-3 Spalding Drive

		Cost/Unit	Qty	Costs	
Signal Equipment		-	-	$	1,800.00
Traffic Control		$ 3,000.00	1	$	3,000.00
	Subtotal =			$	4,800.00
Engineering Costs (10 % Construction Costs)				$	480.00
Micellaneous (10% Construction Costs)				$	480.00
		Total Construction Costs=		$	5,760.00

ST-5 Winters Chapel Road Restriping from Peeler Road to Winter Rose Court to create TWLTL

		Cost/Unit	Qty	Costs	
Pavement		-	-	$	161,182.28
Mill Asphalt Pavement (SY)		$ 3.32	17393	$	57,744.76
Pavement Marking		-	-	$	15,000.00
Traffic Control		$ 75,000.00	-	$	75,000.00
	Subtotal =			$	308,927.04
Engineering Costs (10% Construction Costs)				$	30,892.70
Micellaneous (10% Construction Costs)				$	30,892.70
		Total Construction Costs=		$	370,712.44

MT-1 Dunwoody Club Roundabout

	Cost/Unit	Qty	Costs	
Subtotal =			$	1,100,000.00
Utilities (10% Construction Costs)			$	110,000.00
Engineering Costs (10% Construction Costs)			$	110,000.00
Right-of-Way Acquisition (15% Construction Costs)			$	165,000.00
Micellaneous (10% Construction Costs)			$	110,000.00
	Total Construction Costs=		$	1,595,000.00

MT-2 Winters Chapel Road Widening & Restriping from Winter Rose Court to PIB Intersection

	Cost/Unit	Qty	Costs
Pavement	-	-	$ 144,853.37
Mill Asphalt Pavement (SY)	$ 3.32	23126	$ 76,778.32
Signs	-	-	$ 2,000.00
Pavement Marking	-	-	$ 10,000.00
Curb and Gutter (LF)	$ 18.94	1000	$ 18,940.00
Drainage (LF)	$ 52.69	1000	$ 52,690.00
Sidewalk (SY)	$ 75.76	556	$ 42,122.56
Grading Complete	$ 75,000.00	-	$ 75,000.00
Traffic Control	$ 75,000.00	-	$ 75,000.00
Subtotal =			$ 497,384.25
Erosion Control (3% Construction Costs)			$ 14,921.53
Utilities (10% Construction Costs)			$ 49,738.42
Engineering Costs (10% Construction Costs)			$ 49,738.42
Right-of-Way Acquisition (15% Construction Costs)			$ 74,607.64
Micellaneous (10% Construction Costs)			$ 49,738.42
	Total Construction Costs=		$ 736,128.68

MT-3 Sumac Drive Improvements

		Cost/Unit	Qty	Costs	
Pavement		-	-	$	76,249.96
Mill Asphalt Pavement (SY)		$ 3.32	2479	$	8,230.28
Pavement Marking		-	-	$	5,000.00
Grading Complete		$ 50,000.00	-	$	50,000.00
Traffic Control		$ 50,000.00	-	$	50,000.00
	Subtotal =			$	189,480.24
Erosion Control (10% Construction Costs)				$	18,948.02
Utilities (10% Construction Costs)				$	18,948.02
Engineering Costs (10% Construction Costs)				$	18,948.02
Micellaneous (10% Construction Costs)				$	18,948.02
		Total Construction Costs=		$	265,272.33

LT-1 Spalding Drive Improvements

	Cost/Unit	Qty	Costs
Pavement	-	-	$ 334,066.36
Mill Asphalt Pavement (SY)	$ 3.32	1121	$ 3,721.72
Traffic Signal Modification	$ 100,000.00	1	$ 100,000.00
Utility Pole Relocation	$ 8,000.00	10	$ 80,000.00
Signs	-	-	$ 2,000.00
Pavement Marking	-	-	$ 12,000.00
Curb and Gutter (LF)	$ 18.94	1000	$ 18,940.00
Driveway Concrete (SY)	$ 39.42	355	$ 13,994.10
Drainage (LF)	$ 52.69	1000	$ 52,690.00
Grading Complete	$ 150,000.00	-	$ 150,000.00
Traffic Control	$ 150,000.00	-	$ 150,000.00
Subtotal =			$ 917,412.18
Erosion Control (10% Construction Costs)			$ 91,741.22
Engineering Costs (10 % Construction Costs)			$ 91,741.22
Right-of-Way Acquisition (10 % Construction Costs)			$ 91,741.22
Micellaneous (10% Construction Costs)			$ 91,741.22
	Total Construction Costs=		$ 1,284,377.05