City of Dunwoody Georgia
Community Development

4800 Ashford Dunwoody Road
Dunwoody, GA 30346
Phone: (678) 382-6800
dunwoodyga.gov

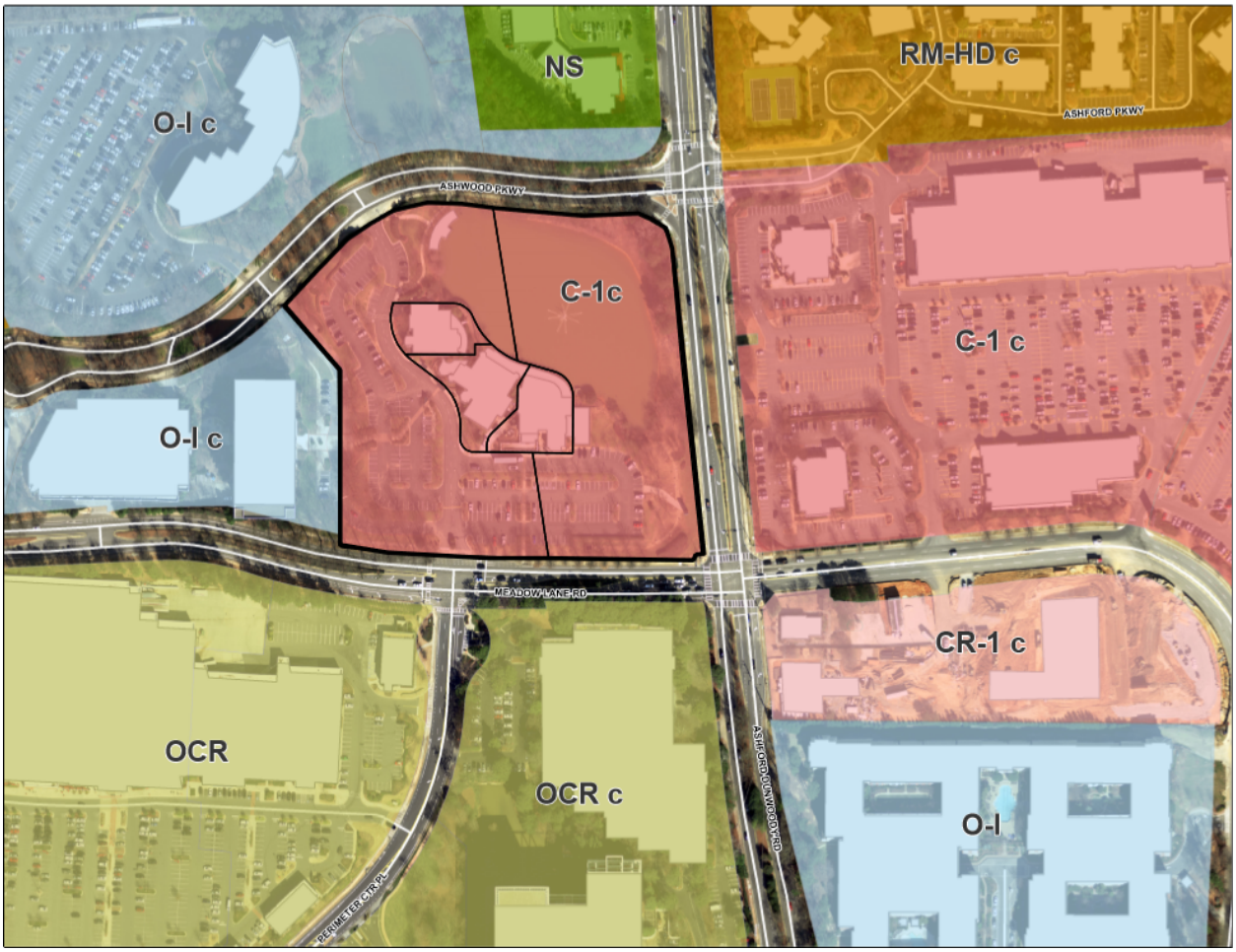
MEMORANDUM

To: City Council

From: John Olson, AICP

Date: May 20, 2019

Subject: Laurel David, attorney for the owner, on behalf of Branch Ashwood Associates, L.P., owner of 1250 Meadow Lane Road, and 500, 600, and 700 Ashwood Parkway, Dunwoody, Georgia seeks a major modification to conditions of zoning. The tax parcel numbers for the site are 18-350-02-001, 18-350-02-003, 18-349-01-037, and 18-349-01-046.



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BACKGROUND

The subject property consists of 10.1 acres of land known as the Ashwood Restaurant Park, which is located in the northwest corner of Ashford Dunwoody Road and Meadows Lane. The site contains surface parking, a large stormwater detention pond, and three restaurant buildings that were constructed in the late 1990s. While the developed portions of the site are relatively flat, there is difficult topography found along the Ashford Dunwoody street frontage, and rear portions of the site.

SITE PLAN ANALYSIS

The proposed development will be replacing the existing restaurant park which contains 25,375 square feet of restaurant space. Review of the submitted site plan indicates that the development will consist of a 25,440 square foot anchor supermarket, an 8-pump (16 fueling positions) gas station/convenience store, a 2,800 square foot bank, and 35,400 square feet of restaurant and retail space. The site is conditioned to a site specific plan from 1996 that restricts the use to four (4) restaurants (CZ96-035). Through the application of a modification to conditions (Section 27-361), Branch is requesting that the conditioned 1996 site plan be replaced entirely with the new plan.

The development will make use of the existing full-access driveways on Ashwood Parkway and Meadow Lane that currently serve the office building, located at 900 Ashwood Parkway, and the existing restaurant park. In addition, the project will improve and add streetscape elements to its entire length of both Meadow Lane and Ashford Dunwoody Road, including a portion of the new commuter trail, and construction of a new street connection from Meadow Lane to Ashford Parkway. The submitted landscape plan indicates that the existing street trees along Meadows Lane and Ashford Parkway will be saved and designed into the new sidewalk improvement. Additionally, the applicant has noted that nearly an acre (9.2%) of the property will be provided as patios, terraces, outdoor seating, and other publicly accessible amenity areas. Part of the open space will include a Gateway Plaza feature, located at the corner of Ashford Parkway and Meadow Lane. Branch also intends to fill the water body/detention system in the middle of the site and has received Environmental Protection Division's (EPD) approval for that work. There is a 1.12 acre parcel slated for future development found along the north side of site, fronting Ashwood Parkway that is not part of this request. The applicant has acknowledged that they envision the parcel being developed as a future hotel, but have stated that the application for its use will be filed at another time.

Concurrent with this application, Branch will also request the following variances to Section 27-73 of the Zoning Ordinance:

1.) To reduce the front setback requirement of fifty (50) feet to a minimum of zero (0) feet from the Property's boundary lines adjacent to Ashford Dunwoody Road, Meadow Lane Road and Ashwood Parkway;
2.) To reduce the interior side setback of twenty (20) feet to a minimum of zero (0) feet; to reduce the rear setback from thirty (30) feet to a minimum of zero (0) feet;
3.) To increase the impervious lot coverage from 80% to a maximum of 86%; and
4.) To encroach in the city's 75-foot stream buffer.

These variance are requested in part to bring the buildings closer to the streets to activate the pedestrian streetscape and hide surface parking.

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PARKING ANALYSIS

Under the zoning requirements for the City of Dunwoody, the site is subject to a minimum parking standard of 3.3 per 1,000 square feet of bank, 4 per 1,000 square feet of grocery/retail, 6.7 spaces per 1,000 square feet of restaurant, 3 per service bay or stall of gasoline sales, and 4 per 1,000 square feet of food and beverage sales.

PARKING SUMMARY

ANCHOR PARKING REQ'D (4.0 / 1000 SF)	102	SPACES
RETAIL PARKING REQ'D (4.0 / 1000 SF)	62	SPACES
RESTAURANT PARKING REQ'D (6.67 / 1000 SF)	134	SPACES
C-STORE PARKING REQ'D (4.0 / 1000 SF + 3 PER SERVICE BAY)	34	SPACES
BANK PARKING REQ'D (3.3 / 1000 SF)	10	SPACES
TOTAL PARKING REQUIRED	342	SPACES
TOTAL PARKING PROVIDED	360	SPACES
TOTAL PARKING RATIO PROVIDED	5.21	/1000

Based on the submitted parking summary, the fully built site would contain a total of 69,051 square feet of retail area and 360 spaces, which is approximately 10% more parking than required by zoning.

SURROUNDING LAND ANALYSIS

Direction	Zoning	Use	Current Land Use
N	O-I and N-S	Shopping Center and Office Building	Commercial/Office
S	OCR	Shopping Center and Office Building	Commercial/Office
E	C-1	Restaurants and Shopping Center	Commercial
W	O-I	Office Building	Office

ZONING ANALYSIS FOR SPECIAL LAND USE PERMIT REQUESTS

Through the process of a Major Modification, the applicant has requested a change of conditions to the original conditions approved in 1996 under case CZ 96 035. Chapter 27, Section 27-359 identifies the following criteria to be applied by the department of planning, the planning commission, and the city council in evaluating applications for major zoning amendments. No application for an amendment shall be granted by the city council unless satisfactory provisions and arrangements have been made concerning each of the following factors, all of which are applicable to each application:

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1. Whether the proposed use is consistent with the policies of the comprehensive plan;

   The future land use map identified in the"2015-2035 Comprehensive Plan" (Plan) identifies the future land use of subject property as a Perimeter Center ("PC") District. According the Plan, the PC districts are intended to be developed into livable centers that are to include a mix of housing, first-class office, and retail in an environment that includes pedestrian and bicycle-oriented amenities. However, the applicant intends to maintain the area as a Commercial ("C-1") district, and has requested amendments to conditions of the original 1996 site plan to allow a retail shopping center, bank, and gas station/convenience store. As zoned, a C-1 district is not consistent with the future land use plan, which calls for PC-1, PC-2, PC-3 and PC-4 zoning districts (see "FIGURE 16: Future Land Uses Table"). More specifically, according to the PC districts regulating map found in Section 27-104-1, the subject site is best suited for a PC-2 District, which is intended to be made up of "employment uses, residential buildings, and limited shop front retail, and services." It shall be noted that while gasoline sales are allowed within the C-1 district, they are not allowed within the PC-2 zoning category. Finally, when evaluating the mix of uses, the project does not include a residential living component; therefore, the site does not create conditions of a true "live work" environment, which is emphasized within the PC Districts.

   Still, the project maintains some consistency with the Comprehensive Plan in that it incorporates restaurants, retail, and service uses within walking distance of nearby off-site office and residential. Equally as important, the project is consistent with the Perimeter Center Overlay in that it creates new pedestrian and bicycle-oriented amenities along four street frontages, including the development of approximately 700 feet of commuter trail along Ashford Dunwoody Road, and the development of a new street that provides connectivity between the Meadows Lane Road and Ashford Lane Road, which provides support for approval.

2. Whether the zoning proposal will permit a use that is suitable in view of the use and development of adjacent and nearby properties;

   The proposed development, which includes an anchor grocery store, restaurants, retail, and gas station/convenience store, remains compatible with the adjoining mix of office, retail, restaurants, and shopping centers nearby.

3. Whether the property to be affected by the zoning proposal has a reasonable economic use as currently zoned;

   The site has some reasonable economic use as zoned to allow up to four restaurants. From a utilization standpoint, however, the site remains underdeveloped as it contains only three (3) restaurants, totaling 25,375 square feet, a 248 space surface parking lot, and a storm water detention area, totaling approximately 107,000 square feet, all of which is found on approximately 10 acres. Therefore, it would appear that the site does not serve its highest and best economic use as currently zoned.

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4. Whether the zoning proposal will adversely affect the existing use or usability of adjacent or nearby property;

   The proposed development will not create any adverse impacts on adjoining land uses as adjacent and nearby properties include a similar mix of uses that have similar operational characteristics.

5. Whether the proposed use will create adverse impacts upon any adjoining land use by reason of noise, smoke, odor, dust or vibration generated by the proposed use;

   The proposed uses will not create adverse impacts upon any adjoining land use by reason of noise, smoke, odor, dust or vibration.

6. Whether there are other existing or changing conditions affecting the use and development of the property that provide supporting grounds for either approval or disapproval of the zoning proposal;

   The project supports the Perimeter Center Overlays goal of improving bicycle and pedestrian modes of travel and transportation connectivity, specifically through the construction of a new street connection, commuter trail, and streetscapes. Nonetheless, the project does fall short of the Perimeter Centers vision to create a live-work environment, as it does not include a residential component. In addition, the gasoline sales would not appear to be consistent with the emerging pedestrian and bicycle amenities as noted above.

7. Whether the zoning proposal will adversely affect historic buildings, sites, districts, or archaeological resources; and

   The area on the site in which the applicant proposes to develop consists of surface parking and three restaurant buildings, all of which have no historic significance. As such, the proposed development will not have an impact on any historic buildings, sites, districts, or archaeological resources.

8. Whether the zoning proposal will result in a use that will or could cause an excessive or burdensome use of existing streets, transportation facilities, utilities, or schools.

   The addition of approximately 69,000 square feet of retail and restaurant facilities is anticipated to result in additional traffic to the area. To help mitigate the impacts, the city's traffic engineer offered the following comments:

   1. ***In accordance with the recommendation of the traffic study a westbound left turn lane should be added on Ashwood Parkway at the easternmost driveway entrance to the development.***
   2. ***Based on projected queue length, an eastbound left turn lane is needed at Ashwood Parkway and Ashford Dunwoody Road with a flashing yellow arrow protected-permissive phase.***
   3. ***A southbound right turn lane should be added at the intersection of Perimeter Center Place and Meadow Lane Road.***
   4. ***Existing traffic volumes exceed the minimum volume for requiring a right turn lane per GDOT's driveway manual. The traffic projections for the new development will increase that volume by a relatively small amount***

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(3 to 7%) in the peak hour. The proposed extension of Perimeter Center Place on the west side of the development will likely divert some of the southbound right turns at Meadow Lane to the Ashwood Parkway intersection. This is not accounted for in the traffic study. In light of the relatively small volume increase and the desire to create a more pedestrian friendly and lower speed environment on Ashford Dunwoody Road, Public Works is not requiring a right turn lane for this development.

5. ***The eastbound left turn at Meadow Lane Road and Ashford Dunwoody Road does not have enough capacity for current traffic volumes. The additional volume projected to be generated by the development does not significantly impact the existing deficiency and the city has a project programmed to extend the turn lanes.***

To improve traffic flow, Branch has designed the site to include a new road connection between Meadows Lane and Ashford Dunwoody Road and has agreed to build a 10-foot wide commuter trail fronting Ashford Dunwoody Road. Additionally, based on the model provided by the developer's consultant, Public Works will use the recommendations in the traffic study and revise the exiting condition signal timings to match the actual existing signal timings. In regards to school impacts, this project does not include a residential component, so it will not have any impact on area capacity.

SUMMARY OF PLANNING COMMISSION

Planning Commission held a public hearing regarding the case on April 9, 2019. During the hearings, neighbors of development spoke with concerns about the removal of the stormwater detention pond and noise associated with late night deliveries. Also, Commissioner O'Brien recommended that the applicant reduce impervious surface by incorporating impervious pavers and the applicant stated they would explore that as an option. Following discussions, Commissioner Price motioned to approve the case incorporating staff conditions with the following recommended changes:

1. In regards to the pedestrian connection running from Ashford Dunwoody Road to the grocery store, Condition 3 shall be modified from a 16-foot wide pedestrian path, including a 6-foot sidewalk and two 5-foot strips to a 12-foot wide pedestrian path, including a 6-foot sidewalk and two 3-foot strips. As well, the direct path of the connection can be relocated to accommodate necessary handicapped parking.
2. There shall be no minimum parking requirement for the undeveloped northern parcel of the property (whereby under such condition the developer can chose to have no parking);
3. The new road connection shall have 9-foot travel lanes; and
4. The City and Applicant shall come to an agreement regarding limitations to delivery hours to mitigate public nuisance from noise.

The motion passed unanimously 6-0.

STAFF RECOMMENDATION

Based on the written findings above, staff recommends the request for a major modification to conditions be **approved** subject to the following conditions:

EXHIBIT A: Schematic Site Plan SP34, completed by Philips Partnership, dated May 13, 2019
EXHIBIT B: Streetscaping Sections, completed by Phillips Partnership, dated December 4, 2018 and Streetscape Section for Ashford Dunwoody Road dated January 14, 2019

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EXHIBIT C: Rendering of Archway Sign and Grocer Free-standing Letters Sign, dated April 25, 2019
EXHIBIT D: Conceptual Gateway Plaza Plan, completed by AJC Design Group, dated April 24, 2019
EXHIBIT E: Left Turn Lane Concept, completed by A&R Engineering, dated April 17, 2019
EXHIBIT F: Meadow Lane Intersection, completed by Philips Partnership, dated May 13, 2019

1. The owner shall develop the site in general conformity with "Exhibit A" with minor changes allowed as defined by Section 27-337(b) or necessary changes to meet conditions of zoning or land development requirements made necessary by actual field conditions at the time of development;
2. The owner shall construct the streetscaping and commuter trail in general conformity with "Exhibit B". Any minor variations to the streetscapes made necessary by actual field conditions at the time of development shall be subject to approval by the Public Works and Community Development Department. If the width of the commuter trail is reduced by Public Works the location of the footprints of the buildings shall remain in the same vertical and horizontal location as shown on the Schematic Site Plan;
3. The owner shall construct a 12-foot wide pedestrian connection, including a 6-foot pedestrian sidewalk and two 3-foot wide landscape strips that connect from Ashford Dunwoody Road, between buildings C and D, to Building A as illustrated on Exhibit A. The landscape strips shall include overstory trees planted on each side at no more than 50 and no less than 25 feet;
4. The proposed bank shall be limited to the southwest quadrant of the site, as shown on Exhibit A; no banks or free-standing financial services are otherwise allowed on the site;
5. Buildings shall be designed with 360 degree architecture with the exception of the rear of Building A and the anchor grocer, which shall be subject to reasonable landscape screening as approved by the City Arborist;
6. Major façade materials shall include brick, stone, hard coat stucco and glass, with other high quality materials approved by the Community Development Director during the permit review process;
7. Synthetic stucco (EIFS) material shall be limited to accenting material; masonry brick or stone veneer materials are allowed; stamped brick and stone EIFS or imitation masonry veneer materials shall be prohibited;
8. All loading facilities and trash/recycling enclosure(s) must be screened from view of public rights-of-way by landscaping and a solid brick wall or opaque fence at least six feet in height or the height of the dumpster. The approach to the loading facilities and trash/recycling enclosures for the anchor grocer and Building A does not need to be screened from view of Ashwood Parkway;
9. All mechanical equipment (e.g., air conditioning, heating, cooling, ventilation, exhaust and similar equipment) shall be roof mounted and screened in all directions by walls or parapets or will be enclosed in opaque structures to hide the mechanical equipment from view from public right-of-way within 200 feet;
10. All utilities servicing the site shall be underground with the exception of required above-ground elements, such as transformers and cable boxes;
11. Any stormwater detention facility will be underground;
12. Within sixty days after the issuance of certificates of occupancy, the Owner will convey to the City right-of-way to incorporate the sidewalk and bicycle improvements, located along Ashford Dunwoody Road. The City will maintain the sidewalk and bicycle improvements. Such conveyance shall be via right of way deed. The exact legal description of the property to be conveyed shall be prepared by the Owner and agreed to by the City;
13. Within sixty days after the issuance of certificates of occupancy, the Owner will convey a permanent public access easement to the City for the new roadway and sidewalks to be constructed on the west side of the site. Owner may convey the new roadway and

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sidewalks via right of way deed at a future date at which point the City shall accept such conveyance. The exact legal description of the property to be conveyed shall be prepared by the Owner and agreed to by the City;

14. The development is entitled to a total of four monument signs, one on each road frontage. The allowed square footage of 144 square feet for the monument sign for Ashford Dunwoody Road may be divided into two structures as follows: 1) an archway connecting Building B and Building C in general conformity with the renderings in Exhibit C and; 2) freestanding letters indicating the name of the anchor grocer mounted on top of the Plaza wall up to a total maximum height of 5 feet in general conformity with the rendering in Exhibit D. In addition, the Archway sign may include a 42 square foot wayfinding sign labeled as "Sign A" as shown in Exhibit C. ;
15. The commuter trail, streetscaping, and new road connection, shall be developed concurrently with the grocery store and retail/restaurant buildings C and D, fronting Ashford Dunwoody Road;
16. The ground story restaurant/retail uses of buildings shall be built within three feet of vertical elevation of the adjacent commuter trail and have entrances that face Ashford Dunwoody Road as follows: buildings containing one tenant shall have a minimum of one entrance; buildings containing two or more tenants shall have a minimum of two entrances;
17. The Gateway Plaza, located on the corner of Meadow Lane Road and Ashford Dunwoody Road will be in general conformity with the Conceptual Gateway Plaza Plan attached as Exhibit C. Within sixty days after the issuance of certificates of occupancy, the Plaza area general public access will be granted to the Plaza through a public access easement to the benefit of the City;
18. The owner shall be responsible for the maintenance of the Plaza;
19. There shall be no minimum parking requirement for the undeveloped northern parcel of the property;
20. In accordance with the recommendation of the traffic study, a westbound left turn lane shall be added on Ashwood Parkway at the easternmost driveway entrance to the development in general conformity with Exhibit E;
21. Based on projected queue length, an eastbound left turn lane shall be installed at Ashwood Parkway and Ashford Dunwoody Road using existing signal phasing and in general conformity with Exhibit E. Applicant will not be responsible for any signal work;
22. A southbound right turn lane shall be added at the intersection of Perimeter Center Place and Meadow Lane Road using existing signal phasing and in general conformity with Exhibit F. Applicant will not be responsible for any signal work; and
23. The owner will contribute up to one-third of the funds needed to extend the northbound left turn lane from Ashford Dunwoody Road on to Meadow Lane Road. In no event shall the total of such contribution exceed $33,000.

Attachments

- EXHIBIT A: Schematic Site Plan SP34, completed by Philips Partnership, dated May 13, 2019
- EXHIBIT B: Streetscaping Sections, completed by Phillips Partnership, dated December 4, 2018 and Streetscape Section for Ashford Dunwoody Road dated January 14, 2019
- EXHIBIT C: Rendering of Archway Sign and Grocer Free-standing Letters Sign, dated April 25, 2019
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- EXHIBIT F: Meadow Lane Intersection, completed by Philips Partnership, dated May 13, 2019
- Major Amendment Ordinance

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- MA 19-01 Application
- Landscape Plan
- Renderings
- Proposed Building Elevations
- Dunwoody Comp Plan Excerpt
- 1996 conditionally approved site plan
- Traffic Study

STATE OF GEORGIA
CITY OF DUNWOODY **ORDINANCE 2019-__-__**

AN ORDINANCE TO AMEND THE ZONING CONDITIONS OF LAND LOTS 352, and 349, District 18 IN CONSIDERATION OF ZONING CASE MA-19-01 (1250 MEADOW LANE ROAD, AND 500, 600, AND 700 ASHFORD); TO AUTHORIZE A VARIANCE FROM THE SETBACK, STREAM BUFFER, AND IMPERVIOUS SURFACE REQUIREMENTS.

WHEREAS: Branch Ashwood Associates, L.P., owner of 1250 Meadow Lane Road, and 500, 600, and 700 Ashwood Parkway, Dunwoody, Georgia seeks a major modification to conditions of zoning; AND

WHEREAS: The properties, consisting of tax parcel numbers 18-350-02-001, 18-350-02-003, 18-349-01-037, and 18-349-01-046, contains 10.1 acres land located in the northwest corner of Ashford Dunwoody Road and Meadows Lane; and

WHEREAS: The Properties, collectively known as Ashwood Restaurant Park are currently improved with 25,375 square feet of restaurant space; and

WHEREAS: The site is currently conditioned to a site-specific plan from 1996 that restricts the use to four (4) restaurants (CZ96-035). Through the application of a modification to conditions (Section 27-361), Branch Ashwood Associates, L.P. is requesting that the conditioned 1996 site plan be replaced entirely with the new plan; and

WHEREAS: The applicant has proposed replacing the current restaurant park with a development which will consist of a 25,440 square foot anchor supermarket, an 8-pump (16 fueling positions) gas station/convenience store, a 2,800 square foot bank, and 35,400 square feet of restaurant and retail space; and

WHEREAS: The applicant has also concurrently requested a variances related to 1) reduction in the front setback requirements, 2) a reduction in the interior side setback requirements, 3) an increase in the impervious lot coverage, and 4) and authorization for encroachment within in the city's 75-foot stream buffer; and

WHEREAS: Notice to the public regarding said rezoning and modification to conditions of zoning has been duly published in The Dunwoody Crier, the Official News Organ of the City of Dunwoody; and

WHEREAS: A public hearing was held by the Mayor and City Council of the City of Dunwoody as required by the Zoning Procedures Act; and

WHEREAS: The Mayor and City Council find that the proposed use aligns with the Georgetown Character Area of the Dunwoody Comprehensive Plan, which calls for, among others, creative building and site design that encourages bikeable and walkable development which furthers the transportation goals of modality (other than by automobile) and connectivity of the Georgetown neighborhood; and

STATE OF GEORGIA
CITY OF DUNWOODY **ORDINANCE 2019-__-__**

WHEREAS: Notice to the public regarding said rezoning and modification to conditions of zoning has been duly published in The Champion, the Official News Organ of the City of Dunwoody; and

WHEREAS: A public hearing was held by the Mayor and City Council of the City of Dunwoody as required by the Zoning Procedures Act.

NOW THEREFORE, The Mayor and City Council of the City of Dunwoody hereby **ORDAIN AND APPROVE** the modification of zoning conditions on tax parcel numbers 18-350-02-001, 18-350-02-003, 18-349-01-037, and 18-349-01-046 as follows:

EXHIBIT A: Schematic Site Plan SP34, completed by Philips Partnership, dated May 13, 2019
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1. The owner shall develop the site in general conformity with "Exhibit A" with minor changes allowed as defined by Section 27-337(b) or necessary changes to meet conditions of zoning or land development requirements made necessary by actual field conditions at the time of development;
2. The owner shall construct the streetscaping and commuter trail in general conformity with "Exhibit B". Any minor variations to the streetscapes made necessary by actual field conditions at the time of development shall be subject to approval by the Public Works and Community Development Department. If the width of the commuter trail is reduced by Public Works the location of the footprints of the buildings shall remain in the same vertical and horizontal location as shown on the Schematic Site Plan;
3. The owner shall construct a 12-foot wide pedestrian connection, including a 6-foot pedestrian sidewalk and two 3-foot wide landscape strips, from Ashford Dunwoody Road, between buildings C and D, to Building A as illustrated on Exhibit A. The landscape strips shall include overstory trees planted on each side at no more than 50 and no less than 25 feet;
4. The proposed bank shall be limited to the southwest quadrant of the site, as shown on Exhibit A; no banks or free-standing financial services are otherwise allowed on the site;
5. Buildings shall be designed with 360 degree architecture with the exception of the rear of Building A and the anchor grocer, which shall be subject to reasonable landscape screening as approved by the City Arborist;
6. Major façade materials shall include brick, stone, hard coat stucco and glass, with other high quality materials approved by the Community Development Director during the permit review process;
7. Synthetic stucco (EIFS) material shall be limited to accenting material; masonry brick or stone veneer materials are allowed; stamped brick and stone EIFS or imitation masonry veneer materials shall be prohibited;
8. All loading facilities and trash/recycling enclosure(s) must be screened from view of public rights-of-way by landscaping and a solid brick wall or opaque fence at least six feet in height or the height of the dumpster. The approach to the loading facilities and

trash/recycling enclosures for the anchor grocer and Building A does not need to be screened from view of Ashwood Parkway;

9. All mechanical equipment (e.g., air conditioning, heating, cooling, ventilation, exhaust and similar equipment) shall be roof mounted and screened in all directions by walls or parapets or will be enclosed in opaque structures to hide the mechanical equipment from view from public right-of-way within 200 feet;
10. All utilities servicing the site shall be underground with the exception of required above-ground elements, such as transformers and cable boxes;
11. Any stormwater detention facility will be underground;
12. Within sixty days after the issuance of certificates of occupancy, the Owner will convey to the City right-of-way to incorporate the sidewalk and bicycle improvements, located along Ashford Dunwoody Road. The City will maintain the sidewalk and bicycle improvements. Such conveyance shall be via right of way deed. The exact legal description of the property to be conveyed shall be prepared by the Owner and agreed to by the City;
13. Within sixty days after the issuance of certificates of occupancy, the Owner will convey a permanent public access easement to the City for the new roadway and sidewalks to be constructed on the west side of the site. Owner may convey the new roadway and sidewalks via right of way deed at a future date at which point the City shall accept such conveyance. The exact legal description of the property to be conveyed shall be prepared by the Owner and agreed to by the City;
14. The development is entitled to a total of four monument signs, one on each road frontage. The allowed square footage of 144 square feet for the monument sign for Ashford Dunwoody Road may be divided into two structures as follows: 1) an archway connecting Building B and Building C in general conformity with the renderings in Exhibit C and; 2) freestanding letters indicating the name of the anchor grocer mounted on top of the Plaza wall up to a total maximum height of 5 feet in general conformity with the rendering in Exhibit D. In addition, the Archway sign may include a 42 square foot wayfinding sign labeled as "Sign A" as shown in Exhibit C. ;
15. The commuter trail, streetscaping, and new road connection, shall be developed concurrently with the grocery store and retail/restaurant buildings C and D, fronting Ashford Dunwoody Road;
16. The ground story restaurant/retail uses of buildings shall be built within three feet of vertical elevation of the adjacent commuter trail and have entrances that face Ashford Dunwoody Road as follows: buildings containing one tenant shall have a minimum of one entrance; buildings containing two or more tenants shall have a minimum of two entrances;
17. The Gateway Plaza, located on the corner of Meadow Lane Road and Ashford Dunwoody Road will be in general conformity with the Conceptual Gateway Plaza Plan attached as Exhibit C. Within sixty days after the issuance of certificates of occupancy, general public access will be granted to the Plaza through a public access easement to the benefit of the City;
18. The owner shall be responsible for the maintenance of the Plaza;
19. There shall be no minimum parking requirement for the undeveloped northern parcel of the property;
20. In accordance with the recommendation of the traffic study, a westbound left turn lane shall be added on Ashwood Parkway at the easternmost driveway entrance to the development in general conformity with Exhibit E;
21. An eastbound left turn lane shall be installed at Ashwood Parkway and Ashford Dunwoody Road in general conformity with Exhibit E. Applicant will supply the required flashing yellow arrow equipment for the city to install;
22. A southbound right turn lane shall be added at the intersection of Perimeter Center Place and Meadow Lane Road using existing signal phasing and in general conformity with Exhibit F. Applicant will not be responsible for any signal work; and

STATE OF GEORGIA
CITY OF DUNWOODY **ORDINANCE 2019-__-__**

23. The owner will contribute up to thirty-three percent (33%) of the funds needed to extend the northbound left turn lane from Ashford Dunwoody Road on to Meadow Lane Road. In no event shall the total of such contribution exceed $33,000.

SO ORDAINED AND EFFECTIVE, this the ___ day of _____, 2019.

Approved by:

_____
Denis L. Shortal, Mayor

Approved as to Form and Content

_____
City Attorney's Office

Attest:

_____
Sharon Lowery, City Clerk

SEAL

BUILDING SUMMARY

ANCHOR (GROCER)	25,440	SF
RETAIL	15,400	SF
RESTAURANT	20,000	SF
CONVENIENCE STORE	5,411	SF
BANK	2,800	SF
TOTAL RETAIL AREA	69,051	SF

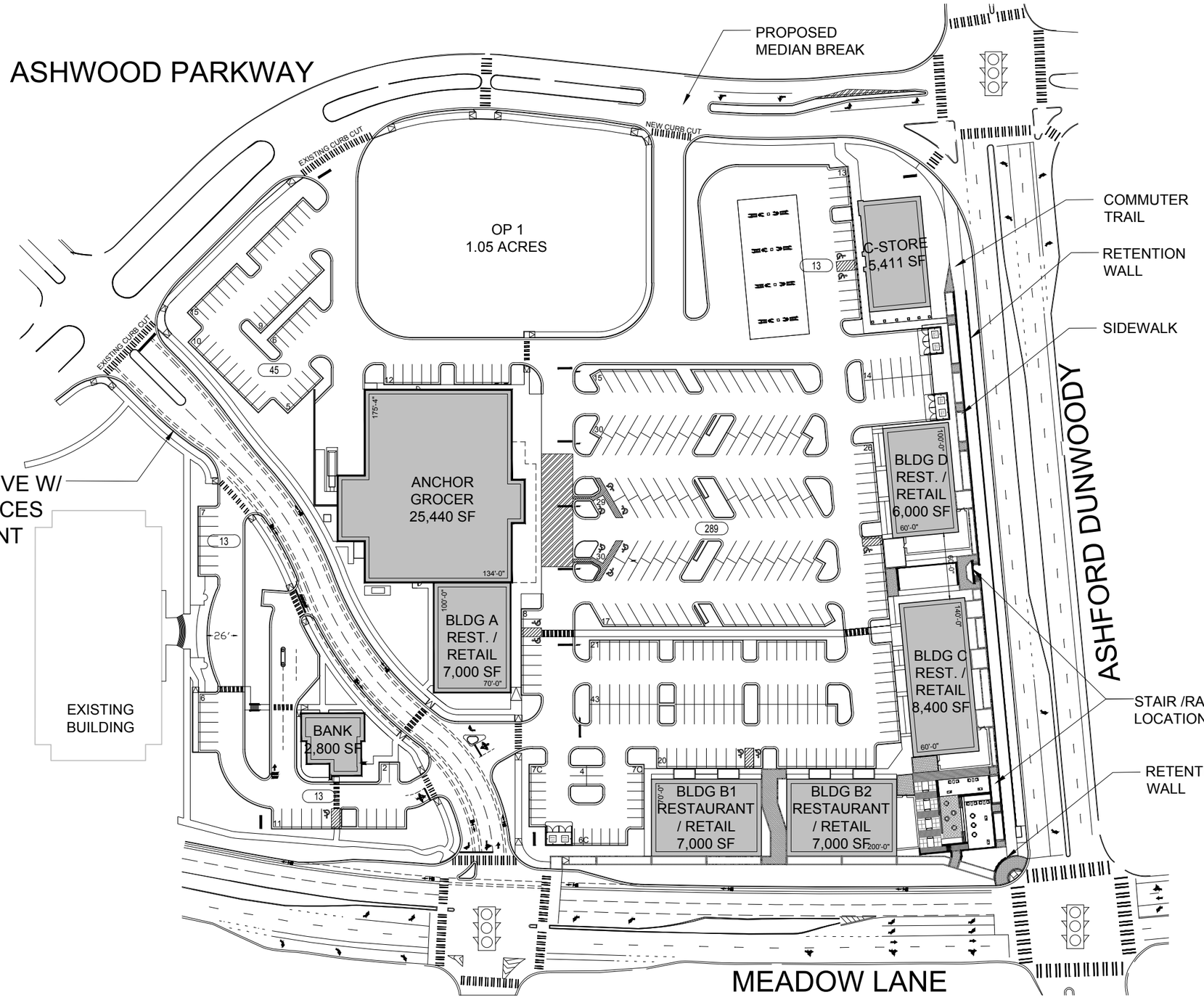
PARKING SUMMARY

ANCHOR PARKING REQ'D (4.0 / 1000 SF)	102	SPACES
RETAIL PARKING REQ'D (4.0 / 1000 SF)	62	SPACES
RESTAURANT PARKING REQ'D (6.67 / 1000 SF)	134	SPACES
C-STORE PARKING REQ'D (4.0 / 1000 SF + 3 PER SERVICE BAY)	34	SPACES
BANK PARKING REQ'D (3.3 / 1000 SF)	10	SPACES
TOTAL PARKING REQUIRED	342	SPACES
TOTAL PARKING PROVIDED	360	SPACES
TOTAL PARKING RATIO PROVIDED	5.21	/1000

SITE DATA

TOTAL SITE ACREAGE	+/- 10.06 AC.
SITE ACREAGE (MINUS PRIVATE DRIVE AND PERIMETER STREETSCAPE IMPROVEMENTS)	+/- 8.98 AC.
TOTAL IMPERVIOUS ACREAGE*	+/- 7.54 AC.
	83.9%
IMPERVIOUS SIDEWALK/PATIOS/AMENITY AREAS*	+/- 0.69 AC.
	7.7%

* PERCENTAGES BASED OFF OF SITE ACREAGE MINUS PRIVATE DRIVE AND PERIMETER STREETSCAPE IMPROVEMENTS



1 / SP-34 SITE PLAN
SCALE: 1" = 100'

N

0' 50' 100' 200'

BRANCH PROPERTIES, LLC

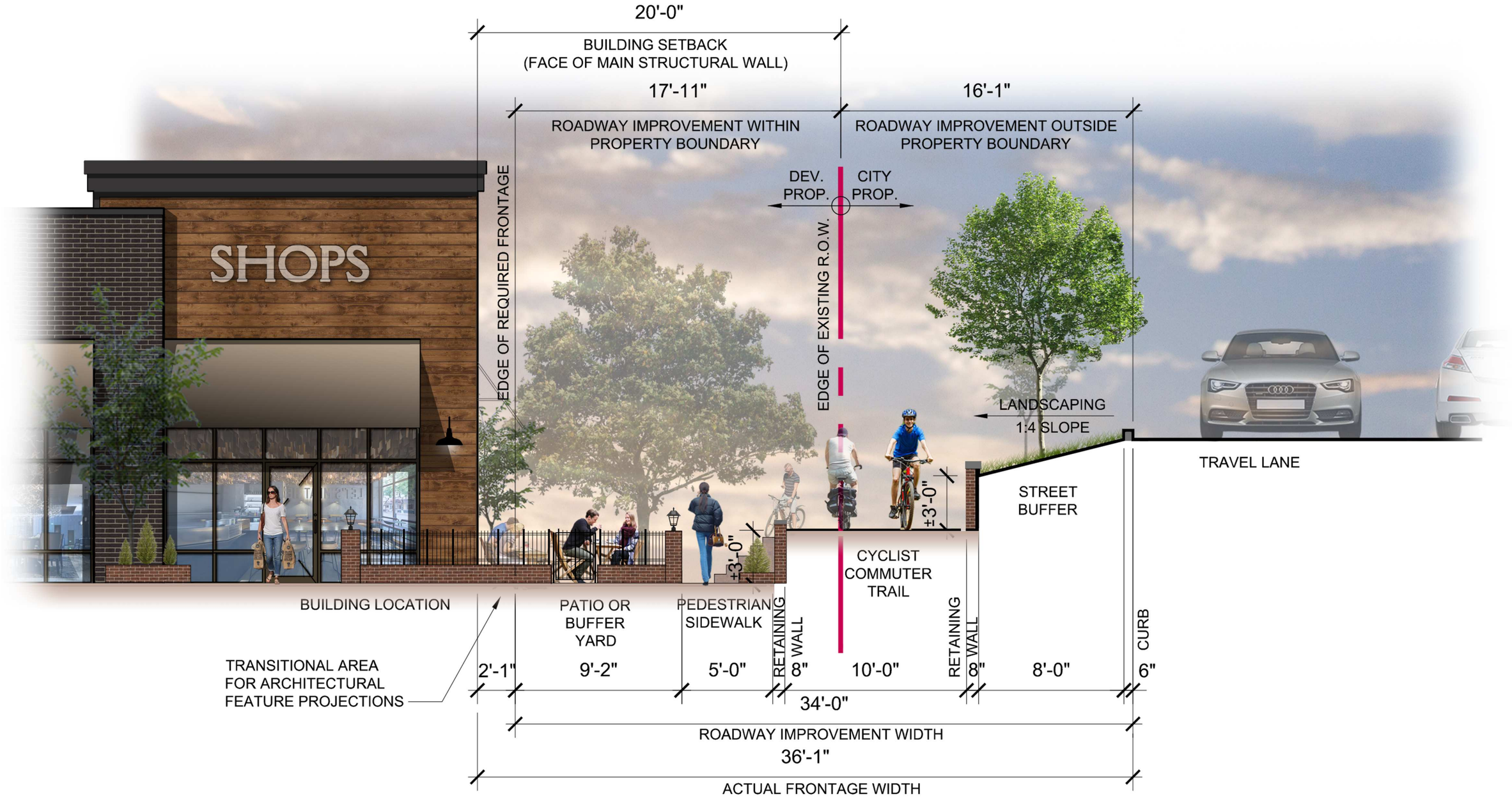
PERIMETER MARKETPLACE
ASHFORD DUNWOODY ROAD
DUNWOODY, GA

JOB NUMBER: 1617702 | DATE: 2019-05-13 | BY: KMC

DRAWING: SCHEMATIC SITE PLAN

(SP-34)

PHILLIPS
ARCHITECTURE ▪ CONSULTANTS
5901 PEACHTREE DUNWOODY RD. ▪ SUITE A450 ▪ ATLANTA, GA 30328 ▪ 770.394.1616



BRANCH PROPERTIES, LLC

ASHFORD DUNWOODY ROAD

DUNWOODY, GEORGIA
01-14-2019

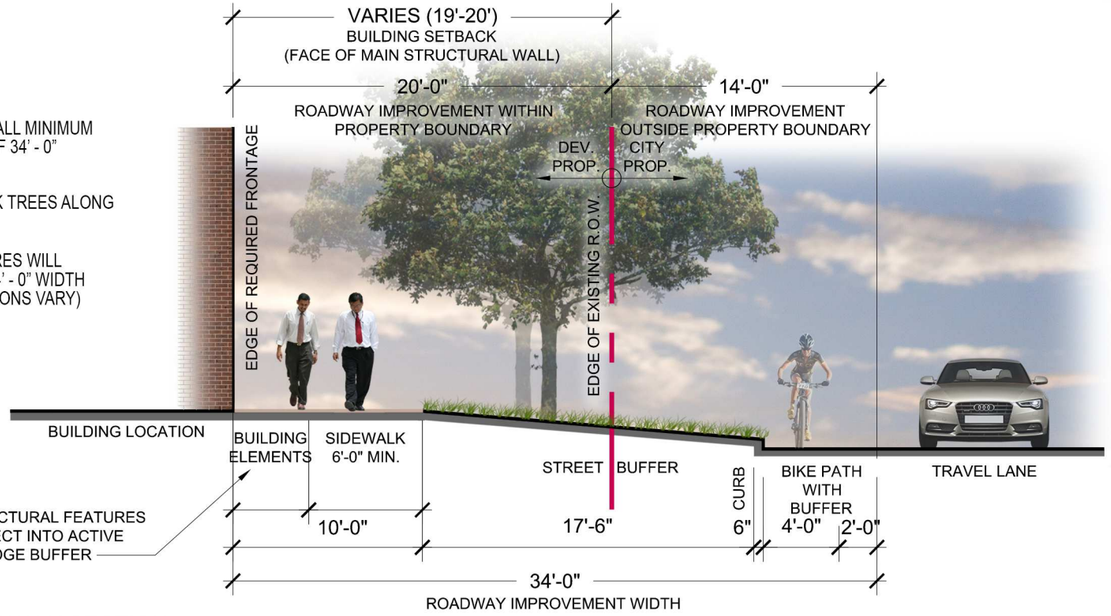
PHILLIPS architecture · consultants

MAJOR PARKWAY FRONTAGE (EXISTING)

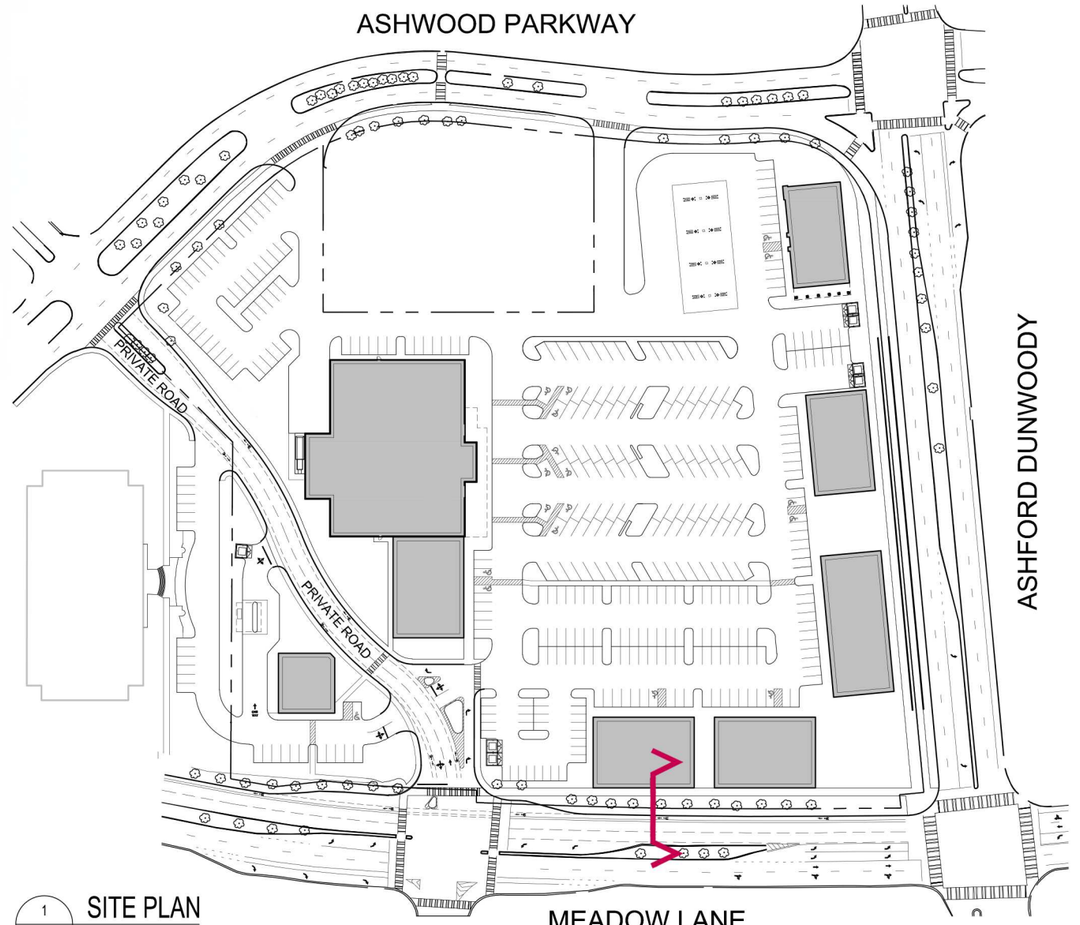
* COMPLIANT WITH OVERALL MINIMUM IMPROVEMENT WIDTH OF 34' - 0" (PER EXHIBIT A)

*PRESERVES MATURE OAK TREES ALONG MEADOW LANE

*ARCHITECTURAL FEATURES WILL ENCROACH INTO 34' - 0" WIDTH REQUIREMENT (DIMENSIONS VARY)



2 / - SIDEWALK SECTION
SCALE: 1/8" = 1'

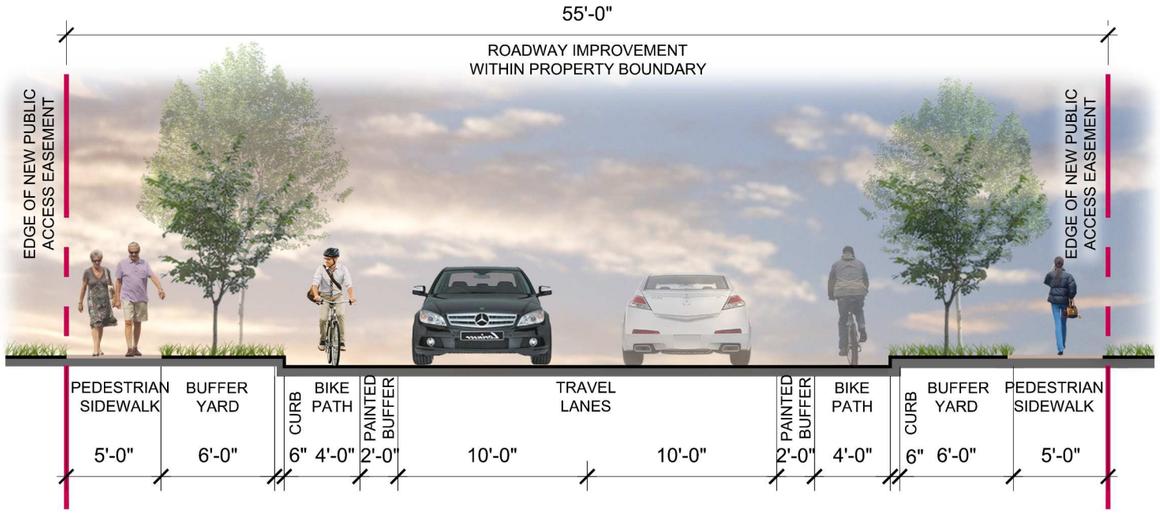


1 / SP-25 SITE PLAN
SCALE: 1" = 150'

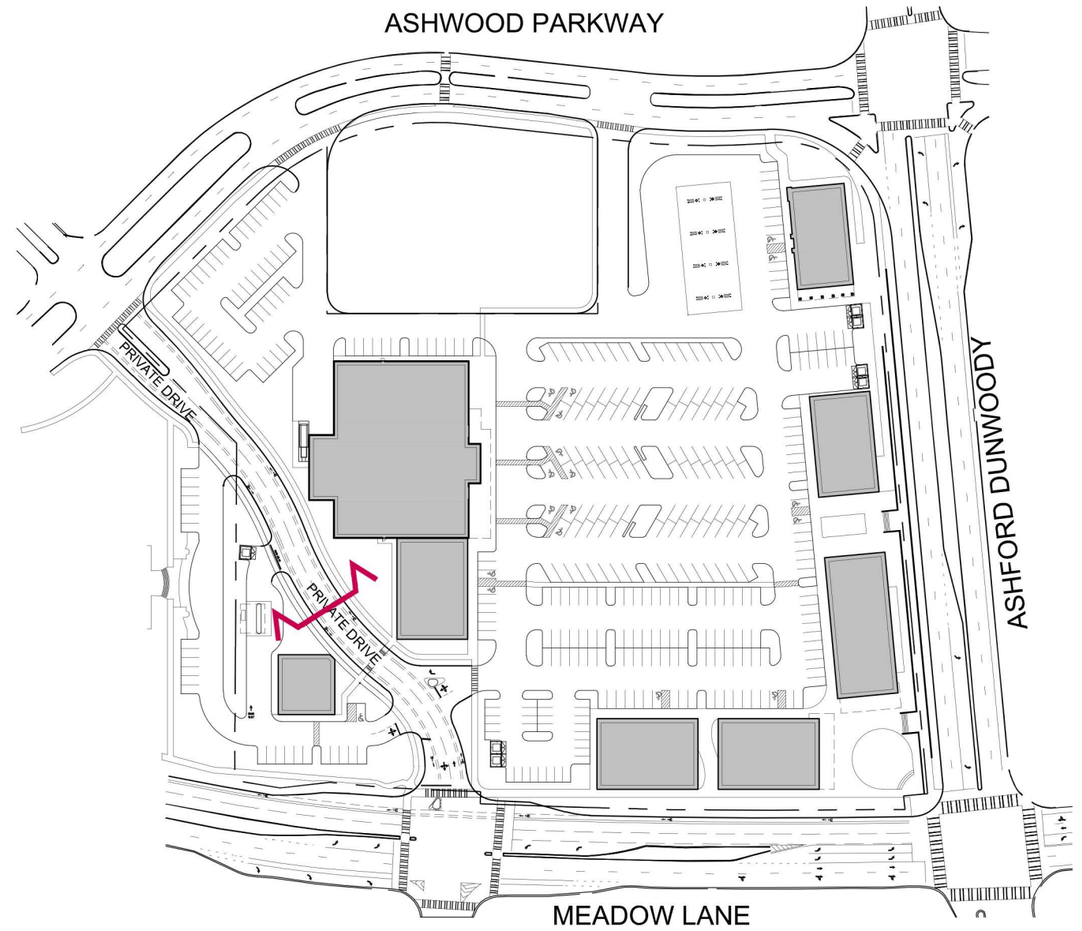
CLIENT BRANCH PROPERTIES, LLC	PROJECT **ASHFORD DUNWOODY RD** **ATLANTA, GA**	JOB NUMBER 1617702	BY AB/KMC
		DATE 2018-12-04	DRAWING ROADWAY IMPROVEMENT STUDY MEADOW LANE

PHILLIPS
THE PALISADES
5901 PEACHTREE DUNWOODY ROAD,
BUILDING A, SUITE 450 ATLANTA, GA 30328
Phone 770.394.1616 Fax 770.394.1314

PRIVATE DRIVE FRONTAGE (NEW)



2 - SIDEWALK SECTION
SCALE: 1/8" = 1'



1 SP-27 SITE PLAN
SCALE: 1" = 150'

CLIENT
BRANCH PROPERTIES, LLC

PROJECT
ASHFORD DUNWOODY RD
ATLANTA, GA

JOB NUMBER
1617702

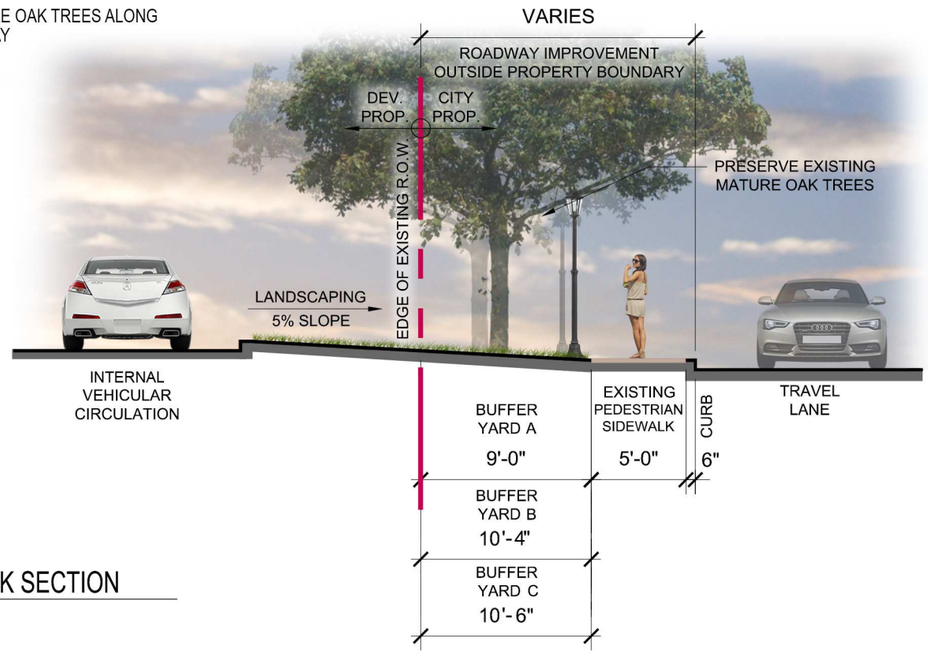
DATE
2018-12-13

BY
WHH/AB/KMC

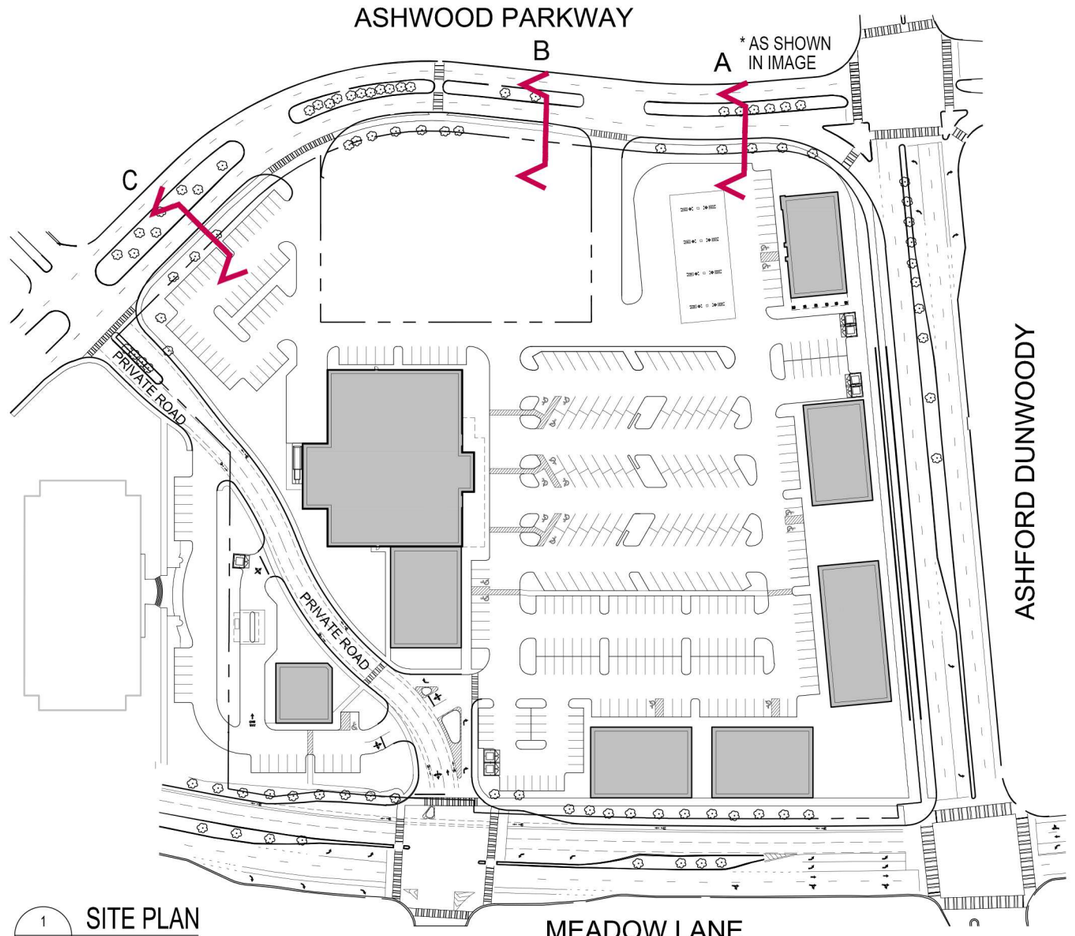
DRAWING
ROADWAY IMPROVEMENT STUDY
PRIVATE DRIVE W/ PUBLIC ACCESS EASEMENT

PHILLIPS
THE PALISADES
5901 PEACHTREE DUNWOODY ROAD,
BUILDING A, SUITE 450 ATLANTA, GA 30328
Phone 770.394.1616 Fax 770.394.1314

SECONDARY STREET FRONTAGE (EXISTING)



2 / - SIDEWALK SECTION
SCALE: 1/8" = 1'



1 / SP-25 SITE PLAN
SCALE: 1" = 150'

CLIENT
BRANCH PROPERTIES, LLC

PROJECT
ASHFORD DUNWOODY RD
ATLANTA, GA

JOB NUMBER
1617702

BY
AB/KMC

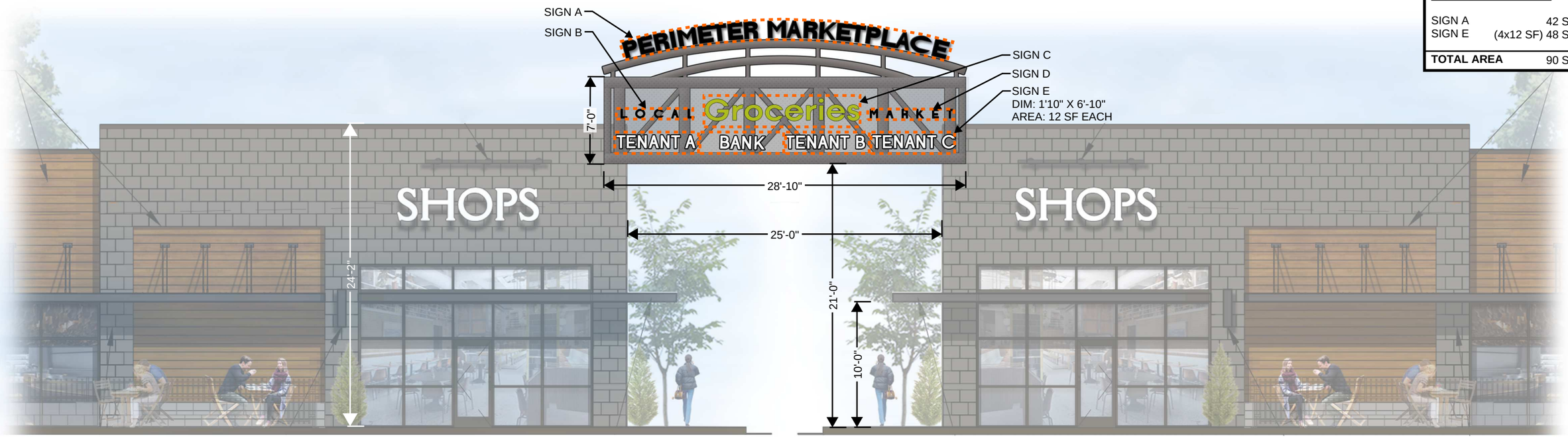
DATE
2018-12-04

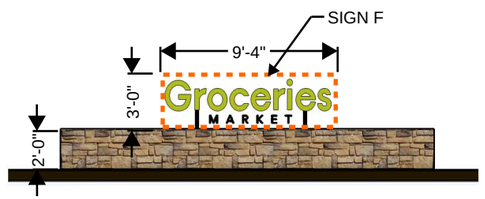
DRAWING
ROADWAY IMPROVEMENT STUDY
ASHWOOD PARKWAY

PHILLIPS
THE PALISADES
5901 PEACHTREE DUNWOODY ROAD,
BUILDING A, SUITE 450 ATLANTA, GA 30328
Phone 770.394.1616 Fax 770.394.1314

GROCERY SIGNAGE AREA DATA	
SIGN B	6 SF
SIGN C	33 SF
SIGN D	7 SF
SIGN F	27 SF
TOTAL AREA	73 SF

SIGNAGE AREA DATA	
SIGN A	42 SF
SIGN E	(4x12 SF) 48 SF
TOTAL AREA	90 SF





NOTE: BUILDING DESIGN SUBJECT TO CHANGE AND IS SHOWN FOR TWO-DIMENSIONAL REFERENCE ONLY.

BRANCH PROPERTIES, LLC

PERIMETER MARKETPLACE
ASHFORD DUNWOODY ROAD
DUNWOODY, GA

JOB NUMBER: 1617702 | DATE 04/25/19 | BY: WHH/KMC

DRAWING: SIGNAGE EXHIBIT

PHILLIPS
ARCHITECTURE ▪ CONSULTANTS
5901 PEACHTREE DUNWOODY RD. ▪ SUITE A450 ▪ ATLANTA, GA 30328 ▪ 770.394.1616



BRANCH PROPERTIES, LLC

PERIMETER MARKETPLACE
ASHFORD DUNWOODY ROAD
DUNWOODY, GA

JOB NUMBER: 1617702 | DATE: 04/25/19 | BY: APJ/KMC

DRAWING: PERIMETER MARKETPLACE - VIEW #1

PHILLIPS
ARCHITECTURE • CONSULTANTS
5901 PEACHTREE DUNWOODY RD. • SUITE A450 • ATLANTA, GA 30328 • 770.394.1616



BRANCH PROPERTIES, LLC

PERIMETER MARKETPLACE
ASHFORD DUNWOODY ROAD
DUNWOODY, GA

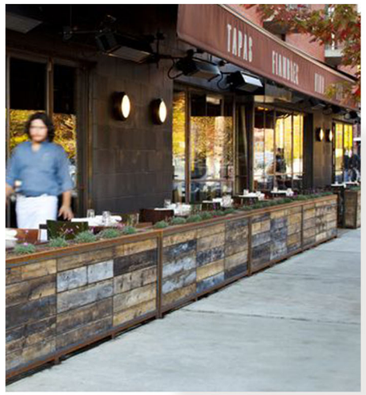
JOB NUMBER: 1617702 | DATE: 04/25/19 | BY: APJ/KMC

DRAWING: PERIMETER MARKETPLACE - VIEW #2

PHILLIPS
ARCHITECTURE ▪ CONSULTANTS
5901 PEACHTREE DUNWOODY RD. ▪ SUITE A450 ▪ ATLANTA, GA 30328 ▪ 770.394.1616



SEATING AREAS



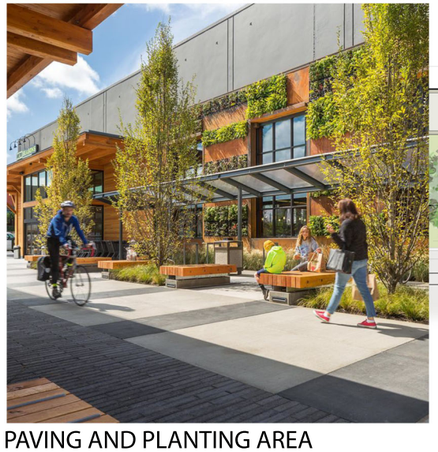
OUTDOOR DINING AREAS



GATHERING SPACE WITHIN CONNECTIVITY



SEATWALLS



PAVING AND PLANTING AREA





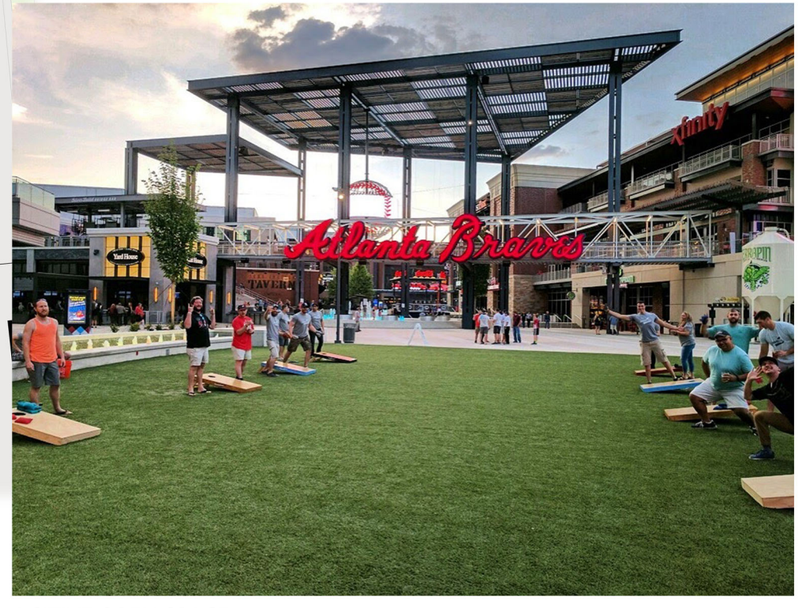
CYCLIST COMMUTER TRAIL



SYNTHETIC TURF



SEATING STEPS



ACITIVE OPEN SPACE

BRANCH PROPERTIES, LLC
Capital. Expertise. Execution.

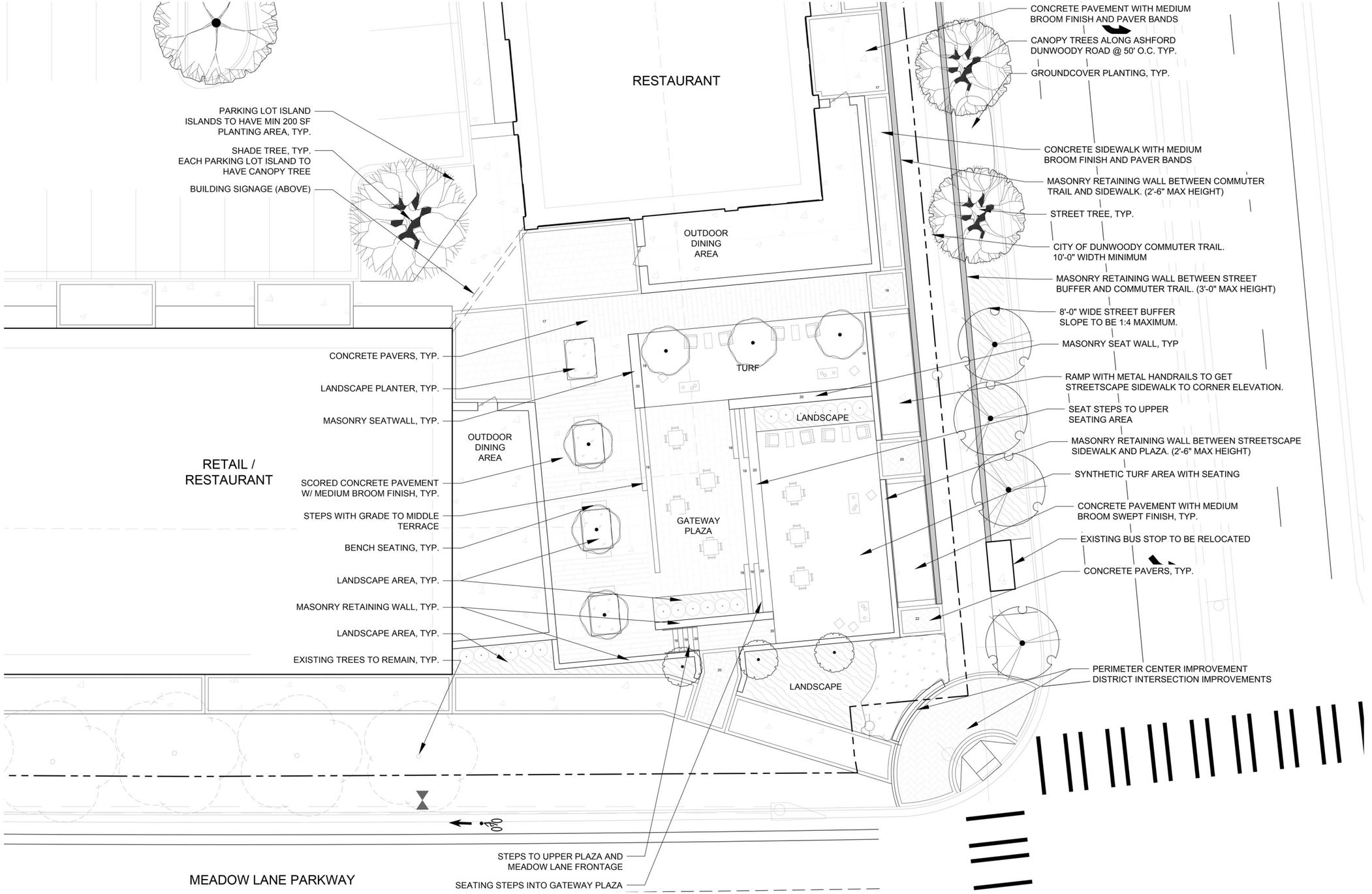
PERIMETER MARKETPLACE

DUNWOODY, GEORGIA

CONCEPTUAL GATEWAY PLAZA

24 APRIL, 2019

AJC DESIGN GROUP
770.330.0814
1991 WOODLAND WAY
DUNWOODY, GA 30338



PERIMETER MARKETPLACE

DUNWOODY, GEORGIA

CONCEPTUAL GATEWAY PLAZA PLAN

24 APRIL, 2019

BRANCH PROPERTIES, LLC
Capital. Expertise. Execution.

AJC DESIGN GROUP
770.330.0814
1991 WOODLAND WAY
DUNWOODY, GA 30338

GEORGIA 811
Utilities Protection Center, Inc.
Know what's below. Call before you dig.

ASHWOOD PARKWAY
25 MPH

APPROXIMATE PROPOSED MEDIAN BREAK

24" CURB AND GUTTER

B YELLOW HATCH

75.0'
11.0'
50.0'
1.0'
11.0'
15.4'
19.8'
50.0'
24" CURB AND GUTTER
75.0'
13.9'

NEW CURB CUT

13

50' B.S.L.

C-STORE
5,411 SF

ASHFORD DUNWOODY ROAD
45 MPH

14

15

30

100'

GRAPHIC SCALE
(IN FEET)
1 inch = 20 ft.
20 0 10 20 40 80

NORTH

A&R ENGINEERING, INC
2160 Kingston Court, Suite O
Marietta, GA 30067
Tel: (770) 690-9255
www.areng.com
arengineering@areng.com

SEAL

REVISIONS

No.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

NOT RELEASED FOR CONSTRUCTION

PREPARED FOR
Branch Ashwood Associates, LP
3340 Peachtree Road, NE
Suite 600
Atlanta, GA 30326
404-832-8931

Left Turn Lane Concept

Ashwood Restaurant Park
Left Turn Lane Conept
Ashwood Parkway and Ashford Dunwoody Road

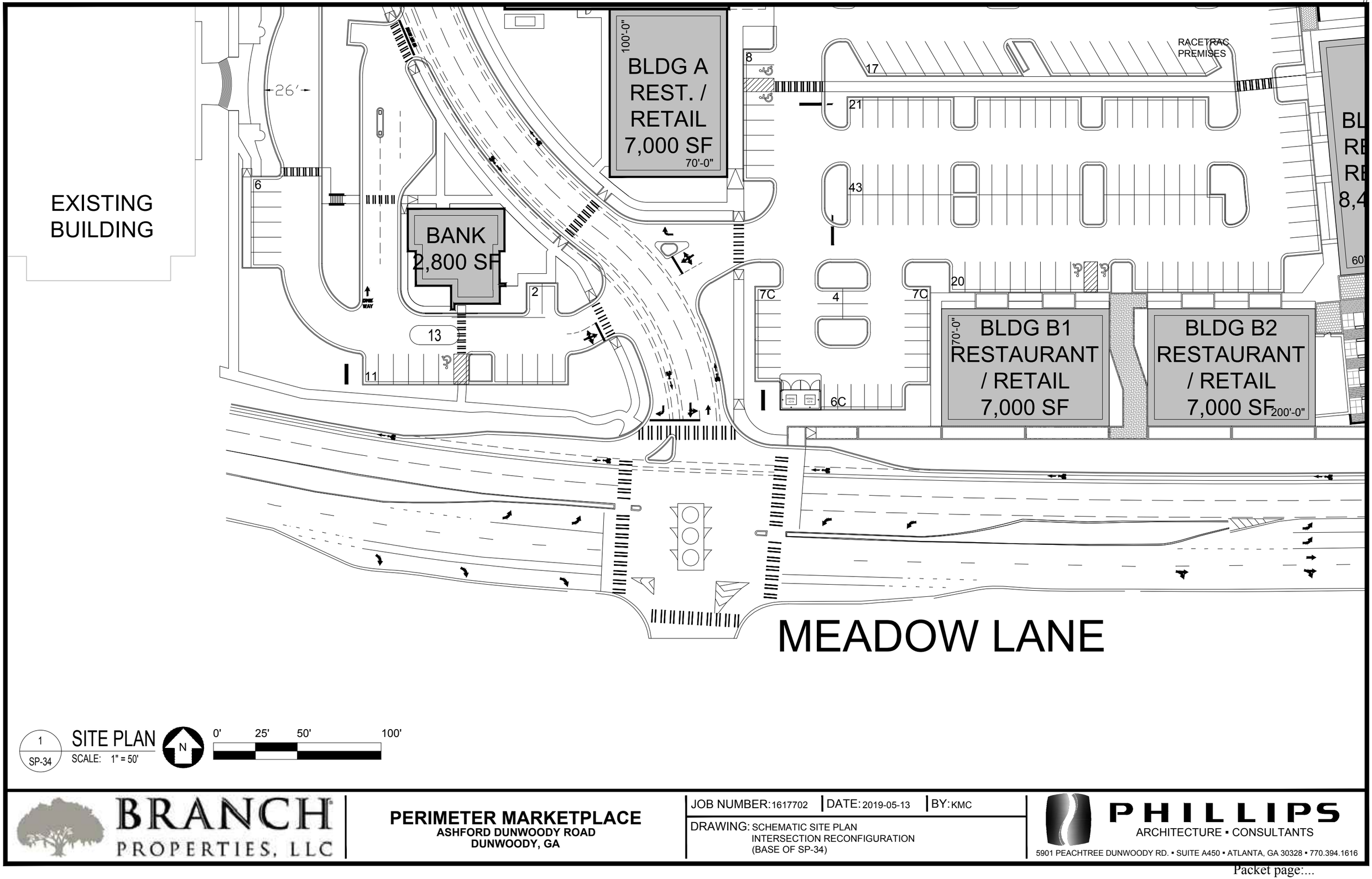
24 HOUR CONTACT
####
####

LL	DIST	PARCEL ID #
#####	#	#########

DWN BY	CKD BY	DATE
WMH	CAO	04-17-2019

A&R PROJECT #
18-189

SHEET IDENTIFICATION
CT- 1101



1 / SP-34 SITE PLAN
SCALE: 1" = 50'

N

0' 25' 50' 100'

BRANCH PROPERTIES, LLC

PERIMETER MARKETPLACE
ASHFORD DUNWOODY ROAD
DUNWOODY, GA

JOB NUMBER: 1617702 | DATE: 2019-05-13 | BY: KMC

DRAWING: SCHEMATIC SITE PLAN
INTERSECTION RECONFIGURATION
(BASE OF SP-34)

PHILLIPS
ARCHITECTURE ▪ CONSULTANTS
5901 PEACHTREE DUNWOODY RD. ▪ SUITE A450 ▪ ATLANTA, GA 30328 ▪ 770.394.1616

ORIGINAL

AMENDMENT APPLICATION

y of Dunwoody Georgia

Community Development
4800 Ashford Dunwoody Road | Dunwoody, GA 30338
Phone: (678) 382-6800 | Fax: (770) 396-4828

*** Applicant Information:**

Company Name: Branch Ashwood Associates, L.P.
Contact Name: c/o Laurel David, The Galloway Law Group, LLC,
Address: 3500 Lenox Road NE, Suite 760, Atlanta, 30326
Phone: 404-965-3680 Fax: _____ Email: laurel@glawgp.com
Pre-application conference date (required): August 9, October 2, and November 26, 2018

*** Owner Information:** ☒ Check here if same as applicant

Owner's Name: _____
Owner's Address: _____
Phone: _____ Fax: _____ Email: _____

*** Property Information:**

Property Address: various - see list attached Parcel ID: _____
Current Zoning Classification: C-1c
Requested Zoning Classification: C-1c with a modification of conditions

*** Applicant Affidavit:**

I hereby certify that to the best of my knowledge, this amendment application form is correct and complete. If additional materials are determined to be necessary, I understand that I am responsible for filing additional materials as specified by the City of Dunwoody Zoning Ordinance. I certify that I, the applicant (if different), am authorized to act on the owner's behalf, pursuant to this application and associated actions.

Applicant's Name: Richard Ross, Authorized Signatory
Applicant's Signature: _____ Date: 3/4/19

*** Notary:**

Sworn to and subscribed before me this 4th Day of March, 2019
Notary Public: Michelle P. Nunnally
Signature: _____
My Commission Expires: October 24, 2021

MICHELLE P NUNNALLY NOTARY PUBLIC DOUGLAS COUNTY, GEORGIA MY COMMISSION EXPIRES OCTOBER 24, 2021

"Ashwood Parkway"

PROPERTY DESCRIPTIONS

Overall Property

All that tract or parcel of land lying and being in Land Lots 349 & 350, 18th District, DeKalb County, Georgia and being more particularly described as follows:

Beginning at the east end of a cornered intersection of the Westerly Right-of-Way Line of Ashford Dunwoody Road, (apparent 107' width), and the Northerly Right-of-Way Line of Meadow Lane Road (apparent variable width); thence, leaving said Point of Beginning and running with the said cornered intersection between the said roads

1. South 84° 39' 44" West, 24.00 feet; thence,
2. South 05° 20' 16" East, 10.00 feet; thence,
3. South 10° 06' 16" East, 3.47 feet to the said line of Meadow Lane Road; thence, running with the said line of Meadow Lane Road
4. South 89° 40' 43" West, 133.62 feet; thence,
5. 196.33 feet along the arc of a curve deflecting to the right, having a radius of 4634.13 feet and a chord bearing and distance of North 89° 06' 28" West, 196.31 feet; thence,
6. North 87° 53' 39" West, 90.57 feet; thence,
7. North 00° 20' 08" East, 12.01 feet to a nail found; thence,
8. North 87° 53' 39" West, 51.89 feet; thence,
9. 97.53 feet along the arc of a curve deflecting to the right, having a radius of 1275.56 feet and a chord bearing and distance of North 85° 42' 13" West, 97.51 feet; thence,
10. South 83° 34' 25" West, 49.63 feet; thence,
11. 45.62 feet along the arc of a curve deflecting to the right, having a radius of 1287.56 feet and a chord bearing and distance of North 80° 20' 41" West, 45.62 feet to a capped ½" rebar found; thence, leaving the said line of Meadow Lane Road
12. North 00° 20' 08" East, 333.47 feet; thence,
13. North 44° 53' 53" West, 160.13 feet to the South line of Ashford Parkway (apparent variable width); thence, running with the said line of Ashford Parkway
14. North 45° 06' 07" East, 182.92 feet; thence,
15. 229.49 feet along the arc of a curve deflecting to the right, having a radius of 257.82 feet and a chord bearing and distance of North 70° 36' 07" East, 221.99 feet; thence,

16. South 83° 53' 53" East, 163.98 feet; thence,

17. 135.02 feet along the arc of a curve deflecting to the left, having a radius of 726.08 feet and a chord bearing and distance of South 89° 13' 32" East, 134.83 feet to a capped ½" rebar found; thence,

18. North 85° 26' 50" East, 10.95 feet to a curved intersection of the said Ashford Parkway and the said Ashford Dunwoody Road; thence, running along the said curved intersection

19. 140.18 feet along the arc of a curve deflecting to the right, having a radius of 90.03 feet and a chord bearing and distance of South 49° 56' 44" East, 126.44 feet to the said West line of Ashford Dunwoody Parkway; thence, running with the said West line of Ashford Dunwoody Parkway

20. South 05° 20' 16" East, 565.79 feet to the Point of Beginning, containing 438,099 square feet or 10.0574 acres of land, more or less.

Property is subject to all easements and rights of way recorded and unrecorded.

"Ashwood Parkway"

PROPERTY DESCRIPTIONS

Overall Property

All that tract or parcel of land lying and being in Land Lots 349 & 350, 18th District, DeKalb County, Georgia and being more particularly described as follows:

Beginning at the east end of a cornered intersection of the Westerly Right-of-Way Line of Ashford Dunwoody Road, (apparent 107' width), and the Northerly Right-of-Way Line of Meadow Lane Road (apparent variable width); thence, leaving said Point of Beginning and running with the said cornered intersection between the said roads

1. South 84° 39' 44" West, 24.00 feet; thence,
2. South 05° 20' 16" East, 10.00 feet; thence,
3. South 10° 06' 16" East, 3.47 feet to the said line of Meadow Lane Road; thence, running with the said line of Meadow Lane Road
4. South 89° 40' 43" West, 133.62 feet; thence,
5. 196.33 feet along the arc of a curve deflecting to the right, having a radius of 4634.13 feet and a chord bearing and distance of North 89° 06' 28" West, 196.31 feet; thence,
6. North 87° 53' 39" West, 90.57 feet; thence,
7. North 00° 20' 08" East, 12.01 feet to a nail found; thence,
8. North 87° 53' 39" West, 51.89 feet; thence,
9. 97.53 feet along the arc of a curve deflecting to the right, having a radius of 1275.56 feet and a chord bearing and distance of North 85° 42' 13" West, 97.51 feet; thence,
10. South 83° 34' 25" West, 49.63 feet; thence,
11. 45.62 feet along the arc of a curve deflecting to the right, having a radius of 1287.56 feet and a chord bearing and distance of North 80° 20' 41" West, 45.62 feet to a capped ½" rebar found; thence, leaving the said line of Meadow Lane Road
12. North 00° 20' 08" East, 333.47 feet; thence,
13. North 44° 53' 53" West, 160.13 feet to the South line of Ashford Parkway (apparent variable width); thence, running with the said line of Ashford Parkway
14. North 45° 06' 07" East, 182.92 feet; thence,
15. 229.49 feet along the arc of a curve deflecting to the right, having a radius of 257.82 feet and a chord bearing and distance of North 70° 36' 07" East, 221.99 feet; thence,

16. South 83° 53' 53" East, 163.98 feet; thence,

17. 135.02 feet along the arc of a curve deflecting to the left, having a radius of 726.08 feet and a chord bearing and distance of South 89° 13' 32" East, 134.83 feet to a capped ½" rebar found; thence,

18. North 85° 26' 50" East, 10.95 feet to a curved intersection of the said Ashford Parkway and the said Ashford Dunwoody Road; thence, running along the said curved intersection

19. 140.18 feet along the arc of a curve deflecting to the right, having a radius of 90.03 feet and a chord bearing and distance of South 49° 56' 44" East, 126.44 feet to the said West line of Ashford Dunwoody Parkway; thence, running with the said West line of Ashford Dunwoody Parkway

20. South 05° 20' 16" East, 565.79 feet to the Point of Beginning, containing 438,099 square feet or 10.0574 acres of land, more or less.

Property is subject to all easements and rights of way recorded and unrecorded.

LETTER OF INTENT
APPLICATION FOR
MODIFICATION OF ZONING CONDITIONS
CITY OF DUNWOODY, GEORGIA

The Owner and Applicant, Branch Ashwood Associates, L.P. ("Branch"), requests a Modification of Zoning Conditions for approximately 10.1 acres of land located at 4720 Ashford Dunwoody Road, 1250 Meadow Lane Road, and 500, 600, and 700 Ashwood Parkway, Dunwoody, Georgia (Parcel Identification Numbers 18 350 02 001 & -003, 18 349 01 037, -046, & -048) (the "Property"). The Property was zoned C-1 with conditions in 1996 as part of a master plan that includes adjacent properties. The existing zoning limits the development of the Property to four (4) restaurants and a water body/stormwater detention area. Branch is requesting the C-1 conditions be replaced entirely by this application.

Branch proposes to redevelop and revitalize the Property with additional retail, commercial and restaurant uses, introduce patio seating, pedestrian walkways and gathering areas, improve and add streetscape elements to its entire length of both Meadow Lane and Ashford Dunwoody Road, including a portion of the new Perimeter Commuter Trail, and construct a new drive to be open for use by the general public to connect Meadow Lane and Ashford Parkway. Ashwood Parkway will remain in its current condition to minimize disturbance to the existing mature trees in the right-of-way. Branch has had several meetings with the City of Dunwoody Public Works and Community Development Directors and it is our understanding that the streetscapes and the new road cross section depicted in the attached exhibits has been agreed to by all parties.

Concurrent with this application, Branch will also request a variance from Section 27-73 of the Zoning Ordinance of the City of Dunwoody to reduce the front setback requirement of fifty (50) feet to a minimum of zero (0) feet from the Property's boundary lines adjacent to Ashford Dunwoody Road, Meadow Lane Road and Ashwood Parkway; to reduce the interior side setback of twenty (20) feet to a minimum of zero (0) feet; to reduce the rear setback from thirty (30) feet to a minimum of zero (0) feet; and to increase the impervious lot coverage from 80% to a maximum of 86%. Branch also intends to fill the water body/detention system in the middle of the site and has received Environmental Protection Division's (EPD) approval for that work.

Note that Branch is losing a considerable amount of developable land by making it available for general public use. Branch proposes to construct a new drive that will connect Meadow Lane Road and Ashwood Parkway as well as provide public easements to augment existing right-of-way and construct extensive streetscape improvements along the entire Property frontages on both Ashford Dunwoody Road and Meadow Lane Road. A more detailed description of the improvements is as follows:

- Branch will provide an additional 20 feet of streetscape width to the existing 16 feet wide streetscape on Ashford Dunwoody Road. Branch will construct landscaping and patio seating areas, a new sidewalk, a new bicycle commuter trail, and will move the existing curb and gutter system to create a new landscape buffer between the new proposed streetscape and the Ashford Dunwoody Road travel lanes (see Streetscape Exhibits attached as Exhibit A).
- Branch will also provide an additional 19 to 20 feet of width to the existing 14-foot wide streetscape on Meadow Lane Road. The curb on Meadow Lane Road will be relocated, and the existing sidewalk will be removed and replaced with a new bicycle lane and a 2-foot striped buffer between the bicycle lane and the automobile travel lane. The landscape buffer and the existing trees will remain in place and a sidewalk will be constructed between the buildings and the trees. This configuration will minimize disturbance to the existing trees in the right-of-way.
- Finally, a new private drive will be constructed to connect Meadow Lane Road and Ashwood Parkway that will be complete with sidewalks and bicycle lanes on both sides of the drive. An easement will be provided to the City to ensure that the drive will open to the general public.

The total area that will be converted from developable land to the new drive and streetscape improvements is approximately 1.5 acres, and the cost of constructing the improvements is approximately $5 million dollars. This includes the filling of the water body/detention system to bring the buildings closer to the pedestrian and bicycle access points on both Ashford Dunwoody Road and Meadow Lane Road. In addition to the streetscape improvements, nearly an acre (approximately 9.2%) of the Property will be provided as patios, terraces, outdoor seating, and other publicly accessible amenity areas.

The zoning modifications would allow Branch to bring the buildings towards the street to activate the pedestrian streetscape, create attractive landscaping and outdoor dining and

seating areas and to screen parking from view from the public right-of-way. The buildings' massing will feel comfortable to both the pedestrian and vehicle traveling public. Branch will also provide additional landscaping in front of the buildings to further improve the public realm.

The Applicant responds to the following criteria for the granting of zoning modifications:

a. Whether the zoning proposal is in conformity with the policy and intent of the comprehensive plan;

The requested zoning modification is consistent with the spirit and text of the City's 2015-2035 Comprehensive Plan, which assigns the Property to the Perimeter Center Character Area (Comprehensive Plan at Page 15) and the Perimeter Center Future Land Use classification (Comprehensive Plan at Page 31). Like other properties within these categories, the proposed development will contain thriving businesses that will provide jobs and tax revenue to the City. The proposed use is appropriate in relation to both the size of the Property and to the size, scale and massing of adjacent and nearby lots in the area, which contain approved commercial, retail, multi-family and other residential uses.

b. Whether the zoning proposal will permit a use that is suitable in view of the use and development of adjacent and nearby properties;

Granting the zoning modification requested by Branch will permit a use that is suitable in view of the uses and development of adjacent and nearby properties. Support of the zoning modification request will allow Branch to construct buildings closer to the streetscape and improve the public realm. The proposed development will contain thriving businesses that will complement existing nearby commercial uses, be beneficial to the economy of the surrounding area, provide dining and retail options to nearby and adjacent office buildings, and provide employment opportunities.

c. Whether the property to be affected by the zoning proposal has a reasonable economic use as currently zoned;

The existing zoning of the Property only allows for four restaurants and stormwater detention. The existing buildings are in need of repair and the water body/stormwater detention is in need of water quality upgrades consistent with current code requirements. This severely limits the economic value of the Property. In addition, the Property is an unusual shape with multiple road frontages. The total combined frontage of the Property along three different public roads is approximately 2,143 feet, every foot of which requires a front yard setback that is 50

feet deep. In addition, Branch is being required to install road improvements on approximately 1.5 acres of the Property, thereby losing the value of that land as developable property. A further complication is that the topography on the Property varies from the intersection of Ashwood Parkway and Ashford Dunwoody Road south to the intersection of Meadow Lane Road and Ashford Dunwoody Road. In other words, if the Property grade is balanced near one intersection, it will increase the imbalance of the grade at the other intersection. To account for this condition, Branch has designed a project that adjusts and minimizes these imbalances, and the requested zoning modifications will allow Branch to bring the proposed buildings towards the street, activating the pedestrian streetscape and screening the parking facilities from view from the public right-of-way. The zoning modifications are necessary, as the unusual size and configuration of the Property relative to the street make the development of the Property for an economically viable commercial use otherwise difficult, if not impossible.

d. Whether the zoning proposal will adversely affect the existing use or usability of adjacent or nearby property;

The proposed use is appropriate in relation to the uses and usability of adjacent and nearby lots in the area. The proposed development will contain thriving businesses that will complement existing nearby commercial retail, multi-family and other residential uses, be beneficial to the economy of the surrounding area, provide dining and retail options to nearby and adjacent office buildings, and provide employment opportunities..

e. Whether there are other existing or changing conditions affecting the use and development of the property that provide supporting grounds for either approval or disapproval of the zoning proposal;

Since its inception, the City has developed zoning districts and overlays that encourage the construction and location of buildings closer to the street, activating and improving streetscapes and screening parking from view of the traveling public. The City's intent through these provisions is to ameliorate the lasting effects that outdated notions of large front yard setbacks have had on the City's streetscapes. The City's regulations also emphasize attention to the public realm, such as outdoor dining, streetscape improvements, and pedestrian plaza areas, such as those found in Branch's proposed development.

f. Whether the zoning proposal will adversely affect historic buildings, sites, districts, or archaeological resources; and

The Applicant is not aware of any historic buildings, sites, districts, or archaeological resources on the site.

g. Whether the zoning proposal will result in a use that will or could cause an excessive or burdensome use of existing streets, transportation facilities, utilities, or schools.

The design of the redevelopment of the Property emphasizes pedestrian and cycling access. The construction of the private drive should ameliorate traffic congestion at the intersection of Meadow Lane and Ashford Dunwoody and improve traffic flow during peak hours. Much of the daytime traffic is expected to come from nearby and adjacent office uses, which should reduce car traffic. In fact, the grocer is a special prototype that will be new to the Atlanta area that will have groceries, but will also have a large selection of "grab and go" offerings for lunch and dinner. Regardless, Branch has engaged a traffic engineer to review the traffic effects of the proposal. Branch has also begun coordinating sewer access with DeKalb County and is confident that sewer accommodations will be finalized by the time the building requires a Certificate of Occupancy. Beyond sewers, adequate public services, facilities and utilities exist to serve the Property.

Because this zoning modification request is consistent with the foregoing standards established at Section 27-335 of the Zoning Ordinance, Branch respectfully asks that the Mayor and City Council of the City of Dunwoody grant this zoning modification as requested.

THE GALLOWAY LAW GROUP

By: _____

Laurel A. David
Jordan Edwards
Attorneys for Applicant

3500 Lenox Road NE, Suite 760
Atlanta, Georgia 30326
(404) 965-3680

Campaign Disclosure Statement

City of Dunwoody Georgia

Community Development

4800 Ashford Dunwoody Road | Dunwoody, GA 30338
Phone: (678) 382-6800 | Fax: (770) 396-4828

Have you, within the two years immediately preceding the filing of this application, made campaign contributions aggregating $250.00 or more to a member of the City of Dunwoody City Council or a member of the City of Dunwoody Planning Commission? ☐ YES ☑ NO

✱ **Applicant / Owner:** Branch Ashwood Associates, L.P.

Signature: Laurel David Date: 3/4/19

Address: Laurel David, The Galloway Law Group, LLC, 3500 Lenox Rd., Suite 760, Atlanta 30326

If the answer above is yes, please complete the following section:

Date	Government Official	Official Position	Description	Amount

Additional Property Owner(s) Notarized Certification

City of Dunwoody Georgia

Community Development
4800 Ashford Dunwoody Road | Dunwoody, GA 30338
Phone: (678) 382-6800 | Fax: (770) 396-4828

I hereby certify that to the best of my knowledge, this amendment form is correct and complete. If additional materials are determined to be necessary, I understand that I am responsible for filing additional materials as specified by the City of Dunwoody Zoning Ordinance. I certify that the applicant(s) (if different) are authorized to act on my behalf, pursuant to this application and associated actions.

*** Property Owner (If Applicable):**

Owner Name: Branch Ashwood Associates, L.P.
Signature: _____ Date: 3/4/19
Address: c/o Laurel David, The Galloway Law Group, LLC, 3500 Lenox Rd., Suite 760, Atlanta 30326
Phone: 404-965-3680 Fax: _____ Email: laurel@glawgp.com
Sworn to and subscribed before me this 4th Day of March, 20 19
Notary Public: Michelle P. Nunnally

MICHELLE P. NUNNALLY NOTARY PUBLIC DOUGLAS COUNTY, GEORGIA MY COMMISSION EXPIRES OCTOBER 24, 2021

*** Property Owner (If Applicable):**

Owner Name: _____
Signature: _____ Date: _____
Address: _____
Phone: _____ Fax: _____ Email: _____
Sworn to and subscribed before me this _____ Day of _____, 20____
Notary Public:

*** Property Owner (If Applicable):**

Owner Name: _____
Signature: _____ Date: _____
Address: _____
Phone: _____ Fax: _____ Email: _____
Sworn to and subscribed before me this _____ Day of _____, 20____
Notary Public:

Council, from page 1

munity, Beverly Armento, told council during public comment that there were multiple reasons why council members should object to encroaching the stream buffer and bypassing the rules.

One reason was legal, Armento said.

"The Brook Run Park deed stipulates not only that the park maintain 70 percent urban green space, but also 50 feet of undisturbed stream buffer," Armento said. "It also states that the park is subject to all applicable zoning, land use and development restrictions and requirements. The city agreed to these and other stipulations when we obtained the park from DeKalb County."

Another Lakeview Oaks resident said that before Dunwoody became a city, residents didn't need flood insurance, but it's necessary now. Adelina Alberghini also said the plans for Brook Run Park were cookie cutter and told council members that the people who designed the plans have no vested interest in the city.

"It's a resume builder," Alberghini said.

Lakeview Oaks residents had support from other meeting attendees who were not happy with Brook Run Park plans including Harriet White, a landscape designer.

White told council members that she has worked in the Lakeview Oaks community and that the city's plans to build Astro-Turf fields at the back of Brook Run Park will cause water to run off the fields very fast no matter how well the city plans for drainage.

White also objected to the city's plan for the park and the impact on the city. She called the plan hideous and said that it's not going to enhance Dunwoody at all.

"I really like Brook Run Park and I don't want you to cut the trees down," White said. "The more you touch Brook Run, the more ripple affects you have for damage throughout the city."

Rob Weir, a Dunwoody North resident, also expressed concerns about Brook Run improvements and said he could sympathize with Lakeview Oaks residents. Weir said that water in his backyard increased when a lot of trees were removed at Tilly Mill and North Peachtree.

Several council members said that the ordinance change was a change in process and not for plans at Brook Run Park, but some still shown concern for the Lakeview Oaks community.

Councilor Lynn Deutsch asked Parks Director Brent Walker if he could have foreseen this issue so that it could have been considered when council members were approving the park plans.

Councilor John Heneghan asked Walker if there was a way to build the project without disturbing the stream buffer. Walk replied that the fields could be redesigned, but he wouldn't recommend it because the city would lose programmability on the fields if the footprint is minimized.

"I wouldn't recommend it based on a small impact area that we're encroaching," Walker said.

Heneghan also asked about a planned parking lot close to one of the streams and Walker said that the plan was to also encroach on a stream in that area.

"To be a fair neighbor, should we not be overengineering these plans to ensure there is no 200-year flood," Heneghan said. "I want Lakeview Oaks residents to know that we're looking out for their protection."

Mayor Denis Shortal asked Walker how many trees the city would be saving and/or losing with the Brook Run projects. Walker said he didn't have that number, but that he could eventually get it.

THE CITY OF DUNWOODY, GEORGIA
NOTICE OF PUBLIC HEARING

The City of Dunwoody Mayor and City Council will meet on Monday, March 25, 2019 at 6:00 p.m. in the Council Chambers of Dunwoody City Hall, which is located at 4800 Ashford Dunwoody Road, Dunwoody, GA 30338, for the purpose of due process of the following:

MC 19-01: Aaron St. Pierre of Lose Design, on behalf of the City of Dunwoody, owners of 4770 N Peachtree Road ("Brook Run Park") request a variance from Chapter 16, Sec. 16-78 to encroach the City's 75-foot stream buffer for construction and grading related to two new soccer fields. The Tax Parcel ID is 18 354 001 005.

Should you have any questions, comments, or would like to view the application and supporting materials, please contact the City of Dunwoody Community Development Department at 678-382-6800. Staff is available to answer questions, discuss the decision-making process, and receive comments and concerns.

THE CITY OF DUNWOODY, GEORGIA
NOTICE OF PLANNING COMMISSION MEETING

The City of Dunwoody Planning Commission will meet on Tuesday, March 12, 2019 at 6:00 p.m. in the Council Chambers of Dunwoody City Hall, which is located at 4800 Ashford Dunwoody Road, Dunwoody, Georgia 30338, for the purpose of due process of the following:

J. Ethan Underwood, attorney for the owner, on behalf of RRR 2018, LLC, owner of 5318 and 5328 Roberts Drive, Dunwoody, GA, 30338, seeks the following:

RZ19-01: To rezone the property from its current R-100 (Single-dwelling Residential) District zoning classification to an R-50 (Single-dwelling Residential) District.

Review and consideration of text amendment regarding the zoning code (Chapter 27).

Should you have any questions, comments, or would like to view the application and supporting materials, please contact the City of Dunwoody Community Development Department at 678-382-6800. Members of the public are encouraged to call or schedule a meeting with staff in advance of the Public Hearing if they have questions or are unfamiliar with the process. Staff is available to answer questions, discuss the decision-making process, and receive comments and concerns.

OBITUARY

Joyce Rita Sipple Jones, of Dunwoody, passed away peacefully on Feb. 9, 2019.

Joyce was born Oct. 29, 1930, in Hammond, Ind., and was the daughter of Patrick and Sarah Sipple. She was preceded in death by her husband of 50 plus years, Wayne L. Jones.

She is survived by her two sons, Michael Jones (Jeannine) of Dunwoody and Darren Jones of Atlanta; four grandchildren and numerous nieces and nephews.

Joyce was a graduate of Indiana University and a lifelong teacher.

Funeral services will be held at All Saints Catholic Church, 2443 Mt Vernon Road, Dunwoody, on Friday, Feb. 22 at 10:30 a.m. In lieu of flowers, memorials can be made to the Atlanta Humane Society, 981 Howell Mill Road NW, Atlanta, 30318.

Public Notice

Atlanta is coming together to support Atlanta Boxer Rescue. Atlanta Boxer Rescue is organizing a Wiggle Butt Strut and 5K on Saturday March 2, 2019. The rescue works with shelters all throughout the Greater Atlanta area to find good homes for dogs in need. This is a family and pet friendly event. The Wiggle Butt Strut will be taking place at Brook Run Park located at 4770 N Peachtree Road starting at 10:00 with check in for people and pets opening at 8:00. Please join us for a PAWS-atively enjoyable event! Pre-Register at boxerfunrun.com

Information Meeting – Modification of Zoning Conditions

A meeting open to the public will be held to discuss a proposed modification of zoning conditions for 4720 Ashford Dunwoody Road, 1250 Meadow Lane Road, and 500, 600, and 700 Ashford Parkway. This meeting will be held at 6:30 P.M. on March 4, 2019, at Eclipse de Luna, 4505 Ashford Dunwoody Road, Dunwoody, GA 30346. Please feel free to attend for more information.

EXHIBIT B – CERTIFICATES OF MAILING

THE
GALLOWAY
LAW GROUP

3500 Lenox Road, N.E., Suite 760
Atlanta, Georgia 30326
O 404-965-3680

INFORMATION MEETING CONCERNING PROPERTY LOCATED AT

4720 ASHFORD DUNWOODY ROAD, DUNWOODY, GEORGIA

We are notifying all neighboring owners of residentially zoned property of an informational meeting open to the public to discuss a modification of the zoning conditions associated with property at 4720 Ashford Dunwoody Rd., 1250 Meadow Lane and 500, 600 and 700 Ashford Parkway. The meeting will take place on Monday, March 4, 2019, from 6:30 P.M. to 7:30 P.M. and will be held in the private dining room in the Eclipse di Luna restaurant at 4505 Ashford Dunwoody Rd NE, Atlanta, GA 30346 (in the back of the Park Place retail center). Please feel free to attend this meeting should you have any questions. If you are unable to attend but would like to obtain information, please contact The Galloway Law Group at (404) 965-3680.

Sincerely,

THE GALLOWAY LAW GROUP, LLC

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2.	YETURU SINDHU 4666 MAGNOLIA COMMONS DUNWOODY GA 30338													
3.	LEE EUNIM 4668 MAGNOLIA COMMONS DUNWOODY GA 30338													
4.	MANYAM NAGAVARDHAN 4670 MAGNOLIA COMMONS DUNWOODY GA 30338													
5.	SOLAN RAHUL 4672 MAGNOLIA COMMONS DUNWOODY GA 30338													
6.	CHARLES BRIDGET L 4674 MAGNOLIA COMMONS DUNWOODY GA 30338													
7.	ARNOLD BRANDON 4676 MAGNOLIA COMMONS DUNWOODY GA 30338													
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1.	ANTONELLI BRIAN 4658 MAGNOLIA COMMONS DUNWOODY GA 30338		Handling Charge - if Registered and over $50,000 in value				Adult Signature Required	Adult Signature Restricted Delivery	Restricted Delivery	Return Receipt	Signature Confirmation	Signature Confirmation Restricted Delivery	Special Handling
2.	YAO QIMIN 4656 MAGNOLIA COMMONS DUNWOODY GA 30338												
3.	KIANIAN BEHROUZ 4654 MAGNOLIA COMMONS DUNWOODY GA 30338												
4.	BOWLING REBECCA K 4652 MAGNOLIA COMMONS DUNWOODY GA 30338												
5.	HEINTZ EDWARD C JR 4650 MAGNOLIA COMMONS DUNWOODY GA 30338												
6.	VORREY NAGESHWARRAO 4648 MAGNOLIA COMMONS DUNWOODY GA 30338												
7.	PIERCE BRIAN C 4646 MAGNOLIA COMMONS DUNWOODY GA 30338												
8.	BYRUM JOHN 4684 DOGWOOD ALLEY DUNWOODY GA 30338												

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2.	WEBER RUSSELL W 4690 DOGWOOD ALLEY DUNWOODY GA 30338												
3.	SHAAR GARY B 4692 DOGWOOD ALLEY DUNWOODY GA 30338												
4.	HAH JAY 4694 DOGWOOD ALLEY DUNWOODY GA 30338												
5.	MCCORMICK REBECCA A 4696 DOGWOOD ALLEY DUNWOODY GA 30338												
6.	KOTA VENKAT ROHIT 4698 DOGWOOD ALLEY DUNWOODY GA 30338												
7.	GORDON ROBERT W 4702 DOGWOOD ALLEY DUNWOODY GA 30338												
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1.	GHADIRIAN ALI 4706 DOGWOOD ALLEY DUNWOODY GA 30338
2.	ZANDIEH ABDOL R 4708 DOGWOOD ALLEY DUNWOODY GA 30338
3.	CHAN MICHELLE WEI CHENG 4710 DOGWOOD ALLEY DUNWOODY GA 30338
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5.	BONILLA MARISOL 4712 DOGWOOD ALLEY DUNWOODY GA 30338
6.	SEARS DONALD L 4714 DOGWOOD ALLEY DUNWOODY GA 30338
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2.	SMITH LEZLY S 4693 DOGWOOD ALLEY DUNWOODY GA 30338												
3.	MCCUTCHEN THOMAS W 4691 DOGWOOD ALLEY DUNWOODY GA 30338												
4.	KAUFMAN TOMMY A 4689 DOGWOOD ALLEY DUNWOODY GA 30338												
5.	ADRIAN RICARDO 4687 DOGWOOD ALLEY DUNWOODY GA 30338												
6.	RAI PARITOSH 4685 DOGWOOD ALLEY DUNWOODY GA 30338												
7.	SAMUEL ESSON JONAH JR 4722 CYPRESS COMMONS DUNWOODY GA 30338												
8.	MOHR ALESSANDRA 4724 CYPRESS COMMONS DUNWOODY GA 30338												

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1.	YAEGER STEVEN M 4726 CYPRESS COMMONS DUNWOODY GA 30338		Handling Charge - if Registered and over $50,000 in value				Adult Signature Required	Adult Signature Restricted Delivery	Restricted Delivery	Return Receipt	Signature Confirmation	Signature Confirmation Restricted Delivery	Special Handling
2.	ZHOU QIAN 4728 CYPRESS COMMONS DUNWOODY GA 30338												
3.	JARVIS TODD E 4730 CYPRESS COMMONS DUNWOODY GA 30338												
4.	RAR HOME INVESTMENTS LLC 4732 CYPRESS COMMONS DUNWOODY GA 30338												
5.	RIPLEY LISA M 4736 CYPRESS COMMONS DUNWOODY GA 30338												
6.	PATEL MARMIK VIJAYKUMAR 4738 CYPRESS COMMONS DUNWOODY GA 30338												
7.	SYLLA ABDOUL K 4723 CYPRESS COMMONS DUNWOODY GA 30338												
8.	LEE BONG KUN 4725 CYPRESS COMMONS DUNWOODY GA 30338												

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1.	FENG YUN 4727 CYPRESS COMMONS DUNWOODY GA 30338													
2.	PEREZ LILIANA IVONHE 4729 CYPRESS COMMONS DUNWOODY GA 30338													
3.	DINICOLA JODY N 4731 CYPRESS COMMONS DUNWOODY GA 30338													
4.	EPPS BARRY L 4733 CYPRESS COMMONS DUNWOODY GA 30338													
5.	NICHOLAS DENNIS JAMES II 4748 CYPRESS COMMONS DUNWOODY GA 30338													
6.	KOROLKOV LEONID 4746 CYPRESS COMMONS DUNWOODY GA 30338													
7.	GARAGESHWARA JEETH 4744 CYPRESS COMMONS DUNWOODY GA 30338													
8.	KANG SOHI 4742 CYPRESS COMMONS DUNWOODY GA 30338													

Handling Charge - if Registered and over $50,000 in value
Adult Signature Required
Adult Signature Restricted Delivery
Restricted Delivery
Return Receipt
Signature Confirmation
Signature Confirmation Restricted Delivery
Special Handling

Total Number of Pieces Listed by Sender	Total Number of Pieces Received at Post Office	Postmaster, Per *(Name of receiving employee)*
8	8	

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Atlanta, Georgia 30326

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- ☐ Registered Mail
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation

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USPS Tracking/Article Number		Service) Fee	Charge	if Registered	Value	Sender if COD	Fee	Fee	Fee	Fee	SC Fee	SCRD Fee	SH Fee
1.	PATEL MARMIK VIJAYKUMAR 4738 CYPRESS COMMONS DUNWOODY GA 30338		Handling Charge - if Registered and over $50,000 in value				Adult Signature Required	Adult Signature Restricted Delivery	Restricted Delivery	Return Receipt	Signature Confirmation	Signature Confirmation Restricted Delivery	Special Handling
2.	JONES JOE R 4751 LAUREL WALK DUNWOODY GA 30338												
3.	JOHNSON CARTER 4755 LAUREL WALK DUNWOODY GA 30338												
4.	LTD STRATEGIES LLC 4759 LAUREL WALK DUNWOODY GA 30338												
5.	MAYBIN ALANTE 4763 LAUREL WALK DUNWOODY GA 30338												
6.	HANDA KAPIL 4767 LAUREL WALK DUNWOODY GA 30338												
7.	ROG JAKE 4771 LAUREL WALK DUNWOODY GA 30338												
8.													

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USPS Tracking/Article Number			Postage	Service) Fee	Charge	if Registered	Value	Sender if COD	Fee	Fee	Fee	Fee	Fee	CRD Fee	SH Fee
	☐	MARION JOHN S 1152 HOLLEY AVENUE DUNWOODY GA 30338													
1.	☐	LUCAS ROBERTA 1148 HOLLEY AVENUE DUNWOODY GA 30338			Handling Charge - if Registered and over $50.000 in value				Adult Signature Required	Adult Signature Restricted Delivery	Restricted Delivery	Return Receipt	Signature Confirmation	Signature Confirmation Restricted Delivery	Special Handling
2.	☐	LAWRENCE KEITH D 1144 HOLLEY AVENUE DUNWOODY GA 30338													
3.	☐	MACK FAMILY TRUST 1140 HOLLEY AVENUE DUNWOODY GA 30338													
4.	☐	BOWMAN JANICE L 1136 HOLLEY AVENUE DUNWOODY GA 30338													
5.	☐	CAUSEY EAMON G 1132 HOLLEY AVENUE DUNWOODY GA 30338													
6.	☐	HOLSCHUH KIMBERLY A 1128 HOLLEY AVENUE DUNWOODY GA 30338													
7.	☐	BLOCK ROBERT M JR 1124 HOLLEY AVENUE DUNWOODY GA 30338													
8.	☐														

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- ☐ Signature Confirmatic

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ATLANTA GA
FEB 12 2019

USPS Tracking/Article Number	
	☐ ☐ BOYAJIAN MICHAEL 1159 HOLLEY AVENUE DUNWOODY GA 30338
1.	CHEN ZHUOWEN 1155 HOLLEY AVENUE DUNWOODY GA 30338
2.	HENRY ROBERT W 1151 HOLLEY AVENUE DUNWOODY GA 30338
3.	FOSS DAVID R 1147 HOLLEY AVENUE DUNWOODY GA 30338
4.	WINTER JOSEPH III 1143 HOLLEY AVENUE DUNWOODY GA 30338
5.	NJU ZEH B 1139 HOLLEY AVENUE DUNWOODY GA 30338
6.	YASMIN K KARIM REVOCABLE TRUST 1135 HOLLEY AVENUE DUNWOODY GA 30338
7.	NIEDERKOHR NATHAN D 1131 HOLLEY AVENUE DUNWOODY GA 30338
8.	

Service) Fee	Charge	if Registered	Value	Due Sender if COD	ASR Fee	ASRD Fee	RD Fee	RR Fee	SC Fee	SCRD Fee	SH Fee
	Handling Charge - if Registered and over $50,000 in value				Adult Signature Required	Adult Signature Restricted Delivery	Restricted Delivery	Return Receipt	Signature Confirmation	Signature Confirmation Restricted Delivery	Special Handling

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ATLANTA GA
FEB 12 2019

USPS Tracking/Article Number		Postage	(Extra Service) Fee	Handling Charge	Actual Value if Registered	Insured Value	Due Sender if COD	ASR Fee	ARR Fee	RD Fee	RR Fee	SC Fee	SCRD Fee	SH Fee
	BEITH ROBERT R 1127 HOLLEY AVENUE DUNWOODY GA 30338													
1.	BASSETT SHARON N 1123 HOLLEY AVENUE DUNWOODY GA 30338			Handling Charge - if Registered and over $50,000 in value				Adult Signature Required	Adult Signature Restricted Delivery	Restricted Delivery	Return Receipt	Signature Confirmation	Signature Confirmation Restricted Delivery	Special Handling
2.	WOODRUFF ALEXANDRIA L 1119 HOLLEY AVENUE DUNWOODY GA 30338													
3.	SCHWARZ THOMAS A 1160 HOLLEY AVENUE DUNWOODY GA 30338													
4.	SCHMITT CHARLES D 1164 HOLLEY AVENUE DUNWOODY GA 30338													
5.	AFROMSKY KERRI M 1168 HOLLEY AVENUE DUNWOODY GA 30338													
6.	LUGO VINA EDUARDO A 1172 HOLLEY AVENUE DUNWOODY GA 30338													
7.	NEVEL KEITH A. 1176 HOLLEY AVENUE DUNWOODY GA 30338													
8.														

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USPS Tracking/Article Number		Fee	Handling Charge - if Registered and over $50,000 in value			COD	Adult Signature Required	Adult Signature Restricted Delivery	Restricted Delivery	Return Receipt	Signature Confirmation	Signature Confirmation Restricted Delivery	Special Handling
1.	JEWELL DAVID T 1184 HOLLEY AVENUE DUNWOODY GA 30338												
2.	ZHAO PING 1188 HOLLEY AVENUE DUNWOODY GA 30338												
3.	PARK JUNG HA 1192 HOLLEY AVENUE DUNWOODY GA 30338												
4.	ALBANY ROAD ASHWOOD LLC 10 HIGH STREET FLOOR 7 BOSTON MA 2110												
5.	POST CROSSING LLC 6815 POPLAR AVE STE 500 GERMANTOWN TN 38138												
6.													
7.													
8.													

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PROPERTY LIST

APPLICATION FOR ZONING MODIFICATION

CITY OF DUNWOODY, GEORGIA

The Property that is the subject of Application for Zoning Modification submitted by Branch Ashwood Associates, L.P., consists of the following properties:

Tax Parcel: 18 350 02 001
Site Address: *4720 ASHFORD DUNWOODY RD*

Tax Parcel: 18 350 02 003
Site Address: *700 ASHWOOD PKWY*

Tax Parcel: 18 349 01 048
Site Address: *600 ASHWOOD PKWY*

Tax Parcel: 18 349 01 046
Site Address: *500 ASHWOOD PKWY*

Tax Parcel: 18 349 01 037
Site Address: *1250 MEADOW LANE RD*

The combined area of these five (5) lots is approximately 10.0574 acres.

ORIGINAL

PUBLIC PARTICIPATION REPORT
APPLICATION FOR REZONING
CITY OF DUNWOODY, GEORGIA

Branch Ashwood Associates, L.P. ("Branch") has submitted a Modification of Zoning Conditions for approximately 10.1 acres of land located at 4720 Ashford Dunwoody Road. 1250 Meadow Lane Road, and 500, 600 and 700 Ashwood Parkway. In accordance with Section 27.306 of the Dunwoody Zoning Ordinance, Branch hosted a Public Information Meeting on Monday, March 4, 2019 at 6:30 P.M., at Eclipse Di Luna, a restaurant located at 4505 Ashford Dunwoody Road. Branch advertised this meeting by submitting a classified ad to The Dunwoody Crier, which appeared in the Dunwoody Crier on February 20, 2019. See **Exhibit A, Dunwoody Crier Newspaper Ad**. Branch also mailed a letter to all owners of property within 1,000 feet of the zoning parcels. See **Exhibit B, Certificates of Mailing**. The people who attended the meeting were asked to provide their names and email addresses on sign-in sheets that Branch distributed. See **Exhibit C, Public Information Meeting Sign-In Sheets**.

The majority of the questions and comments raised during the meeting concerned the overall development and future streetscape improvements. During the meeting, Branch responded to attendees' questions or remarks, as summarized below:

1. The numerous streetscape improvements proposed in conjunction with the redevelopment were explained and discussed in detail. The planned private/public drive connection between Meadow Lane and Ashwood Parkway will alleviate traffic back-ups at the intersection of Meadow Lane and Ashford Dunwoody. The attendees expressed support of the improvements and the emphasis on walkability of the proposed development and the addition of new and improved sidewalks and other pedestrian walkways.
2. The stormwater detention pond is unsightly and attendees supported its removal. Both federal and EPD approvals to fill in the pond have been obtained.
3. The proposed gas station use was supported. Many expressed their frustration with the difficulties accessing other gas stations in the area. The design presented with eight pumps and a convenience store next to the Ashford Dunwoody right of way was preferred. There were no objections to it being open 24/7. The restaurant operators that are currently interested in leasing tenant space will be new to the Dunwoody market and

will provide more variety in dining options. P.F. Chang's currently plans to relocate in one of the new buildings. The proposed grocery is a new protoype that would be one of the first in the State of Georgia. It will provide pre-prepared meals for lunch and dinner, organic foods, fruits and vegetables, as well as household and food items typically found in grocery stores.

4. There will be enough parking in the proposed development. Branch has decades of experience developing and managing retail centers and through this experience knows how much parking is required for a development of this type. For this reason the center currently has about 10% more spaces than is required by code.
5. The "outparcel" will developed at some point in the future when the use is known. There are several hotel operators that are interested in the site. If Branch pursues a hotel option, applications will be filed to modify the zoning to allow a hotel.
6. A question was raised about the possibility of rooftop terraces for the restaurants. Unfortunately this is not an option as it creates the need for additional parking that can't be accommodated on site.

This Public Participation Report summarizes the items discussed at the Public Information Meeting on March 4, 2019. The attendees of the meeting were very supportive of the new development and expressed their belief that it will be beneficial for the Dunwoody community.

Sincerely,

THE GALLOWAY LAW GROUP, LLC

Laurel A. David
Jordan Edwards
Attorneys for the Owner/ Applicant
Branch Ashwood Associates, LLC

3500 Lenox Road NE, Suite 760
Atlanta, Georgia 30326
(404) 965-3680

EXHIBIT C – PUBLIC INFORMATION MEETING SIGN-IN SHEETS

COMMUNITY MEETING SIGN-IN SHEET

Name	Address	E-Mail / Phone
Shaun Bassett	1123 Holly Ave	SNBmini@att.net
Regina Mack	1140 Holly Ave	Mrsregina mack@me.com
Russ Weber	4690 DOGWOOD ALY	RUSSELL WEBER@YAHOO.COM
Laurie Weber	4690 Dogwood Aly, Dunwoody	Laurie.Weber@am.crh.com
DEX MACK	1140 Holly Ave	DEXMAC1@MAC.COM
RON CRUMP	2658 COLEMAN CT	RON.C@THECONTINEOGROUP.COM
ROB FRENCH	5901 PEACHTREE DUNWOODY	RFRENCH@PHILLIPSPARK.COM,
Jack Hayleff	3340 Peachtree Suite 2775	J Hayleff@BranchProp.com
Nick Velesca	"	NVelesca@BranchProp.com
Albert Israel	"	aisrael@branchprop.com
John Riedy		

COMMUNITY MEETING SIGN-IN SHEET

CONSTITUTIONAL OBJECTIONS
APPLICATION FOR ZONING MODIFICATION
CITY OF DUNWOODY, GEORGIA

Georgia Law and the procedures of the City of Dunwoody require us to raise Federal and State Constitutional objections during the Zoning Modification application process. While the Owner/Applicant anticipates a smooth application process, failure to raise constitutional objections at this stage may mean that the Owner/Applicant will be barred from raising important legal claims later in the process. Accordingly, we are required to raise the following constitutional objections at this time:

The portions of the Zoning Ordinance of the City of Dunwoody, Georgia, as applied to the Property, that would result in a denial of the Zoning Modification as requested by the Owner/Applicant, are, or would be, unconstitutional in that they would destroy the Owner/Applicant's property rights without first paying fair, adequate and just compensation for such rights, in violation of Article I, Section I, Paragraph I of the Constitution of the State of Georgia of 1983, Article I, Section III, Paragraph I of the Constitution of the State of Georgia of 1983 and the Due Process Clause of the Fourteenth Amendment to the Constitution of the United States.

Any application of the Code of the City of Dunwoody or the Dunwoody Zoning Ordinance to the Property which restricts its use to any use in a manner other than that requested by the Owner/Applicant is unconstitutional, illegal and null and void because such an application constitutes a taking of the Owner/Applicant's property in violation of the Just Compensation Clause of the Fifth Amendment to the Constitution of the United States, Article I, Section I, Paragraph I, and Article I, Section III, Paragraph I, of the Constitution of the State of Georgia of 1983 and the Equal Protection and Due Process Clauses of the Fourteenth Amendment to the Constitution of the United States because such an application denies the Owner/Applicant an economically viable use of its land while not substantially advancing legitimate state interests.

A denial of this Application would also constitute an arbitrary and capricious act by the Mayor and City Council of the City of Dunwoody without any rational basis therefore, thereby constituting an abuse of discretion in violation of Article I, Section I, Paragraph I of the Constitution of the State of Georgia of 1983, Article I, Section III, Paragraph I of the Constitution of the State of Georgia of 1983 and the Due Process Clause of the Fourteenth Amendment to the Constitution of the United States.

A refusal to approve the Zoning Modification as requested by the Owner/Applicant would be unconstitutional and discriminate in an arbitrary, capricious and unreasonable manner between the Owner/Applicant and owners of similarly situated property in violation of Article I, Section I, Paragraph II of the Constitution of the State of Georgia of 1983 and the Equal Protection Clause of the Fourteenth Amendment to the Constitution of the United States. Any approval of the Zoning Modification subject to conditions that are different from the conditions requested by the Owner/Applicant, to the extent such different conditions would have the effect of further restricting the Owner/Applicant's utilization of the Property, would also constitute an

arbitrary, capricious and discriminatory act and would likewise violate each of the provisions of the State and Federal Constitutions set forth herein above.

In addition, this constitutes formal written notice to the City of Dunwoody, pursuant to O.C.G.A. § 36-33-5, that the Owner/Applicant plans to seek to recover all damages that it sustains or suffers as a result of the denial of this Application and/or the unconstitutional zoning of the Property by the City of Dunwoody. Such damages may include, but are not necessarily limited to, damages related to the diminution in the value of the Property, attorneys' fees and expenses of litigation.

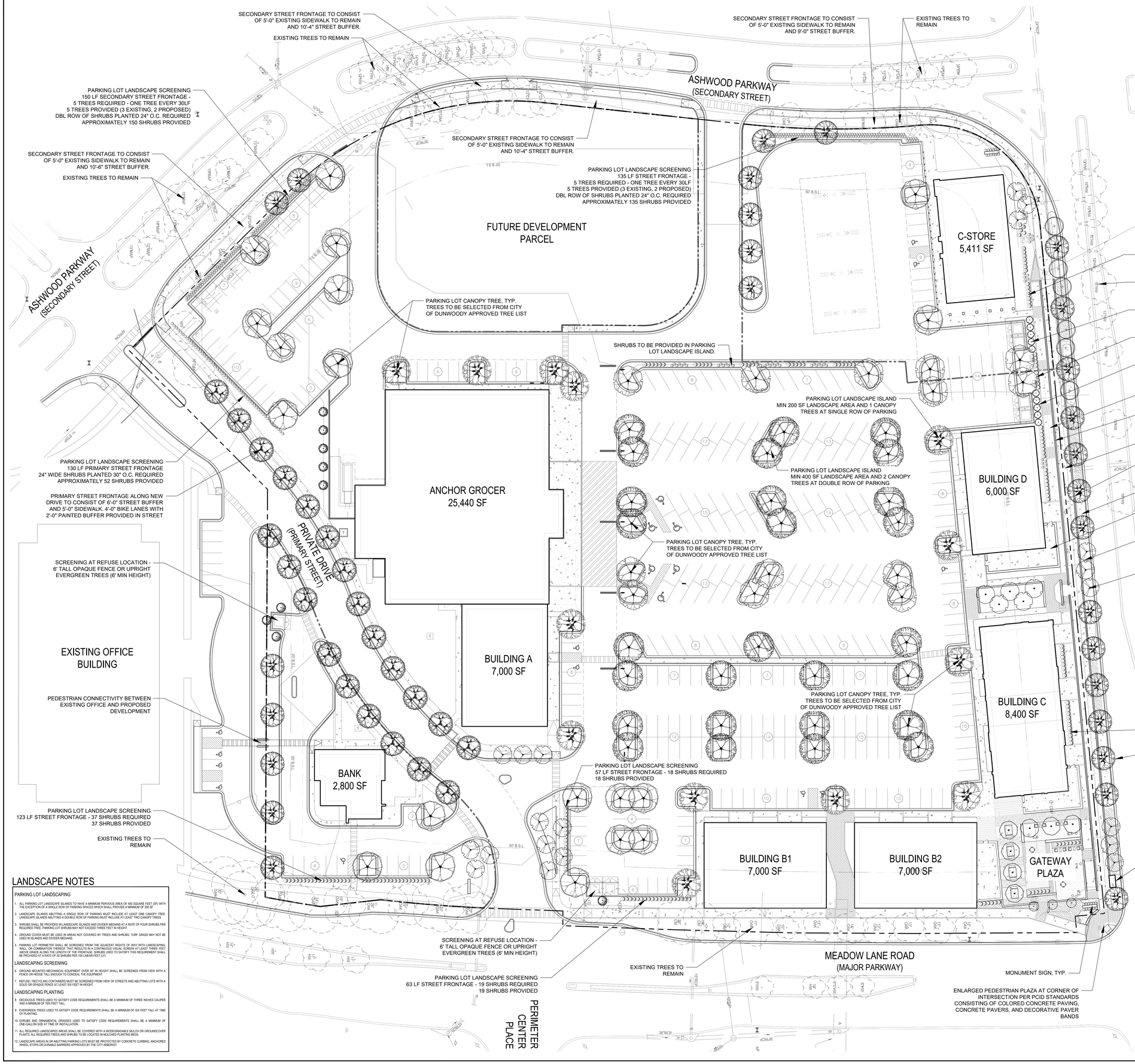
Accordingly, the Owner/Applicant respectfully asks that the Zoning Modification be approved as requested by the Owner/Applicant.

THE GALLOWAY LAW GROUP, LLC

By: Laurel David

Laurel David
Jordan Edwards
Attorneys for the Owner/Applicant

3500 Lenox Road NE, Suite 760
Atlanta, Georgia 30326
(404) 965-3680 Telephone
(404) 965-3670 Facsimile



LANDSCAPE LEGEND

- EXISTING TREE TO REMAIN
- CANOPY TREES — PARKING LOT AND STREET TREES. EXAMPLE: OAK, MAPLE, ELM, BALD CYPRESS
- UNDERSTORY CANOPY TREES — UNDERSTORY STREET TREES. EXAMPLE: FRINGE TREE, HORNBEAM, REDBUD, SERVICEBERRY, DOGWOOD
- ORNAMENTAL TREES — UNDERSTORY / FLOWERING ORNAMENTAL TREES. EXAMPLE: CHERRY, CRAPE MYRTLE, CRAB APPLE JAPANESE MAGNOLIA, KOUSA DOGWOOD
- EVERGREEN TREES — EVERGREEN / SCREENING TREES. EXAMPLE: AMERICAN HOLLY, MAGNOLIA, RED CEDAR, PINE, CYPRESS
- SHRUBS / GROUNDCOVER

LANDSCAPE PLANS ARE PRELIMINARY AND SUBJECT TO CHANGE AS THE PROJECT PROGRESSES. PLANT MATERIALS SHOWN FOR CONCEPT AND GENERAL COMPLIANCE WITH ZONING. TREE SPECIES AND LOCATIONS ARE SUBJECT TO REVIEW WITH SIMILAR MATERIALS FROM THE CITY OF DUNWOODY GENERAL TREE LIST (SEC. 16-116) EX. CANOPY TREES FOR CANOPY TREE.

LANDSCAPE NOTES

PARKING LOT LANDSCAPING

1. ALL PARKING LOT LANDSCAPE ISLANDS TO HAVE A MINIMUM PERVIOUS AREA OF 400 SQUARE FEET (SF) WITH THE EXCEPTION OF A SINGLE ROW OF PARKING SPACES WHICH SHALL PROVIDE A MINIMUM OF 200 SF.
2. LANDSCAPE ISLANDS ABUTTING A SINGLE ROW OF PARKING MUST INCLUDE AT LEAST ONE CANOPY TREE. LANDSCAPE ISLANDS ABUTTING A DOUBLE ROW OF PARKING MUST INCLUDE AT LEAST TWO CANOPY TREES.
3. SHRUBS SHALL BE PROVIDED IN LANDSCAPE ISLANDS AND DIVIDER MEDIANS AT A RATE OF FOUR SHRUBS PER REQUIRED TREE. PARKING LOT SHRUBS MAY NOT EXCEED THREE FEET IN HEIGHT.
4. GROUND COVER MUST BE USED IN AREAS NOT COVERED BY TREES AND SHRUBS. TURF GRASS MAY NOT BE USED IN ISLANDS AND DIVIDER MEDIANS.
5. PARKING LOT PERIMETER SHALL BE SCREENED FROM THE ADJACENT RIGHTS OF WAY WITH LANDSCAPING, WALL, OR COMBINATION THEREOF THAT RESULTS IN A CONTINUOUS VISUAL SCREEN AT LEAST THREE FEET ABOVE GRADE ALONG THE LENGTH OF THE FRONTAGE. SHRUBS USED TO SATISFY THIS REQUIREMENT SHALL BE PROVIDED AT A RATE OF 30 SHRUBS PER 100 LINEAR FEET (LF).

LANDSCAPING SCREENING

6. GROUND MOUNTED MECHANICAL EQUIPMENT OVER 30" IN HEIGHT SHALL BE SCREENED FROM VIEW WITH A FENCE OR HEDGE TALL ENOUGH TO CONCEAL THE EQUIPMENT.
7. REFUSE / RECYCLING CONTAINERS MUST BE SCREENED FROM VIEW OF STREETS AND ABUTTING LOTS WITH A SOLID OR OPAQUE FENCE AT LEAST SIX FEET IN HEIGHT.

LANDSCAPING PLANTING

8. DECIDUOUS TREES USED TO SATISFY CODE REQUIREMENTS SHALL BE A MINIMUM OF THREE INCHES CALIPER AND A MINIMUM OF TEN FEET TALL.
9. EVERGREEN TREES USED TO SATISFY CODE REQUIREMENTS SHALL BE A MINIMUM OF SIX FEET TALL AT TIME OF PLANTING.
10. SHRUBS AND ORNAMENTAL GRASSES USED TO SATISFY CODE REQUIREMENTS SHALL BE A MINIMUM OF ONE-GALLON SIZE AT TIME OF INSTALLATION.
11. ALL REQUIRED LANDSCAPED AREAS SHALL BE COVERED WITH A BIODEGRADABLE MULCH OR GROUNDCOVER PLANTS. ALL REQUIRED TREES AND SHRUBS TO BE LOCATED IN MULCHED PLANTING BEDS.
12. LANDSCAPE AREAS IN OR ABUTTING PARKING LOTS MUST BE PROTECTED BY CONCRETE CURBING, ANCHORED WHEEL STOPS OR DURABLE BARRIERS APPROVED BY THE CITY ARBORIST.

LANDSCAPE NOTE

LANDSCAPE PLAN PREPARED TO DENOTE PRELIMINARY DESIGN INTENT. PLANT SELECTION, MATERIALS, QUANTITY AND LAYOUT SUBJECT TO REVISIONS. ALL SUBSTITUTIONS MUST BE APPROVED BY OWNER AND LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

DESIGN GROUP
AJC DESIGN GROUP
770.390.0814
1991 WOODLAND WAY
DUNWOODY, GA 30338

STAMP

OWNER
BRANCH PROPERTIES, LLC
3340 PEACHTREE ROAD, SUITE 840
ATLANTA, GA 30326
(404) 812-8900

PROJECT
ASHWOOD CENTER
CITY OF DUNWOODY, GA
500 ASHWOOD PARKWAY
DUNWOODY, GEORGIA 30338

ISSUE SCHEDULE			REVISION SCHEDULE		
NO.	DATE:	ISSUE DESCRIPTION	NO.	DATE:	REVISION DESCRIPTION

SHEET NAME: ZONING LANDSCAPE SITE PLAN
PROJECT NUMBER: 1900201
DATE: 03/27/2019
SHEET NO: L1.1



BRANCH PROPERTIES, LLC

PERIMETER MARKETPLACE

CONCEPT RENDERING
DUNWOODY, GEORGIA
03-01-2019

PHILLIPS
architecture · consultants



BRANCH
PROPERTIES, LLC

ASHFORD DUNWOODY ROAD

CONCEPT RENDERING
DUNWOODY, GEORGIA
10-15-2018

PHILLIPS
architecture · consultants



1 - FRONT ELEVATION
SCALE: 1/16" = 1'-0"



2 - SIDE ELEVATION
SCALE: 1/16" = 1'-0"



3 - OVERALL ELEVATION
SCALE: 1/32" = 1'-0"

BRANCH PROPERTIES, LLC

ASHFORD DUNWOODY ROAD
DUNWOODY, GA

JOB NUMBER: 1617702 | DATE: 03/01/2019 | BY: WHH / JMK / RF

DRAWING: BLDG 'A' AND ORGANIC GROCER
SCHEMATIC COLORED ELEVATIONS

PHILLIPS
ARCHITECTURE ▪ CONSULTANTS
5901 PEACHTREE DUNWOODY RD. ▪ SUITE A450 ▪ ATLANTA, GA 30328 ▪ 770.394.1616



1 LOD-4.1 **WEST ELEVATION (FRONT)**
SCALE: 1/16" = 1'-0"





2 LOD-4.1 **NORTH ELEVATION (SIDE)**
SCALE: 1/16" = 1'-0"

3 LOD-4.1 **SOUTH ELEVATION (SIDE)**
SCALE: 1/16" = 1'-0"



4 LOD-4.1 **EAST ELEVATION (REAR)**
SCALE: 1/16" = 1'-0"

BRANCH PROPERTIES, LLC

PERIMETER MARKETPLACE

DUNWOODY, GEORGIA
03-01-2019

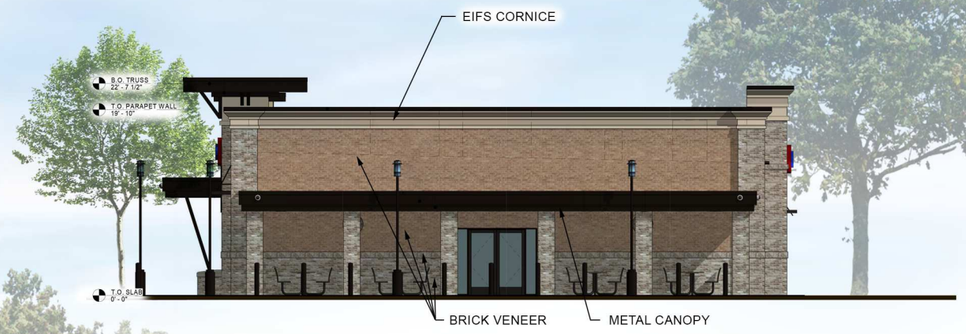
PHILLIPS architecture · consultants



1 WEST ELEVATION (FRONT)
SCALE: 1/16" = 1'-0"



2 NORTH ELEVATION (SIDE)
SCALE: 1/16" = 1'-0"



3 SOUTH ELEVATION (SIDE)
SCALE: 1/16" = 1'-0"



4 EAST ELEVATION (REAR)
SCALE: 1/16" = 1'-0"

BRANCH PROPERTIES, LLC

PERIMETER MARKETPLACE

DUNWOODY, GEORGIA
03-26-2019

RaceTrac

PERIMETER CENTER

Vision/Intent

Perimeter Center will be a visitor friendly "livable" regional center with first-class office, retail, entertainment, hotels, and high-end restaurants in a pedestrian and bicycle-oriented environment. The area will serve as a regional example of high quality design standards. The City of Dunwoody works in partnership with the Perimeter Community Improvement Districts (PCIDs) and adjacent communities to implement and compliment the framework plan and projects identified in the Perimeter Center Livable Centers Initiative study (LCI) and its current and future updates.

In the future, the area should add public gathering space and pocket parks, venues for live music and entertainment and continue to create transportation alternatives, mitigate congestion, and reduce remaining excessive surface parking. The area creates the conditions of possible true "live-work" environment. All future development continues to emphasize high quality design standards and building materials and incorporates the current national best practices on energy efficiency, where possible.

The City of Dunwoody recognizes the value of creating mixed-use, transit-oriented development within walking distance of public transit stations. However, the City has concerns about the impact of such development on the City's infrastructure and schools.

Future Development

The Perimeter Center Character Area will be divided into four subareas (PC-1, PC-2, PC-3, and PC-4) which match the draft proposed overlay district outline that the City is reviewing as part of the Perimeter Center Zoning Code. This area was the subject of a previous LCI Study. The cities of Dunwoody, Sandy Springs, and Brookhaven work in partnership with the Perimeter Community Improvement Districts (PCIDs) to implement and complement the framework plan and projects identified in the Perimeter Center Livable Centers Initiative study (LCI) and its current and future updates.

For specific recommendations on height, density and use refer to the provisions of the Perimeter Center Overlay District and Zoning, available from the Dunwoody Community Development Department.



FIGURE 13: Perimeter Center Character Area Map

PC-1: Intended to apply to the central core area of Perimeter Center, including the area directly surrounding the Dunwoody MARTA train station. This district allows for the highest intensity of buildings, a high level of employment uses, and active ground story uses and design that support pedestrian mobility.

PC-2: Made up primarily of employment uses and limited shop front retail, residential, and services.

PC-3: A smaller scale, less intensive commercial district, permitting both shop front and office buildings.

PC-4: Made up primarily of residential uses at a scale that provides a transition between the intensity of Perimeter Center and the surrounding single-family residential neighborhoods.

Action Items



▲ Perimeter Mall



▲ Housing in Perimeter Center

- New development will include amenities and provide public functional green space.
- New development will be mindful of school capacity issues and applicants will work with Board of Education and City for better resolution of school issues.
- Reduce surface parking and promote livable centers in the immediate areas surrounding MARTA station.
- Encourage hotel and convention development near MARTA in order to foster commerce along the mass transportation route.
- Achieve a lifelong-community for residents who can age in place with safe access to medical, recreational and other necessary services.
- Create bicycle, pedestrian and non-auto related transportation options to connect with the rest of the City of Dunwoody.

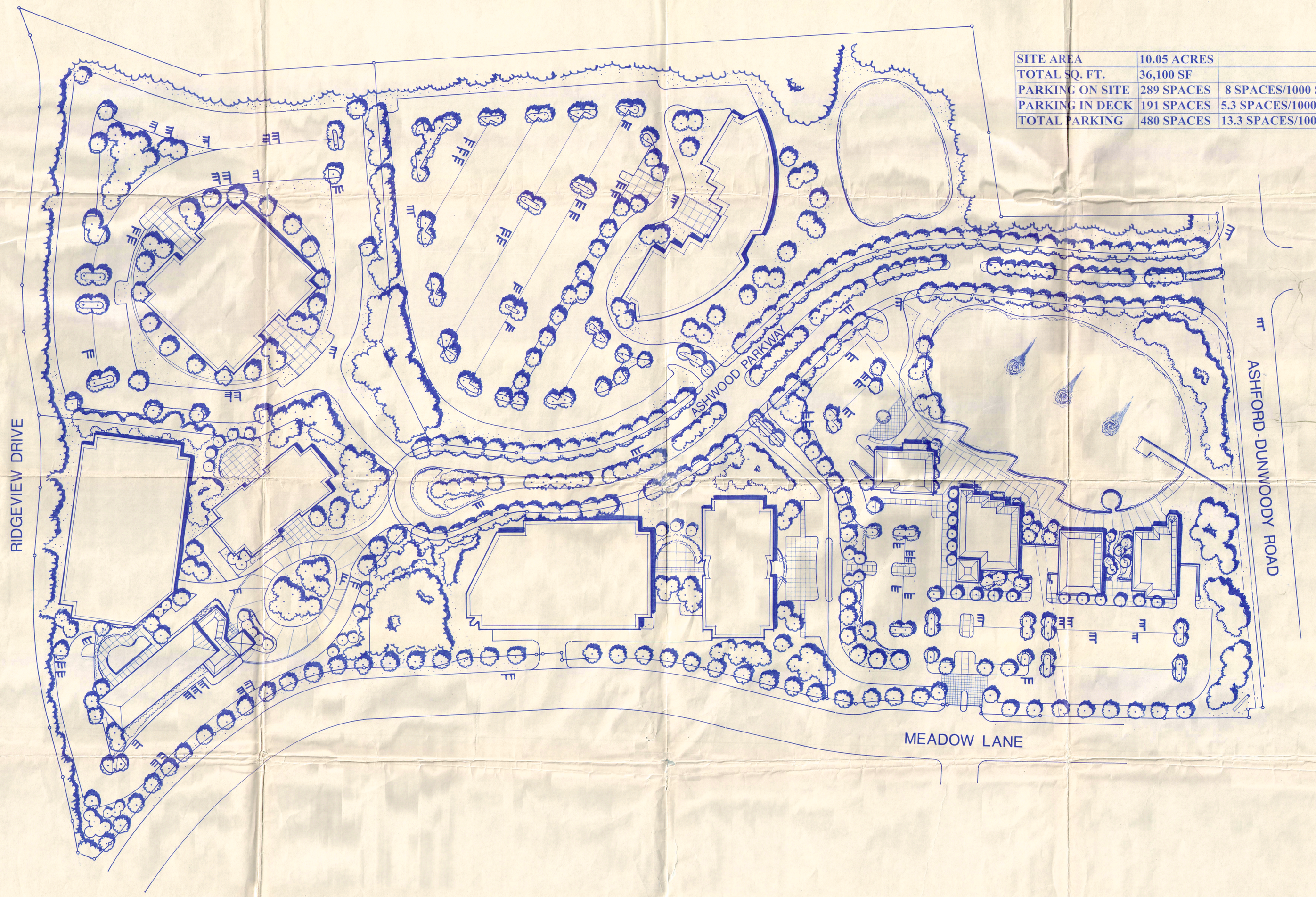
COMMUNITY IMPROVEMENT DISTRICT (CID)

A Community Improvement District (CID) is an authorized self-taxing district dedicated to Infrastructure improvements within its boundaries. The PCIDs are governed by two boards – one each for Fulton and DeKalb. The PCIDs spent or leveraged public funds to invest $55 million in Dunwoody alone; over $7 million from ARC's LCI program was directed to the PCIDs. This makes it one of the most, if not the most, successful CIDs in the region. The PCIDs' mission focuses exclusively on transportation improvements:

To work continuously to develop efficient transportation services, with an emphasis on access, mobility, diversification and modernization.

- The 2012 PCID Commuter Trail System Master Plan proposed a network of commuter trails connecting to the MARTA station.
- The 2012 PCID Perimeter Circulator Implementation report recommended circulator transit to provide first/ last mile connectivity for commuters and reduction in CID area congestion.
- The PCIDs have proposed Perimeter Park at the Dunwoody MARTA Station.
- Work with the Perimeter Transportation Management Association (TMA) to actively reduce automobile dependency and emerge as a leader in alternative transportation for the region.
- Work to strengthen Board of Education relationship for creative solutions to school capacity.
- Work with the PCIDs' boards to implement vision.
- Coordinate with the City of Sandy Springs for LCI Updates and implementation.
- Coordinate with the Atlanta Regional Commission (ARC) for implementation of future LCI study updates.
- Coordinate with MARTA regarding Bus Rapid Transit (BRT) (or other regional service) and urban design surrounding all transit stations.
- Look for ways to encourage live entertainment for the benefit of visitors and residents.

SITE AREA	10.05 ACRES	
TOTAL SQ. FT.	36,100 SF	
PARKING ON SITE	289 SPACES	8 SPACES/1000 SF
PARKING IN DECK	191 SPACES	5.3 SPACES/1000 SF
TOTAL PARKING	480 SPACES	13.3 SPACES/1000 SF



ARES REALTY CAPITAL, INCORPORATED

NORTH

ASHWOOD

ATLANTA, GEORGIA

0 30' 60' 120' 300'

NOVEMBER 16, 1995

HUGHES GOOD O'LEARY & RYAN

TRAFFIC IMPACT STUDY
FOR
ASHWOOD RESTAURANT PARK

DUNWOODY, GEORGIA



Prepared for:

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April 16, 2019
A & R Project # 18-189

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1.0 INTRODUCTION

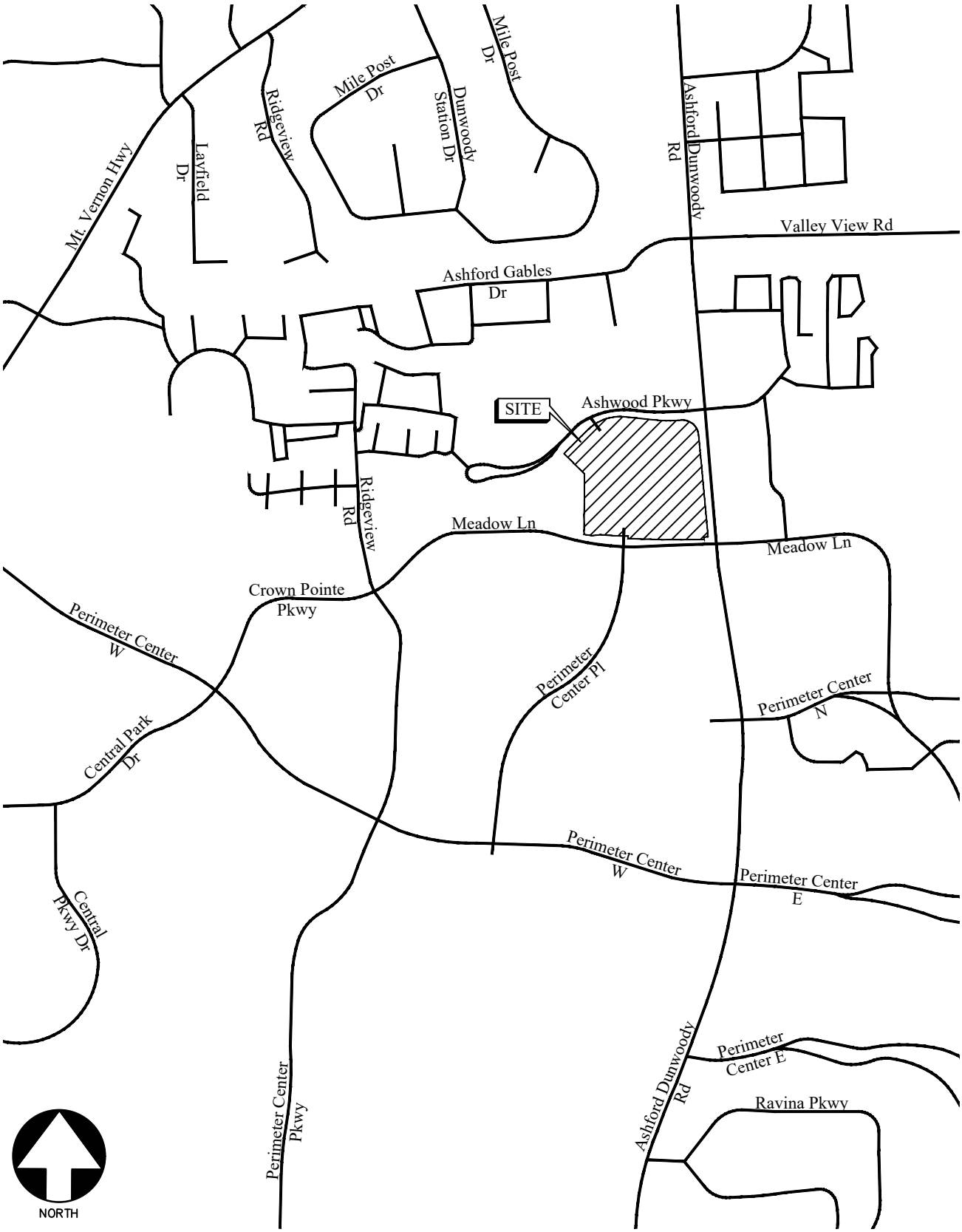
The purpose of this study is to determine the traffic impact that will result from the proposed Ashwood Restaurant park located in the northwest corner of Ashford Dunwoody Road and Meadow Lane in Dunwoody, Georgia. The traffic analysis evaluates the current operations compared to the future conditions with the traffic generated by the development. The proposed development will consist of a 25,440 square foot supermarket, 35,400 square feet of retail/restaurant space, a 2,800 square foot bank, and an 8-pump (16 fueling positions) gas station/convenience market.



The development will make use of the existing full-access driveways on Ashwood Parkway and Meadow Lane that currently serve the 900 Ashwood building and existing restaurant developments. A new full-access driveway is proposed on Ashwood Parkway west of Ashford Dunwoody Road. In addition to the existing site access points, this study includes the evaluation of traffic operations at the intersections of:

1. Ashford Dunwoody Road at Meadow Lane
2. Ashford Dunwoody Road at Ashwood Parkway/Ashford Parkway
3. Ashwood Parkway at Existing Development Driveway
4. Meadow Lane at Perimeter Center Place

Recommendations to improve traffic operations have been identified and are discussed in detail in the following sections of the report. The location of the development and the surrounding roadway network is shown in Figure 1.



LOCATION MAP FIGURE 1

A&R Engineering Inc.

2.0 EXISTING FACILITIES / CONDITIONS

The following is a brief description of each of the roadway facilities located in proximity to the site:

2.1 Ashford Dunwoody Road

Ashford Dunwoody Road is a north-south, four-lane, median-divided roadway with a posted speed limit of 45 mph in the vicinity of the development. GDOT traffic counts (Station IDs 0893587 & 0893586) indicate that the daily traffic volume on Ashford Dunwoody Road in 2016 was 24,900 vehicles per day north of Ashwood Parkway and 49,400 vehicles per day north of Hammond Drive.

2.2 Meadow Lane

Meadow Lane is an east-west, four-lane, median-divided roadway with a posted speed limit of 25 mph west of Ashford Dunwoody Road in the vicinity of the development.

2.3 Perimeter Center Place

Perimeter Center Place is a north-south, four-lane, undivided roadway with a posted speed limit of 25 mph in the vicinity of the development.

2.4 Ashwood Parkway

Ashwood Parkway is an east-west, two-lane, divided roadway with a posted speed limit of 25 mph in the vicinity of the development.

2.5 Ashford Parkway

Ashford Parkway is a divided multi-lane roadway that serves the Post Crossing apartment community with no posted speed limit.

3.0 STUDY METHODOLOGY

In this study, the methodology used for evaluating traffic operations at each of the subject intersections is based on the criteria set forth in the Transportation Research Board's Highway Capacity Manual, 2010 edition (HCM 2010). Synchro software, which utilizes the HCM methodology, was used for the analysis. The following is a description of the methodology employed for the analysis of unsignalized and signalized intersections.

3.1 Unsignalized Intersections

For unsignalized intersections at which the side street or minor street is controlled by a stop sign, the criteria for evaluating traffic operations are the level-of-service (LOS) for the turning movements at the intersection and the level-of-service for the overall intersection. Level-of-service is based on the average controlled delay incurred at the intersection. Controlled delay for unsignalized intersections includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Several factors affect the controlled delay for unsignalized intersections, such as the availability and distribution of gaps in the conflicting traffic stream, critical gaps, and follow-up time for a vehicle in the queue.

Level-of-service is assigned a letter designation from "A" through "F". Level-of-service "A" indicates excellent operations with little delay to motorists, while level-of-service "F" exists when there are insufficient gaps of acceptable size to allow vehicles on the side street to cross safely, resulting in extremely long total delays and long queues. The level-of-service criteria for two-way stop-controlled and all-way stop-controlled (unsignalized) intersections are given in Table 1.

TABLE 1 – LEVEL-OF-SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

Level-of-service	Average Delay (sec)
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Source: Highway Capacity Manual

3.2 Signalized Intersections

For signalized intersections, it is necessary to evaluate both capacity and level-of-service in order to evaluate the overall operation of the intersection. The capacity analysis of an intersection is performed by comparing the volume of traffic using the various lane groups at the intersection to the capacity of those lane groups. This results in a volume/capacity (v/c) ratio for each lane group. A v/c ratio greater than 1.0 indicates that the volume of traffic has exceeded the capacity available, resulting in a temporary excess of demand. Although the capacity of the entire intersection is not defined, a composite v/c ratio for the sum of the critical lane groups within the intersection is computed. This composite v/c ratio is an indication of the overall intersection sufficiency.

Level-of-service for a signalized intersection is defined in terms of average controlled delay per vehicle, which is composed of initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The level-of-service criteria for signalized intersections, based on average controlled delay, are shown in Table 2. Level-of-service "A" indicates operations with very low controlled delay, while level-of-service "F" describes operations with extremely high average controlled delay. Level-of-service "E" is typically considered to be the limit of acceptable delay, and level-of-service "F" is considered unacceptable by most drivers.

TABLE 2 – LEVEL-OF-SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS

Level-of-service	Average Control Delay (sec)
A	≤ 10
B	> 10 and ≤ 20
C	> 20 and ≤ 35
D	> 35 and ≤ 55
E	> 55 and ≤ 80
F	> 80

Source: Highway Capacity Manual

4.0 EXISTING TRAFFIC ANALYSIS

Existing traffic counts and intersection geometric data were obtained at the following study intersections:

1. Ashford Dunwoody Road at Meadow Lane
2. Ashford Dunwoody Road at Ashwood Parkway/Ashford Parkway
3. Ashwood Parkway at Existing Development Driveway
4. Meadow Lane at Perimeter Center Place

Turning movement counts were collected on Wednesday, January 9, 2019. All turning movement counts were recorded during the AM and PM peak hours between 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m., respectively. The four consecutive 15-minute interval volumes that summed to produce the highest volume at the intersections were then determined. These volumes make up the peak hour traffic volumes for the intersections counted and are shown in Figure 2.

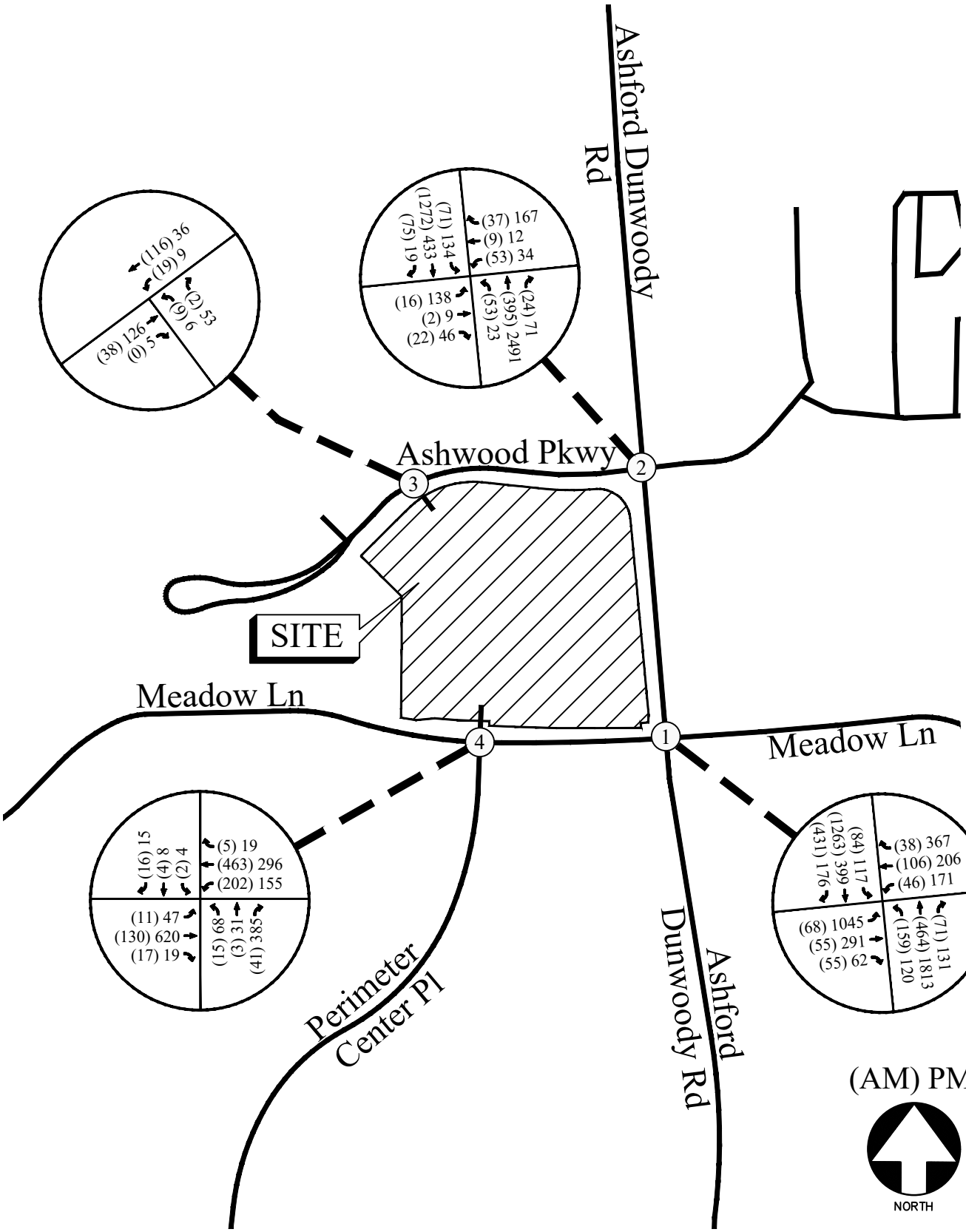
4.1 Existing Traffic Operations

Existing traffic operations were analyzed at the study intersections in accordance with the HCM methodology and the results of the analysis are shown below in Table 3. The existing traffic control and lane geometry for the intersections is shown in Figure 3.

TABLE 3 – EXISTING INTERSECTION OPERATIONS

	Intersection	Traffic Control	AM Peak Hour LOS (Delay)	PM Peak Hour LOS (Delay)
1	**Ashford Dunwoody @ Meadow Ln**	Signalized	**B (14.5)**	**F (236.1)**
	-Eastbound Approach		E (77.2)	F (389.3)
	-Westbound Approach		E (72.8)	F (106.4)
	-Northbound Approach		A (8.0)	F (238.2)
	-Southbound Approach		A (4.6)	E (60.3)
2	**Ashford Dunwoody @ Ashwood Pkwy**	Signalized	**B (13.6)**	**E (56.3)**
	-Eastbound Approach		E (71.3)	F (83.3)
	-Westbound Approach		E (63.6)	E (65.5)
	-Northbound Approach		B (12.0)	D (49.0)
	-Southbound Approach		A (9.9)	E (77.5)
3	**Ashwood Pkwy @ Private Drwy**	Signalized		
	-Westbound Left		A (7.3)	A (7.5)
	-Northbound Approach		A (9.6)	A (9.4)
4	**Meadow Ln @ Perimeter Center Pl**	Signalized	**A (4.4)**	**A (9.5)**
	-Eastbound Approach		A (3.3)	A (5.8)
	-Westbound Approach		A (1.5)	A (2.7)
	-Northbound Approach		E (56.9)	E (56.6)
	-Southbound Approach		E (57.7)	D (51.5)

The results of the existing conditions analysis indicate that the two signalized intersections on Ashford Dunwoody Road are currently operating below an acceptable level-of-service during the PM peak hour. These areas are addressed in the Future Traffic Analysis section of this report.



EXISTING WEEKDAY PEAK HOUR VOLUMES FIGURE 2

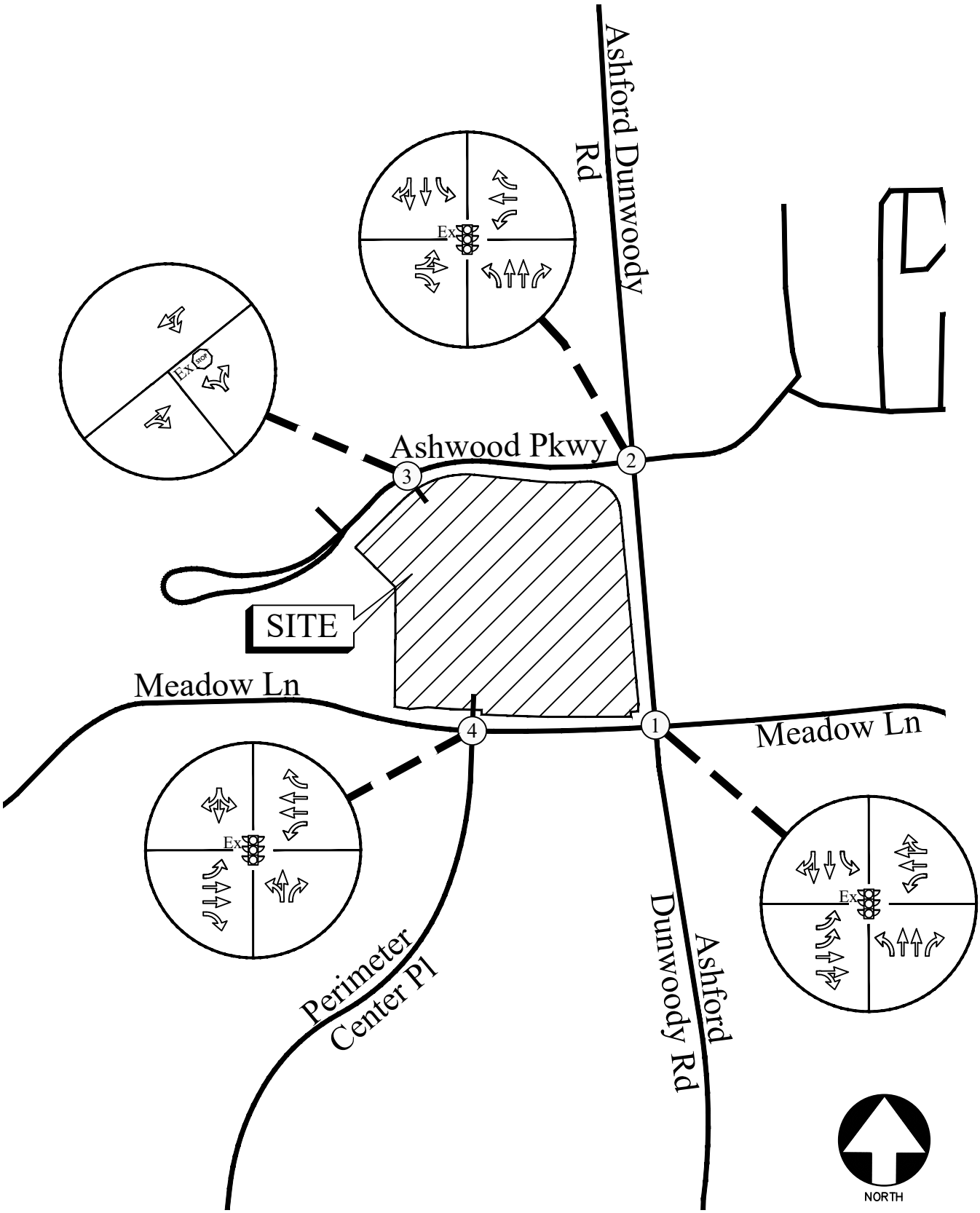
A&R Engineering Inc.

LEGEND

Ex Existing Signed Approach

Existing Lane Geometry

Ex Existing Traffic Signal



EXISTING TRAFFIC CONTROL AND LANE GEOMETRY FIGURE 3

A&R Engineering Inc.

5.0 PROPOSED DEVELOPMENT

The proposed site will be located in the northwest corner of Ashford Dunwoody Road and Meadow Lane in Dunwoody, Georgia. The development will consist of a 25,440 square foot supermarket, 35,400 square feet of retail/restaurant space, a 2,800 square foot bank, and an 8-pump (16 fueling positions) gas station/convenience market. A site plan is shown in Figure 4.

The development proposes access at the following locations:

- Site Driveway 1: New full-access driveway on Ashwood Parkway (Intersection 6)
- Site Driveway 2: Existing full-access driveway on Ashwood Parkway (Intersection 3)
- Site Driveway 3: "Private Road" full-access point, aligned with 1200 Ashwood development (Intersection 5)
- Site Driveway 4: "Private Road" full-access point, aligned with Perimeter Center Place (Intersection 4)

5.1 Trip Generation

Trip generation estimates for the project were based on the rates and equations published in the 10th edition of the Institute of Transportation Engineers (ITE) Trip Generation report. This reference contains traffic volume count data collected at similar facilities nationwide. The trip generation was based on the following ITE Land Use: *820 – Shopping Center*, *850 – Supermarket*, *912 – Drive-In Bank*, and *960 – Super Convenience Market/Gas Station*. Due to the nature of the development, pass-by reductions have been applied per ITE standards. The calculated total trip generation for the proposed development is shown in Table 4.

TABLE 4 – TRIP GENERATION

Land Use	Size	AM Peak Hour			PM Peak Hour			24-Hour
		Enter	Exit	Total	Enter	Exit	Total	Two-way
Shopping Center	35,400 sf	21	12	33	65	70	135	1,336
Pass-by reductions (0%) 34%		*0*	*0*	*0*	*-22*	*-24*	*-46*	*-454*
Supermarket	25,440 sf	58	39	97	143	138	281	3,016
Pass-by reductions (0%) 36%		*0*	*0*	*0*	*-51*	*-50*	*-101*	*-1,010*
Drive-In Bank	2,800 sf	15	12	27	29	28	57	232
Pass-by reductions (29%) 35%		*-4*	*-3*	*-7*	*-10*	*-10*	*-20*	*-81*
Super Convenience Market/Gas Station	16 pumps	225	224	449	184	183	367	3,688
Pass-by reductions (62%) 56%		*-140*	*-139*	*-279*	*-103*	*-102*	*-205*	*-2,050*
Total Site Trips (without reductions)		319	287	606	421	419	840	8,272
New External Trips (with reductions)		**175**	**145**	**320**	**235**	**233**	**468**	**4,677**

The proposed development will be replacing the existing restaurant park which consists of a total of 25,375 square feet of restaurant space. None of the restaurants are open for breakfast; therefore, for the purpose of trip generation estimates, the following ITE Land Use was used: *931 – Quality Restaurant*. The trip generation for the existing restaurant park was subtracted from the total site-generated traffic for the development to account for any decreases in traffic after the existing restaurants are closed. The

total new trips added to the road network after removal of the existing restaurants are shown below in Table 5.

TABLE 5 – TOTAL NEW TRAFFIC ADDED TO ROAD NETWORK

Totals	AM Peak Hour			PM Peak Hour			24-Hour
	Enter	Exit	Total	Enter	Exit	Total	Two-way
Total New External Trips (from Table 4)	175	145	320	235	233	468	4,677
Removed Restaurant Park Traffic	-9	-10	-19	-74	-36	-110	-1,247
Total New Traffic Added to Road Network	**+166**	**+135**	**+301**	**+161**	**+197**	**+358**	**+3,430**

5.2 Trip Distribution

The trip distribution describes how traffic arrives and departs from the site. An overall trip distribution was developed for the site based on a review of the existing travel patterns in the area and the locations of major roadways and highways that will serve the development. The new peak hour traffic volumes added to the road network, shown in Table 5, were assigned to the study area intersections based on this distribution. The outer-leg distribution and AM and PM peak hour new traffic generated by the site is shown in Figure 5.

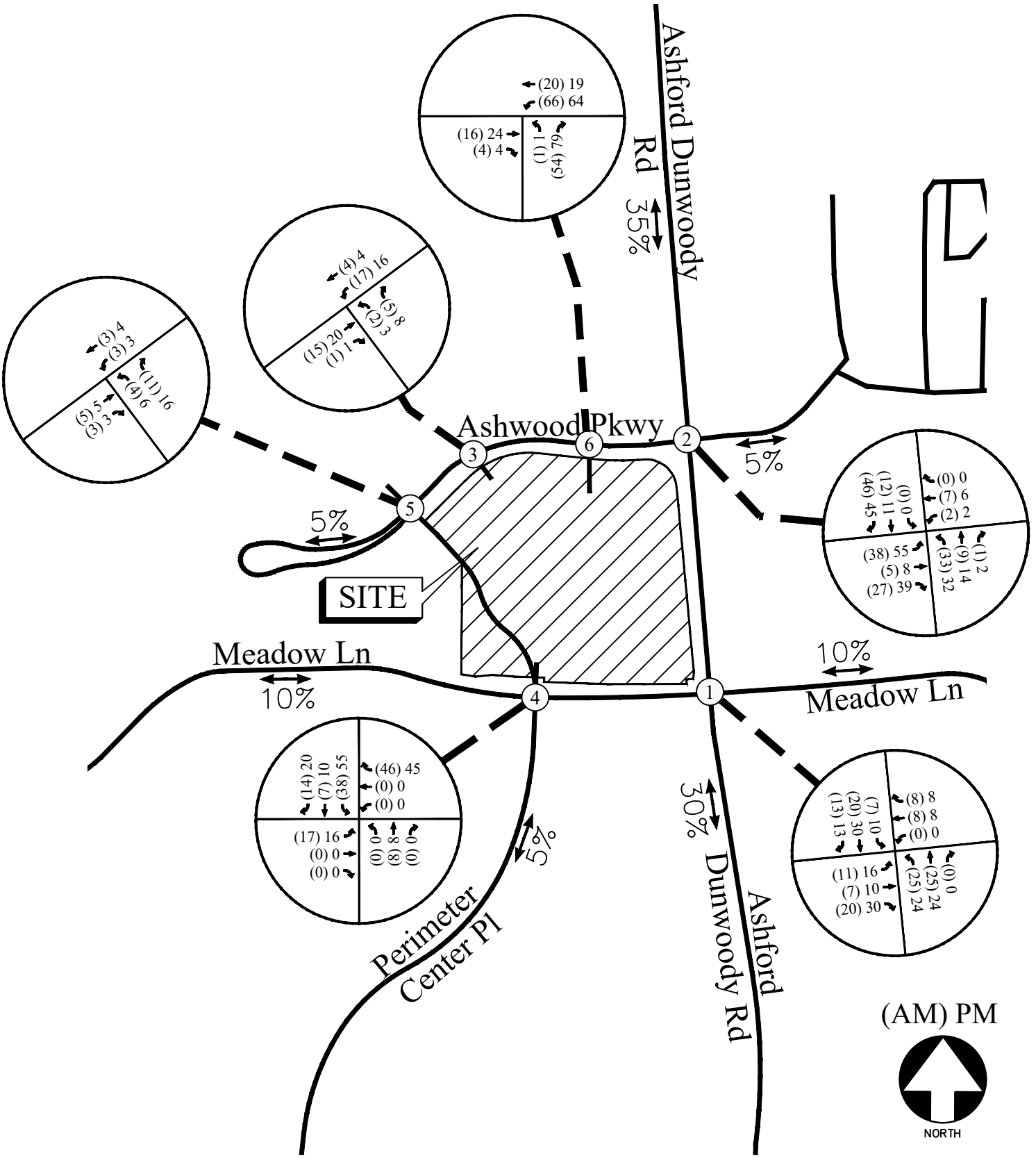


PERIMETER MARKETPLACE

DUNWOODY, GEORGIA
04-09-2019

BRANCH PROPERTIES, LLC

PHILLIPS
architecture · consultants



OUTER LEG TRIP DISTRIBUTION AND SITE-GENERATED PEAK HOUR VOLUMES

FIGURE 5

A&R Engineering Inc.

6.0 FUTURE TRAFFIC ANALYSIS (2021)

The future traffic operations are analyzed for the "No-Build" and "Build" conditions. This provides a basis of reference for determining both the contribution of the site to overall traffic conditions and the additional improvements needed to provide sufficient site access and capacity for passing traffic.

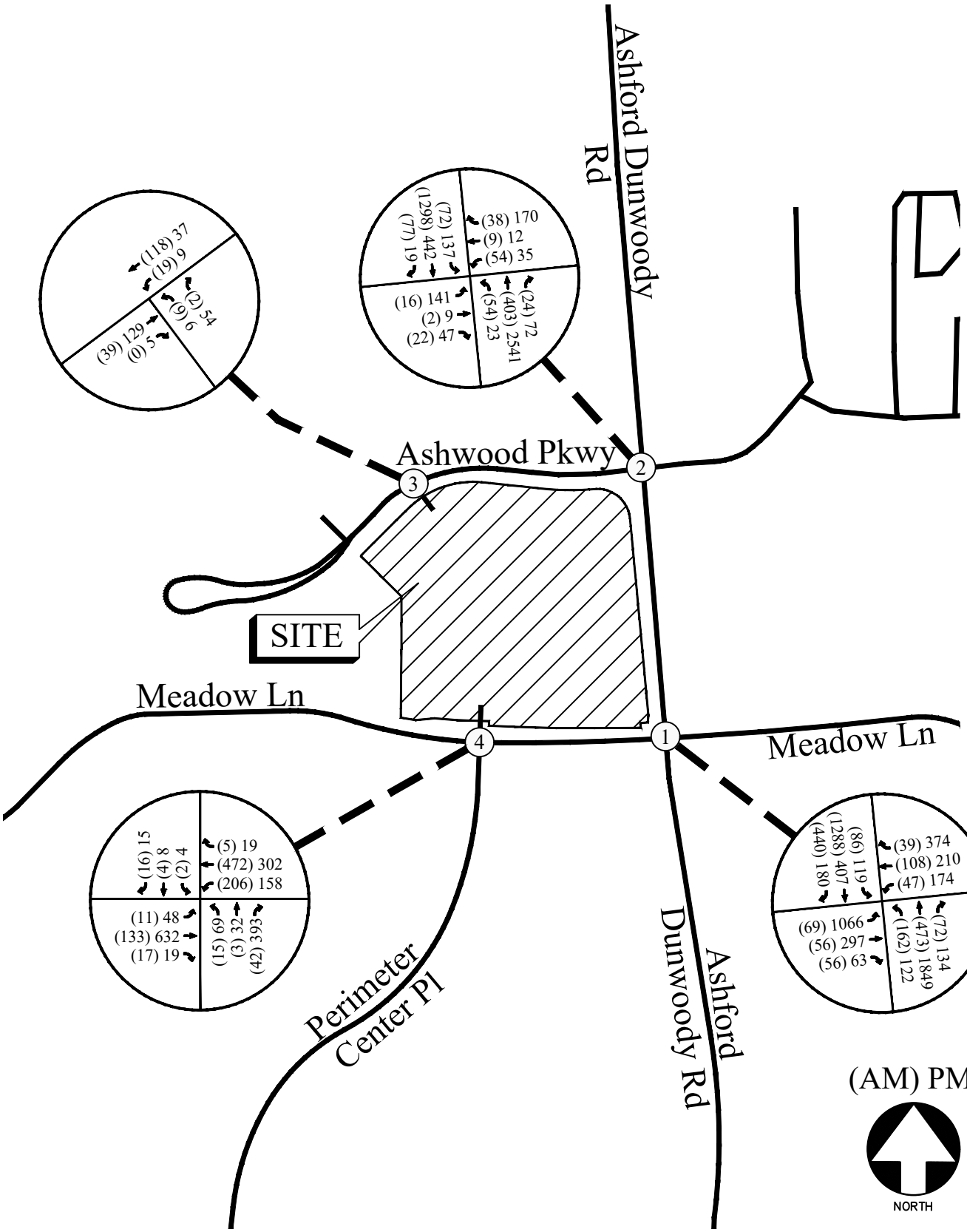
Improvements that are identified as "System Improvements" are recommended to address deficiencies in the roadway network and can be considered as benefitting traffic that may or may not include site-generated traffic and are recommended for the municipality to use in future planning efforts. "Site Mitigation Improvements" are recommended as directly benefitting proposed site-generated traffic.

6.1 Future "No-Build" Conditions

The "No-Build" (or background) conditions provide an assessment of how traffic will operate in the study horizon year without the study site being developed as proposed, with projected increases in through traffic volumes due to normal annual growth. The Future "No-Build" volumes consist of the existing traffic volumes (Figure 2) plus increases for annual growth of through traffic.

6.1.1 Annual Traffic Growth

In order to evaluate future traffic operations in this area, a projection of normal traffic growth was applied to the existing volumes. The Georgia Department of Transportation recorded average daily traffic volumes at several locations in the vicinity of the site. Reviewing the growth over the last several years revealed growth of approximately 1% in the area. This growth factor was applied to the existing traffic volumes between collector and arterial roadways in order to estimate the future year traffic volumes prior to the addition of site-generated traffic. The resulting Future "No-Build" volumes on the roadway are shown in Figure 6.



FUTURE (NO-BUILD) PEAK HOUR VOLUMES FIGURE 6

A&R Engineering Inc.

6.1.2 Future "No-Build" Traffic Operations

The future "No-Build" traffic operations were analyzed using the volumes in Figure 6, and the results are shown in Table 6 below. The results of the analysis, including the recommended system improvements, are discussed in detail in Section 6.1.3.

TABLE 6 – FUTURE "NO-BUILD" INTERSECTION OPERATIONS

	Intersection	No-Build Conditions: LOS (Delay)			
		NO IMPROVEMENTS		WITH IMPROVEMENTS	
		AM Peak	PM Peak	AM Peak	PM Peak
1	**Ashford Dunwoody @ Meadow Ln**	**B (14.9)**	**F (243.7)**	**B (15.1)**	**E (73.8)**
	-Eastbound Approach	E (77.4)	F (402.7)	E (75.1)	F (110.5)
	-Westbound Approach	E (72.7)	F (110.3)	E (68.1)	E (78.7)
	-Northbound Approach	A (8.3)	F (241.0)	A (9.3)	E (57.7)
	-Southbound Approach	A (5.1)	E (73.6)	A (6.5)	D (41.8)
2	**Ashford Dunwoody @ Ashwood Pkwy**	**B (13.8)**	**E (55.5)**	**B (15.0)**	**B (16.7)**
	-Eastbound Approach	E (71.3)	F (83.5)	E (71.3)	F (83.5)
	-Westbound Approach	E (63.7)	E (65.1)	E (63.7)	E (65.1)
	-Northbound Approach	B (12.1)	E (61.5)	B (17.4)	A (6.7)
	-Southbound Approach	B (10.1)	B (19.3)	B (10.1)	C (25.4)
3	**Ashwood Pkwy @ Private Drwy**				
	-Westbound Left	A (7.3)	A (7.5)	A (7.3)	A (7.5)
	-Northbound Approach	A (9.6)	A (9.4)	A (9.6)	A (9.4)
4	**Meadow Ln @ Perimeter Center Pl**	**A (4.3)**	**A (9.6)**	**A (4.3)**	**A (9.6)**
	-Eastbound Approach	A (3.3)	A (5.8)	A (3.3)	A (5.8)
	-Westbound Approach	A (1.5)	A (2.8)	A (1.5)	A (2.8)
	-Northbound Approach	E (56.9)	E (56.5)	E (56.9)	E (56.5)
	-Southbound Approach	E (57.7)	D (51.4)	E (57.7)	D (51.4)

6.1.3 Recommendations for System Improvements

One or more of the study intersections are found to have delays that will (or currently) exceed the local level-of-service threshold ("D" or better) without any added traffic from the proposed development. These intersections have been identified below along with potential system improvements for the local municipality to consider in their future planning efforts.

Ashford Dunwoody Road at Meadow Lane

This intersection is currently operating below the acceptable level-of-service "D" during the PM peak hour. Recommendations for system improvements to the intersection have been made and are outlined below.

- Create a third through lane on Ashford Dunwoody Road using the existing dedicated right turn lanes beginning at Perimeter Center E and ending at Mt. Vernon Road.
- Reconfigure the eastbound approach to operate with three dedicated left turn lanes and a shared through/right turn lane.
- Reconfigure the westbound approach to operate with a dedicated left turn lane, a dedicated through lane, and a dedicated right turn lane.

It should be noted that although operations would improve with the above improvements, they will be challenging to implement due to the limited availability of right-of-way and presence of large transmission lines along Ashford Dunwoody Road that would need to be relocated.

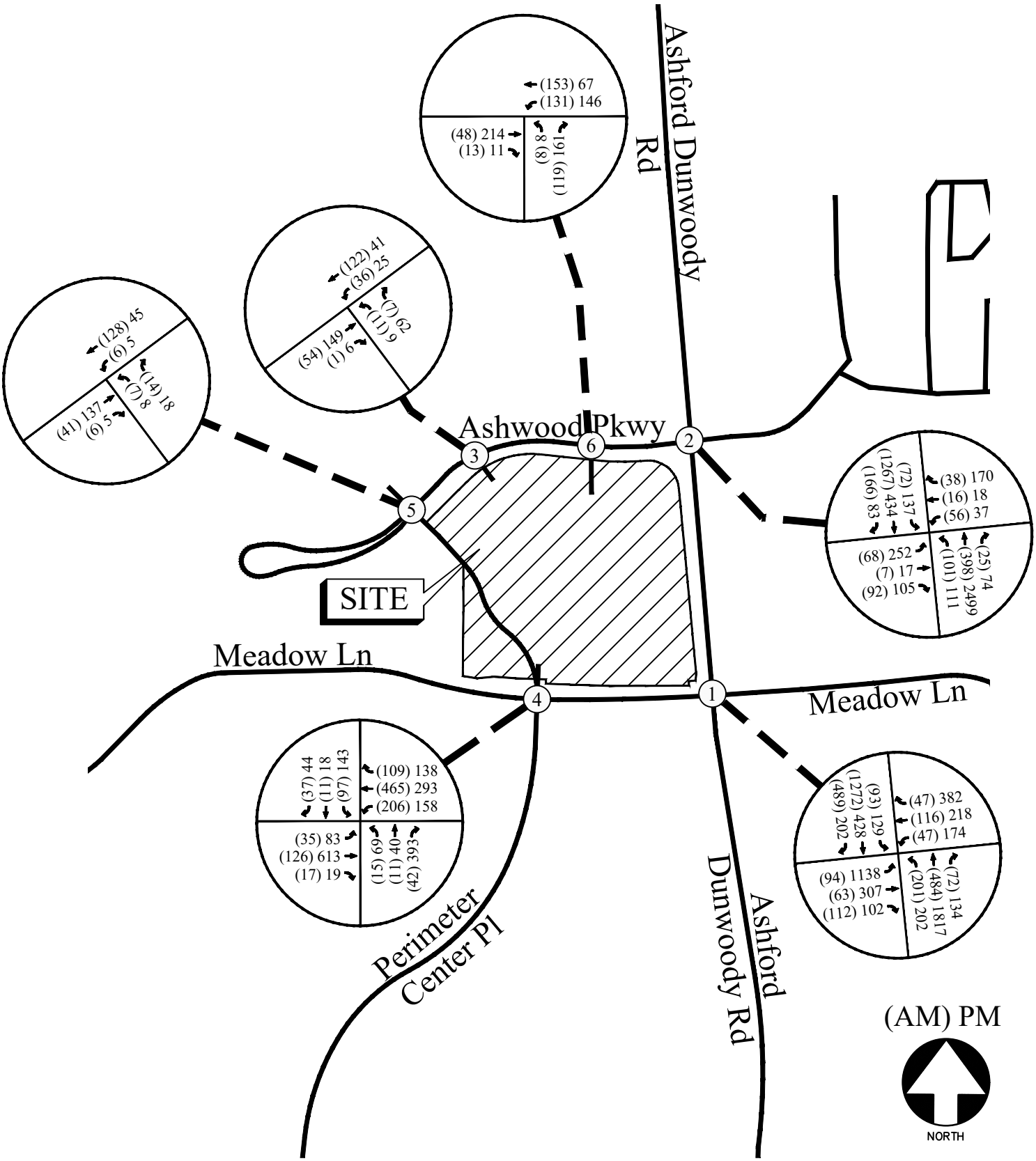
6.2 Future "Build" Conditions

The "Build" or post-development conditions include the estimated background traffic from the "No-Build" conditions plus the added traffic from the proposed development. The "Build" conditions are evaluated to determine effectiveness of the recommended system and site mitigation improvements. The additional traffic volumes from the site (Figure 5) were added to base traffic volumes (Figure 6) to calculate the future traffic volumes after the construction of the development. These total future traffic volumes are shown in Figure 7.

6.2.1 Site Access Configuration

The following access configuration was utilized when modeling the proposed site driveway intersections:

- Site Driveway 1: New full-access driveway on Ashwood Parkway
    - A median break on Ashwood Parkway is proposed for this driveway and will consist of one entering lane and one exiting lane.
    - The intersection is planned to be unsignalized with a STOP sign on the northbound (driveway) approach.
    - Based on GDOT standards, a westbound left turn lane is warranted on Ashwood Parkway for entering traffic. (See Appendix)
    - Based on GDOT standards, an eastbound right turn lane is not warranted on Ashwood Parkway for entering traffic. (See Appendix)
- Site Driveway 2: Existing full-access driveway on Ashwood Parkway
    - This driveway currently serves as the access to the existing restaurant park and will continue to operate with one entering lane and one exiting lane.
    - The intersection will continue to be unsignalized with no recommended change to the existing lane geometry.
- Site Driveway 3: "Private Road" full-access point, aligned with 1200 Ashwood development
    - This driveway currently serves as the access to the existing restaurant park/900 Ashwood development and will continue to operate with one entering lane and one exiting lane.
    - The intersection will continue to be unsignalized with no recommended change to the existing lane geometry.
- Site Driveway 4: "Private Road" full-access point, aligned with Perimeter Center Place
    - This driveway currently serves as the access to the existing restaurant park/900 Ashwood and will continue to operate with one entering lane and one exiting lane.
    - The intersection will continue to be signalized with no recommended change to the existing signal phasing or lane geometry.



FUTURE (BUILD) PEAK HOUR VOLUMES FIGURE 7

A&R Engineering Inc.

6.2.2 Future "Build" Traffic Operations

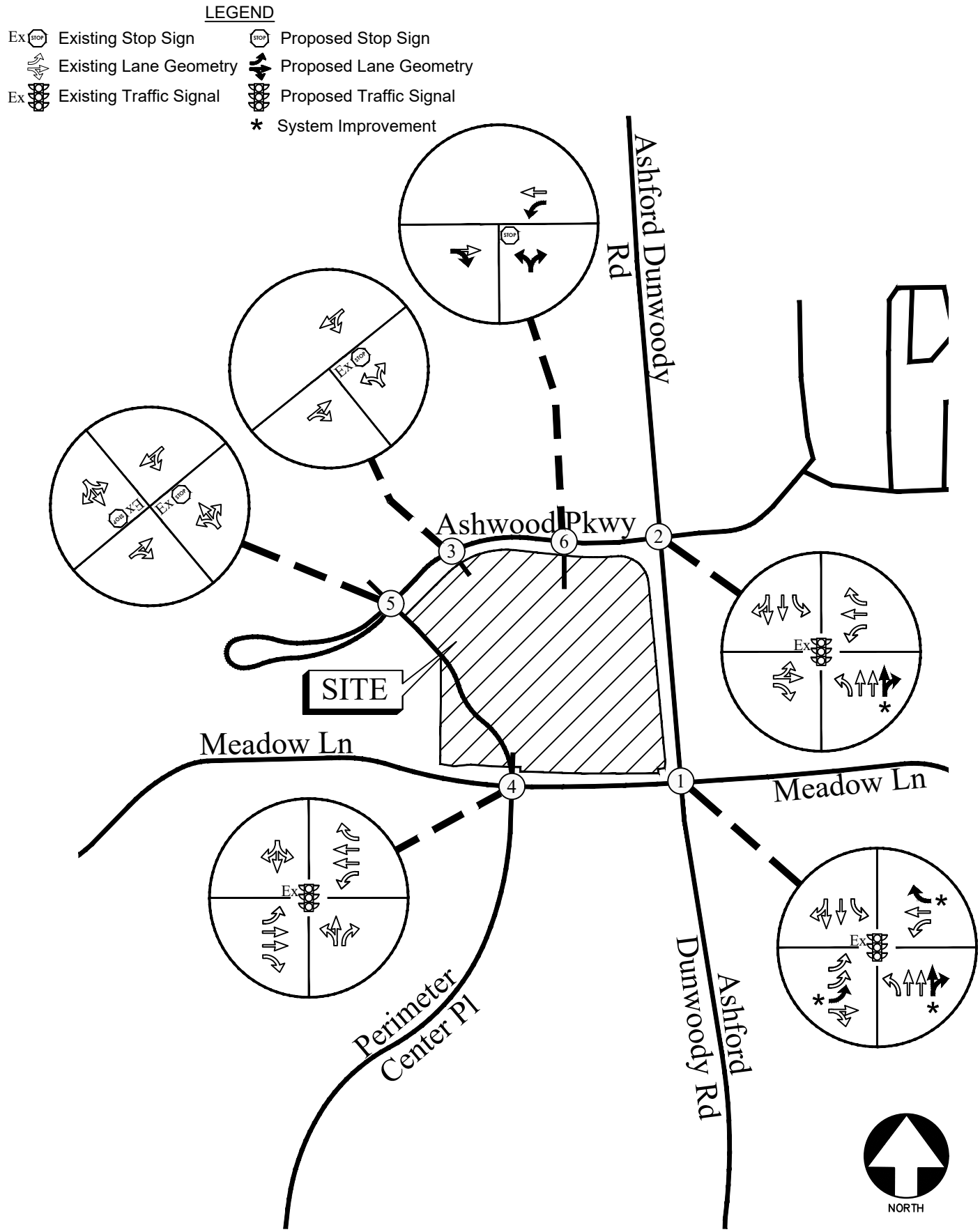
The "Build" conditions are evaluated to determine effectiveness of the recommended system and site mitigation improvements. Recommendations on traffic control and lane geometry are shown graphically in Figure 8. The results of the analysis, including the recommended site improvements, are discussed in detail in Section 6.2.3.

TABLE 7 – FUTURE "BUILD" INTERSECTION OPERATIONS

	Intersection	Build Conditions: LOS (Delay)			
		NO IMPROVEMENTS		WITH IMPROVEMENTS	
		AM Peak	PM Peak	AM Peak	PM Peak
1	**Ashford Dunwoody @ Meadow Ln**	**C (20.9)**	**F (224.3)**	**C (23.1)**	**E (73.4)**
	-Eastbound Approach	F (93.4)	F (382.2)	E (75.0)	F (121.4)
	-Westbound Approach	E (65.1)	F (102.7)	E (60.1)	F (90.2)
	-Northbound Approach	B (13.1)	F (208.7)	B (15.6)	D (48.5)
	-Southbound Approach	A (8.5)	E (71.0)	B (15.0)	C (33.4)
2	**Ashford Dunwoody @ Ashwood Pkwy**	**B (18.2)**	**F (89.0)**	**B (19.3)**	**B (18.0)**
	-Eastbound Approach	E (71.5)	F (147.4)	E (71.5)	F (147.4)
	-Westbound Approach	E (58.3)	E (57.4)	E (58.3)	E (57.4)
	-Northbound Approach	B (14.4)	F (91.4)	B (19.5)	A (0.8)
	-Southbound Approach	B (13.8)	E (66.4)	B (13.8)	C (20.3)
3	**Ashwood Pkwy @ Private Drwy**				
	-Westbound Left	A (7.4)	A (7.6)	A (7.4)	A (7.6)
	-Northbound Approach	A (9.7)	A (9.8)	A (9.7)	A (9.8)
4	**Meadow Ln @ Perimeter Center Pl**	**B (11.6)**	**B (16.1)**	**B (11.6)**	**B (16.2)**
	-Eastbound Approach	A (6.4)	B (10.3)	A (6.4)	B (10.3)
	-Westbound Approach	A (3.6)	A (5.5)	A (3.6)	A (5.5)
	-Northbound Approach	D (47.6)	D (45.2)	D (47.6)	D (45.2)
	-Southbound Approach	D (54.9)	D (51.7)	D (54.9)	D (51.7)
5	**Ashwood Pkwy @ Private Road**				
	-Westbound Left	A (7.3)	A (7.5)	A (7.3)	A (7.5)
	-Northbound Approach	A (9.0)	A (9.4)	A (9.0)	A (9.4)
6	**Ashwood Pkwy @ Site Drwy 1**				
	-Westbound Left	A (7.6)	A (8.1)	A (7.6)	A (8.1)
	-Northbound Approach	A (9.5)	B (11.2)	A (9.5)	B (11.2)

6.2.3 Recommendations for Site Mitigation Improvements

Improvements that are identified as mitigation improvements address deficiencies that are caused by site traffic and can be identified as related to the proposed development. Because operations would not be impacted beyond the projected "No-Build" conditions, site mitigation improvements have not been identified outside of the recommended configuration for the site access points.



FUTURE TRAFFIC CONTROL AND LANE GEOMETRY FIGURE 8

A&R Engineering Inc.

7.0 CONCLUSIONS AND RECOMMENDATIONS

Traffic impacts were evaluated for the added traffic from the proposed Ashwood Restaurant park located in the northwest corner of Ashford Dunwoody Road and Meadow Lane in Dunwoody, Georgia. will consist of a 25,440 square foot supermarket, 35,400 square feet of retail/restaurant space, a 2,800 square foot bank, and an 8-pump (16 fueling positions) gas station/convenience market.

The development proposes access at the following locations:

- Site Driveway 1: New full-access driveway on Ashwood Parkway
- Site Driveway 2: Existing full-access driveway on Ashwood Parkway
- Site Driveway 3: "Private Road" full-access point, aligned with 1200 Ashwood development
- Site Driveway 4: "Private Road" full-access point, aligned with Perimeter Center Place

Existing and future operations after completion of the project were analyzed at the intersections of:

1. Ashford Dunwoody Road at Meadow Lane
2. Ashford Dunwoody Road at Ashwood Parkway/Ashford Parkway
3. Ashwood Parkway at Existing Development Driveway
4. Meadow Lane at Perimeter Center Place

The analysis included the evaluation of Future operations for the "No-Build" and "Build" conditions, both of which account for increases in annual growth of through traffic. The results of the analysis are listed below:

7.1 System Improvements for "No-Build" Conditions

One or more of the study intersections are found to have delays that will (or currently) exceed the local level-of-service threshold ("D" or better) without any added traffic from the proposed development. These intersections have been identified below along with potential system improvements for the local municipality to consider in their future planning efforts.

Ashford Dunwoody Road at Meadow Lane

This intersection is currently operating below the acceptable level-of-service "D" during the PM peak hour. Recommendations for system improvements to the intersection have been made and are outlined below.

- Create a third through lane on Ashford Dunwoody Road using the existing dedicated right turn lanes beginning at Perimeter Center E and ending at Mt. Vernon Road.
- Reconfigure the eastbound approach to operate with three dedicated left turn lanes and a shared through/right turn lane.
- Reconfigure the westbound approach to operate with a dedicated left turn lane, a dedicated through lane, and a dedicated right turn lane.

It should be noted that although operations would improve with the above improvements, they will be challenging to implement due to the limited availability of right-of-way and presence of large transmission lines along Ashford Dunwoody Road that would need to be relocated.

7.2 Site Access Configuration

The following access configuration was utilized when modeling the proposed site driveway intersections:

- Site Driveway 1: New full-access driveway on Ashwood Parkway
    - A median break on Ashwood Parkway is proposed for this driveway and will consist of one entering lane and one exiting lane.
    - The intersection is planned to be unsignalized with a STOP sign on the northbound (driveway) approach.
    - Based on GDOT standards, a westbound left turn lane is warranted on Ashwood Parkway for entering traffic. (See Appendix)
    - Based on GDOT standards, an eastbound right turn lane is not warranted on Ashwood Parkway for entering traffic. (See Appendix)
- Site Driveway 2: Existing full-access driveway on Ashwood Parkway
    - This driveway currently serves as the access to the existing restaurant park and will continue to operate with one entering lane and one exiting lane.
    - The intersection will continue to be unsignalized with no recommended change to the existing lane geometry.
- Site Driveway 3: "Private Road" full-access point, aligned with 1200 Ashwood development
    - This driveway currently serves as the access to the existing restaurant park/900 Ashwood development and will continue to operate with one entering lane and one exiting lane.
    - The intersection will continue to be unsignalized with no recommended change to the existing lane geometry.
- Site Driveway 4: "Private Road" full-access point, aligned with Perimeter Center Place
    - This driveway currently serves as the access to the existing restaurant park/900 Ashwood and will continue to operate with one entering lane and one exiting lane.
    - The intersection will continue to be signalized with no recommended change to the existing signal phasing or lane geometry.

7.3 Site Mitigation Improvements for "Build" Conditions

Improvements that are identified as mitigation improvements address deficiencies that are caused by site traffic and can be identified as related to the proposed development. Because operations would not be impacted beyond the projected "No-Build" conditions, site mitigation improvements have not been identified outside of the recommended configuration for the site access points.

Appendix

Existing Intersection Traffic Counts .....
Existing Intersection Analysis.....
GDOT Left Turn Lane Analysis.....
GDOT Right Turn Lane Analysis.....
Linear Regression of Daily Traffic.....
Future “No-Build” Intersection Analysis .....
Future “No-Build” Improved Intersection Analysis.....
Future “Build” Intersection Analysis .....
Future “Build” Improved Intersection Analysis .....
Traffic Volume Worksheets .....

EXISTING INTERSECTION TRAFFIC COUNTS

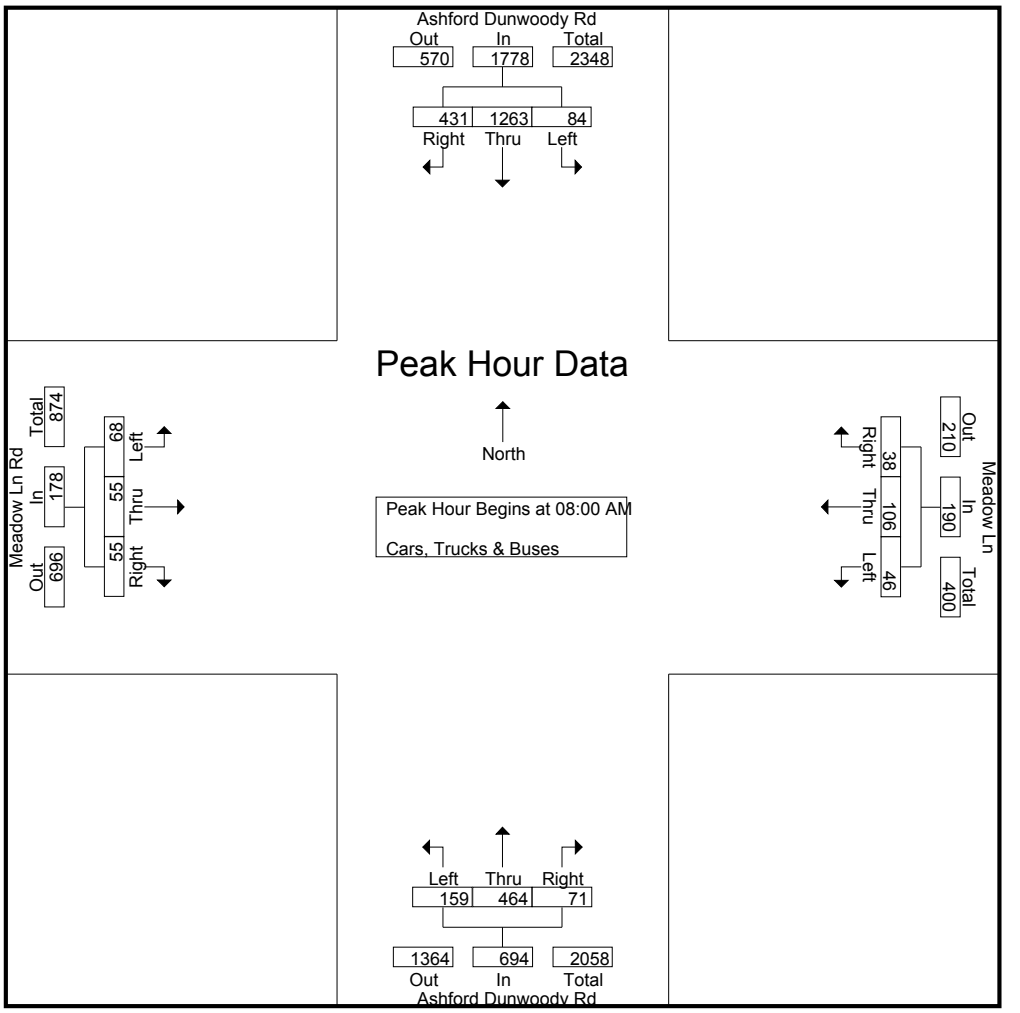
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2160 Kingston Court, Suite O
Marietta, GA 30067

TMC DATA
Ashford Dunwoody Rd @
Meadow Ln Rd
7-9 am | 4-6 pm

File Name : 20190006
Site Code : 20190006
Start Date : 1/9/2019
Page No : 2

	Ashford Dunwoody Rd Northbound				Ashford Dunwoody Rd Southbound				Meadow Ln Rd Eastbound				Meadow Ln Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	44	121	20	185	22	268	106	396	17	15	**21**	**53**	**16**	23	**11**	50	684
08:15 AM	31	102	**29**	162	12	261	104	377	13	**18**	5	36	11	32	9	52	627
08:30 AM	**48**	**129**	12	**189**	15	**399**	**112**	**526**	14	7	17	38	9	**33**	11	**53**	**806**
08:45 AM	36	112	10	158	**35**	335	109	479	**24**	15	12	51	10	18	7	35	723
Total Volume	159	464	71	694	84	1263	431	1778	68	55	55	178	46	106	38	190	2840
% App. Total	22.9	66.9	10.2		4.7	71	24.2		38.2	30.9	30.9		24.2	55.8	20		
PHF	.828	.899	.612	.918	.600	.791	.962	.845	.708	.764	.655	.840	.719	.803	.864	.896	.881



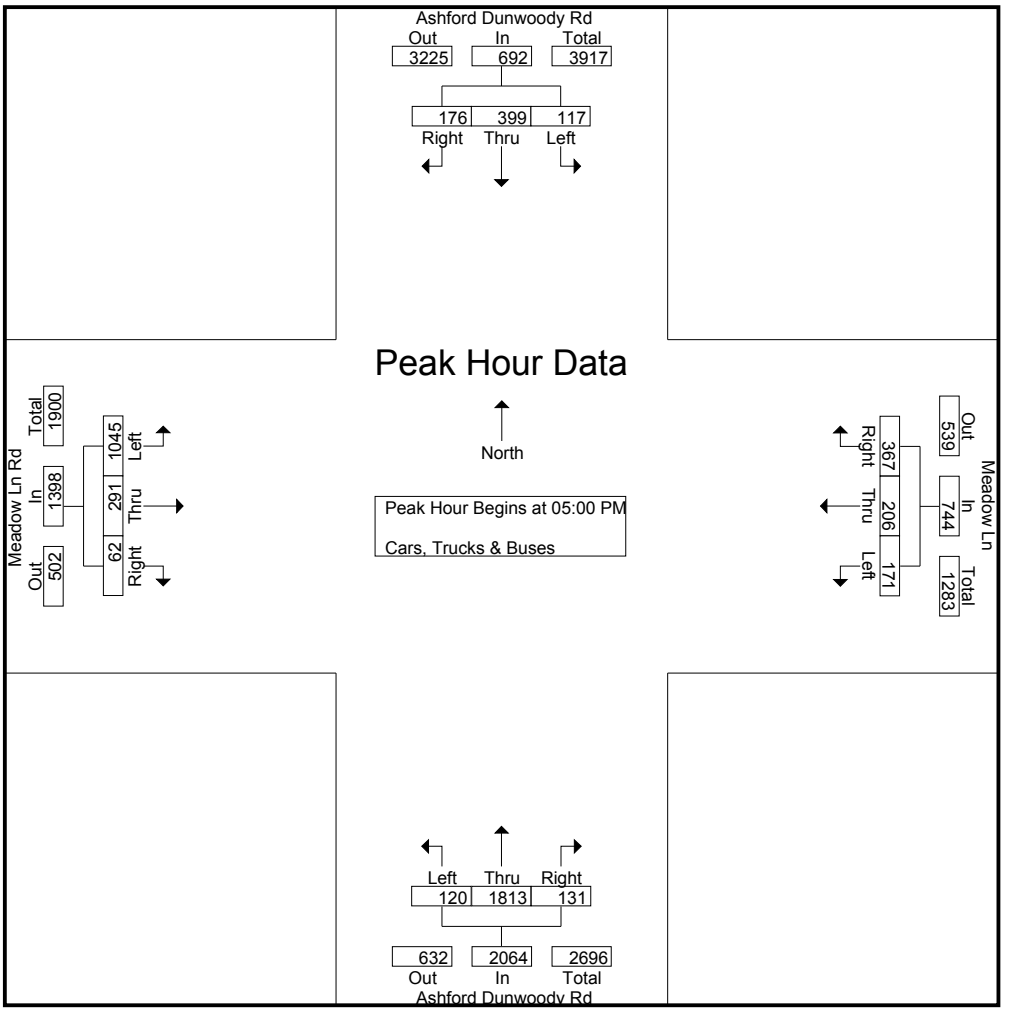
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TMC DATA
Ashford Dunwoody Rd @
Meadow Ln Rd
7-9 am | 4-6 pm

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	Ashford Dunwoody Rd Northbound				Ashford Dunwoody Rd Southbound				Meadow Ln Rd Eastbound				Meadow Ln Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	26	444	28	498	26	92	27	145	235	52	12	299	37	57	98	192	1134
05:15 PM	18	448	24	490	12	87	49	148	282	48	**20**	350	34	42	82	158	1146
05:30 PM	30	428	31	489	28	**110**	44	182	244	81	12	337	45	45	82	172	1180
05:45 PM	**46**	**493**	**48**	**587**	**51**	110	**56**	**217**	**284**	**110**	18	**412**	**55**	**62**	**105**	**222**	**1438**
Total Volume	120	1813	131	2064	117	399	176	692	1045	291	62	1398	171	206	367	744	4898
% App. Total	5.8	87.8	6.3		16.9	57.7	25.4		74.7	20.8	4.4		23	27.7	49.3		
PHF	.652	.919	.682	.879	.574	.907	.786	.797	.920	.661	.775	.848	.777	.831	.874	.838	.852



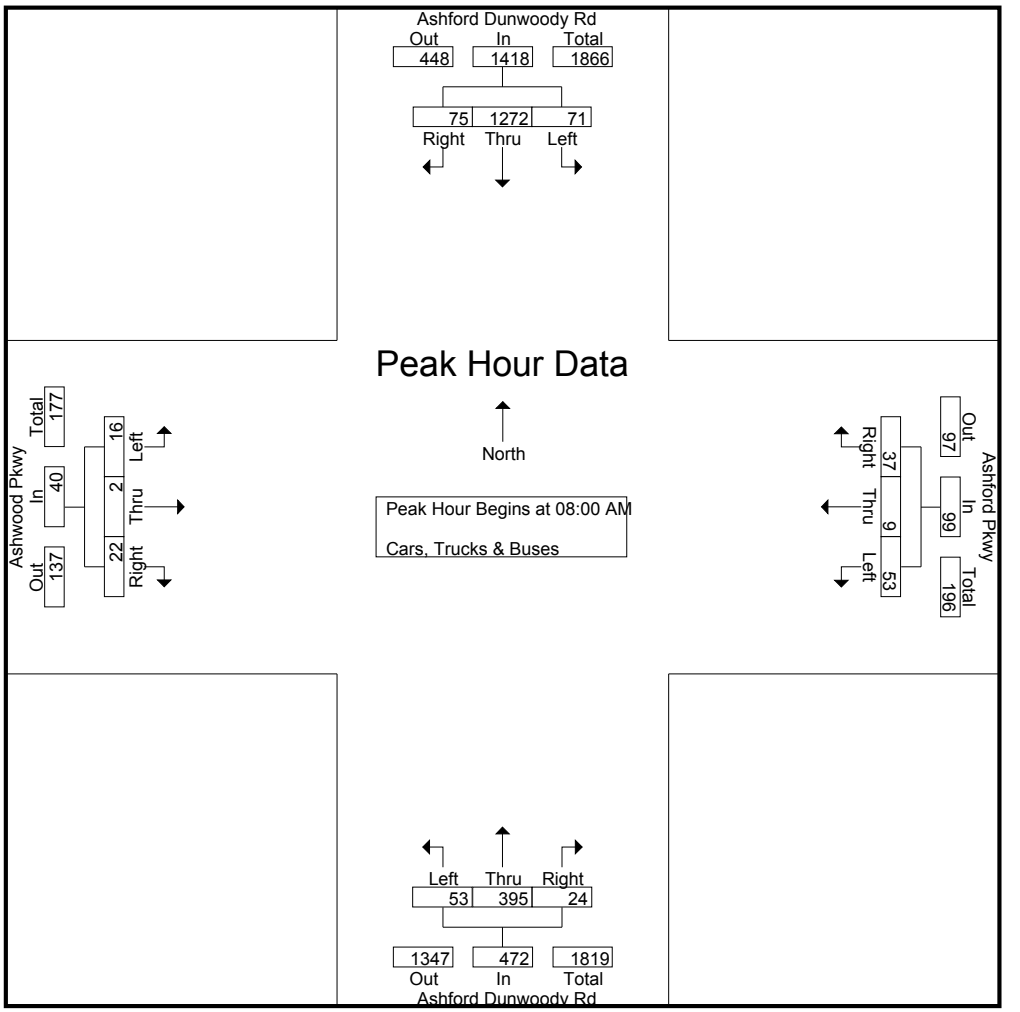
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TMC DATA
Ashford Dunwoody Rd @
Ashwood Pkwy / Ashford Pkwy
7-9 am | 4-6 pm

File Name : 20190007
Site Code : 20190007
Start Date : 1/9/2019
Page No : 2

	Ashford Dunwoody Rd Northbound				Ashford Dunwoody Rd Southbound				Ashwood Pkwy Eastbound				Ashford Pkwy Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	16	**110**	6	**132**	**21**	315	20	356	4	**1**	5	10	12	1	9	22	520
08:15 AM	9	97	5	111	13	315	13	341	2	0	**7**	9	10	**3**	7	20	481
08:30 AM	11	83	6	100	17	300	17	334	**8**	1	7	**16**	**19**	3	**11**	**33**	483
08:45 AM	**17**	105	**7**	129	20	**342**	**25**	**387**	2	0	3	5	12	2	10	24	**545**
Total Volume	53	395	24	472	71	1272	75	1418	16	2	22	40	53	9	37	99	2029
% App. Total	11.2	83.7	5.1		5	89.7	5.3		40	5	55		53.5	9.1	37.4		
PHF	.779	.898	.857	.894	.845	.930	.750	.916	.500	.500	.786	.625	.697	.750	.841	.750	.931



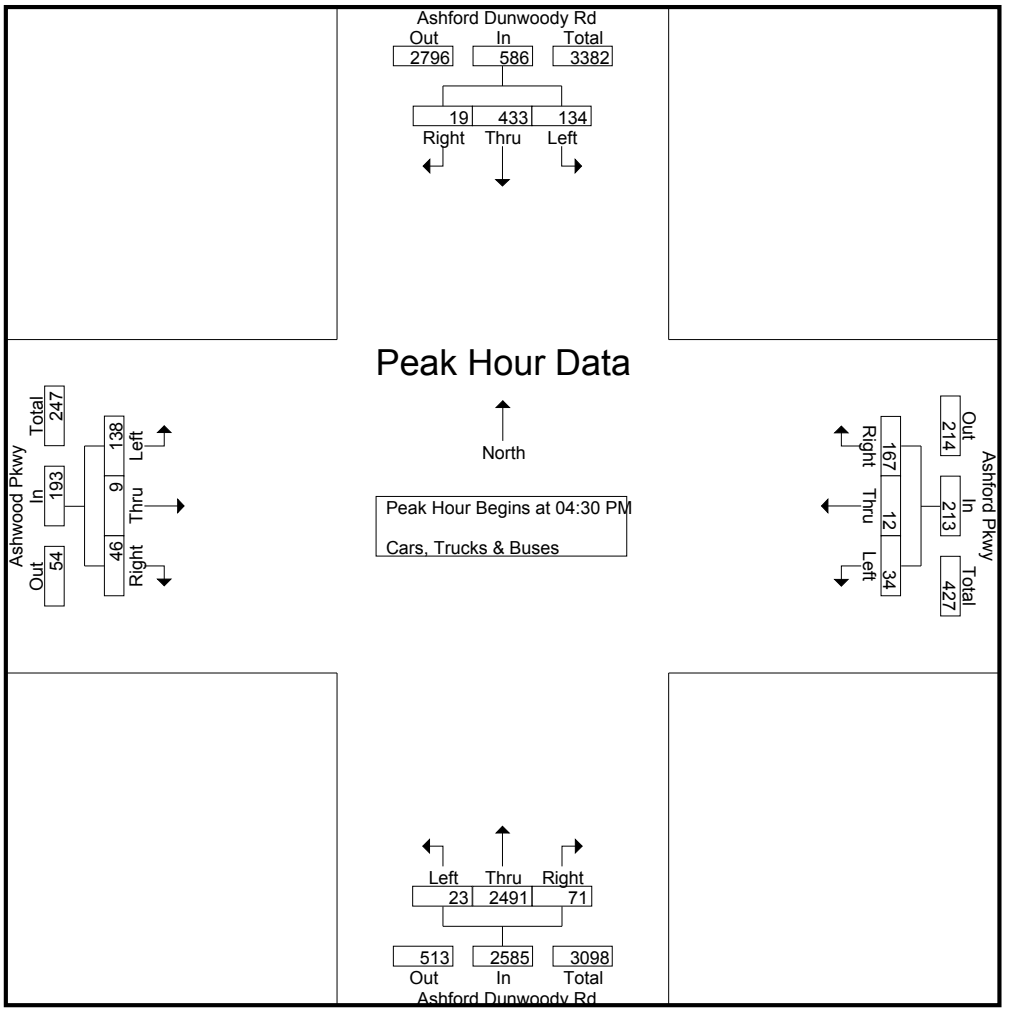
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TMC DATA
Ashford Dunwoody Rd @
Ashwood Pkwy / Ashford Pkwy
7-9 am | 4-6 pm

File Name : 20190007
Site Code : 20190007
Start Date : 1/9/2019
Page No : 3

	Ashford Dunwoody Rd Northbound				Ashford Dunwoody Rd Southbound				Ashwood Pkwy Eastbound				Ashford Pkwy Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	2	**675**	**22**	**699**	37	90	6	133	35	**3**	12	50	**10**	**8**	36	54	**936**
04:45 PM	8	627	17	652	27	**117**	4	148	20	3	5	28	10	2	47	**59**	887
05:00 PM	**9**	587	18	614	25	116	2	143	**45**	1	**15**	**61**	9	1	**49**	59	877
05:15 PM	4	602	14	620	**45**	110	**7**	**162**	38	2	14	54	5	1	35	41	877
Total Volume	23	2491	71	2585	134	433	19	586	138	9	46	193	34	12	167	213	3577
% App. Total	0.9	96.4	2.7		22.9	73.9	3.2		71.5	4.7	23.8		16	5.6	78.4		
PHF	.639	.923	.807	.925	.744	.925	.679	.904	.767	.750	.767	.791	.850	.375	.852	.903	.955

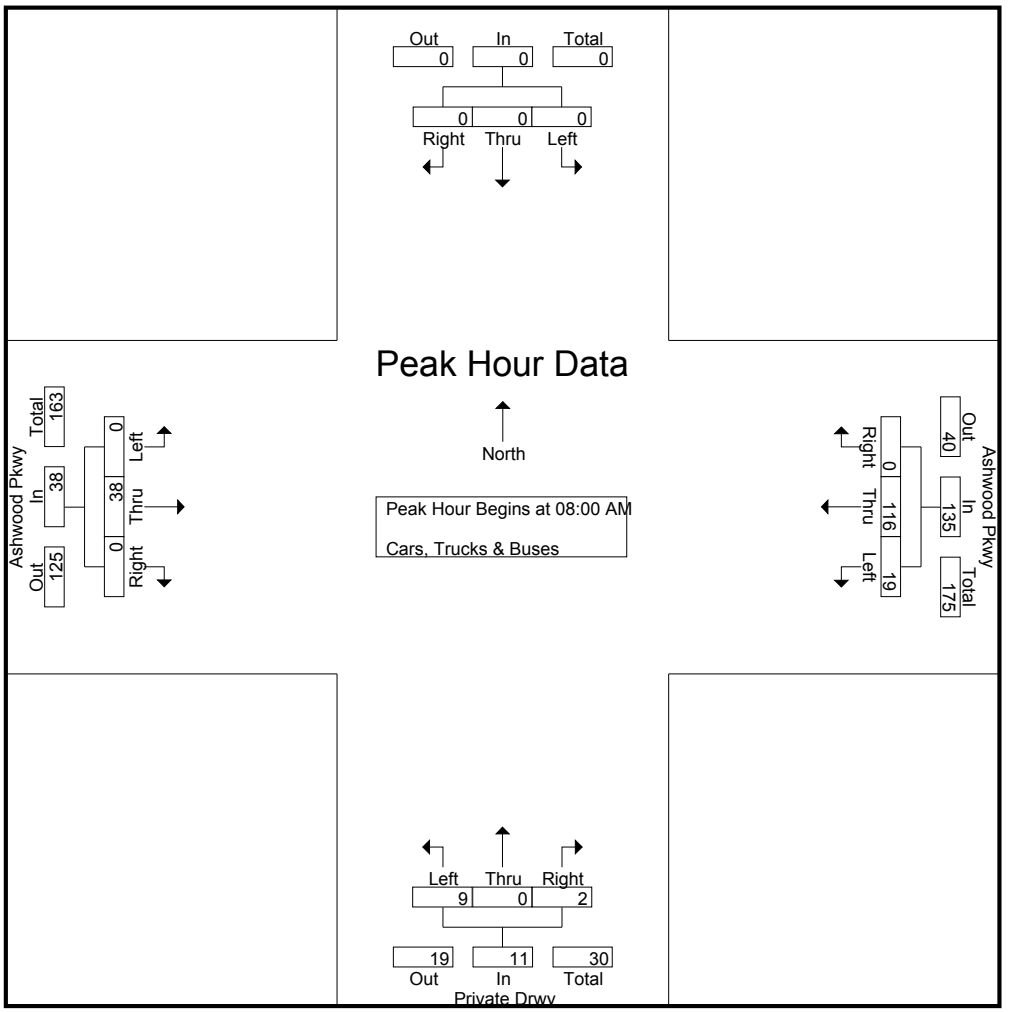


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TMC Data
Ashwood Pkwy @ Private Drwy
7-9 am | 4-6 pm

File Name : 20190009
Site Code : 20190009
Start Date : 1/9/2019
Page No : 2

	Private Drwy Northbound				Southbound				Ashwood Pkwy Eastbound				Ashwood Pkwy Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	3	0	**1**	4	0	0	0	0	0	10	0	10	**5**	32	0	37	51
08:15 AM	1	0	1	2	0	0	0	0	0	9	0	9	5	21	0	26	37
08:30 AM	0	0	0	0	0	0	0	0	0	**14**	0	**14**	4	25	0	29	43
08:45 AM	**5**	0	0	**5**	0	0	0	0	0	5	0	5	5	**38**	0	**43**	**53**
Total Volume	9	0	2	11	0	0	0	0	0	38	0	38	19	116	0	135	184
% App. Total	81.8	0	18.2		0	0	0		0	100	0		14.1	85.9	0		
PHF	.450	.000	.500	.550	.000	.000	.000	.000	.000	.679	.000	.679	.950	.763	.000	.785	.868

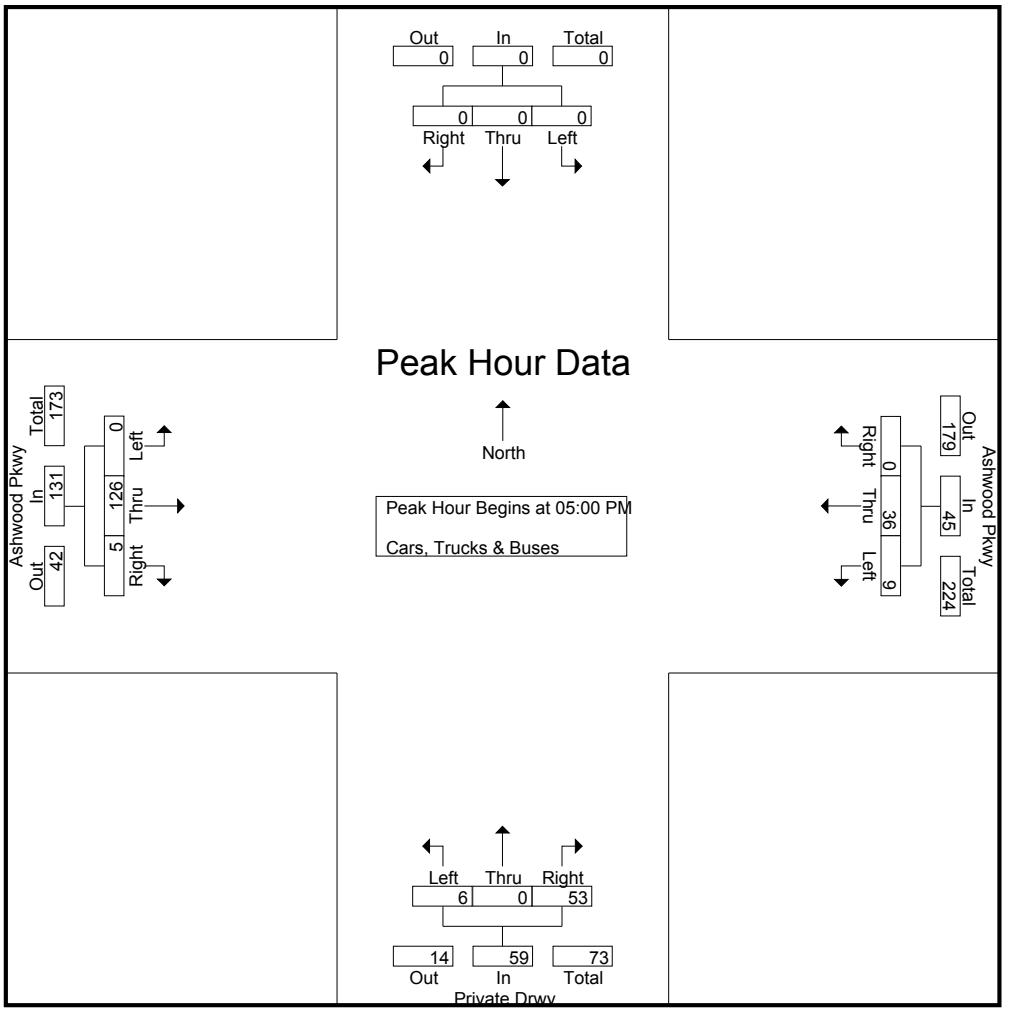


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TMC Data
Ashwood Pkwy @ Private Drwy
7-9 am | 4-6 pm

File Name : 20190009
Site Code : 20190009
Start Date : 1/9/2019
Page No : 3

	Private Drwy Northbound				Southbound				Ashwood Pkwy Eastbound				Ashwood Pkwy Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	2	0	12	14	0	0	0	0	0	**42**	1	**43**	3	8	0	11	**68**
05:15 PM	1	0	**15**	16	0	0	0	0	0	34	1	35	**4**	7	0	11	62
05:30 PM	0	0	12	12	0	0	0	0	0	26	1	27	1	5	0	6	45
05:45 PM	**3**	0	14	**17**	0	0	0	0	0	24	**2**	26	1	**16**	0	**17**	60
Total Volume	6	0	53	59	0	0	0	0	0	126	5	131	9	36	0	45	235
% App. Total	10.2	0	89.8		0	0	0		0	96.2	3.8		20	80	0		
PHF	.500	.000	.883	.868	.000	.000	.000	.000	.000	.750	.625	.762	.563	.563	.000	.662	.864

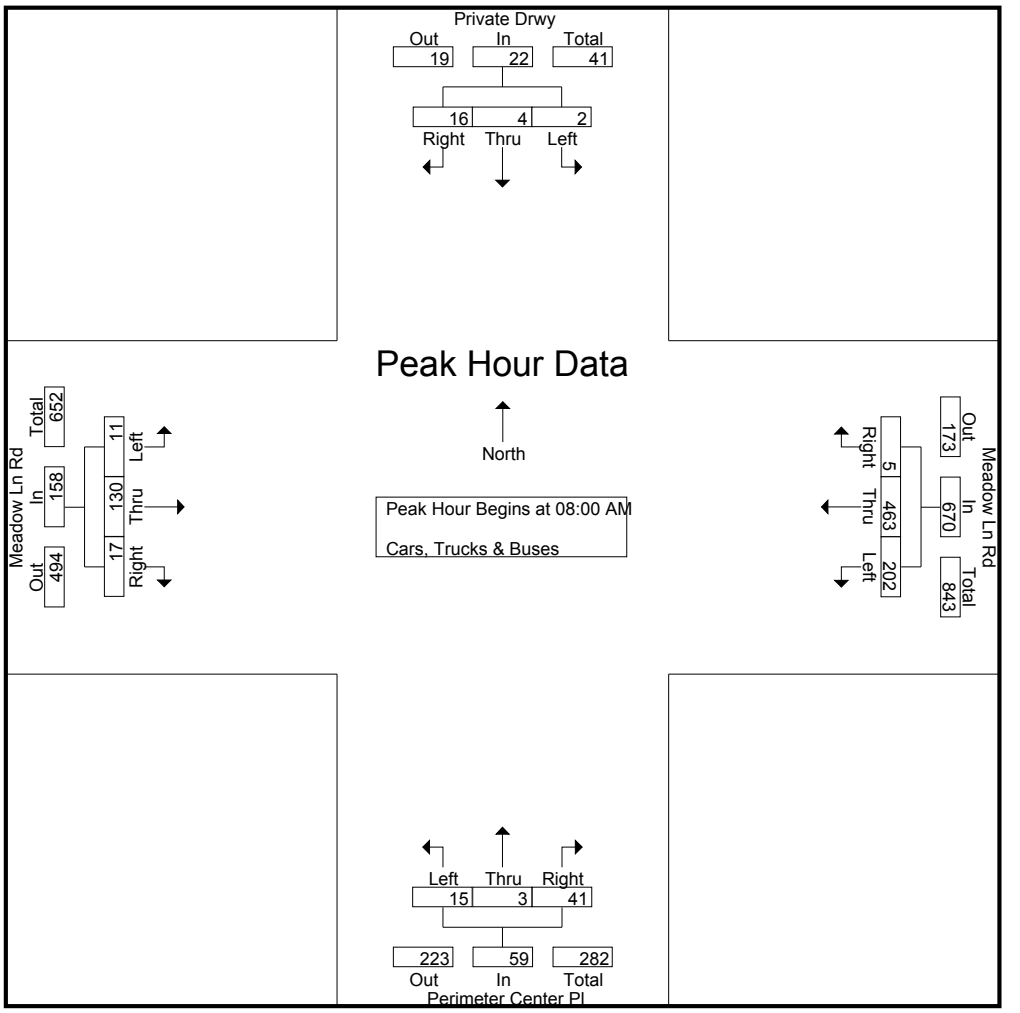


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TMC DATA
Meadow Ln Rd @
Perimeter Center Pl
7-9 am | 4-6 pm

File Name : 20190008
Site Code : 20190008
Start Date : 1/9/2019
Page No : 2

	Perimeter Center Pl Northbound				Private Drwy Southbound				Meadow Ln Rd Eastbound				Meadow Ln Rd Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	3	1	9	13	**1**	**1**	4	**6**	3	**42**	4	**49**	48	**118**	1	167	**235**
08:15 AM	**5**	0	**13**	**18**	0	1	**5**	6	2	22	4	28	**59**	117	1	**177**	229
08:30 AM	4	0	7	11	0	1	3	4	1	27	**6**	34	53	112	1	166	215
08:45 AM	3	**2**	12	17	1	1	4	6	**5**	39	3	47	42	116	**2**	160	230
Total Volume	15	3	41	59	2	4	16	22	11	130	17	158	202	463	5	670	909
% App. Total	25.4	5.1	69.5		9.1	18.2	72.7		7	82.3	10.8		30.1	69.1	0.7		
PHF	.750	.375	.788	.819	.500	1.00	.800	.917	.550	.774	.708	.806	.856	.981	.625	.946	.967



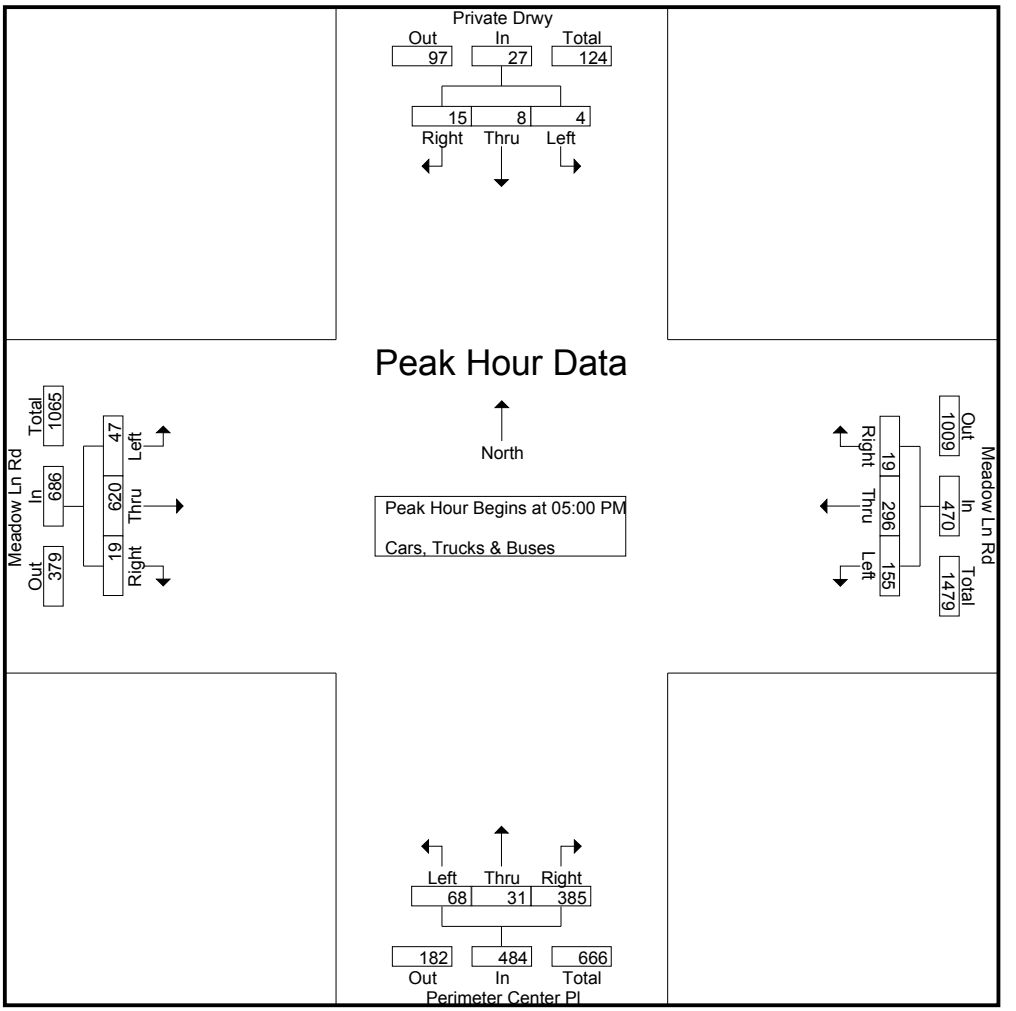
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TMC DATA
Meadow Ln Rd @
Perimeter Center Pl
7-9 am | 4-6 pm

File Name : 20190008
Site Code : 20190008
Start Date : 1/9/2019
Page No : 3

	Perimeter Center Pl Northbound				Private Drwy Southbound				Meadow Ln Rd Eastbound				Meadow Ln Rd Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	12	3	83	98	1	**3**	2	6	11	138	4	153	**45**	59	4	108	365
05:15 PM	14	8	**120**	**142**	1	3	0	4	10	**180**	3	**193**	34	60	1	95	434
05:30 PM	20	8	77	105	0	1	5	6	**16**	169	4	189	45	**89**	5	**139**	**439**
05:45 PM	**22**	**12**	105	139	**2**	1	**8**	**11**	10	133	**8**	151	31	88	**9**	128	429
Total Volume	68	31	385	484	4	8	15	27	47	620	19	686	155	296	19	470	1667
% App. Total	14	6.4	79.5		14.8	29.6	55.6		6.9	90.4	2.8		33	63	4		
PHF	.773	.646	.802	.852	.500	.667	.469	.614	.734	.861	.594	.889	.861	.831	.528	.845	.949



EXISTING INTERSECTION ANALYSIS

Timings
1: Ashford Dunwoody Rd & Meadow Lane/Asbury Square

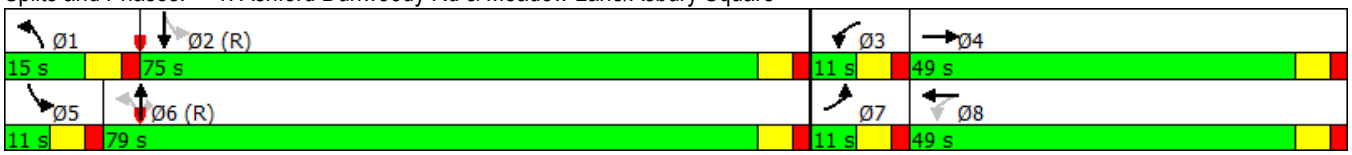
2019 Existing AM Peak
01/30/2019

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	68	55	46	106	159	464	71	84	1263
Future Volume (vph)	68	55	46	106	159	464	71	84	1263
Turn Type	Prot	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	7	4	3	8	1	6		5	2
Permitted Phases			8		6		6	2	
Detector Phase	7	4	3	8	1	6	6	5	2
Switch Phase									
Minimum Initial (s)	5.0	6.0	5.0	6.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	11.0	48.0	11.0	49.0	11.0	47.0	47.0	11.0	43.0
Total Split (s)	11.0	49.0	11.0	49.0	15.0	79.0	79.0	11.0	75.0
Total Split (%)	7.3%	32.7%	7.3%	32.7%	10.0%	52.7%	52.7%	7.3%	50.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 138 (92%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 1: Ashford Dunwoody Rd & Meadow Lane/Asbury Square



HCM 2010 Signalized Intersection Summary
1: Ashford Dunwoody Rd & Meadow Lane/Asbury Square

2019 Existing AM Peak
01/30/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	55	55	46	106	38	159	464	71	84	1263	431
Future Volume (veh/h)	68	55	55	46	106	38	159	464	71	84	1263	431
Number	7	4	14	3	8	18	1	6	16	5	2	12
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	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	77	62	62	52	120	43	181	527	81	95	1435	490
Adj No. of Lanes	2	2	0	1	2	0	1	2	1	1	2	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	115	120	107	144	175	60	286	2500	1118	636	1829	592
Arrive On Green	0.03	0.07	0.07	0.03	0.07	0.07	0.04	0.71	0.71	0.07	1.00	1.00
Sat Flow, veh/h	3442	1778	1576	1774	2586	890	1774	3539	1583	1774	2631	852
Grp Volume(v), veh/h	77	62	62	52	81	82	181	527	81	95	940	985
Grp Sat Flow(s),veh/h/ln	1721	1770	1585	1774	1770	1706	1774	1770	1583	1774	1770	1712
Q Serve(g_s), s	3.3	5.1	5.7	4.1	6.7	7.1	4.4	7.7	2.4	2.4	0.0	0.0
Cycle Q Clear(g_c), s	3.3	5.1	5.7	4.1	6.7	7.1	4.4	7.7	2.4	2.4	0.0	0.0
Prop In Lane	1.00		0.99	1.00		0.52	1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h	115	120	107	144	120	115	286	2500	1118	636	1230	1191
V/C Ratio(X)	0.67	0.52	0.58	0.36	0.67	0.71	0.63	0.21	0.07	0.15	0.76	0.83
Avail Cap(c_a), veh/h	115	507	454	144	507	489	315	2500	1118	637	1230	1191
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.80	0.80	0.80
Uniform Delay (d), s/veh	71.7	67.6	67.9	62.6	68.3	68.5	5.7	7.6	6.8	5.8	0.0	0.0
Incr Delay (d2), s/veh	14.1	3.4	4.9	1.5	6.4	8.0	3.5	0.2	0.1	0.1	3.7	5.4
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 BackOfQ(95%),veh/ln	3.3	4.6	4.8	3.7	6.3	6.5	4.3	6.8	1.9	2.0	2.3	3.2
LnGrp Delay(d),s/veh	85.8	71.0	72.8	64.1	74.7	76.5	9.2	7.8	6.9	5.9	3.7	5.4
LnGrp LOS	F	E	E	E	E	E	A	A	A	A	A	A
Approach Vol, veh/h		201			215			789			2020	
Approach Delay, s/veh		77.2			72.8			8.0			4.6	
Approach LOS		E			E			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.6	110.3	11.0	16.1	10.9	111.9	11.0	16.1
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	9.0	69.0	5.0	43.0	5.0	73.0	5.0	43.0
Max Q Clear Time (g_c+I1), s	6.4	2.0	6.1	7.7	4.4	9.7	5.3	9.1
Green Ext Time (p_c), s	0.1	66.7	0.0	1.0	0.0	63.1	0.0	1.0

Intersection Summary	
HCM 2010 Ctrl Delay	14.5
HCM 2010 LOS	B

Timings
2: Ashford Dunwoody Rd/Ashford Dunwood Rd & Ashwood Pkwy/Ashford Pkwy

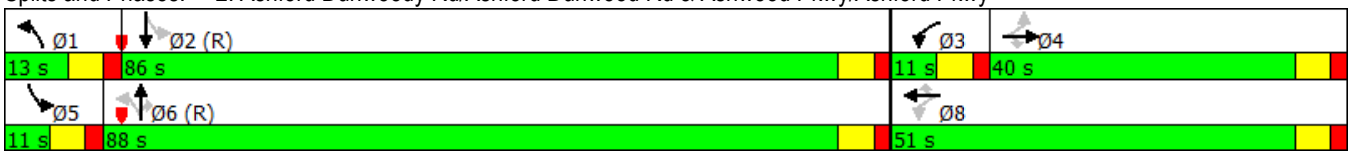
2019 Existing AM Peak
01/30/2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	16	2	22	53	9	37	53	395	24	71	1272
Future Volume (vph)	16	2	22	53	9	37	53	395	24	71	1272
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases		4		3	8		1	6		5	2
Permitted Phases	4		4	8		8	6		6	2	
Detector Phase	4	4	4	3	8	8	1	6	6	5	2
Switch Phase											
Minimum Initial (s)	6.0	6.0	6.0	5.0	6.0	6.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	40.0	40.0	40.0	11.0	42.0	42.0	11.0	42.0	42.0	11.0	37.0
Total Split (s)	40.0	40.0	40.0	11.0	51.0	51.0	13.0	88.0	88.0	11.0	86.0
Total Split (%)	26.7%	26.7%	26.7%	7.3%	34.0%	34.0%	8.7%	58.7%	58.7%	7.3%	57.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead			Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 115
Control Type: Actuated-Coordinated

Splits and Phases: 2: Ashford Dunwoody Rd/Ashford Dunwood Rd & Ashwood Pkwy/Ashford Pkwy



HCM 2010 Signalized Intersection Summary — 2019 Existing AM Peak
2: Ashford Dunwoody Rd/Ashford Dunwood Rd & Ashwood Pkwy/Ashford Pkwy — 01/30/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	2	22	53	9	37	53	395	24	71	1272	75
Future Volume (veh/h)	16	2	22	53	9	37	53	395	24	71	1272	75
Number	7	4	14	3	8	18	1	6	16	5	2	12
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	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	17	2	0	57	10	40	57	425	0	76	1368	81
Adj No. of Lanes	0	1	1	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	8	60	189	207	176	307	2608	1167	748	2509	148
Arrive On Green	0.04	0.04	0.00	0.03	0.11	0.11	0.02	0.49	0.00	0.03	0.74	0.74
Sat Flow, veh/h	1192	218	1583	1774	1863	1583	1774	3539	1583	1774	3396	201
Grp Volume(v), veh/h	19	0	0	57	10	40	57	425	0	76	711	738
Grp Sat Flow(s),veh/h/ln	1409	0	1583	1774	1863	1583	1774	1770	1583	1774	1770	1827
Q Serve(g_s), s	1.7	0.0	0.0	4.6	0.7	3.5	1.2	9.9	0.0	1.6	26.3	26.5
Cycle Q Clear(g_c), s	1.9	0.0	0.0	4.6	0.7	3.5	1.2	9.9	0.0	1.6	26.3	26.5
Prop In Lane	0.89		1.00	1.00		1.00	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	99	0	60	189	207	176	307	2608	1167	748	1307	1350
V/C Ratio(X)	0.19	0.00	0.00	0.30	0.05	0.23	0.19	0.16	0.00	0.10	0.54	0.55
Avail Cap(c_a), veh/h	361	0	359	189	559	475	336	2608	1167	750	1307	1350
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	0.97	0.97	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	70.3	0.0	0.0	65.0	59.6	60.8	7.0	12.5	0.0	4.5	8.6	8.6
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.9	0.1	0.6	0.3	0.1	0.0	0.1	1.6	1.6
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 BackOfQ(95%),veh/ln	1.4	0.0	0.0	4.1	0.7	2.8	1.0	8.5	0.0	1.4	19.2	20.0
LnGrp Delay(d),s/veh	71.3	0.0	0.0	65.9	59.7	61.4	7.3	12.6	0.0	4.6	10.2	10.2
LnGrp LOS	E			E	E	E	A	B		A	B	B
Approach Vol, veh/h		19			107			482			1525	
Approach Delay, s/veh		71.3			63.6			12.0			9.9	
Approach LOS		E			E			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	10.5	116.8	11.0	11.7	10.8	116.5		22.7
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	7.0	80.0	5.0	34.0	5.0	82.0		45.0
Max Q Clear Time (g_c+I1), s	3.2	28.5	6.6	3.9	3.6	11.9		5.5
Green Ext Time (p_c), s	0.0	49.7	0.0	0.2	0.0	67.0		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	13.6
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	38	0	19	116	9	2
Future Vol, veh/h	38	0	19	116	9	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	44	0	22	133	10	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	44	0	221	44
Stage 1	-	-	-	-	44	-
Stage 2	-	-	-	-	177	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1564	-	767	1026
Stage 1	-	-	-	-	978	-
Stage 2	-	-	-	-	854	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1564	-	755	1026
Mov Cap-2 Maneuver	-	-	-	-	755	-
Stage 1	-	-	-	-	978	-
Stage 2	-	-	-	-	841	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	793	-	-	1564	-
HCM Lane V/C Ratio	0.016	-	-	0.014	-
HCM Control Delay (s)	9.6	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Timings
4: Perimeter Center Pl & Meadow Lane

2019 Existing AM Peak
01/30/2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	11	130	17	202	463	5	15	3	41	2	4
Future Volume (vph)	11	130	17	202	463	5	15	3	41	2	4
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA
Protected Phases		2		1	6			8	1		4
Permitted Phases	2		2	6		6	8		8	4	
Detector Phase	2	2	2	1	6	6	8	8	1	4	4
Switch Phase											
Minimum Initial (s)	15.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	73.0	73.0	73.0	11.0	24.0	24.0	50.0	50.0	11.0	49.0	49.0
Total Split (s)	61.0	61.0	61.0	15.0	76.0	76.0	44.0	44.0	15.0	44.0	44.0
Total Split (%)	50.8%	50.8%	50.8%	12.5%	63.3%	63.3%	36.7%	36.7%	12.5%	36.7%	36.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0
Lead/Lag	Lag	Lag	Lag	Lead					Lead		
Lead-Lag Optimize?											
Recall Mode	C-Min	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 135
Control Type: Actuated-Coordinated

Splits and Phases: 4: Perimeter Center Pl & Meadow Lane



HCM 2010 Signalized Intersection Summary
4: Perimeter Center Pl & Meadow Lane

2019 Existing AM Peak
01/30/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	130	17	202	463	5	15	3	41	2	4	16
Future Volume (veh/h)	11	130	17	202	463	5	15	3	41	2	4	16
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	11	134	18	208	477	5	15	3	0	2	4	16
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	762	2731	1222	1072	3055	1367	98	15	124	36	13	44
Arrive On Green	0.77	0.77	0.77	0.04	0.86	0.86	0.04	0.04	0.00	0.04	0.04	0.04
Sat Flow, veh/h	909	3539	1583	1774	3539	1583	1175	400	1583	87	356	1182
Grp Volume(v), veh/h	11	134	18	208	477	5	18	0	0	22	0	0
Grp Sat Flow(s),veh/h/ln	909	1770	1583	1774	1770	1583	1575	0	1583	1626	0	0
Q Serve(g_s), s	0.3	1.1	0.3	2.7	2.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.3	1.1	0.3	2.7	2.6	0.1	1.2	0.0	0.0	1.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.83		1.00	0.09		0.73
Lane Grp Cap(c), veh/h	762	2731	1222	1072	3055	1367	113	0	124	93	0	0
V/C Ratio(X)	0.01	0.05	0.01	0.19	0.16	0.00	0.16	0.00	0.00	0.24	0.00	0.00
Avail Cap(c_a), veh/h	762	2731	1222	1131	3055	1367	518	0	567	543	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.29	0.29	0.29	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	3.2	3.3	3.2	2.0	1.3	1.1	56.2	0.0	0.0	56.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	1.3	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 BackOfQ(95%),veh/ln	0.2	1.0	0.3	2.3	2.2	0.0	1.1	0.0	0.0	1.3	0.0	0.0
LnGrp Delay(d),s/veh	3.2	3.3	3.2	2.0	1.3	1.1	56.9	0.0	0.0	57.7	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	E			E		
Approach Vol, veh/h		163			690			18			22	
Approach Delay, s/veh		3.3			1.5			56.9			57.7	
Approach LOS		A			A			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	11.0	98.6		10.4		109.6		10.4
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s	9.0	55.0		38.0		70.0		38.0
Max Q Clear Time (g_c+I1), s	4.7	3.1		3.6		4.6		3.2
Green Ext Time (p_c), s	0.3	20.9		0.1		22.8		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	4.4
HCM 2010 LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

Timings
1: Ashford Dunwoody Rd & Meadow Lane/Asbury Square

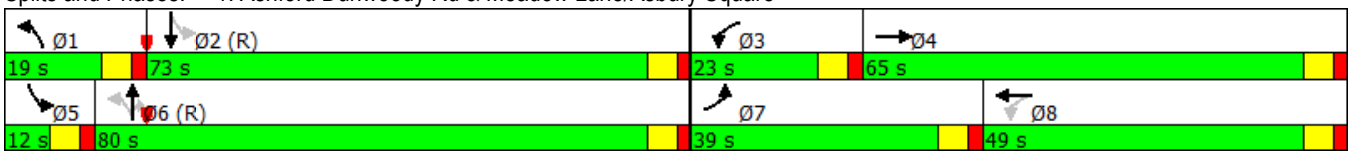
2019 Existing PM Peak
01/30/2019

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	1045	291	171	206	120	1813	131	117	399
Future Volume (vph)	1045	291	171	206	120	1813	131	117	399
Turn Type	Prot	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	7	4	3	8	1	6		5	2
Permitted Phases			8		6		6	2	
Detector Phase	7	4	3	8	1	6	6	5	2
Switch Phase									
Minimum Initial (s)	5.0	6.0	5.0	6.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	11.0	48.0	11.0	49.0	11.0	47.0	47.0	11.0	43.0
Total Split (s)	39.0	65.0	23.0	49.0	19.0	80.0	80.0	12.0	73.0
Total Split (%)	21.7%	36.1%	12.8%	27.2%	10.6%	44.4%	44.4%	6.7%	40.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 170 (94%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 1: Ashford Dunwoody Rd & Meadow Lane/Asbury Square



HCM 2010 Signalized Intersection Summary
1: Ashford Dunwoody Rd & Meadow Lane/Asbury Square

2019 Existing PM Peak
01/30/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1045	291	62	171	206	367	120	1813	131	117	399	176
Future Volume (veh/h)	1045	291	62	171	206	367	120	1813	131	117	399	176
Number	7	4	14	3	8	18	1	6	16	5	2	12
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	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	1229	342	73	201	242	432	141	2133	154	138	469	207
Adj No. of Lanes	2	2	0	1	2	0	1	2	1	1	2	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	631	954	201	437	423	378	381	1455	651	99	923	405
Arrive On Green	0.18	0.33	0.33	0.09	0.24	0.24	0.06	0.41	0.41	0.07	0.77	0.77
Sat Flow, veh/h	3442	2910	614	1774	1770	1583	1774	3539	1583	1774	2396	1050
Grp Volume(v), veh/h	1229	206	209	201	242	432	141	2133	154	138	345	331
Grp Sat Flow(s),veh/h/ln	1721	1770	1754	1774	1770	1583	1774	1770	1583	1774	1770	1677
Q Serve(g_s), s	33.0	16.0	16.3	15.3	21.7	43.0	8.6	74.0	11.4	6.0	13.2	13.4
Cycle Q Clear(g_c), s	33.0	16.0	16.3	15.3	21.7	43.0	8.6	74.0	11.4	6.0	13.2	13.4
Prop In Lane	1.00		0.35	1.00		1.00	1.00		1.00	1.00		0.63
Lane Grp Cap(c), veh/h	631	580	575	437	423	378	381	1455	651	99	682	646
V/C Ratio(X)	1.95	0.36	0.36	0.46	0.57	1.14	0.37	1.47	0.24	1.39	0.51	0.51
Avail Cap(c_a), veh/h	631	580	575	437	423	378	404	1455	651	99	682	646
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.86	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.99
Uniform Delay (d), s/veh	73.5	46.0	46.2	45.1	60.4	68.5	30.5	53.0	34.6	46.2	14.2	14.2
Incr Delay (d2), s/veh	431.5	0.3	0.3	0.8	1.9	90.9	0.6	213.5	0.9	226.1	2.6	2.8
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 BackOfQ(95%),veh/ln	96.3	12.1	12.3	12.1	16.2	51.0	7.6	142.8	8.9	14.8	11.1	10.7
LnGrp Delay(d),s/veh	505.0	46.4	46.5	45.9	62.3	159.4	31.1	266.5	35.4	272.3	16.9	17.1
LnGrp LOS	F	D	D	D	E	F	C	F	D	F	B	B
Approach Vol, veh/h		1644			875			2428			814	
Approach Delay, s/veh		389.3			106.4			238.2			60.3	
Approach LOS		F			F			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.7	75.3	23.0	65.0	12.0	80.0	39.0	49.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	13.0	67.0	17.0	59.0	6.0	74.0	33.0	43.0
Max Q Clear Time (g_c+I1), s	10.6	15.4	17.3	18.3	8.0	76.0	35.0	45.0
Green Ext Time (p_c), s	0.1	51.4	0.0	4.9	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	236.1
HCM 2010 LOS	F

Timings 2019 Existing PM Peak

2: Ashford Dunwoody Rd/Ashford Dunwood Rd & Ashwood Pkwy/Ashford Pkwy

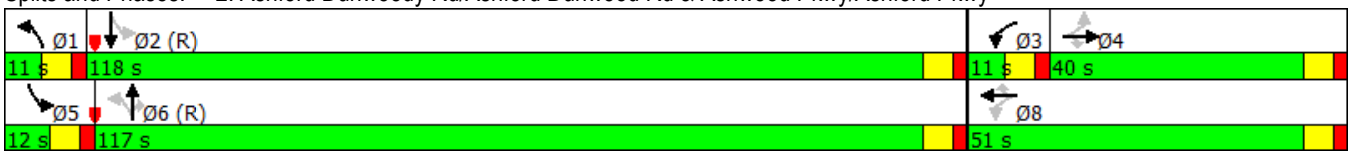
01/30/2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	138	9	46	34	12	167	23	2491	71	134	433
Future Volume (vph)	138	9	46	34	12	167	23	2491	71	134	433
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases		4		3	8		1	6		5	2
Permitted Phases	4		4	8		8	6		6	2	
Detector Phase	4	4	4	3	8	8	1	6	6	5	2
Switch Phase											
Minimum Initial (s)	6.0	6.0	6.0	5.0	6.0	6.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	40.0	40.0	40.0	11.0	42.0	42.0	11.0	42.0	42.0	11.0	37.0
Total Split (s)	40.0	40.0	40.0	11.0	51.0	51.0	11.0	117.0	117.0	12.0	118.0
Total Split (%)	22.2%	22.2%	22.2%	6.1%	28.3%	28.3%	6.1%	65.0%	65.0%	6.7%	65.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead			Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated

Splits and Phases: 2: Ashford Dunwoody Rd/Ashford Dunwood Rd & Ashwood Pkwy/Ashford Pkwy



HCM 2010 Signalized Intersection Summary 2019 Existing PM Peak
2: Ashford Dunwoody Rd/Ashford Dunwood Rd & Ashwood Pkwy/Ashford Pkwy 01/30/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	138	9	46	34	12	167	23	2491	71	134	433	19
Future Volume (veh/h)	138	9	46	34	12	167	23	2491	71	134	433	19
Number	7	4	14	3	8	18	1	6	16	5	2	12
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	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	145	9	0	36	13	176	24	2622	0	141	456	20
Adj No. of Lanes	0	1	1	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	201	10	224	343	369	314	654	2366	1058	99	2357	103
Arrive On Green	0.14	0.14	0.00	0.02	0.20	0.20	0.04	1.00	0.00	0.03	0.68	0.68
Sat Flow, veh/h	1144	71	1583	1774	1863	1583	1774	3539	1583	1774	3454	151
Grp Volume(v), veh/h	154	0	0	36	13	176	24	2622	0	141	233	243
Grp Sat Flow(s),veh/h/ln	1215	0	1583	1774	1863	1583	1774	1770	1583	1774	1770	1836
Q Serve(g_s), s	22.4	0.0	0.0	3.1	1.0	18.0	0.8	120.3	0.0	6.0	8.7	8.7
Cycle Q Clear(g_c), s	22.4	0.0	0.0	3.1	1.0	18.0	0.8	120.3	0.0	6.0	8.7	8.7
Prop In Lane	0.94		1.00	1.00		1.00	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	211	0	224	343	369	314	654	2366	1058	99	1208	1253
V/C Ratio(X)	0.73	0.00	0.00	0.10	0.04	0.56	0.04	1.11	0.00	1.42	0.19	0.19
Avail Cap(c_a), veh/h	268	0	299	351	466	396	669	2366	1058	99	1208	1253
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	0.09	0.09	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	76.0	0.0	0.0	62.4	58.3	65.1	8.8	0.0	0.0	64.1	10.5	10.5
Incr Delay (d2), s/veh	7.3	0.0	0.0	0.1	0.0	1.6	0.0	49.4	0.0	238.7	0.4	0.3
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 BackOfQ(95%),veh/ln	12.6	0.0	0.0	2.7	0.9	12.7	0.7	29.2	0.0	20.7	7.7	8.0
LnGrp Delay(d),s/veh	83.3	0.0	0.0	62.5	58.3	66.7	8.8	49.4	0.0	302.8	10.8	10.8
LnGrp LOS	F			E	E	E	A	F		F	B	B
Approach Vol, veh/h		154			225			2646			617	
Approach Delay, s/veh		83.3			65.5			49.0			77.5	
Approach LOS		F			E			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	9.5	128.8	10.2	31.4	12.0	126.3		41.7
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	5.0	112.0	5.0	34.0	6.0	111.0		45.0
Max Q Clear Time (g_c+I1), s	2.8	10.7	5.1	24.4	8.0	122.3		20.0
Green Ext Time (p_c), s	0.0	100.8	0.0	1.0	0.0	0.0		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	56.3
HCM 2010 LOS	E

Intersection	
Int Delay, s/veh	2.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	126	5	9	36	6	53
Future Vol, veh/h	126	5	9	36	6	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	147	6	10	42	7	62

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	153	0	212	150
Stage 1	-	-	-	-	150	-
Stage 2	-	-	-	-	62	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1428	-	776	896
Stage 1	-	-	-	-	878	-
Stage 2	-	-	-	-	961	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1428	-	771	896
Mov Cap-2 Maneuver	-	-	-	-	771	-
Stage 1	-	-	-	-	878	-
Stage 2	-	-	-	-	954	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	881	-	-	1428	-
HCM Lane V/C Ratio	0.078	-	-	0.007	-
HCM Control Delay (s)	9.4	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Timings
4: Perimeter Center Pl & Meadow Lane

2019 Existing PM Peak
01/30/2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	47	620	19	155	296	19	68	31	385	4	8
Future Volume (vph)	47	620	19	155	296	19	68	31	385	4	8
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA
Protected Phases		2		1	6			8	1		4
Permitted Phases	2		2	6		6	8		8	4	
Detector Phase	2	2	2	1	6	6	8	8	1	4	4
Switch Phase											
Minimum Initial (s)	15.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	73.0	73.0	73.0	15.0	24.0	24.0	50.0	50.0	15.0	49.0	49.0
Total Split (s)	63.0	63.0	63.0	15.0	78.0	78.0	42.0	42.0	15.0	42.0	42.0
Total Split (%)	52.5%	52.5%	52.5%	12.5%	65.0%	65.0%	35.0%	35.0%	12.5%	35.0%	35.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0
Lead/Lag	Lag	Lag	Lag	Lead					Lead		
Lead-Lag Optimize?											
Recall Mode	C-Min	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 4: Perimeter Center Pl & Meadow Lane



HCM 2010 Signalized Intersection Summary
4: Perimeter Center Pl & Meadow Lane

2019 Existing PM Peak
01/30/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	620	19	155	296	19	68	31	385	4	8	15
Future Volume (veh/h)	47	620	19	155	296	19	68	31	385	4	8	15
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	49	653	20	163	312	20	72	33	0	4	8	16
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	816	2562	1146	638	2886	1291	141	41	200	43	53	82
Arrive On Green	0.72	0.72	0.72	0.04	0.82	0.82	0.08	0.08	0.00	0.08	0.08	0.08
Sat Flow, veh/h	1044	3539	1583	1774	3539	1583	1068	490	1583	101	629	974
Grp Volume(v), veh/h	49	653	20	163	312	20	105	0	0	28	0	0
Grp Sat Flow(s),veh/h/ln	1044	1770	1583	1774	1770	1583	1558	0	1583	1704	0	0
Q Serve(g_s), s	1.6	7.5	0.4	2.6	2.1	0.3	6.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.6	7.5	0.4	2.6	2.1	0.3	7.9	0.0	0.0	1.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.69		1.00	0.14		0.57
Lane Grp Cap(c), veh/h	816	2562	1146	638	2886	1291	182	0	200	178	0	0
V/C Ratio(X)	0.06	0.25	0.02	0.26	0.11	0.02	0.58	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	816	2562	1146	697	2886	1291	506	0	541	527	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.41	0.41	0.41	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.8	5.6	4.6	3.6	2.2	2.1	53.8	0.0	0.0	51.1	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.2	0.0	0.1	0.0	0.0	2.9	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 BackOfQ(95%),veh/ln	0.9	6.7	0.3	2.3	1.9	0.2	6.4	0.0	0.0	1.6	0.0	0.0
LnGrp Delay(d),s/veh	4.9	5.8	4.7	3.7	2.3	2.1	56.6	0.0	0.0	51.5	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	E			D		
Approach Vol, veh/h		722			495			105			28	
Approach Delay, s/veh		5.8			2.7			56.6			51.5	
Approach LOS		A			A			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	11.0	92.9		16.1		103.9		16.1
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s	9.0	57.0		36.0		72.0		36.0
Max Q Clear Time (g_c+I1), s	4.6	9.5		3.8		4.1		9.9
Green Ext Time (p_c), s	0.2	32.5		0.4		41.2		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	9.5
HCM 2010 LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

GDOT LEFT TURN LANE ANALYSIS

LEFT TURN LANE ANALYSIS
per GDOT standards

The following left turn lane analysis was used to determine the need for a dedicated turn lane at the proposed site driveway locations on Ashwood Pkwy. GDOT standards require the installation of a left turn lane when traffic entering the development meets or exceeds the values shown in the following table.

GDOT Requirements For Left Turn Lanes					
Site Driveway	Left Turn Traffic (% Total Entering)	Left Turn Volume (veh/day)	Roadway Speed / # Lanes	GDOT Threshold (veh/day)	Requirement
Ashwood Pkwy @ Site Drwy 1	40%	1,663	25 mph / 2-Lane	300	100' storage 50' taper
Ashwood Pkwy @ Site Drwy 2	10%	203	25 mph / 2-Lane	300	Not Required
Ashwood Pkwy @ Private Rd	2%	42	25 mph / 2-Lane	300	Not Required

Findings

Based on the number of projected daily left turns, Site Driveway 1 on Ashwood Parkway will meet the GDOT requirements for construction of a left turn lane.

GDOT RIGHT TURN LANE ANALYSIS

RIGHT TURN LANE ANALYSIS
per GDOT standards

The following right turn lane analysis was used to determine the need for a dedicated deceleration lane at the proposed site driveway locations on Ashwood Parkway. GDOT standards require the installation of a deceleration lane when traffic entering the development meets or exceeds the values shown in the following table.

GDOT Requirements For Deceleration Lanes					
Site Driveway	Right Turn Traffic (% Total Entering)	Right Turn Volume (veh/day)	Roadway Speed / # Lanes	GDOT Threshold (veh/day)	Requirement
Ashwood Pkwy @ Site Drwy 1	2.5%	52	25 mph / 2-Lane	200	Not Required
Ashwood Pkwy @ Site Drwy 2	0.5%	10	25 mph / 2-Lane	200	Not Required
Ashwood Pkwy @ Private Rd	2%	42	25 mph / 2-Lane	200	Not Required

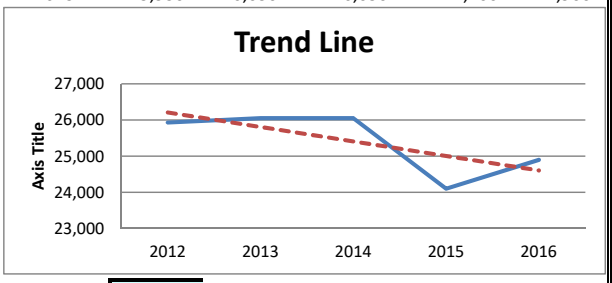
Findings

Based on the number of projected daily right turns, none of the driveways on Ashwood Parkway will require a dedicated right turn lane.

LINEAR REGRESSION OF DAILY TRAFFIC

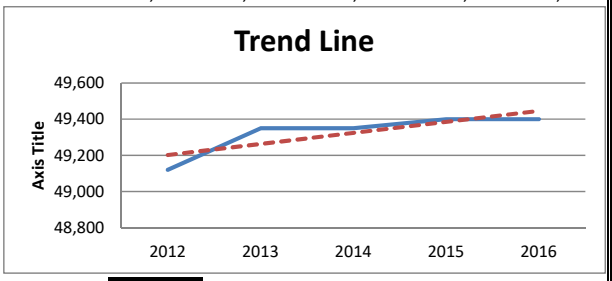
Location	Growth Rate	R Squared	Station ID	Route	2012	2013	2014	2015	2016
Ashford Dunwoody (North)	-1.6%	0.52	0893587	176431	25,930	26,050	26,050	24,100	24,900
Ashford Dunwoody (South)	0.1%	0.68	0893586	176431	49,120	49,350	49,350	49,400	49,400
Perimeter Center (W)	0.1%	0.50	0894069	603631	28,370	28,500	28,500	28,500	28,500
Hammond Drive (West)	-0.1%	0.02	0897170	486131	16,590	16,960	16,960	16,300	16,800
Weighted Average	**-0.3%**	0.25	Sum of Count Stations =		120,010	120,860	120,860	118,300	119,600

Location	Traffic Counter	RCLINK	2012	2013	2014	2015	2016
Ashford Dunwoody (North)	0893587	176431	25,930	26,050	26,050	24,100	24,900



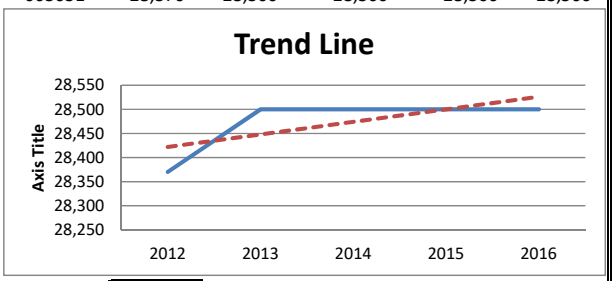
Growth Rate	-1.6%	Intercept	833,020	Slope	-401.00
Trend Line	26,208	25,807	25,406	25,005	24,604

Location	Traffic Counter	RCLINK	2012	2013	2014	2015	2016
Ashford Dunwoody (South)	0893586	176431	49,120	49,350	49,350	49,400	49,400



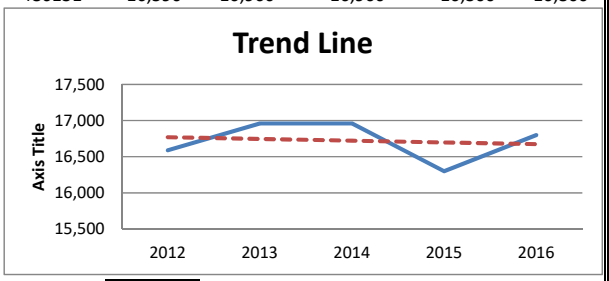
Growth Rate	0.1%	Intercept	-73,530	Slope	61.00
Trend Line	49,202	49,263	49,324	49,385	49,446

Location	Traffic Counter	RCLINK	2012	2013	2014	2015	2016
Perimeter Center (W)	0894069	603631	28,370	28,500	28,500	28,500	28,500



Growth Rate	0.1%	Intercept	-23,890	Slope	26.00
Trend Line	28,422	28,448	28,474	28,500	28,526

Location	Traffic Counter	RCLINK	2012	2013	2014	2015	2016
Hammond Drive (West)	0897170	486131	16,590	16,960	16,960	16,300	16,800



Growth Rate	-0.1%	Intercept	65,058	Slope	-24.00
Trend Line	16,770	16,746	16,722	16,698	16,674

FUTURE "NO-BUILD" INTERSECTION ANALYSIS

Timings
1: Ashford Dunwoody Rd & Meadow Lane/Asbury Square

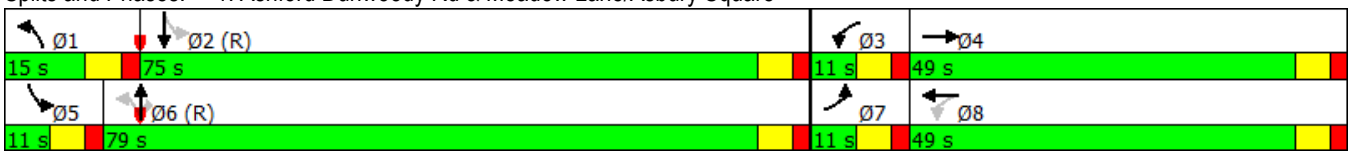
2021 No-Build AM Peak
01/30/2019

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	69	56	47	108	162	473	72	86	1288
Future Volume (vph)	69	56	47	108	162	473	72	86	1288
Turn Type	Prot	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	7	4	3	8	1	6		5	2
Permitted Phases			8		6		6	2	
Detector Phase	7	4	3	8	1	6	6	5	2
Switch Phase									
Minimum Initial (s)	5.0	6.0	5.0	6.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	11.0	48.0	11.0	49.0	11.0	47.0	47.0	11.0	43.0
Total Split (s)	11.0	49.0	11.0	49.0	15.0	79.0	79.0	11.0	75.0
Total Split (%)	7.3%	32.7%	7.3%	32.7%	10.0%	52.7%	52.7%	7.3%	50.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 138 (92%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 1: Ashford Dunwoody Rd & Meadow Lane/Asbury Square



HCM 2010 Signalized Intersection Summary
1: Ashford Dunwoody Rd & Meadow Lane/Asbury Square

2021 No-Build AM Peak
01/30/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	56	56	47	108	39	162	473	72	86	1288	440
Future Volume (veh/h)	69	56	56	47	108	39	162	473	72	86	1288	440
Number	7	4	14	3	8	18	1	6	16	5	2	12
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	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	78	64	64	53	123	44	184	538	82	98	1464	500
Adj No. of Lanes	2	2	0	1	2	0	1	2	1	1	2	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	115	123	109	144	178	61	281	2495	1116	628	1824	589
Arrive On Green	0.03	0.07	0.07	0.03	0.07	0.07	0.04	0.70	0.70	0.07	1.00	1.00
Sat Flow, veh/h	3442	1777	1577	1774	2587	889	1774	3539	1583	1774	2632	850
Grp Volume(v), veh/h	78	64	64	53	83	84	184	538	82	98	957	1007
Grp Sat Flow(s),veh/h/ln	1721	1770	1584	1774	1770	1706	1774	1770	1583	1774	1770	1713
Q Serve(g_s), s	3.4	5.2	5.9	4.1	6.8	7.3	4.6	7.9	2.4	2.5	0.0	0.0
Cycle Q Clear(g_c), s	3.4	5.2	5.9	4.1	6.8	7.3	4.6	7.9	2.4	2.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.52	1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h	115	122	109	144	122	118	281	2495	1116	628	1227	1187
V/C Ratio(X)	0.68	0.52	0.59	0.37	0.68	0.72	0.65	0.22	0.07	0.16	0.78	0.85
Avail Cap(c_a), veh/h	115	507	454	144	507	489	308	2495	1116	629	1227	1187
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.79	0.79	0.79
Uniform Delay (d), s/veh	71.7	67.4	67.8	62.4	68.2	68.4	5.8	7.7	6.9	5.9	0.0	0.0
Incr Delay (d2), s/veh	15.0	3.4	4.9	1.6	6.4	7.9	4.3	0.2	0.1	0.1	3.9	6.1
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 BackOfQ(95%),veh/ln	3.3	4.8	4.9	3.8	6.4	6.6	4.5	7.1	2.0	2.1	2.4	3.6
LnGrp Delay(d),s/veh	86.7	70.9	72.7	64.0	74.6	76.3	10.1	7.9	7.0	6.0	3.9	6.1
LnGrp LOS	F	E	E	E	E	E	B	A	A	A	A	A
Approach Vol, veh/h		206			220			804			2062	
Approach Delay, s/veh		77.4			72.7			8.3			5.1	
Approach LOS		E			E			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.7	110.0	11.0	16.3	10.9	111.7	11.0	16.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	9.0	69.0	5.0	43.0	5.0	73.0	5.0	43.0
Max Q Clear Time (g_c+I1), s	6.6	2.0	6.1	7.9	4.5	9.9	5.4	9.3
Green Ext Time (p_c), s	0.1	66.8	0.0	1.1	0.0	62.9	0.0	1.1

Intersection Summary	
HCM 2010 Ctrl Delay	14.9
HCM 2010 LOS	B

Timings 2021 No-Build AM Peak

2: Ashford Dunwoody Rd/Ashford Dunwood Rd & Ashwood Pkwy/Ashford Pkwy

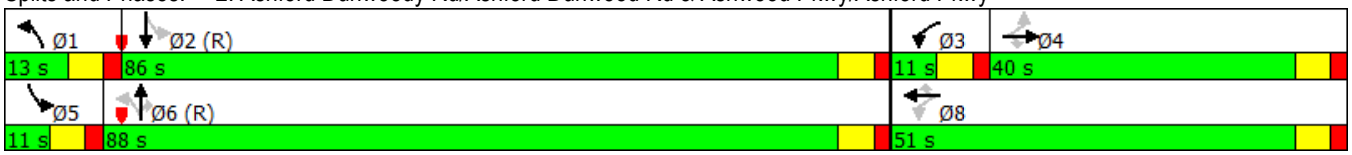
01/30/2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	16	2	22	54	9	38	54	403	24	72	1298
Future Volume (vph)	16	2	22	54	9	38	54	403	24	72	1298
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases		4		3	8		1	6		5	2
Permitted Phases	4		4	8		8	6		6	2	
Detector Phase	4	4	4	3	8	8	1	6	6	5	2
Switch Phase											
Minimum Initial (s)	6.0	6.0	6.0	5.0	6.0	6.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	40.0	40.0	40.0	11.0	42.0	42.0	11.0	42.0	42.0	11.0	37.0
Total Split (s)	40.0	40.0	40.0	11.0	51.0	51.0	13.0	88.0	88.0	11.0	86.0
Total Split (%)	26.7%	26.7%	26.7%	7.3%	34.0%	34.0%	8.7%	58.7%	58.7%	7.3%	57.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead			Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 115
Control Type: Actuated-Coordinated

Splits and Phases: 2: Ashford Dunwoody Rd/Ashford Dunwood Rd & Ashwood Pkwy/Ashford Pkwy



HCM 2010 Signalized Intersection Summary — 2021 No-Build AM Peak
2: Ashford Dunwoody Rd/Ashford Dunwood Rd & Ashwood Pkwy/Ashford Pkwy — 01/30/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	2	22	54	9	38	54	403	24	72	1298	77
Future Volume (veh/h)	16	2	22	54	9	38	54	403	24	72	1298	77
Number	7	4	14	3	8	18	1	6	16	5	2	12
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	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	17	2	0	58	10	41	58	433	0	77	1396	83
Adj No. of Lanes	0	1	1	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	8	60	189	207	176	299	2608	1167	742	2507	149
Arrive On Green	0.04	0.04	0.00	0.03	0.11	0.11	0.02	0.49	0.00	0.03	0.74	0.74
Sat Flow, veh/h	1191	217	1583	1774	1863	1583	1774	3539	1583	1774	3395	201
Grp Volume(v), veh/h	19	0	0	58	10	41	58	433	0	77	726	753
Grp Sat Flow(s),veh/h/ln	1408	0	1583	1774	1863	1583	1774	1770	1583	1774	1770	1827
Q Serve(g_s), s	1.7	0.0	0.0	4.6	0.7	3.5	1.2	10.1	0.0	1.6	27.3	27.5
Cycle Q Clear(g_c), s	1.9	0.0	0.0	4.6	0.7	3.5	1.2	10.1	0.0	1.6	27.3	27.5
Prop In Lane	0.89		1.00	1.00		1.00	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	99	0	60	189	207	176	299	2608	1167	742	1307	1349
V/C Ratio(X)	0.19	0.00	0.00	0.31	0.05	0.23	0.19	0.17	0.00	0.10	0.56	0.56
Avail Cap(c_a), veh/h	361	0	359	189	559	475	328	2608	1167	744	1307	1349
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	0.96	0.96	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	70.3	0.0	0.0	65.0	59.6	60.8	7.2	12.6	0.0	4.6	8.7	8.7
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.9	0.1	0.7	0.3	0.1	0.0	0.1	1.7	1.7
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 BackOfQ(95%),veh/ln	1.4	0.0	0.0	4.2	0.7	2.9	1.1	8.6	0.0	1.4	19.8	20.7
LnGrp Delay(d),s/veh	71.3	0.0	0.0	65.9	59.7	61.5	7.5	12.7	0.0	4.6	10.4	10.4
LnGrp LOS	E			E	E	E	A	B		A	B	B
Approach Vol, veh/h		19			109			491			1556	
Approach Delay, s/veh		71.3			63.7			12.1			10.1	
Approach LOS		E			E			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	10.6	116.8	11.0	11.7	10.8	116.5		22.7
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	7.0	80.0	5.0	34.0	5.0	82.0		45.0
Max Q Clear Time (g_c+I1), s	3.2	29.5	6.6	3.9	3.6	12.1		5.5
Green Ext Time (p_c), s	0.0	49.0	0.0	0.2	0.0	67.2		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	13.8
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	39	0	19	118	9	2
Future Vol, veh/h	39	0	19	118	9	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	0	22	136	10	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	45	0	225	45
Stage 1	-	-	-	-	45	-
Stage 2	-	-	-	-	180	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1563	-	763	1025
Stage 1	-	-	-	-	977	-
Stage 2	-	-	-	-	851	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1563	-	752	1025
Mov Cap-2 Maneuver	-	-	-	-	752	-
Stage 1	-	-	-	-	977	-
Stage 2	-	-	-	-	838	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	790	-	-	1563	-
HCM Lane V/C Ratio	0.016	-	-	0.014	-
HCM Control Delay (s)	9.6	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Timings
4: Perimeter Center Pl & Meadow Lane

2021 No-Build AM Peak
01/30/2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	11	133	17	206	472	5	15	3	42	2	4
Future Volume (vph)	11	133	17	206	472	5	15	3	42	2	4
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA
Protected Phases		2		1	6			8	1		4
Permitted Phases	2		2	6		6	8		8	4	
Detector Phase	2	2	2	1	6	6	8	8	1	4	4
Switch Phase											
Minimum Initial (s)	15.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	73.0	73.0	73.0	11.0	24.0	24.0	50.0	50.0	11.0	49.0	49.0
Total Split (s)	61.0	61.0	61.0	15.0	76.0	76.0	44.0	44.0	15.0	44.0	44.0
Total Split (%)	50.8%	50.8%	50.8%	12.5%	63.3%	63.3%	36.7%	36.7%	12.5%	36.7%	36.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0
Lead/Lag	Lag	Lag	Lag	Lead					Lead		
Lead-Lag Optimize?											
Recall Mode	C-Min	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 135
Control Type: Actuated-Coordinated

Splits and Phases: 4: Perimeter Center Pl & Meadow Lane



HCM 2010 Signalized Intersection Summary
4: Perimeter Center Pl & Meadow Lane

2021 No-Build AM Peak
01/30/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	133	17	206	472	5	15	3	42	2	4	16
Future Volume (veh/h)	11	133	17	206	472	5	15	3	42	2	4	16
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	11	137	18	212	487	5	15	3	0	2	4	16
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	755	2729	1221	1069	3055	1367	98	15	125	36	13	44
Arrive On Green	0.77	0.77	0.77	0.04	0.86	0.86	0.04	0.04	0.00	0.04	0.04	0.04
Sat Flow, veh/h	901	3539	1583	1774	3539	1583	1175	400	1583	87	356	1182
Grp Volume(v), veh/h	11	137	18	212	487	5	18	0	0	22	0	0
Grp Sat Flow(s),veh/h/ln	901	1770	1583	1774	1770	1583	1575	0	1583	1626	0	0
Q Serve(g_s), s	0.3	1.1	0.3	2.8	2.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.3	1.1	0.3	2.8	2.6	0.1	1.2	0.0	0.0	1.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.83		1.00	0.09		0.73
Lane Grp Cap(c), veh/h	755	2729	1221	1069	3055	1367	113	0	125	93	0	0
V/C Ratio(X)	0.01	0.05	0.01	0.20	0.16	0.00	0.16	0.00	0.00	0.24	0.00	0.00
Avail Cap(c_a), veh/h	755	2729	1221	1128	3055	1367	518	0	568	543	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.22	0.22	0.22	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	3.2	3.3	3.2	2.0	1.3	1.1	56.2	0.0	0.0	56.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	1.3	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 BackOfQ(95%),veh/ln	0.2	1.0	0.3	2.2	2.1	0.0	1.1	0.0	0.0	1.3	0.0	0.0
LnGrp Delay(d),s/veh	3.2	3.3	3.2	2.0	1.3	1.1	56.9	0.0	0.0	57.7	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	E			E		
Approach Vol, veh/h		166			704			18			22	
Approach Delay, s/veh		3.3			1.5			56.9			57.7	
Approach LOS		A			A			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	11.0	98.5		10.4		109.6		10.4
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s	9.0	55.0		38.0		70.0		38.0
Max Q Clear Time (g_c+I1), s	4.8	3.1		3.6		4.6		3.2
Green Ext Time (p_c), s	0.3	21.4		0.1		23.4		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	4.3
HCM 2010 LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

Timings
1: Ashford Dunwoody Rd & Meadow Lane/Asbury Square

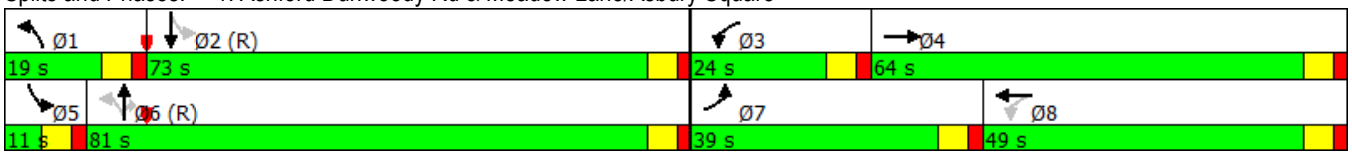
2021 No-Build PM Peak
01/30/2019

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	1066	297	174	210	122	1849	134	119	407
Future Volume (vph)	1066	297	174	210	122	1849	134	119	407
Turn Type	Prot	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	7	4	3	8	1	6		5	2
Permitted Phases			8		6		6	2	
Detector Phase	7	4	3	8	1	6	6	5	2
Switch Phase									
Minimum Initial (s)	5.0	6.0	5.0	6.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	11.0	48.0	11.0	49.0	11.0	47.0	47.0	11.0	43.0
Total Split (s)	39.0	64.0	24.0	49.0	19.0	81.0	81.0	11.0	73.0
Total Split (%)	21.7%	35.6%	13.3%	27.2%	10.6%	45.0%	45.0%	6.1%	40.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 170 (94%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 1: Ashford Dunwoody Rd & Meadow Lane/Asbury Square



HCM 2010 Signalized Intersection Summary
1: Ashford Dunwoody Rd & Meadow Lane/Asbury Square

2021 No-Build PM Peak
01/30/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1066	297	63	174	210	374	122	1849	134	119	407	180
Future Volume (veh/h)	1066	297	63	174	210	374	122	1849	134	119	407	180
Number	7	4	14	3	8	18	1	6	16	5	2	12
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	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	1254	349	74	205	247	440	144	2175	158	140	479	212
Adj No. of Lanes	2	2	0	1	2	0	1	2	1	1	2	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	631	945	198	436	423	378	376	1475	660	89	921	405
Arrive On Green	0.18	0.32	0.32	0.10	0.24	0.24	0.06	0.42	0.42	0.06	0.77	0.77
Sat Flow, veh/h	3442	2914	611	1774	1770	1583	1774	3539	1583	1774	2394	1053
Grp Volume(v), veh/h	1254	210	213	205	247	440	144	2175	158	140	353	338
Grp Sat Flow(s),veh/h/ln	1721	1770	1755	1774	1770	1583	1774	1770	1583	1774	1770	1677
Q Serve(g_s), s	33.0	16.4	16.8	15.6	22.2	43.0	8.7	75.0	11.6	5.0	13.8	14.0
Cycle Q Clear(g_c), s	33.0	16.4	16.8	15.6	22.2	43.0	8.7	75.0	11.6	5.0	13.8	14.0
Prop In Lane	1.00		0.35	1.00		1.00	1.00		1.00	1.00		0.63
Lane Grp Cap(c), veh/h	631	574	569	436	423	378	376	1475	660	89	681	645
V/C Ratio(X)	1.99	0.37	0.37	0.47	0.58	1.16	0.38	1.47	0.24	1.57	0.52	0.52
Avail Cap(c_a), veh/h	631	574	569	439	423	378	398	1475	660	89	681	645
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.85	0.85	0.85	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.99
Uniform Delay (d), s/veh	73.5	46.6	46.8	44.8	60.6	68.5	30.0	52.5	34.0	49.9	14.4	14.4
Incr Delay (d2), s/veh	449.2	0.3	0.3	0.8	2.1	98.7	0.6	217.4	0.9	302.1	2.8	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 BackOfQ(95%),veh/ln	99.1	12.4	12.5	12.2	16.6	52.5	7.7	146.2	9.0	17.1	11.3	11.2
LnGrp Delay(d),s/veh	522.7	47.0	47.1	45.6	62.7	167.2	30.7	269.9	34.9	352.0	17.1	17.4
LnGrp LOS	F	D	D	D	E	F	C	F	C	F	B	B
Approach Vol, veh/h		1677			892			2477			831	
Approach Delay, s/veh		402.7			110.3			241.0			73.6	
Approach LOS		F			F			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.8	75.2	23.6	64.4	11.0	81.0	39.0	49.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	13.0	67.0	18.0	58.0	5.0	75.0	33.0	43.0
Max Q Clear Time (g_c+I1), s	10.7	16.0	17.6	18.8	7.0	77.0	35.0	45.0
Green Ext Time (p_c), s	0.1	50.9	0.0	5.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	243.7
HCM 2010 LOS	F

Timings 2021 No-Build PM Peak

2: Ashford Dunwoody Rd/Ashford Dunwood Rd & Ashwood Pkwy/Ashford Pkwy

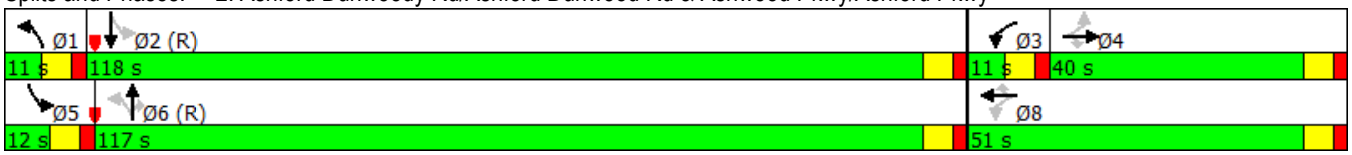
01/30/2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	141	9	47	35	12	170	23	2541	72	137	442
Future Volume (vph)	141	9	47	35	12	170	23	2541	72	137	442
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases		4		3	8		1	6		5	2
Permitted Phases	4		4	8		8	6		6	2	
Detector Phase	4	4	4	3	8	8	1	6	6	5	2
Switch Phase											
Minimum Initial (s)	6.0	6.0	6.0	5.0	6.0	6.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	40.0	40.0	40.0	11.0	42.0	42.0	11.0	42.0	42.0	11.0	37.0
Total Split (s)	40.0	40.0	40.0	11.0	51.0	51.0	11.0	117.0	117.0	12.0	118.0
Total Split (%)	22.2%	22.2%	22.2%	6.1%	28.3%	28.3%	6.1%	65.0%	65.0%	6.7%	65.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead			Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated

Splits and Phases: 2: Ashford Dunwoody Rd/Ashford Dunwood Rd & Ashwood Pkwy/Ashford Pkwy



HCM 2010 Signalized Intersection Summary — 2021 No-Build PM Peak
2: Ashford Dunwoody Rd/Ashford Dunwood Rd & Ashwood Pkwy/Ashford Pkwy — 01/30/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	141	9	47	35	12	170	23	2541	72	137	442	19
Future Volume (veh/h)	141	9	47	35	12	170	23	2541	72	137	442	19
Number	7	4	14	3	8	18	1	6	16	5	2	12
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	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	148	9	0	37	13	179	24	2675	0	144	465	20
Adj No. of Lanes	0	1	1	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	203	10	228	349	375	319	645	2354	1053	172	2348	101
Arrive On Green	0.14	0.14	0.00	0.02	0.20	0.20	0.04	1.00	0.00	0.03	0.68	0.68
Sat Flow, veh/h	1142	69	1583	1774	1863	1583	1774	3539	1583	1774	3458	148
Grp Volume(v), veh/h	157	0	0	37	13	179	24	2675	0	144	238	247
Grp Sat Flow(s),veh/h/ln	1211	0	1583	1774	1863	1583	1774	1770	1583	1774	1770	1837
Q Serve(g_s), s	22.9	0.0	0.0	3.1	1.0	18.3	0.8	0.0	0.0	4.8	9.0	9.0
Cycle Q Clear(g_c), s	22.9	0.0	0.0	3.1	1.0	18.3	0.8	0.0	0.0	4.8	9.0	9.0
Prop In Lane	0.94		1.00	1.00		1.00	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	213	0	228	349	375	319	645	2354	1053	172	1202	1247
V/C Ratio(X)	0.74	0.00	0.00	0.11	0.03	0.56	0.04	1.14	0.00	0.84	0.20	0.20
Avail Cap(c_a), veh/h	268	0	299	356	466	396	660	2354	1053	172	1202	1247
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	0.09	0.09	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	75.7	0.0	0.0	61.9	57.8	64.7	9.0	0.0	0.0	18.4	10.7	10.7
Incr Delay (d2), s/veh	7.7	0.0	0.0	0.1	0.0	1.5	0.0	61.9	0.0	28.7	0.4	0.4
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 BackOfQ(95%),veh/ln	12.8	0.0	0.0	2.8	0.9	12.9	0.7	36.1	0.0	10.0	7.9	8.2
LnGrp Delay(d),s/veh	83.5	0.0	0.0	62.0	57.8	66.2	9.0	61.9	0.0	47.1	11.1	11.1
LnGrp LOS	F			E	E	E	A	F		D	B	B
Approach Vol, veh/h		157			229			2699			629	
Approach Delay, s/veh		83.5			65.1			61.5			19.3	
Approach LOS		F			E			E			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	9.5	128.2	10.3	31.9	12.0	125.7		42.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	5.0	112.0	5.0	34.0	6.0	111.0		45.0
Max Q Clear Time (g_c+I1), s	2.8	11.0	5.1	24.9	6.8	2.0		20.3
Green Ext Time (p_c), s	0.0	100.5	0.0	1.0	0.0	108.5		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	55.5
HCM 2010 LOS	E

Intersection	
Int Delay, s/veh	2.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	129	5	9	37	6	54
Future Vol, veh/h	129	5	9	37	6	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	150	6	10	43	7	63

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	156	0	216	153
Stage 1	-	-	-	-	153	-
Stage 2	-	-	-	-	63	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1424	-	772	893
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	960	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1424	-	767	893
Mov Cap-2 Maneuver	-	-	-	-	767	-
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	953	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	879	-	-	1424	-
HCM Lane V/C Ratio	0.079	-	-	0.007	-
HCM Control Delay (s)	9.4	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Timings
4: Perimeter Center Pl & Meadow Lane

2021 No-Build PM Peak
01/30/2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	48	632	19	158	302	19	69	32	393	4	8
Future Volume (vph)	48	632	19	158	302	19	69	32	393	4	8
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA
Protected Phases		2		1	6			8	1		4
Permitted Phases	2		2	6		6	8		8	4	
Detector Phase	2	2	2	1	6	6	8	8	1	4	4
Switch Phase											
Minimum Initial (s)	15.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	73.0	73.0	73.0	15.0	24.0	24.0	50.0	50.0	15.0	49.0	49.0
Total Split (s)	63.0	63.0	63.0	15.0	78.0	78.0	42.0	42.0	15.0	42.0	42.0
Total Split (%)	52.5%	52.5%	52.5%	12.5%	65.0%	65.0%	35.0%	35.0%	12.5%	35.0%	35.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0
Lead/Lag	Lag	Lag	Lag	Lead					Lead		
Lead-Lag Optimize?											
Recall Mode	C-Min	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 4: Perimeter Center Pl & Meadow Lane



HCM 2010 Signalized Intersection Summary
4: Perimeter Center Pl & Meadow Lane

2021 No-Build PM Peak
01/30/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	632	19	158	302	19	69	32	393	4	8	15
Future Volume (veh/h)	48	632	19	158	302	19	69	32	393	4	8	15
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	51	665	20	166	318	20	73	34	0	4	8	16
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	810	2558	1144	630	2881	1289	142	43	202	43	54	84
Arrive On Green	0.72	0.72	0.72	0.04	0.81	0.81	0.09	0.09	0.00	0.09	0.09	0.09
Sat Flow, veh/h	1038	3539	1583	1774	3539	1583	1063	495	1583	101	630	974
Grp Volume(v), veh/h	51	665	20	166	318	20	107	0	0	28	0	0
Grp Sat Flow(s),veh/h/ln	1038	1770	1583	1774	1770	1583	1558	0	1583	1704	0	0
Q Serve(g_s), s	1.7	7.7	0.4	2.7	2.2	0.3	6.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.7	7.7	0.4	2.7	2.2	0.3	8.0	0.0	0.0	1.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.68		1.00	0.14		0.57
Lane Grp Cap(c), veh/h	810	2558	1144	630	2881	1289	184	0	202	181	0	0
V/C Ratio(X)	0.06	0.26	0.02	0.26	0.11	0.02	0.58	0.00	0.00	0.15	0.00	0.00
Avail Cap(c_a), veh/h	810	2558	1144	689	2881	1289	507	0	541	527	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.38	0.38	0.38	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.9	5.7	4.7	3.7	2.3	2.1	53.7	0.0	0.0	51.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.2	0.0	0.1	0.0	0.0	2.9	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 BackOfQ(95%),veh/ln	0.9	6.8	0.3	2.4	1.9	0.2	6.5	0.0	0.0	1.6	0.0	0.0
LnGrp Delay(d),s/veh	5.0	5.9	4.7	3.8	2.3	2.1	56.5	0.0	0.0	51.4	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	E			D		
Approach Vol, veh/h		736			504			107			28	
Approach Delay, s/veh		5.8			2.8			56.5			51.4	
Approach LOS		A			A			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	11.0	92.7		16.3		103.7		16.3
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s	9.0	57.0		36.0		72.0		36.0
Max Q Clear Time (g_c+I1), s	4.7	9.7		3.8		4.2		10.0
Green Ext Time (p_c), s	0.2	33.0		0.4		42.0		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	9.6
HCM 2010 LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

FUTURE "NO-BUILD" IMPROVED INTERSECTION ANALYSIS

Timings
1: Ashford Dunwoody Rd & Meadow Lane/Asbury Square

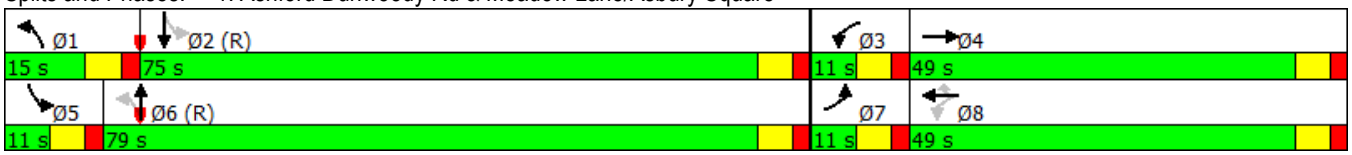
2021 No-Build AM Peak - Improved
01/30/2019

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	69	56	47	108	39	162	473	86	1288
Future Volume (vph)	69	56	47	108	39	162	473	86	1288
Turn Type	Prot	NA	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8		1	6	5	2
Permitted Phases			8		8	6		2	
Detector Phase	7	4	3	8	8	1	6	5	2
Switch Phase									
Minimum Initial (s)	5.0	6.0	5.0	6.0	6.0	5.0	15.0	5.0	15.0
Minimum Split (s)	11.0	48.0	11.0	49.0	49.0	11.0	47.0	11.0	43.0
Total Split (s)	11.0	49.0	11.0	49.0	49.0	15.0	79.0	11.0	75.0
Total Split (%)	7.3%	32.7%	7.3%	32.7%	32.7%	10.0%	52.7%	7.3%	50.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 138 (92%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 1: Ashford Dunwoody Rd & Meadow Lane/Asbury Square



HCM 2010 Signalized Intersection Summary — 2021 No-Build AM Peak - Improved
1: Ashford Dunwoody Rd & Meadow Lane/Asbury Square — 01/30/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	56	56	47	108	39	162	473	72	86	1288	440
Future Volume (veh/h)	69	56	56	47	108	39	162	473	72	86	1288	440
Number	7	4	14	3	8	18	1	6	16	5	2	12
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	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	78	64	64	53	123	0	184	538	0	98	1464	500
Adj No. of Lanes	3	1	0	1	1	1	1	3	0	1	2	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	160	79	79	131	175	149	280	3465	0	662	1755	567
Arrive On Green	0.03	0.09	0.09	0.03	0.09	0.00	0.05	0.68	0.00	0.07	1.00	1.00
Sat Flow, veh/h	5003	856	856	1774	1863	1583	1774	5253	0	1774	2632	850
Grp Volume(v), veh/h	78	0	128	53	123	0	184	538	0	98	957	1007
Grp Sat Flow(s),veh/h/ln	1668	0	1712	1774	1863	1583	1774	1695	0	1774	1770	1713
Q Serve(g_s), s	2.3	0.0	11.0	4.0	9.6	0.0	5.0	5.7	0.0	2.7	0.0	0.0
Cycle Q Clear(g_c), s	2.3	0.0	11.0	4.0	9.6	0.0	5.0	5.7	0.0	2.7	0.0	0.0
Prop In Lane	1.00		0.50	1.00		1.00	1.00		0.00	1.00		0.50
Lane Grp Cap(c), veh/h	160	0	159	131	175	149	280	3465	0	662	1180	1142
V/C Ratio(X)	0.49	0.00	0.81	0.40	0.70	0.00	0.66	0.16	0.00	0.15	0.81	0.88
Avail Cap(c_a), veh/h	167	0	491	131	534	454	303	3465	0	663	1180	1142
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.79	0.79	0.79
Uniform Delay (d), s/veh	71.4	0.0	66.7	59.5	65.9	0.0	6.8	8.5	0.0	7.0	0.0	0.0
Incr Delay (d2), s/veh	2.3	0.0	9.3	2.0	5.1	0.0	4.6	0.1	0.0	0.1	4.9	8.1
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 BackOfQ(95%),veh/ln	2.0	0.0	9.5	3.7	8.9	0.0	4.9	4.8	0.0	2.3	2.9	4.6
LnGrp Delay(d),s/veh	73.7	0.0	76.0	61.5	71.0	0.0	11.5	8.6	0.0	7.1	4.9	8.1
LnGrp LOS	E		E	E	E		B	A		A	A	A
Approach Vol, veh/h		206			176			722			2062	
Approach Delay, s/veh		75.1			68.1			9.3			6.5	
Approach LOS		E			E			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.1	106.0	11.0	19.9	10.9	108.2	10.8	20.1
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	9.0	69.0	5.0	43.0	5.0	73.0	5.0	43.0
Max Q Clear Time (g_c+I1), s	7.0	2.0	6.0	13.0	4.7	7.7	4.3	11.6
Green Ext Time (p_c), s	0.1	66.8	0.0	0.9	0.0	65.1	0.0	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	15.1
HCM 2010 LOS	B

Timings 2021 No-Build AM Peak - Improved

2: Ashford Dunwoody Rd/Ashford Dunwood Rd & Ashwood Pkwy/Ashford Pkwy

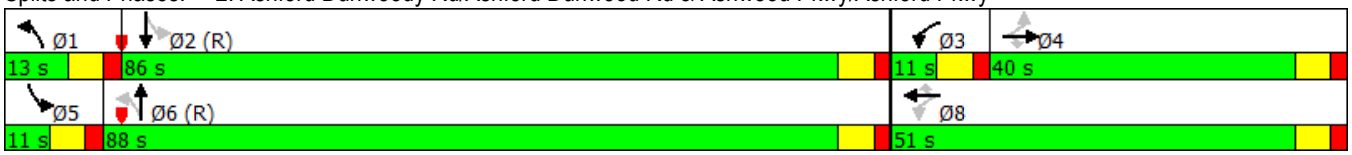
01/30/2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	16	2	22	54	9	38	54	403	72	1298
Future Volume (vph)	16	2	22	54	9	38	54	403	72	1298
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases		4		3	8		1	6	5	2
Permitted Phases	4		4	8		8	6		2	
Detector Phase	4	4	4	3	8	8	1	6	5	2
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	5.0	6.0	6.0	5.0	15.0	5.0	15.0
Minimum Split (s)	40.0	40.0	40.0	11.0	42.0	42.0	11.0	42.0	11.0	37.0
Total Split (s)	40.0	40.0	40.0	11.0	51.0	51.0	13.0	88.0	11.0	86.0
Total Split (%)	26.7%	26.7%	26.7%	7.3%	34.0%	34.0%	8.7%	58.7%	7.3%	57.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead			Lead	Lag	Lead	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	None	C-Min	None	C-Min

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 115
Control Type: Actuated-Coordinated

Splits and Phases: 2: Ashford Dunwoody Rd/Ashford Dunwood Rd & Ashwood Pkwy/Ashford Pkwy



HCM 2010 Signalized Intersection Summary — 2021 No-Build AM Peak - Improved
2: Ashford Dunwoody Rd/Ashford Dunwood Rd & Ashwood Pkwy/Ashford Pkwy — 01/30/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	2	22	54	9	38	54	403	24	72	1298	77
Future Volume (veh/h)	16	2	22	54	9	38	54	403	24	72	1298	77
Number	7	4	14	3	8	18	1	6	16	5	2	12
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	1900	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	17	2	0	58	10	41	58	433	0	77	1396	83
Adj No. of Lanes	0	1	1	1	1	1	1	3	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	8	60	189	207	176	299	3747	0	743	2507	149
Arrive On Green	0.04	0.04	0.00	0.03	0.11	0.11	0.01	0.24	0.00	0.03	0.74	0.74
Sat Flow, veh/h	1191	217	1583	1774	1863	1583	1774	5253	0	1774	3395	201
Grp Volume(v), veh/h	19	0	0	58	10	41	58	433	0	77	726	753
Grp Sat Flow(s),veh/h/ln	1408	0	1583	1774	1863	1583	1774	1695	0	1774	1770	1827
Q Serve(g_s), s	1.7	0.0	0.0	4.6	0.7	3.5	1.2	9.9	0.0	1.6	27.3	27.5
Cycle Q Clear(g_c), s	1.9	0.0	0.0	4.6	0.7	3.5	1.2	9.9	0.0	1.6	27.3	27.5
Prop In Lane	0.89		1.00	1.00		1.00	1.00		0.00	1.00		0.11
Lane Grp Cap(c), veh/h	99	0	60	189	207	176	299	3747	0	743	1307	1349
V/C Ratio(X)	0.19	0.00	0.00	0.31	0.05	0.23	0.19	0.12	0.00	0.10	0.56	0.56
Avail Cap(c_a), veh/h	361	0	359	189	559	475	328	3747	0	745	1307	1349
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	0.98	0.98	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	70.3	0.0	0.0	65.0	59.6	60.8	7.3	18.7	0.0	4.5	8.7	8.7
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.9	0.1	0.7	0.3	0.1	0.0	0.1	1.7	1.7
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 BackOfQ(95%),veh/ln	1.4	0.0	0.0	4.2	0.7	2.9	1.1	8.2	0.0	1.4	19.8	20.7
LnGrp Delay(d),s/veh	71.3	0.0	0.0	65.9	59.7	61.5	7.6	18.8	0.0	4.6	10.4	10.4
LnGrp LOS	E			E	E	E	A	B		A	B	B
Approach Vol, veh/h		19			109			491			1556	
Approach Delay, s/veh		71.3			63.7			17.4			10.1	
Approach LOS		E			E			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	10.6	116.8	11.0	11.7	10.8	116.5		22.7
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	7.0	80.0	5.0	34.0	5.0	82.0		45.0
Max Q Clear Time (g_c+I1), s	3.2	29.5	6.6	3.9	3.6	11.9		5.5
Green Ext Time (p_c), s	0.0	49.0	0.0	0.2	0.0	67.3		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	15.0
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	39	0	19	118	9	2
Future Vol, veh/h	39	0	19	118	9	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	0	22	136	10	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	45	0	225	45
Stage 1	-	-	-	-	45	-
Stage 2	-	-	-	-	180	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1563	-	763	1025
Stage 1	-	-	-	-	977	-
Stage 2	-	-	-	-	851	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1563	-	752	1025
Mov Cap-2 Maneuver	-	-	-	-	752	-
Stage 1	-	-	-	-	977	-
Stage 2	-	-	-	-	838	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	790	-	-	1563	-
HCM Lane V/C Ratio	0.016	-	-	0.014	-
HCM Control Delay (s)	9.6	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Timings
4: Perimeter Center Pl & Meadow Lane

2021 No-Build AM Peak - Improved
01/30/2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	11	133	17	206	472	5	15	3	42	2	4
Future Volume (vph)	11	133	17	206	472	5	15	3	42	2	4
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA
Protected Phases		2		1	6			8	1		4
Permitted Phases	2		2	6		6	8		8	4	
Detector Phase	2	2	2	1	6	6	8	8	1	4	4
Switch Phase											
Minimum Initial (s)	15.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	73.0	73.0	73.0	11.0	24.0	24.0	50.0	50.0	11.0	49.0	49.0
Total Split (s)	61.0	61.0	61.0	15.0	76.0	76.0	44.0	44.0	15.0	44.0	44.0
Total Split (%)	50.8%	50.8%	50.8%	12.5%	63.3%	63.3%	36.7%	36.7%	12.5%	36.7%	36.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0
Lead/Lag	Lag	Lag	Lag	Lead					Lead		
Lead-Lag Optimize?											
Recall Mode	C-Min	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 135
Control Type: Actuated-Coordinated

Splits and Phases: 4: Perimeter Center Pl & Meadow Lane



HCM 2010 Signalized Intersection Summary
4: Perimeter Center Pl & Meadow Lane

2021 No-Build AM Peak - Improved
01/30/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	133	17	206	472	5	15	3	42	2	4	16
Future Volume (veh/h)	11	133	17	206	472	5	15	3	42	2	4	16
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	11	137	18	212	487	5	15	3	0	2	4	16
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	755	2729	1221	1069	3055	1367	98	15	125	36	13	44
Arrive On Green	0.77	0.77	0.77	0.04	0.86	0.86	0.04	0.04	0.00	0.04	0.04	0.04
Sat Flow, veh/h	901	3539	1583	1774	3539	1583	1175	400	1583	87	356	1182
Grp Volume(v), veh/h	11	137	18	212	487	5	18	0	0	22	0	0
Grp Sat Flow(s),veh/h/ln	901	1770	1583	1774	1770	1583	1575	0	1583	1626	0	0
Q Serve(g_s), s	0.3	1.1	0.3	2.8	2.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.3	1.1	0.3	2.8	2.6	0.1	1.2	0.0	0.0	1.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.83		1.00	0.09		0.73
Lane Grp Cap(c), veh/h	755	2729	1221	1069	3055	1367	113	0	125	93	0	0
V/C Ratio(X)	0.01	0.05	0.01	0.20	0.16	0.00	0.16	0.00	0.00	0.24	0.00	0.00
Avail Cap(c_a), veh/h	755	2729	1221	1128	3055	1367	518	0	568	543	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	3.2	3.3	3.2	2.0	1.3	1.1	56.2	0.0	0.0	56.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	1.3	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 BackOfQ(95%),veh/ln	0.2	1.0	0.3	1.9	1.8	0.0	1.1	0.0	0.0	1.3	0.0	0.0
LnGrp Delay(d),s/veh	3.2	3.3	3.2	2.0	1.3	1.1	56.9	0.0	0.0	57.7	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	E			E		
Approach Vol, veh/h		166			704			18			22	
Approach Delay, s/veh		3.3			1.5			56.9			57.7	
Approach LOS		A			A			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	11.0	98.5		10.4		109.6		10.4
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s	9.0	55.0		38.0		70.0		38.0
Max Q Clear Time (g_c+I1), s	4.8	3.1		3.6		4.6		3.2
Green Ext Time (p_c), s	0.3	21.4		0.1		23.4		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	4.3
HCM 2010 LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

Timings
1: Ashford Dunwoody Rd & Meadow Lane/Asbury Square

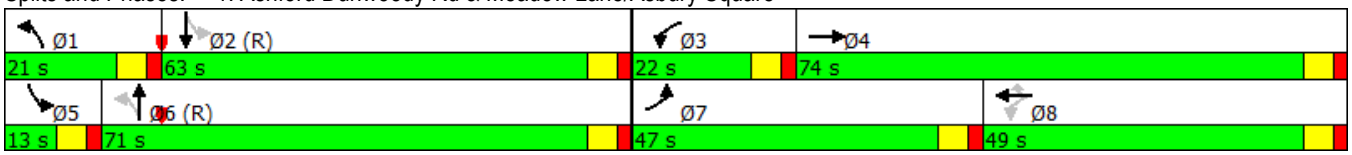
2021 No-Build PM Peak - Improved
01/30/2019

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	1066	297	174	210	374	122	1849	119	407
Future Volume (vph)	1066	297	174	210	374	122	1849	119	407
Turn Type	Prot	NA	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8		1	6	5	2
Permitted Phases			8		8	6		2	
Detector Phase	7	4	3	8	8	1	6	5	2
Switch Phase									
Minimum Initial (s)	5.0	6.0	5.0	6.0	6.0	5.0	15.0	5.0	15.0
Minimum Split (s)	11.0	48.0	11.0	49.0	49.0	11.0	47.0	11.0	43.0
Total Split (s)	47.0	74.0	22.0	49.0	49.0	21.0	71.0	13.0	63.0
Total Split (%)	26.1%	41.1%	12.2%	27.2%	27.2%	11.7%	39.4%	7.2%	35.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 170 (94%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 1: Ashford Dunwoody Rd & Meadow Lane/Asbury Square



HCM 2010 Signalized Intersection Summary — 2021 No-Build PM Peak - Improved
1: Ashford Dunwoody Rd & Meadow Lane/Asbury Square — 01/30/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1066	297	63	174	210	374	122	1849	134	119	407	180
Future Volume (veh/h)	1066	297	63	174	210	374	122	1849	134	119	407	180
Number	7	4	14	3	8	18	1	6	16	5	2	12
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	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	1254	349	74	205	247	0	144	2175	0	140	479	212
Adj No. of Lanes	3	1	0	1	1	1	1	3	0	1	2	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1140	437	93	271	287	244	425	2268	0	115	1023	450
Arrive On Green	0.23	0.29	0.29	0.09	0.15	0.00	0.06	0.45	0.00	0.08	0.85	0.85
Sat Flow, veh/h	5003	1491	316	1774	1863	1583	1774	5253	0	1774	2394	1053
Grp Volume(v), veh/h	1254	0	423	205	247	0	144	2175	0	140	353	338
Grp Sat Flow(s),veh/h/ln	1668	0	1807	1774	1863	1583	1774	1695	0	1774	1770	1677
Q Serve(g_s), s	41.0	0.0	38.9	16.0	23.3	0.0	8.2	74.5	0.0	7.0	8.7	8.8
Cycle Q Clear(g_c), s	41.0	0.0	38.9	16.0	23.3	0.0	8.2	74.5	0.0	7.0	8.7	8.8
Prop In Lane	1.00		0.17	1.00		1.00	1.00		0.00	1.00		0.63
Lane Grp Cap(c), veh/h	1140	0	529	271	287	244	425	2268	0	115	756	717
V/C Ratio(X)	1.10	0.00	0.80	0.76	0.86	0.00	0.34	0.96	0.00	1.22	0.47	0.47
Avail Cap(c_a), veh/h	1140	0	683	271	445	378	471	2268	0	115	756	717
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.85	0.00	0.85	1.00	1.00	0.00	1.00	1.00	0.00	0.99	0.99	0.99
Uniform Delay (d), s/veh	69.5	0.0	58.7	60.4	74.3	0.0	26.3	48.3	0.0	43.2	8.1	8.1
Incr Delay (d2), s/veh	56.9	0.0	4.4	11.4	10.1	0.0	0.5	11.5	0.0	154.2	2.0	2.2
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 BackOfQ(95%),veh/ln	44.8	0.0	26.8	5.1	18.7	0.0	7.2	47.3	0.0	19.1	8.0	7.8
LnGrp Delay(d),s/veh	126.4	0.0	63.2	71.9	84.4	0.0	26.7	59.7	0.0	197.3	10.2	10.3
LnGrp LOS	F		E	E	F		C	E		F	B	B
Approach Vol, veh/h		1677			452			2319			831	
Approach Delay, s/veh		110.5			78.7			57.7			41.8	
Approach LOS		F			E			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.3	82.9	22.0	58.7	13.0	86.3	47.0	33.7
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	15.0	57.0	16.0	68.0	7.0	65.0	41.0	43.0
Max Q Clear Time (g_c+I1), s	10.2	10.8	18.0	40.9	9.0	76.5	43.0	25.3
Green Ext Time (p_c), s	0.2	46.1	0.0	2.6	0.0	0.0	0.0	2.5

Intersection Summary	
HCM 2010 Ctrl Delay	73.8
HCM 2010 LOS	E

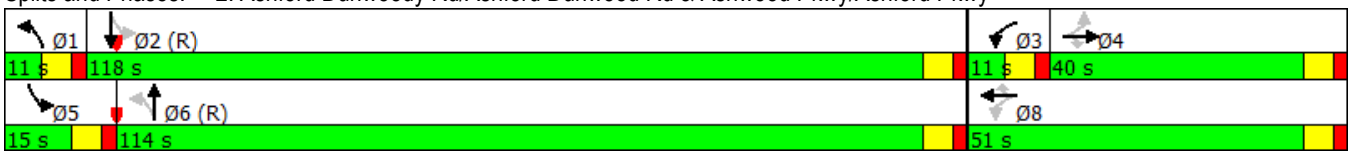
Timings 2021 No-Build PM Peak - Improved
2: Ashford Dunwoody Rd/Ashford Dunwood Rd & Ashwood Pkwy/Ashford Pkwy 01/30/2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	141	9	47	35	12	170	23	2541	137	442
Future Volume (vph)	141	9	47	35	12	170	23	2541	137	442
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases		4		3	8		1	6	5	2
Permitted Phases	4		4	8		8	6		2	
Detector Phase	4	4	4	3	8	8	1	6	5	2
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	5.0	6.0	6.0	5.0	15.0	5.0	15.0
Minimum Split (s)	40.0	40.0	40.0	11.0	42.0	42.0	11.0	42.0	11.0	37.0
Total Split (s)	40.0	40.0	40.0	11.0	51.0	51.0	11.0	114.0	15.0	118.0
Total Split (%)	22.2%	22.2%	22.2%	6.1%	28.3%	28.3%	6.1%	63.3%	8.3%	65.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead			Lead	Lag	Lead	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	None	C-Min	None	C-Min

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated

Splits and Phases: 2: Ashford Dunwoody Rd/Ashford Dunwood Rd & Ashwood Pkwy/Ashford Pkwy



HCM 2010 Signalized Intersection Summary — 2021 No-Build PM Peak - Improved
2: Ashford Dunwoody Rd/Ashford Dunwood Rd & Ashwood Pkwy/Ashford Pkwy — 01/30/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	141	9	47	35	12	170	23	2541	72	137	442	19
Future Volume (veh/h)	141	9	47	35	12	170	23	2541	72	137	442	19
Number	7	4	14	3	8	18	1	6	16	5	2	12
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	1900	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	148	9	0	37	13	179	24	2675	0	144	465	20
Adj No. of Lanes	0	1	1	1	1	1	1	3	0	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	203	10	228	349	375	319	645	3337	0	163	2348	101
Arrive On Green	0.14	0.14	0.00	0.02	0.20	0.20	0.03	0.87	0.00	0.04	0.68	0.68
Sat Flow, veh/h	1142	69	1583	1774	1863	1583	1774	5253	0	1774	3458	148
Grp Volume(v), veh/h	157	0	0	37	13	179	24	2675	0	144	238	247
Grp Sat Flow(s),veh/h/ln	1211	0	1583	1774	1863	1583	1774	1695	0	1774	1770	1837
Q Serve(g_s), s	22.9	0.0	0.0	3.1	1.0	18.3	0.8	40.1	0.0	5.6	9.0	9.0
Cycle Q Clear(g_c), s	22.9	0.0	0.0	3.1	1.0	18.3	0.8	40.1	0.0	5.6	9.0	9.0
Prop In Lane	0.94		1.00	1.00		1.00	1.00		0.00	1.00		0.08
Lane Grp Cap(c), veh/h	213	0	228	349	375	319	645	3337	0	163	1202	1247
V/C Ratio(X)	0.74	0.00	0.00	0.11	0.03	0.56	0.04	0.80	0.00	0.89	0.20	0.20
Avail Cap(c_a), veh/h	268	0	299	356	466	396	660	3337	0	176	1202	1247
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	0.09	0.09	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	75.7	0.0	0.0	61.9	57.8	64.7	9.6	6.5	0.0	37.7	10.7	10.7
Incr Delay (d2), s/veh	7.7	0.0	0.0	0.1	0.0	1.5	0.0	0.2	0.0	36.0	0.4	0.4
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 BackOfQ(95%),veh/ln	12.8	0.0	0.0	2.8	0.9	12.9	0.7	20.0	0.0	13.5	7.9	8.2
LnGrp Delay(d),s/veh	83.5	0.0	0.0	62.0	57.8	66.2	9.6	6.7	0.0	73.8	11.1	11.1
LnGrp LOS	F			E	E	E	A	A		E	B	B
Approach Vol, veh/h		157			229			2699			629	
Approach Delay, s/veh		83.5			65.1			6.7			25.4	
Approach LOS		F			E			A			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	9.5	128.2	10.3	31.9	13.6	124.1		42.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	5.0	112.0	5.0	34.0	9.0	108.0		45.0
Max Q Clear Time (g_c+I1), s	2.8	11.0	5.1	24.9	7.6	42.1		20.3
Green Ext Time (p_c), s	0.0	100.5	0.0	1.0	0.1	65.7		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	16.7
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	2.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	129	5	9	37	6	54
Future Vol, veh/h	129	5	9	37	6	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	150	6	10	43	7	63

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	156	0	216	153
Stage 1	-	-	-	-	153	-
Stage 2	-	-	-	-	63	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1424	-	772	893
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	960	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1424	-	767	893
Mov Cap-2 Maneuver	-	-	-	-	767	-
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	953	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	879	-	-	1424	-
HCM Lane V/C Ratio	0.079	-	-	0.007	-
HCM Control Delay (s)	9.4	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Timings
4: Perimeter Center Pl & Meadow Lane

2021 No-Build PM Peak - Improved
01/30/2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	48	632	19	158	302	19	69	32	393	4	8
Future Volume (vph)	48	632	19	158	302	19	69	32	393	4	8
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA
Protected Phases		2		1	6			8	1		4
Permitted Phases	2		2	6		6	8		8	4	
Detector Phase	2	2	2	1	6	6	8	8	1	4	4
Switch Phase											
Minimum Initial (s)	15.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	73.0	73.0	73.0	15.0	24.0	24.0	50.0	50.0	15.0	49.0	49.0
Total Split (s)	63.0	63.0	63.0	15.0	78.0	78.0	42.0	42.0	15.0	42.0	42.0
Total Split (%)	52.5%	52.5%	52.5%	12.5%	65.0%	65.0%	35.0%	35.0%	12.5%	35.0%	35.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0
Lead/Lag	Lag	Lag	Lag	Lead					Lead		
Lead-Lag Optimize?											
Recall Mode	C-Min	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 4: Perimeter Center Pl & Meadow Lane



HCM 2010 Signalized Intersection Summary
4: Perimeter Center Pl & Meadow Lane

2021 No-Build PM Peak - Improved
01/30/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	632	19	158	302	19	69	32	393	4	8	15
Future Volume (veh/h)	48	632	19	158	302	19	69	32	393	4	8	15
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	51	665	20	166	318	20	73	34	0	4	8	16
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	810	2558	1144	630	2881	1289	142	43	202	43	54	84
Arrive On Green	0.72	0.72	0.72	0.04	0.81	0.81	0.09	0.09	0.00	0.09	0.09	0.09
Sat Flow, veh/h	1038	3539	1583	1774	3539	1583	1063	495	1583	101	630	974
Grp Volume(v), veh/h	51	665	20	166	318	20	107	0	0	28	0	0
Grp Sat Flow(s),veh/h/ln	1038	1770	1583	1774	1770	1583	1558	0	1583	1704	0	0
Q Serve(g_s), s	1.7	7.7	0.4	2.7	2.2	0.3	6.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.7	7.7	0.4	2.7	2.2	0.3	8.0	0.0	0.0	1.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.68		1.00	0.14		0.57
Lane Grp Cap(c), veh/h	810	2558	1144	630	2881	1289	184	0	202	181	0	0
V/C Ratio(X)	0.06	0.26	0.02	0.26	0.11	0.02	0.58	0.00	0.00	0.15	0.00	0.00
Avail Cap(c_a), veh/h	810	2558	1144	689	2881	1289	507	0	541	527	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.75	0.75	0.75	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.9	5.7	4.7	3.7	2.3	2.1	53.7	0.0	0.0	51.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.2	0.0	0.2	0.1	0.0	2.9	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 BackOfQ(95%),veh/ln	0.9	6.8	0.3	2.4	1.9	0.2	6.5	0.0	0.0	1.6	0.0	0.0
LnGrp Delay(d),s/veh	5.0	5.9	4.7	3.8	2.3	2.1	56.5	0.0	0.0	51.4	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	E			D		
Approach Vol, veh/h		736			504			107			28	
Approach Delay, s/veh		5.8			2.8			56.5			51.4	
Approach LOS		A			A			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	11.0	92.7		16.3		103.7		16.3
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s	9.0	57.0		36.0		72.0		36.0
Max Q Clear Time (g_c+I1), s	4.7	9.7		3.8		4.2		10.0
Green Ext Time (p_c), s	0.2	33.0		0.4		42.0		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	9.6
HCM 2010 LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

FUTURE "BUILD" INTERSECTION ANALYSIS

Timings
1: Ashford Dunwoody Rd & Meadow Lane/Asbury Square

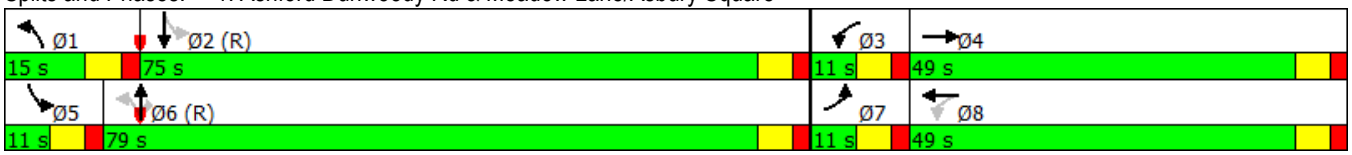
2021 Build AM Peak
04/16/2019

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	94	63	47	116	201	484	72	93	1272
Future Volume (vph)	94	63	47	116	201	484	72	93	1272
Turn Type	Prot	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	7	4	3	8	1	6		5	2
Permitted Phases			8		6		6	2	
Detector Phase	7	4	3	8	1	6	6	5	2
Switch Phase									
Minimum Initial (s)	5.0	6.0	5.0	6.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	11.0	48.0	11.0	49.0	11.0	47.0	47.0	11.0	43.0
Total Split (s)	11.0	49.0	11.0	49.0	15.0	79.0	79.0	11.0	75.0
Total Split (%)	7.3%	32.7%	7.3%	32.7%	10.0%	52.7%	52.7%	7.3%	50.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 138 (92%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 1: Ashford Dunwoody Rd & Meadow Lane/Asbury Square



HCM 2010 Signalized Intersection Summary
1: Ashford Dunwoody Rd & Meadow Lane/Asbury Square

2021 Build AM Peak
04/16/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	63	112	47	116	47	201	484	72	93	1272	489
Future Volume (veh/h)	94	63	112	47	116	47	201	484	72	93	1272	489
Number	7	4	14	3	8	18	1	6	16	5	2	12
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	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	107	72	127	53	132	53	228	550	82	106	1445	556
Adj No. of Lanes	2	2	0	1	2	0	1	2	1	1	2	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	115	179	160	134	253	97	288	2378	1064	591	1652	597
Arrive On Green	0.03	0.10	0.10	0.03	0.10	0.10	0.06	0.67	0.67	0.07	1.00	1.00
Sat Flow, veh/h	3442	1770	1583	1774	2501	962	1774	3539	1583	1774	2549	921
Grp Volume(v), veh/h	107	72	127	53	92	93	228	550	82	106	975	1026
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1693	1774	1770	1583	1774	1770	1700
Q Serve(g_s), s	4.7	5.7	11.8	4.0	7.4	7.9	6.5	9.1	2.7	3.1	0.0	0.0
Cycle Q Clear(g_c), s	4.7	5.7	11.8	4.0	7.4	7.9	6.5	9.1	2.7	3.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.57	1.00		1.00	1.00		0.54
Lane Grp Cap(c), veh/h	115	179	160	134	179	172	288	2378	1064	591	1147	1102
V/C Ratio(X)	0.93	0.40	0.79	0.40	0.51	0.54	0.79	0.23	0.08	0.18	0.85	0.93
Avail Cap(c_a), veh/h	115	507	454	134	507	485	293	2378	1064	591	1147	1102
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.69	0.69	0.69
Uniform Delay (d), s/veh	72.3	63.1	65.9	58.4	63.9	64.1	9.4	9.6	8.5	7.9	0.0	0.0
Incr Delay (d2), s/veh	63.1	1.4	8.4	1.9	2.2	2.7	13.5	0.2	0.1	0.1	5.7	11.2
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 BackOfQ(95%),veh/ln	5.8	5.2	9.4	3.6	6.7	6.9	10.5	8.0	2.2	2.6	3.2	6.0
LnGrp Delay(d),s/veh	135.4	64.6	74.3	60.3	66.1	66.8	22.9	9.8	8.6	8.0	5.7	11.2
LnGrp LOS	F	E	E	E	E	E	C	A	A	A	A	B
Approach Vol, veh/h		306			238			860			2107	
Approach Delay, s/veh		93.4			65.1			13.1			8.5	
Approach LOS		F			E			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.6	103.2	11.0	21.2	11.0	106.8	11.0	21.2
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	9.0	69.0	5.0	43.0	5.0	73.0	5.0	43.0
Max Q Clear Time (g_c+I1), s	8.5	2.0	6.0	13.8	5.1	11.1	6.7	9.9
Green Ext Time (p_c), s	0.0	66.8	0.0	1.4	0.0	61.8	0.0	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	20.9
HCM 2010 LOS	C

Timings 2021 Build AM Peak

2: Ashford Dunwoody Rd/Ashford Dunwood Rd & Ashwood Pkwy/Ashford Pkwy

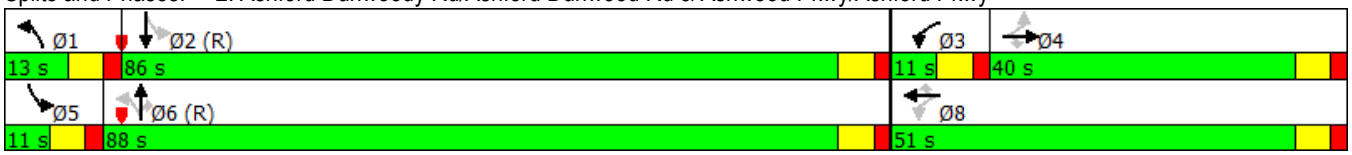
04/16/2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	68	7	92	56	16	38	101	398	25	72	1267
Future Volume (vph)	68	7	92	56	16	38	101	398	25	72	1267
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases		4		3	8		1	6		5	2
Permitted Phases	4		4	8		8	6		6	2	
Detector Phase	4	4	4	3	8	8	1	6	6	5	2
Switch Phase											
Minimum Initial (s)	6.0	6.0	6.0	5.0	6.0	6.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	40.0	40.0	40.0	11.0	42.0	42.0	11.0	42.0	42.0	11.0	37.0
Total Split (s)	40.0	40.0	40.0	11.0	51.0	51.0	13.0	88.0	88.0	11.0	86.0
Total Split (%)	26.7%	26.7%	26.7%	7.3%	34.0%	34.0%	8.7%	58.7%	58.7%	7.3%	57.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead			Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated

Splits and Phases: 2: Ashford Dunwoody Rd/Ashford Dunwood Rd & Ashwood Pkwy/Ashford Pkwy



HCM 2010 Signalized Intersection Summary — 2021 Build AM Peak
2: Ashford Dunwoody Rd/Ashford Dunwood Rd & Ashwood Pkwy/Ashford Pkwy — 04/16/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	7	92	56	16	38	101	398	25	72	1267	166
Future Volume (veh/h)	68	7	92	56	16	38	101	398	25	72	1267	166
Number	7	4	14	3	8	18	1	6	16	5	2	12
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	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	73	8	0	60	17	41	109	428	0	77	1362	178
Adj No. of Lanes	0	1	1	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	138	10	117	249	274	233	263	2480	1109	708	2205	286
Arrive On Green	0.07	0.07	0.00	0.03	0.15	0.15	0.02	0.47	0.00	0.03	0.70	0.70
Sat Flow, veh/h	1242	136	1583	1774	1863	1583	1774	3539	1583	1774	3151	409
Grp Volume(v), veh/h	81	0	0	60	17	41	109	428	0	77	760	780
Grp Sat Flow(s),veh/h/ln	1378	0	1583	1774	1863	1583	1774	1770	1583	1774	1770	1791
Q Serve(g_s), s	8.7	0.0	0.0	4.6	1.2	3.4	2.6	10.5	0.0	1.8	33.9	34.7
Cycle Q Clear(g_c), s	8.7	0.0	0.0	4.6	1.2	3.4	2.6	10.5	0.0	1.8	33.9	34.7
Prop In Lane	0.90		1.00	1.00		1.00	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	148	0	117	249	274	233	263	2480	1109	708	1238	1253
V/C Ratio(X)	0.55	0.00	0.00	0.24	0.06	0.18	0.41	0.17	0.00	0.11	0.61	0.62
Avail Cap(c_a), veh/h	358	0	359	249	559	475	288	2480	1109	710	1238	1253
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	0.94	0.94	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	68.3	0.0	0.0	60.0	55.0	56.0	11.8	14.7	0.0	6.0	11.9	12.0
Incr Delay (d2), s/veh	3.2	0.0	0.0	0.5	0.1	0.4	1.0	0.1	0.0	0.1	2.3	2.3
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 BackOfQ(95%),veh/ln	6.2	0.0	0.0	4.1	1.1	2.7	2.9	8.8	0.0	1.6	24.1	24.9
LnGrp Delay(d),s/veh	71.5	0.0	0.0	60.5	55.1	56.3	12.8	14.8	0.0	6.1	14.1	14.3
LnGrp LOS	E			E	E	E	B	B		A	B	B
Approach Vol, veh/h		81			118			537			1617	
Approach Delay, s/veh		71.5			58.3			14.4			13.8	
Approach LOS		E			E			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	10.9	111.0	11.0	17.1	10.8	111.1		28.1
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	7.0	80.0	5.0	34.0	5.0	82.0		45.0
Max Q Clear Time (g_c+I1), s	4.6	36.7	6.6	10.7	3.8	12.5		5.4
Green Ext Time (p_c), s	0.1	42.4	0.0	0.5	0.0	67.4		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	18.2
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	54	1	36	122	11	7
Future Vol, veh/h	54	1	36	122	11	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	62	1	41	140	13	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	63	0	285	63
Stage 1	-	-	-	-	63	-
Stage 2	-	-	-	-	222	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1540	-	705	1002
Stage 1	-	-	-	-	960	-
Stage 2	-	-	-	-	815	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1540	-	685	1002
Mov Cap-2 Maneuver	-	-	-	-	685	-
Stage 1	-	-	-	-	960	-
Stage 2	-	-	-	-	791	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	781	-	-	1540	-
HCM Lane V/C Ratio	0.026	-	-	0.027	-
HCM Control Delay (s)	9.7	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Timings
4: Perimeter Center Pl & Meadow Lane

2021 Build AM Peak
04/16/2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	35	126	17	206	465	109	15	11	42	97	11
Future Volume (vph)	35	126	17	206	465	109	15	11	42	97	11
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA
Protected Phases		2		1	6			8	1		4
Permitted Phases	2		2	6		6	8		8	4	
Detector Phase	2	2	2	1	6	6	8	8	1	4	4
Switch Phase											
Minimum Initial (s)	15.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	73.0	73.0	73.0	11.0	24.0	24.0	50.0	50.0	11.0	49.0	49.0
Total Split (s)	61.0	61.0	61.0	15.0	76.0	76.0	44.0	44.0	15.0	44.0	44.0
Total Split (%)	50.8%	50.8%	50.8%	12.5%	63.3%	63.3%	36.7%	36.7%	12.5%	36.7%	36.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0
Lead/Lag	Lag	Lag	Lag	Lead					Lead		
Lead-Lag Optimize?											
Recall Mode	C-Min	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 135
Control Type: Actuated-Coordinated

Splits and Phases: 4: Perimeter Center Pl & Meadow Lane



HCM 2010 Signalized Intersection Summary
4: Perimeter Center Pl & Meadow Lane

2021 Build AM Peak
04/16/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	126	17	206	465	109	15	11	42	97	11	37
Future Volume (veh/h)	35	126	17	206	465	109	15	11	42	97	11	37
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	36	130	18	212	479	112	15	11	0	100	11	38
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	619	2406	1077	977	2769	1239	139	90	269	166	16	45
Arrive On Green	0.68	0.68	0.68	0.05	0.78	0.78	0.12	0.12	0.00	0.12	0.12	0.12
Sat Flow, veh/h	822	3539	1583	1774	3539	1583	777	763	1583	988	133	384
Grp Volume(v), veh/h	36	130	18	212	479	112	26	0	0	149	0	0
Grp Sat Flow(s),veh/h/ln	822	1770	1583	1774	1770	1583	1540	0	1583	1504	0	0
Q Serve(g_s), s	1.8	1.5	0.4	4.1	4.1	2.0	0.0	0.0	0.0	10.1	0.0	0.0
Cycle Q Clear(g_c), s	1.8	1.5	0.4	4.1	4.1	2.0	1.5	0.0	0.0	11.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.58		1.00	0.67		0.26
Lane Grp Cap(c), veh/h	619	2406	1077	977	2769	1239	229	0	269	227	0	0
V/C Ratio(X)	0.06	0.05	0.02	0.22	0.17	0.09	0.11	0.00	0.00	0.66	0.00	0.00
Avail Cap(c_a), veh/h	619	2406	1077	1017	2769	1239	533	0	584	519	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.4	6.4	6.2	4.4	3.3	3.1	47.4	0.0	0.0	51.7	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	3.2	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 BackOfQ(95%),veh/ln	0.8	1.3	0.4	2.6	2.7	1.3	1.4	0.0	0.0	8.7	0.0	0.0
LnGrp Delay(d),s/veh	6.6	6.4	6.2	4.4	3.3	3.1	47.6	0.0	0.0	54.9	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D			D		
Approach Vol, veh/h		184			803			26			149	
Approach Delay, s/veh		6.4			3.6			47.6			54.9	
Approach LOS		A			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	12.3	87.6		20.1		99.9		20.1
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s	9.0	55.0		38.0		70.0		38.0
Max Q Clear Time (g_c+I1), s	6.1	3.8		13.6		6.1		3.5
Green Ext Time (p_c), s	0.2	22.7		0.6		24.8		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	11.6
HCM 2010 LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	41	6	6	128	7	14
Future Vol, veh/h	41	6	6	128	7	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	7	7	139	8	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	52	0	202	49
Stage 1	-	-	-	-	49	-
Stage 2	-	-	-	-	153	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1554	-	787	1020
Stage 1	-	-	-	-	973	-
Stage 2	-	-	-	-	875	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1554	-	783	1020
Mov Cap-2 Maneuver	-	-	-	-	783	-
Stage 1	-	-	-	-	973	-
Stage 2	-	-	-	-	871	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	927	-	-	1554	-
HCM Lane V/C Ratio	0.025	-	-	0.004	-
HCM Control Delay (s)	9	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	4.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	48	13	131	153	8	119
Future Vol, veh/h	48	13	131	153	8	119
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	14	142	166	9	129

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	66	0	509	59
Stage 1	-	-	-	-	59	-
Stage 2	-	-	-	-	450	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1536	-	524	1007
Stage 1	-	-	-	-	964	-
Stage 2	-	-	-	-	642	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1536	-	476	1007
Mov Cap-2 Maneuver	-	-	-	-	476	-
Stage 1	-	-	-	-	964	-
Stage 2	-	-	-	-	583	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.5	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	941	-	-	1536	-
HCM Lane V/C Ratio	0.147	-	-	0.093	-
HCM Control Delay (s)	9.5	-	-	7.6	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0.3	-

Timings
1: Ashford Dunwoody Rd & Meadow Lane/Asbury Square

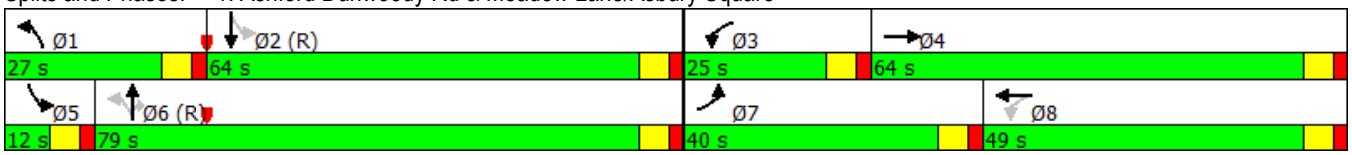
2021 Build PM Peak
04/16/2019

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	1138	307	174	218	202	1817	134	129	428
Future Volume (vph)	1138	307	174	218	202	1817	134	129	428
Turn Type	Prot	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	7	4	3	8	1	6		5	2
Permitted Phases			8		6		6	2	
Detector Phase	7	4	3	8	1	6	6	5	2
Switch Phase									
Minimum Initial (s)	5.0	6.0	5.0	6.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	11.0	48.0	11.0	49.0	11.0	47.0	47.0	11.0	43.0
Total Split (s)	40.0	64.0	25.0	49.0	27.0	79.0	79.0	12.0	64.0
Total Split (%)	22.2%	35.6%	13.9%	27.2%	15.0%	43.9%	43.9%	6.7%	35.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 170 (94%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 1: Ashford Dunwoody Rd & Meadow Lane/Asbury Square



HCM 2010 Signalized Intersection Summary
1: Ashford Dunwoody Rd & Meadow Lane/Asbury Square

2021 Build PM Peak
04/16/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1138	307	102	174	218	382	202	1817	134	129	428	202
Future Volume (veh/h)	1138	307	102	174	218	382	202	1817	134	129	428	202
Number	7	4	14	3	8	18	1	6	16	5	2	12
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	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	1264	341	113	193	242	424	224	2019	149	143	476	224
Adj No. of Lanes	2	2	0	1	2	0	1	2	1	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	650	878	286	423	423	378	382	1435	642	99	812	380
Arrive On Green	0.19	0.33	0.33	0.09	0.24	0.24	0.09	0.41	0.41	0.07	0.69	0.69
Sat Flow, veh/h	3442	2625	856	1774	1770	1583	1774	3539	1583	1774	2343	1096
Grp Volume(v), veh/h	1264	228	226	193	242	424	224	2019	149	143	359	341
Grp Sat Flow(s),veh/h/ln	1721	1770	1712	1774	1770	1583	1774	1770	1583	1774	1770	1669
Q Serve(g_s), s	34.0	17.7	18.2	14.7	21.7	43.0	14.3	73.0	11.1	6.0	18.8	19.1
Cycle Q Clear(g_c), s	34.0	17.7	18.2	14.7	21.7	43.0	14.3	73.0	11.1	6.0	18.8	19.1
Prop In Lane	1.00		0.50	1.00		1.00	1.00		1.00	1.00		0.66
Lane Grp Cap(c), veh/h	650	592	572	423	423	378	382	1435	642	99	613	579
V/C Ratio(X)	1.94	0.39	0.39	0.46	0.57	1.12	0.59	1.41	0.23	1.44	0.58	0.59
Avail Cap(c_a), veh/h	650	592	572	445	423	378	426	1435	642	99	613	579
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.88	0.88	0.88	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.97	0.97
Uniform Delay (d), s/veh	73.0	45.8	45.9	45.0	60.4	68.5	32.9	53.5	35.1	50.1	20.9	21.0
Incr Delay (d2), s/veh	429.9	0.4	0.4	0.8	1.9	83.3	1.7	187.2	0.8	245.7	3.9	4.2
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 BackOfQ(95%),veh/ln	99.0	13.3	13.2	11.6	16.2	49.6	11.5	131.4	8.7	15.8	14.6	14.3
LnGrp Delay(d),s/veh	502.9	46.1	46.3	45.8	62.3	151.8	34.6	240.7	36.0	295.8	24.9	25.2
LnGrp LOS	F	D	D	D	E	F	C	F	D	F	C	C
Approach Vol, veh/h		1718			859			2392			843	
Approach Delay, s/veh		382.2			102.7			208.7			71.0	
Approach LOS		F			F			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.6	68.4	22.8	66.2	12.0	79.0	40.0	49.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	21.0	58.0	19.0	58.0	6.0	73.0	34.0	43.0
Max Q Clear Time (g_c+I1), s	16.3	21.1	16.7	20.2	8.0	75.0	36.0	45.0
Green Ext Time (p_c), s	0.3	36.9	0.1	5.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	224.3
HCM 2010 LOS	F

Timings 2021 Build PM Peak

2: Ashford Dunwoody Rd/Ashford Dunwood Rd & Ashwood Pkwy/Ashford Pkwy

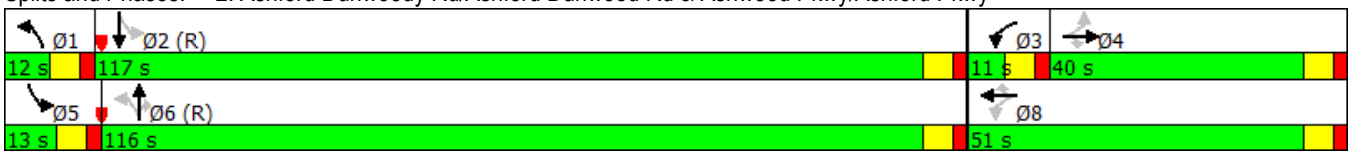
04/16/2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	252	17	105	37	18	170	111	2499	74	137	434
Future Volume (vph)	252	17	105	37	18	170	111	2499	74	137	434
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases		4		3	8		1	6		5	2
Permitted Phases	4		4	8		8	6		6	2	
Detector Phase	4	4	4	3	8	8	1	6	6	5	2
Switch Phase											
Minimum Initial (s)	6.0	6.0	6.0	5.0	6.0	6.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	40.0	40.0	40.0	11.0	42.0	42.0	11.0	42.0	42.0	11.0	37.0
Total Split (s)	40.0	40.0	40.0	11.0	51.0	51.0	12.0	116.0	116.0	13.0	117.0
Total Split (%)	22.2%	22.2%	22.2%	6.1%	28.3%	28.3%	6.7%	64.4%	64.4%	7.2%	65.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead			Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated

Splits and Phases: 2: Ashford Dunwoody Rd/Ashford Dunwood Rd & Ashwood Pkwy/Ashford Pkwy



HCM 2010 Signalized Intersection Summary — 2021 Build PM Peak
2: Ashford Dunwoody Rd/Ashford Dunwood Rd & Ashwood Pkwy/Ashford Pkwy — 04/16/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	252	17	105	37	18	170	111	2499	74	137	434	83
Future Volume (veh/h)	252	17	105	37	18	170	111	2499	74	137	434	83
Number	7	4	14	3	8	18	1	6	16	5	2	12
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	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	265	18	0	39	19	179	117	2631	0	144	457	87
Adj No. of Lanes	0	1	1	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	252	15	299	432	460	391	572	2175	973	109	1842	348
Arrive On Green	0.19	0.19	0.00	0.02	0.25	0.25	0.07	1.00	0.00	0.04	0.62	0.62
Sat Flow, veh/h	1131	77	1583	1774	1863	1583	1774	3539	1583	1774	2971	562
Grp Volume(v), veh/h	283	0	0	39	19	179	117	2631	0	144	271	273
Grp Sat Flow(s),veh/h/ln	1208	0	1583	1774	1863	1583	1774	1770	1583	1774	1770	1764
Q Serve(g_s), s	34.0	0.0	0.0	3.1	1.4	17.3	4.7	110.6	0.0	7.0	12.4	12.5
Cycle Q Clear(g_c), s	34.0	0.0	0.0	3.1	1.4	17.3	4.7	110.6	0.0	7.0	12.4	12.5
Prop In Lane	0.94		1.00	1.00		1.00	1.00		1.00	1.00		0.32
Lane Grp Cap(c), veh/h	267	0	299	432	460	391	572	2175	973	109	1097	1093
V/C Ratio(X)	1.06	0.00	0.00	0.09	0.04	0.46	0.20	1.21	0.00	1.32	0.25	0.25
Avail Cap(c_a), veh/h	267	0	299	438	466	396	572	2175	973	109	1097	1093
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	0.09	0.09	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	75.5	0.0	0.0	55.3	51.6	57.6	12.0	0.0	0.0	62.3	15.3	15.4
Incr Delay (d2), s/veh	71.9	0.0	0.0	0.1	0.0	0.8	0.0	94.9	0.0	194.9	0.5	0.5
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 BackOfQ(95%),veh/ln	33.5	0.0	0.0	2.8	1.3	12.2	3.0	50.5	0.0	20.4	10.3	10.3
LnGrp Delay(d),s/veh	147.4	0.0	0.0	55.4	51.6	58.4	12.0	94.9	0.0	257.2	15.9	15.9
LnGrp LOS	F			E	D	E	B	F		F	B	B
Approach Vol, veh/h		283			237			2748			688	
Approach Delay, s/veh		147.4			57.4			91.4			66.4	
Approach LOS		F			E			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	117.6	10.4	40.0	13.0	116.6		50.4
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	6.0	111.0	5.0	34.0	7.0	110.0		45.0
Max Q Clear Time (g_c+I1), s	6.7	14.5	5.1	36.0	9.0	112.6		19.3
Green Ext Time (p_c), s	0.0	96.1	0.0	0.0	0.0	0.0		2.2

Intersection Summary	
HCM 2010 Ctrl Delay	89.0
HCM 2010 LOS	F

Intersection	
Int Delay, s/veh	3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	149	6	25	41	9	62
Future Vol, veh/h	149	6	25	41	9	62
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	173	7	29	48	10	72

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	180	0	283	177
Stage 1	-	-	-	-	177	-
Stage 2	-	-	-	-	106	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1396	-	707	866
Stage 1	-	-	-	-	854	-
Stage 2	-	-	-	-	918	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1396	-	692	866
Mov Cap-2 Maneuver	-	-	-	-	692	-
Stage 1	-	-	-	-	854	-
Stage 2	-	-	-	-	899	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.9	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	839	-	-	1396	-
HCM Lane V/C Ratio	0.098	-	-	0.021	-
HCM Control Delay (s)	9.8	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

Timings
4: Perimeter Center Pl & Meadow Lane

2021 Build PM Peak
04/16/2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	83	613	19	158	293	138	69	40	393	143	18
Future Volume (vph)	83	613	19	158	293	138	69	40	393	143	18
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA
Protected Phases		2		1	6			8	1		4
Permitted Phases	2		2	6		6	8		8	4	
Detector Phase	2	2	2	1	6	6	8	8	1	4	4
Switch Phase											
Minimum Initial (s)	15.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	73.0	73.0	73.0	15.0	24.0	24.0	50.0	50.0	15.0	49.0	49.0
Total Split (s)	63.0	63.0	63.0	15.0	78.0	78.0	42.0	42.0	15.0	42.0	42.0
Total Split (%)	52.5%	52.5%	52.5%	12.5%	65.0%	65.0%	35.0%	35.0%	12.5%	35.0%	35.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0
Lead/Lag	Lag	Lag	Lag	Lead					Lead		
Lead-Lag Optimize?											
Recall Mode	C-Min	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 4: Perimeter Center Pl & Meadow Lane



HCM 2010 Signalized Intersection Summary
4: Perimeter Center Pl & Meadow Lane

2021 Build PM Peak
04/16/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	613	19	158	293	138	69	40	393	143	18	44
Future Volume (veh/h)	83	613	19	158	293	138	69	40	393	143	18	44
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	87	645	20	166	308	145	73	42	0	151	19	46
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	647	2226	996	567	2577	1153	200	105	350	224	22	53
Arrive On Green	0.63	0.63	0.63	0.05	0.73	0.73	0.17	0.17	0.00	0.17	0.17	0.17
Sat Flow, veh/h	934	3539	1583	1774	3539	1583	881	611	1583	1007	127	307
Grp Volume(v), veh/h	87	645	20	166	308	145	115	0	0	216	0	0
Grp Sat Flow(s),veh/h/ln	934	1770	1583	1774	1770	1583	1492	0	1583	1440	0	0
Q Serve(g_s), s	4.6	9.9	0.6	3.8	3.1	3.3	0.0	0.0	0.0	9.4	0.0	0.0
Cycle Q Clear(g_c), s	4.6	9.9	0.6	3.8	3.1	3.3	8.1	0.0	0.0	17.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.63		1.00	0.70		0.21
Lane Grp Cap(c), veh/h	647	2226	996	567	2577	1153	305	0	350	298	0	0
V/C Ratio(X)	0.13	0.29	0.02	0.29	0.12	0.13	0.38	0.00	0.00	0.72	0.00	0.00
Avail Cap(c_a), veh/h	647	2226	996	612	2577	1153	496	0	553	483	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.37	0.37	0.37	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.1	10.1	8.4	6.9	4.9	4.9	44.4	0.0	0.0	48.4	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.3	0.0	0.1	0.0	0.1	0.8	0.0	0.0	3.3	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 BackOfQ(95%),veh/ln	2.3	8.6	0.5	3.2	2.7	2.6	6.3	0.0	0.0	11.6	0.0	0.0
LnGrp Delay(d),s/veh	9.5	10.4	8.4	7.0	4.9	5.0	45.2	0.0	0.0	51.7	0.0	0.0
LnGrp LOS	A	B	A	A	A	A	D			D		
Approach Vol, veh/h		752			619			115			216	
Approach Delay, s/veh		10.3			5.5			45.2			51.7	
Approach LOS		B			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	11.9	81.5		26.6		93.4		26.6
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s	9.0	57.0		36.0		72.0		36.0
Max Q Clear Time (g_c+I1), s	5.8	11.9		19.5		5.3		10.1
Green Ext Time (p_c), s	0.2	32.9		1.1		43.3		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	16.1
HCM 2010 LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	137	5	5	45	8	18
Future Vol, veh/h	137	5	5	45	8	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	149	5	5	49	9	20

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	154	0	211	152
Stage 1	-	-	-	-	152	-
Stage 2	-	-	-	-	59	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1426	-	777	894
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	964	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1426	-	774	894
Mov Cap-2 Maneuver	-	-	-	-	774	-
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	960	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	853	-	-	1426	-
HCM Lane V/C Ratio	0.033	-	-	0.004	-
HCM Control Delay (s)	9.4	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	5.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	214	11	146	67	8	161
Future Vol, veh/h	214	11	146	67	8	161
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	233	12	159	73	9	175

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	245	0	630	239
Stage 1	-	-	-	-	239	-
Stage 2	-	-	-	-	391	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1321	-	446	800
Stage 1	-	-	-	-	801	-
Stage 2	-	-	-	-	683	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1321	-	392	800
Mov Cap-2 Maneuver	-	-	-	-	392	-
Stage 1	-	-	-	-	801	-
Stage 2	-	-	-	-	601	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.6	11.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	762	-	-	1321	-
HCM Lane V/C Ratio	0.241	-	-	0.12	-
HCM Control Delay (s)	11.2	-	-	8.1	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.9	-	-	0.4	-

FUTURE "BUILD" IMPROVED INTERSECTION ANALYSIS

Timings
1: Ashford Dunwoody Rd & Meadow Lane/Asbury Square

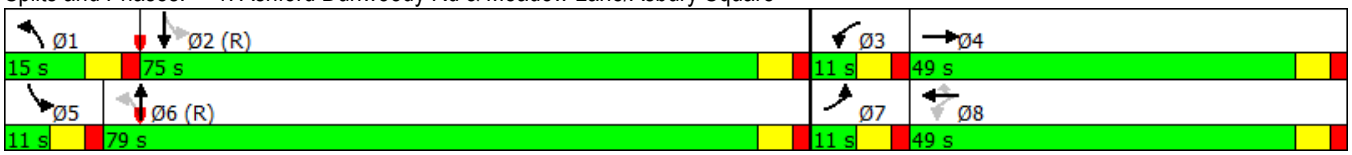
2021 Build AM Peak - Improved
04/16/2019

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	94	63	47	116	47	201	484	93	1272
Future Volume (vph)	94	63	47	116	47	201	484	93	1272
Turn Type	Prot	NA	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8		1	6	5	2
Permitted Phases			8		8	6		2	
Detector Phase	7	4	3	8	8	1	6	5	2
Switch Phase									
Minimum Initial (s)	5.0	6.0	5.0	6.0	6.0	5.0	15.0	5.0	15.0
Minimum Split (s)	11.0	48.0	11.0	49.0	49.0	11.0	47.0	11.0	43.0
Total Split (s)	11.0	49.0	11.0	49.0	49.0	15.0	79.0	11.0	75.0
Total Split (%)	7.3%	32.7%	7.3%	32.7%	32.7%	10.0%	52.7%	7.3%	50.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 138 (92%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 1: Ashford Dunwoody Rd & Meadow Lane/Asbury Square



HCM 2010 Signalized Intersection Summary
1: Ashford Dunwoody Rd & Meadow Lane/Asbury Square

2021 Build AM Peak - Improved
04/16/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	63	112	47	116	47	201	484	72	93	1272	489
Future Volume (veh/h)	94	63	112	47	116	47	201	484	72	93	1272	489
Number	7	4	14	3	8	18	1	6	16	5	2	12
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	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	107	72	127	53	132	0	228	550	0	106	1445	556
Adj No. of Lanes	3	1	0	1	1	1	1	3	0	1	2	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	167	83	147	132	256	218	285	3232	0	612	1552	561
Arrive On Green	0.03	0.14	0.14	0.03	0.14	0.00	0.06	0.64	0.00	0.07	1.00	1.00
Sat Flow, veh/h	5003	606	1068	1774	1863	1583	1774	5253	0	1774	2549	921
Grp Volume(v), veh/h	107	0	199	53	132	0	228	550	0	106	975	1026
Grp Sat Flow(s),veh/h/ln	1668	0	1674	1774	1863	1583	1774	1695	0	1774	1770	1700
Q Serve(g_s), s	3.2	0.0	17.4	3.8	9.9	0.0	7.3	6.6	0.0	3.5	0.0	0.0
Cycle Q Clear(g_c), s	3.2	0.0	17.4	3.8	9.9	0.0	7.3	6.6	0.0	3.5	0.0	0.0
Prop In Lane	1.00		0.64	1.00		1.00	1.00		0.00	1.00		0.54
Lane Grp Cap(c), veh/h	167	0	230	132	256	218	285	3232	0	612	1078	1035
V/C Ratio(X)	0.64	0.00	0.86	0.40	0.51	0.00	0.80	0.17	0.00	0.17	0.90	0.99
Avail Cap(c_a), veh/h	167	0	480	132	534	454	285	3232	0	612	1078	1035
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.69	0.69	0.69
Uniform Delay (d), s/veh	71.6	0.0	63.3	54.2	60.0	0.0	11.1	11.2	0.0	9.9	0.0	0.0
Incr Delay (d2), s/veh	8.1	0.0	9.3	2.0	1.6	0.0	14.9	0.1	0.0	0.1	9.1	21.2
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 BackOfQ(95%),veh/ln	2.9	0.0	13.5	3.5	9.0	0.0	10.1	5.7	0.0	3.1	4.9	9.5
LnGrp Delay(d),s/veh	79.7	0.0	72.6	56.1	61.6	0.0	26.0	11.3	0.0	10.0	9.1	21.2
LnGrp LOS	E		E	E	E		C	B		A	A	C
Approach Vol, veh/h		306			185			778			2107	
Approach Delay, s/veh		75.0			60.1			15.6			15.0	
Approach LOS		E			E			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	97.3	11.0	26.7	11.0	101.3	11.0	26.7
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	9.0	69.0	5.0	43.0	5.0	73.0	5.0	43.0
Max Q Clear Time (g_c+I1), s	9.3	2.0	5.8	19.4	5.5	8.6	5.2	11.9
Green Ext Time (p_c), s	0.0	66.8	0.0	1.2	0.0	64.2	0.0	1.3

Intersection Summary	
HCM 2010 Ctrl Delay	23.1
HCM 2010 LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Timings 2021 Build AM Peak - Improved

2: Ashford Dunwoody Rd/Ashford Dunwood Rd & Ashwood Pkwy/Ashford Pkwy

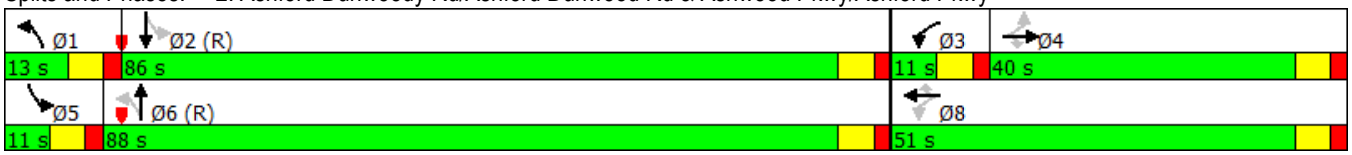
04/16/2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	68	7	92	56	16	38	101	398	72	1267
Future Volume (vph)	68	7	92	56	16	38	101	398	72	1267
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases		4		3	8		1	6	5	2
Permitted Phases	4		4	8		8	6		2	
Detector Phase	4	4	4	3	8	8	1	6	5	2
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	5.0	6.0	6.0	5.0	15.0	5.0	15.0
Minimum Split (s)	40.0	40.0	40.0	11.0	42.0	42.0	11.0	42.0	11.0	37.0
Total Split (s)	40.0	40.0	40.0	11.0	51.0	51.0	13.0	88.0	11.0	86.0
Total Split (%)	26.7%	26.7%	26.7%	7.3%	34.0%	34.0%	8.7%	58.7%	7.3%	57.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead			Lead	Lag	Lead	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	None	C-Min	None	C-Min

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated

Splits and Phases: 2: Ashford Dunwoody Rd/Ashford Dunwood Rd & Ashwood Pkwy/Ashford Pkwy



HCM 2010 Signalized Intersection Summary — 2021 Build AM Peak - Improved
2: Ashford Dunwoody Rd/Ashford Dunwood Rd & Ashwood Pkwy/Ashford Pkwy — 04/16/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	7	92	56	16	38	101	398	25	72	1267	166
Future Volume (veh/h)	68	7	92	56	16	38	101	398	25	72	1267	166
Number	7	4	14	3	8	18	1	6	16	5	2	12
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	1900	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	73	8	0	60	17	41	109	428	0	77	1362	178
Adj No. of Lanes	0	1	1	1	1	1	1	3	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	138	10	117	249	274	233	263	3563	0	711	2205	286
Arrive On Green	0.07	0.07	0.00	0.03	0.15	0.15	0.01	0.23	0.00	0.03	0.70	0.70
Sat Flow, veh/h	1242	136	1583	1774	1863	1583	1774	5253	0	1774	3151	409
Grp Volume(v), veh/h	81	0	0	60	17	41	109	428	0	77	760	780
Grp Sat Flow(s),veh/h/ln	1378	0	1583	1774	1863	1583	1774	1695	0	1774	1770	1791
Q Serve(g_s), s	8.7	0.0	0.0	4.6	1.2	3.4	2.6	10.0	0.0	1.8	33.9	34.7
Cycle Q Clear(g_c), s	8.7	0.0	0.0	4.6	1.2	3.4	2.6	10.0	0.0	1.8	33.9	34.7
Prop In Lane	0.90		1.00	1.00		1.00	1.00		0.00	1.00		0.23
Lane Grp Cap(c), veh/h	148	0	117	249	274	233	263	3563	0	711	1238	1253
V/C Ratio(X)	0.55	0.00	0.00	0.24	0.06	0.18	0.41	0.12	0.00	0.11	0.61	0.62
Avail Cap(c_a), veh/h	358	0	359	249	559	475	288	3563	0	713	1238	1253
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	0.97	0.97	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	68.3	0.0	0.0	60.0	55.0	56.0	12.0	21.1	0.0	6.0	11.9	12.0
Incr Delay (d2), s/veh	3.2	0.0	0.0	0.5	0.1	0.4	1.0	0.1	0.0	0.1	2.3	2.3
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 BackOfQ(95%),veh/ln	6.2	0.0	0.0	4.1	1.1	2.7	3.0	8.2	0.0	1.6	24.1	24.9
LnGrp Delay(d),s/veh	71.5	0.0	0.0	60.5	55.1	56.3	13.0	21.2	0.0	6.1	14.1	14.3
LnGrp LOS	E			E	E	E	B	C		A	B	B
Approach Vol, veh/h		81			118			537			1617	
Approach Delay, s/veh		71.5			58.3			19.5			13.8	
Approach LOS		E			E			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	10.9	111.0	11.0	17.1	10.8	111.1		28.1
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	7.0	80.0	5.0	34.0	5.0	82.0		45.0
Max Q Clear Time (g_c+I1), s	4.6	36.7	6.6	10.7	3.8	12.0		5.4
Green Ext Time (p_c), s	0.1	42.4	0.0	0.5	0.0	67.8		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	19.3
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	54	1	36	122	11	7
Future Vol, veh/h	54	1	36	122	11	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	62	1	41	140	13	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	63	0	285	63
Stage 1	-	-	-	-	63	-
Stage 2	-	-	-	-	222	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1540	-	705	1002
Stage 1	-	-	-	-	960	-
Stage 2	-	-	-	-	815	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1540	-	685	1002
Mov Cap-2 Maneuver	-	-	-	-	685	-
Stage 1	-	-	-	-	960	-
Stage 2	-	-	-	-	791	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	781	-	-	1540	-
HCM Lane V/C Ratio	0.026	-	-	0.027	-
HCM Control Delay (s)	9.7	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Timings
4: Perimeter Center Pl & Meadow Lane

2021 Build AM Peak - Improved
04/16/2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	35	126	17	206	465	109	15	11	42	97	11
Future Volume (vph)	35	126	17	206	465	109	15	11	42	97	11
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA
Protected Phases		2		1	6			8	1		4
Permitted Phases	2		2	6		6	8		8	4	
Detector Phase	2	2	2	1	6	6	8	8	1	4	4
Switch Phase											
Minimum Initial (s)	15.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	73.0	73.0	73.0	11.0	24.0	24.0	50.0	50.0	11.0	49.0	49.0
Total Split (s)	61.0	61.0	61.0	15.0	76.0	76.0	44.0	44.0	15.0	44.0	44.0
Total Split (%)	50.8%	50.8%	50.8%	12.5%	63.3%	63.3%	36.7%	36.7%	12.5%	36.7%	36.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0
Lead/Lag	Lag	Lag	Lag	Lead					Lead		
Lead-Lag Optimize?											
Recall Mode	C-Min	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 135
Control Type: Actuated-Coordinated

Splits and Phases: 4: Perimeter Center Pl & Meadow Lane



HCM 2010 Signalized Intersection Summary
4: Perimeter Center Pl & Meadow Lane

2021 Build AM Peak - Improved
04/16/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	126	17	206	465	109	15	11	42	97	11	37
Future Volume (veh/h)	35	126	17	206	465	109	15	11	42	97	11	37
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	36	130	18	212	479	112	15	11	0	100	11	38
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	619	2406	1077	977	2769	1239	139	90	269	166	16	45
Arrive On Green	0.68	0.68	0.68	0.05	0.78	0.78	0.12	0.12	0.00	0.12	0.12	0.12
Sat Flow, veh/h	822	3539	1583	1774	3539	1583	777	763	1583	988	133	384
Grp Volume(v), veh/h	36	130	18	212	479	112	26	0	0	149	0	0
Grp Sat Flow(s),veh/h/ln	822	1770	1583	1774	1770	1583	1540	0	1583	1504	0	0
Q Serve(g_s), s	1.8	1.5	0.4	4.1	4.1	2.0	0.0	0.0	0.0	10.1	0.0	0.0
Cycle Q Clear(g_c), s	1.8	1.5	0.4	4.1	4.1	2.0	1.5	0.0	0.0	11.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.58		1.00	0.67		0.26
Lane Grp Cap(c), veh/h	619	2406	1077	977	2769	1239	229	0	269	227	0	0
V/C Ratio(X)	0.06	0.05	0.02	0.22	0.17	0.09	0.11	0.00	0.00	0.66	0.00	0.00
Avail Cap(c_a), veh/h	619	2406	1077	1017	2769	1239	533	0	584	519	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.4	6.4	6.2	4.4	3.3	3.1	47.4	0.0	0.0	51.7	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	3.2	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 BackOfQ(95%),veh/ln	0.8	1.3	0.4	2.6	2.7	1.3	1.4	0.0	0.0	8.7	0.0	0.0
LnGrp Delay(d),s/veh	6.6	6.4	6.2	4.4	3.3	3.1	47.6	0.0	0.0	54.9	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D			D		
Approach Vol, veh/h		184			803			26			149	
Approach Delay, s/veh		6.4			3.6			47.6			54.9	
Approach LOS		A			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	12.3	87.6		20.1		99.9		20.1
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s	9.0	55.0		38.0		70.0		38.0
Max Q Clear Time (g_c+I1), s	6.1	3.8		13.6		6.1		3.5
Green Ext Time (p_c), s	0.2	22.7		0.6		24.8		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	11.6
HCM 2010 LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	41	6	6	128	7	14
Future Vol, veh/h	41	6	6	128	7	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	7	7	139	8	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	52	0	202	49
Stage 1	-	-	-	-	49	-
Stage 2	-	-	-	-	153	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1554	-	787	1020
Stage 1	-	-	-	-	973	-
Stage 2	-	-	-	-	875	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1554	-	783	1020
Mov Cap-2 Maneuver	-	-	-	-	783	-
Stage 1	-	-	-	-	973	-
Stage 2	-	-	-	-	871	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	927	-	-	1554	-
HCM Lane V/C Ratio	0.025	-	-	0.004	-
HCM Control Delay (s)	9	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	4.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	48	13	131	153	8	119
Future Vol, veh/h	48	13	131	153	8	119
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	14	142	166	9	129

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	66	0	509	59
Stage 1	-	-	-	-	59	-
Stage 2	-	-	-	-	450	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1536	-	524	1007
Stage 1	-	-	-	-	964	-
Stage 2	-	-	-	-	642	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1536	-	476	1007
Mov Cap-2 Maneuver	-	-	-	-	476	-
Stage 1	-	-	-	-	964	-
Stage 2	-	-	-	-	583	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.5	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	941	-	-	1536	-
HCM Lane V/C Ratio	0.147	-	-	0.093	-
HCM Control Delay (s)	9.5	-	-	7.6	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0.3	-

Timings
1: Ashford Dunwoody Rd & Meadow Lane/Asbury Square

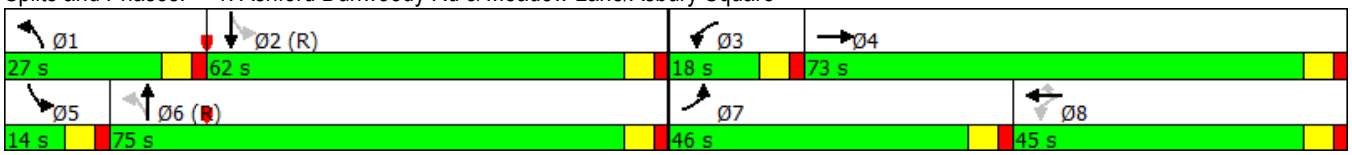
2021 Build PM Peak - Improved
04/16/2019

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	1138	307	174	218	382	202	1817	129	428
Future Volume (vph)	1138	307	174	218	382	202	1817	129	428
Turn Type	Prot	NA	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8		1	6	5	2
Permitted Phases			8		8	6		2	
Detector Phase	7	4	3	8	8	1	6	5	2
Switch Phase									
Minimum Initial (s)	5.0	6.0	5.0	6.0	6.0	5.0	15.0	5.0	15.0
Minimum Split (s)	11.0	48.0	11.0	49.0	49.0	11.0	47.0	11.0	43.0
Total Split (s)	46.0	73.0	18.0	45.0	45.0	27.0	75.0	14.0	62.0
Total Split (%)	25.6%	40.6%	10.0%	25.0%	25.0%	15.0%	41.7%	7.8%	34.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 170 (94%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 1: Ashford Dunwoody Rd & Meadow Lane/Asbury Square



HCM 2010 Signalized Intersection Summary
1: Ashford Dunwoody Rd & Meadow Lane/Asbury Square

2021 Build PM Peak - Improved
04/16/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1138	307	102	174	218	382	202	1817	134	129	428	202
Future Volume (veh/h)	1138	307	102	174	218	382	202	1817	134	129	428	202
Number	7	4	14	3	8	18	1	6	16	5	2	12
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	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	1264	341	113	193	242	0	224	2019	0	143	476	224
Adj No. of Lanes	3	1	0	1	1	1	1	3	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1112	411	136	224	282	240	447	2282	0	137	957	448
Arrive On Green	0.22	0.31	0.31	0.07	0.15	0.00	0.08	0.45	0.00	0.09	0.82	0.82
Sat Flow, veh/h	5003	1340	444	1774	1863	1583	1774	5253	0	1774	2343	1096
Grp Volume(v), veh/h	1264	0	454	193	242	0	224	2019	0	143	359	341
Grp Sat Flow(s),veh/h/ln	1668	0	1784	1774	1863	1583	1774	1695	0	1774	1770	1669
Q Serve(g_s), s	40.0	0.0	42.6	12.0	22.8	0.0	12.9	65.3	0.0	8.0	11.2	11.4
Cycle Q Clear(g_c), s	40.0	0.0	42.6	12.0	22.8	0.0	12.9	65.3	0.0	8.0	11.2	11.4
Prop In Lane	1.00		0.25	1.00		1.00	1.00		0.00	1.00		0.66
Lane Grp Cap(c), veh/h	1112	0	548	224	282	240	447	2282	0	137	723	682
V/C Ratio(X)	1.14	0.00	0.83	0.86	0.86	0.00	0.50	0.88	0.00	1.04	0.50	0.50
Avail Cap(c_a), veh/h	1112	0	664	224	404	343	503	2282	0	137	723	682
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.88	0.00	0.88	1.00	1.00	0.00	1.00	1.00	0.00	0.97	0.97	0.97
Uniform Delay (d), s/veh	70.0	0.0	58.0	67.5	74.5	0.0	26.0	45.4	0.0	43.8	10.8	10.8
Incr Delay (d2), s/veh	71.8	0.0	6.5	27.3	12.1	0.0	0.9	5.5	0.0	88.1	2.4	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
%ile BackOfQ(95%),veh/ln	46.5	0.0	29.3	9.2	18.6	0.0	10.5	41.1	0.0	11.2	9.8	9.4
LnGrp Delay(d),s/veh	141.8	0.0	64.5	94.8	86.6	0.0	26.9	50.9	0.0	132.2	13.1	13.3
LnGrp LOS	F		E	F	F		C	D		F	B	B
Approach Vol, veh/h		1718			435			2243			843	
Approach Delay, s/veh		121.4			90.2			48.5			33.4	
Approach LOS		F			F			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.3	79.5	18.0	61.2	14.0	86.8	46.0	33.2
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	21.0	56.0	12.0	67.0	8.0	69.0	40.0	39.0
Max Q Clear Time (g_c+I1), s	14.9	13.4	14.0	44.6	10.0	67.3	42.0	24.8
Green Ext Time (p_c), s	0.4	42.5	0.0	2.7	0.0	1.7	0.0	2.4

Intersection Summary	
HCM 2010 Ctrl Delay	73.4
HCM 2010 LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

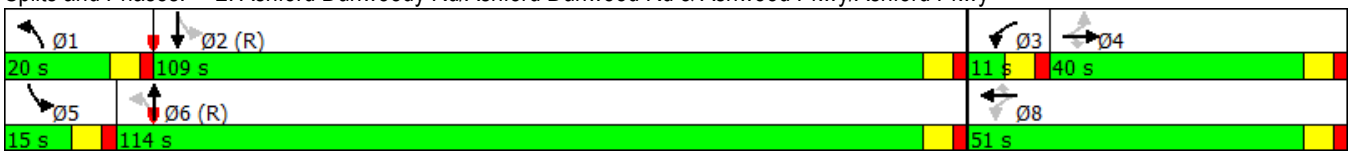
Timings 2021 Build PM Peak - Improved
2: Ashford Dunwoody Rd/Ashford Dunwood Rd & Ashwood Pkwy/Ashford Pkwy 04/16/2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	252	17	105	37	18	170	111	2499	137	434
Future Volume (vph)	252	17	105	37	18	170	111	2499	137	434
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases		4		3	8		1	6	5	2
Permitted Phases	4		4	8		8	6		2	
Detector Phase	4	4	4	3	8	8	1	6	5	2
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	5.0	6.0	6.0	5.0	15.0	5.0	15.0
Minimum Split (s)	40.0	40.0	40.0	11.0	42.0	42.0	11.0	42.0	11.0	37.0
Total Split (s)	40.0	40.0	40.0	11.0	51.0	51.0	20.0	114.0	15.0	109.0
Total Split (%)	22.2%	22.2%	22.2%	6.1%	28.3%	28.3%	11.1%	63.3%	8.3%	60.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead			Lead	Lag	Lead	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	None	C-Min	None	C-Min

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated

Splits and Phases: 2: Ashford Dunwoody Rd/Ashford Dunwood Rd & Ashwood Pkwy/Ashford Pkwy



HCM 2010 Signalized Intersection Summary — 2021 Build PM Peak - Improved
2: Ashford Dunwoody Rd/Ashford Dunwood Rd & Ashwood Pkwy/Ashford Pkwy — 04/16/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	252	17	105	37	18	170	111	2499	74	137	434	83
Future Volume (veh/h)	252	17	105	37	18	170	111	2499	74	137	434	83
Number	7	4	14	3	8	18	1	6	16	5	2	12
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	1900	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	265	18	0	39	19	179	117	2631	0	144	457	87
Adj No. of Lanes	0	1	1	1	1	1	1	3	0	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	252	15	299	432	460	391	575	3109	0	185	1829	346
Arrive On Green	0.19	0.19	0.00	0.02	0.25	0.25	0.08	1.00	0.00	0.04	0.62	0.62
Sat Flow, veh/h	1131	77	1583	1774	1863	1583	1774	5253	0	1774	2971	562
Grp Volume(v), veh/h	283	0	0	39	19	179	117	2631	0	144	271	273
Grp Sat Flow(s),veh/h/ln	1208	0	1583	1774	1863	1583	1774	1695	0	1774	1770	1764
Q Serve(g_s), s	34.0	0.0	0.0	3.1	1.4	17.3	4.6	0.0	0.0	5.5	12.5	12.7
Cycle Q Clear(g_c), s	34.0	0.0	0.0	3.1	1.4	17.3	4.6	0.0	0.0	5.5	12.5	12.7
Prop In Lane	0.94		1.00	1.00		1.00	1.00		0.00	1.00		0.32
Lane Grp Cap(c), veh/h	267	0	299	432	460	391	575	3109	0	185	1090	1086
V/C Ratio(X)	1.06	0.00	0.00	0.09	0.04	0.46	0.20	0.85	0.00	0.78	0.25	0.25
Avail Cap(c_a), veh/h	267	0	299	438	466	396	646	3109	0	199	1090	1086
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	0.09	0.09	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	75.5	0.0	0.0	55.3	51.6	57.6	11.9	0.0	0.0	18.6	15.7	15.7
Incr Delay (d2), s/veh	71.9	0.0	0.0	0.1	0.0	0.8	0.0	0.3	0.0	16.8	0.5	0.6
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 BackOfQ(95%),veh/ln	33.5	0.0	0.0	2.8	1.3	12.2	2.9	0.1	0.0	8.8	10.4	10.4
LnGrp Delay(d),s/veh	147.4	0.0	0.0	55.4	51.6	58.4	11.9	0.3	0.0	35.4	16.2	16.3
LnGrp LOS	F			E	D	E	B	A		D	B	B
Approach Vol, veh/h		283			237			2748			688	
Approach Delay, s/veh		147.4			57.4			0.8			20.3	
Approach LOS		F			E			A			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	12.8	116.8	10.4	40.0	13.6	116.0		50.4
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	14.0	103.0	5.0	34.0	9.0	108.0		45.0
Max Q Clear Time (g_c+I1), s	6.6	14.7	5.1	36.0	7.5	2.0		19.3
Green Ext Time (p_c), s	0.2	88.0	0.0	0.0	0.1	105.5		2.2

Intersection Summary	
HCM 2010 Ctrl Delay	18.0
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	149	6	25	41	9	62
Future Vol, veh/h	149	6	25	41	9	62
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	173	7	29	48	10	72

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	180	0	283	177
Stage 1	-	-	-	-	177	-
Stage 2	-	-	-	-	106	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1396	-	707	866
Stage 1	-	-	-	-	854	-
Stage 2	-	-	-	-	918	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1396	-	692	866
Mov Cap-2 Maneuver	-	-	-	-	692	-
Stage 1	-	-	-	-	854	-
Stage 2	-	-	-	-	899	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.9	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	839	-	-	1396	-
HCM Lane V/C Ratio	0.098	-	-	0.021	-
HCM Control Delay (s)	9.8	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

Timings
4: Perimeter Center Pl & Meadow Lane

2021 Build PM Peak - Improved
04/16/2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	83	613	19	158	293	138	69	40	393	143	18
Future Volume (vph)	83	613	19	158	293	138	69	40	393	143	18
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA
Protected Phases		2		1	6			8	1		4
Permitted Phases	2		2	6		6	8		8	4	
Detector Phase	2	2	2	1	6	6	8	8	1	4	4
Switch Phase											
Minimum Initial (s)	15.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	73.0	73.0	73.0	15.0	24.0	24.0	50.0	50.0	15.0	49.0	49.0
Total Split (s)	63.0	63.0	63.0	15.0	78.0	78.0	42.0	42.0	15.0	42.0	42.0
Total Split (%)	52.5%	52.5%	52.5%	12.5%	65.0%	65.0%	35.0%	35.0%	12.5%	35.0%	35.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0
Lead/Lag	Lag	Lag	Lag	Lead					Lead		
Lead-Lag Optimize?											
Recall Mode	C-Min	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 4: Perimeter Center Pl & Meadow Lane



HCM 2010 Signalized Intersection Summary
4: Perimeter Center Pl & Meadow Lane

2021 Build PM Peak - Improved
04/16/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	613	19	158	293	138	69	40	393	143	18	44
Future Volume (veh/h)	83	613	19	158	293	138	69	40	393	143	18	44
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	87	645	20	166	308	145	73	42	0	151	19	46
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	647	2226	996	567	2577	1153	200	105	350	224	22	53
Arrive On Green	0.63	0.63	0.63	0.05	0.73	0.73	0.17	0.17	0.00	0.17	0.17	0.17
Sat Flow, veh/h	934	3539	1583	1774	3539	1583	881	611	1583	1007	127	307
Grp Volume(v), veh/h	87	645	20	166	308	145	115	0	0	216	0	0
Grp Sat Flow(s),veh/h/ln	934	1770	1583	1774	1770	1583	1492	0	1583	1440	0	0
Q Serve(g_s), s	4.6	9.9	0.6	3.8	3.1	3.3	0.0	0.0	0.0	9.4	0.0	0.0
Cycle Q Clear(g_c), s	4.6	9.9	0.6	3.8	3.1	3.3	8.1	0.0	0.0	17.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.63		1.00	0.70		0.21
Lane Grp Cap(c), veh/h	647	2226	996	567	2577	1153	305	0	350	298	0	0
V/C Ratio(X)	0.13	0.29	0.02	0.29	0.12	0.13	0.38	0.00	0.00	0.72	0.00	0.00
Avail Cap(c_a), veh/h	647	2226	996	612	2577	1153	496	0	553	483	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.63	0.63	0.63	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.1	10.1	8.4	6.9	4.9	4.9	44.4	0.0	0.0	48.4	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.3	0.0	0.2	0.1	0.1	0.8	0.0	0.0	3.3	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 BackOfQ(95%),veh/ln	2.3	8.6	0.5	3.3	2.7	2.6	6.3	0.0	0.0	11.6	0.0	0.0
LnGrp Delay(d),s/veh	9.5	10.4	8.4	7.1	4.9	5.0	45.2	0.0	0.0	51.7	0.0	0.0
LnGrp LOS	A	B	A	A	A	A	D			D		
Approach Vol, veh/h		752			619			115			216	
Approach Delay, s/veh		10.3			5.5			45.2			51.7	
Approach LOS		B			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	11.9	81.5		26.6		93.4		26.6
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s	9.0	57.0		36.0		72.0		36.0
Max Q Clear Time (g_c+I1), s	5.8	11.9		19.5		5.3		10.1
Green Ext Time (p_c), s	0.2	32.9		1.1		43.3		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	16.2
HCM 2010 LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	137	5	5	45	8	18
Future Vol, veh/h	137	5	5	45	8	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	149	5	5	49	9	20

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	154	0	211	152
Stage 1	-	-	-	-	152	-
Stage 2	-	-	-	-	59	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1426	-	777	894
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	964	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1426	-	774	894
Mov Cap-2 Maneuver	-	-	-	-	774	-
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	960	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	853	-	-	1426	-
HCM Lane V/C Ratio	0.033	-	-	0.004	-
HCM Control Delay (s)	9.4	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	5.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	214	11	146	67	8	161
Future Vol, veh/h	214	11	146	67	8	161
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	233	12	159	73	9	175

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	245	0	630	239
Stage 1	-	-	-	-	239	-
Stage 2	-	-	-	-	391	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1321	-	446	800
Stage 1	-	-	-	-	801	-
Stage 2	-	-	-	-	683	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1321	-	392	800
Mov Cap-2 Maneuver	-	-	-	-	392	-
Stage 1	-	-	-	-	801	-
Stage 2	-	-	-	-	601	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.6	11.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	762	-	-	1321	-
HCM Lane V/C Ratio	0.241	-	-	0.12	-
HCM Control Delay (s)	11.2	-	-	8.1	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.9	-	-	0.4	-

TRAFFIC VOLUME WORKSHEETS

18-189 Ashwood Restaurant Park, Ashford Dunwoody, Georgia

Traffic Volumes

A&R Engineering
April 2019

1. Ashford Dunwoody @ Meadow Ln

A.M. Peak Hour

Condition	Ashford Dunwoody Road **Northbound**				Ashford Dunwoody Road **Southbound**				Meadow Lane **Eastbound**				Meadow Lane **Westbound**			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2018 Volumes:	159	464	71	694	84	1263	431	1778	68	55	55	178	46	106	38	190
Growth Factor (%):	1	1	1		1	1	1		1	1	1		1	1	1	
No-Build 2020 Volumes:	162	473	72	707	86	1288	440	1814	69	56	56	181	47	108	39	194
Total New Trips:	25	25	0	50	7	20	13	40	11	7	20	38	0	8	8	16
Pass-by Trips:	14	-14	0	0	0	-36	36	0	14	0	36	50	0	0	0	0
Future 2020 Traffic Volumes:	201	484	72	757	93	1272	489	1854	94	63	112	269	47	116	47	210

P.M. Peak Hour

Condition	Ashford Dunwoody Road **Northbound**				Ashford Dunwoody Road **Southbound**				Meadow Lane **Eastbound**				Meadow Lane **Westbound**			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2018 Volumes:	120	1813	131	2064	117	399	176	692	1045	291	62	1398	171	206	367	744
Growth Factor (%):	1	1	1		1	1	1		1	1	1		1	1	1	
No-Build 2020 Volumes:	122	1849	134	2105	119	407	180	706	1066	297	63	1426	174	210	374	758
Total New Trips:	24	24	0	48	10	30	13	53	16	10	30	56	0	8	8	16
Pass-by Trips:	56	-56	0	0	0	-9	9	0	56	0	9	65	0	0	0	0
Future 2020 Traffic Volumes:	202	1817	134	2153	129	428	202	759	1138	307	102	1547	174	218	382	774

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Traffic Volumes

A&R Engineering
April 2019

2. Ashford Dunwoody @ Ashwood

A.M. Peak Hour

	Ashford Dunwoody Road **Northbound**				Ashford Dunwoody Road **Southbound**				Ashwood Parkway **Eastbound**				Ashford Parkway **Westbound**			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2018 Volumes:	53	395	24	472	71	1272	75	1418	16	2	22	40	53	9	37	99
Growth Factor (%):	1	1	1		1	1	1		1	1	1		1	1	1	
No-Build 2020 Volumes:	54	403	24	481	72	1298	77	1447	16	2	22	40	54	9	38	101
Total New Trips:	33	9	1	43	0	12	46	58	38	5	27	70	2	7	0	9
Pass-by Trips:	14	-14	0	0	0	-43	43	0	14	0	43	57	0	0	0	0
Future 2020 Traffic Volumes:	101	398	25	524	72	1267	166	1505	68	7	92	167	56	16	38	110

P.M. Peak Hour

	Ashford Dunwoody Road **Northbound**				Ashford Dunwoody Road **Southbound**				Ashwood Parkway **Eastbound**				Ashford Parkway **Westbound**			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2018 Volumes:	23	2491	71	2585	134	433	19	586	138	9	46	193	34	12	167	213
Growth Factor (%):	1	1	1		1	1	1		1	1	1		1	1	1	
No-Build 2020 Volumes:	23	2541	72	2636	137	442	19	598	141	9	47	197	35	12	170	217
Total New Trips:	32	14	2	48	0	11	45	56	55	8	39	102	2	6	0	8
Pass-by Trips:	56	-56	0	0	0	-19	19	0	56	0	19	75	0	0	0	0
Future 2020 Traffic Volumes:	111	2499	74	2684	137	434	83	654	252	17	105	374	37	18	170	225

18-189 Ashwood Restaurant Park, Ashford Dunwoody, Georgia

Traffic Volumes

A&R Engineering
April 2019

3. Ashwood @ Site Drwy 2

A.M. Peak Hour

Condition	Site Driveway 2 Northbound					- Southbound					Ashwood Parkway Eastbound					Ashwood Parkway Westbound			
	L	T	R	Tot		L	T	R	Tot		L	T	R	Tot		L	T	R	Tot
Existing 2018 Volumes:	9	0	2	11		0	0	0	0		0	38	0	38		19	116	0	135
Growth Factor (%):	1	1	1			1	1	1			1	1	1			1	1	1	
No-Build 2020 Volumes:	9	0	2	11		0	0	0	0		0	39	0	39		19	118	0	137
Total New Trips:	2	0	5	7		0	0	0	0		0	15	1	16		17	4	0	21
Pass-by Trips:	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0
Future 2020 Traffic Volumes:	11	0	7	18		0	0	0	0		0	54	1	55		36	122	0	158

P.M. Peak Hour

Condition	Site Driveway 2 Northbound					- Southbound					Ashwood Parkway Eastbound					Ashwood Parkway Westbound			
	L	T	R	Tot		L	T	R	Tot		L	T	R	Tot		L	T	R	Tot
Existing 2018 Volumes:	6	0	53	59		0	0	0	0		0	126	5	131		9	36	0	45
Growth Factor (%):	1	1	1			1	1	1			1	1	1			1	1	1	
No-Build 2020 Volumes:	6	0	54	60		0	0	0	0		0	129	5	134		9	37	0	46
Total New Trips:	3	0	8	11		0	0	0	0		0	20	1	21		16	4	0	20
Pass-by Trips:	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0
Future 2020 Traffic Volumes:	9	0	62	71		0	0	0	0		0	149	6	155		25	41	0	66

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Traffic Volumes

A&R Engineering
April 2019

4. Meadow Ln @ Private Rd

A.M. Peak Hour

Condition	Perimeter Center Place Northbound				Private Road Southbound				Meadow Lane Eastbound				Meadow Lane Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2018 Volumes:	15	3	41	59	2	4	16	22	11	130	17	158	202	463	5	670
Growth Factor (%):	1	1	1		1	1	1		1	1	1		1	1	1	
No-Build 2020 Volumes:	15	3	42	60	2	4	16	22	11	133	17	161	206	472	5	683
Total New Trips:	0	8	0	8	38	7	14	59	17	0	0	17	0	0	46	46
Pass-by Trips:	0	0	0	0	57	0	7	64	7	-7	0	0	0	-7	58	51
Future 2020 Traffic Volumes:	15	11	42	68	97	11	37	145	35	126	17	178	206	465	109	780

P.M. Peak Hour

Condition	Perimeter Center Place Northbound				Private Road Southbound				Meadow Lane Eastbound				Meadow Lane Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2018 Volumes:	68	31	385	484	4	8	15	27	47	620	19	686	155	296	19	470
Growth Factor (%):	1	1	1		1	1	1		1	1	1		1	1	1	
No-Build 2020 Volumes:	69	32	393	494	4	8	15	27	48	632	19	699	158	302	19	479
Total New Trips:	0	8	0	8	55	10	20	85	16	0	0	16	0	0	45	45
Pass-by Trips:	0	0	0	0	84	0	9	93	19	-19	0	0	0	-9	74	65
Future 2020 Traffic Volumes:	69	40	393	502	143	18	44	205	83	613	19	715	158	293	138	589

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Traffic Volumes

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5. Ashwood @ Private Rd

A.M. Peak Hour

	Private Road Northbound					Private Driveway Southbound					Ashwood Parkway Eastbound					Ashwood Parkway Westbound			
Condition	L	T	R	Tot		L	T	R	Tot		L	T	R	Tot		L	T	R	Tot
Existing 2018 Volumes:	0	0	0	0		0	0	0	0		0	38	0	38		0	125	0	125
Growth Factor (%):	1	1	1			1	1	1			1	1	1			1	1	1	
No-Build 2020 Volumes:	0	0	0	0		0	0	0	0		0	39	0	39		0	128	0	128
Total New Trips:	4	0	11	15		0	0	0	0		0	5	3	8		3	3	0	6
Pass-by Trips:	3	0	3	6		0	0	0	0		0	-3	3	0		3	-3	0	0
Future 2020 Traffic Volumes:	7	0	14	21		0	0	0	0		0	41	6	47		6	128	0	134

P.M. Peak Hour

	Private Road Northbound					Private Driveway Southbound					Ashwood Parkway Eastbound					Ashwood Parkway Westbound			
Condition	L	T	R	Tot		L	T	R	Tot		L	T	R	Tot		L	T	R	Tot
Existing 2018 Volumes:	0	0	0	0		0	0	0	0		0	131	0	131		0	42	0	42
Growth Factor (%):	1	1	1			1	1	1			1	1	1			1	1	1	
No-Build 2020 Volumes:	0	0	0	0		0	0	0	0		0	134	0	134		0	43	0	43
Total New Trips:	6	0	16	22		0	0	0	0		0	5	3	8		3	4	0	7
Pass-by Trips:	2	0	2	4		0	0	0	0		0	-2	2	0		2	-2	0	0
Future 2020 Traffic Volumes:	8	0	18	26		0	0	0	0		0	137	5	142		5	45	0	50

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Traffic Volumes

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6. Ashwood @ Site Drwy 1

A.M. Peak Hour

Condition	Site Driveway 1 Northbound				- Southbound				Ashwood Parkway Eastbound				Ashwood Parkway Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2018 Volumes:	0	0	0	0	0	0	0	0	0	40	0	40	0	137	0	137
Growth Factor (%):	1	1	1		1	1	1		1	1	1		1	1	1	
No-Build 2020 Volumes:	0	0	0	0	0	0	0	0	0	41	0	41	0	140	0	140
Total New Trips:	1	0	54	55	0	0	0	0	0	16	4	20	66	20	0	86
Pass-by Trips:	7	0	65	72	0	0	0	0	0	-9	9	0	65	-7	0	58
Future 2020 Traffic Volumes:	8	0	119	127	0	0	0	0	0	48	13	61	131	153	0	284

P.M. Peak Hour

Condition	Site Driveway 1 Northbound				- Southbound				Ashwood Parkway Eastbound				Ashwood Parkway Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2018 Volumes:	0	0	0	0	0	0	0	0	0	193	0	193	0	54	0	54
Growth Factor (%):	1	1	1		1	1	1		1	1	1		1	1	1	
No-Build 2020 Volumes:	0	0	0	0	0	0	0	0	0	197	0	197	0	55	0	55
Total New Trips:	1	0	79	80	0	0	0	0	0	24	4	28	64	19	0	83
Pass-by Trips:	7	0	82	89	0	0	0	0	0	-7	7	0	82	-7	0	75
Future 2020 Traffic Volumes:	8	0	161	169	0	0	0	0	0	214	11	225	146	67	0	213