

Dresden Drive Intersection Improvement Study - Update



Final Report | July 2022

This document is the **final report** as approved and adopted by the City of Brookhaven Mayor and City Council on July 26, 2022.





Dresden Drive Intersection Improvement Study - Update

Final Report

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- B. Traffic Study Technical Memorandum
- C. Public Opne Summaries and Comments

Chapter 1: Introduction

The City of Brookhaven has undertaken an operational and safety analysis for three intersections on Dresden Drive – Apple Valley Road, Ellijay Drive/Caldwell Road, and Clairmont Road – in order to identify improvements to help serve future projected vehicular traffic while providing safe and comfortable facilities for pedestrians, cyclists, and transit users. In addition to evaluating safety and operations at each of the intersections, the study has also assessed traffic calming options for streets that can be accessed from Caldwell Drive between Dresden Drive and Redding Road and from Ellijay Drive between Dresden Drive and Briarwood Road. The primary objectives of the study include the following:

- Evaluate existing traffic and safety conditions at the intersections.
- Evaluate the current operation of traffic signals for safety and efficiency.
- Evaluate pedestrian facilities (sidewalks and crosswalks) for safety and efficiency.
- Forecast future traffic based upon existing traffic and planned developments in the area.
- Recommend intersection improvements for optimal safety and traffic movement.
- Evaluate the neighborhoods north and south of Dresden Drive accessed from the Caldwell Road/Ellijay Drive intersections for impact of future traffic growth, and recommend additional or revised traffic calming measures.

The Dresden Drive Intersection Improvement Study is an outcome of the City's 2020 Comprehensive Transportation Plan (CTP) Update, which recommended a safety and operations analysis to identify specific improvements to reduce crashes and injuries and to improve operations at the intersections of Dresden Drive and Apple Valley Road, Ellijay Drive/Caldwell Road, and Clairmont Road. Part of the reason for conducting this study is the high level of pedestrian activity along portions of Dresden Drive, especially in the western portion of the corridor, around Village Place at Brookhaven and closer to the MARTA Station near Apple Valley Road.

The intersections at Apple Valley Road and Ellijay Drive/Caldwell Road both fall within the boundaries of the Peachtree Road Overlay (PRO) district and within the study area for the ongoing City Centre Master Plan. Recommendations for these intersections align with PRO requirements as well as findings and recommendations of the Master Plan, as appropriate. Per City Council direction on May 4, 2021, this Intersection Improvement Analysis does not consider an extension of Green Meadows Lane to Dresden Drive, nor does it consider a realignment of Ellijay Drive and Caldwell Road.

Process Overview

The City of Brookhaven issued a request for proposals in February 2021, seeking consultants to lead a study to accomplish the primary objectives as listed above. Multiple firms submitted proposals, and the City eventually selected Gresham Smith to conduct the study. The contract was approved by Brookhaven City Council on April 13, 2021.

Following feedback received during the fall of 2021, the scope of this study was expanded to refine the analysis, update the traffic study (including new traffic counts), develop updated recommendations and new considerations, and to hold two additional public meetings. Specifically, the study now includes consideration of additional intersections and roadway segments within the Brookhaven Fields and Ashford Park neighborhoods and of options for traffic calming beyond what is in place now on neighborhood streets due to possible increases in potential future traffic.

The study process began in May 2021 and is anticipated to wrap up in June 2022. The process was generally split into five phases including an existing conditions assessment, traffic study, public involvement, development of alternatives, and preparation of the final report and related deliverables, as shown in Figure 1. Public involvement

was ongoing throughout the course of the study and multiple public open houses were held to engage the broader community. The team also engaged the public through intercept surveys to gauge people walking in the area on their experiences with walking, bicycling, and driving in the vicinity of the study intersections.

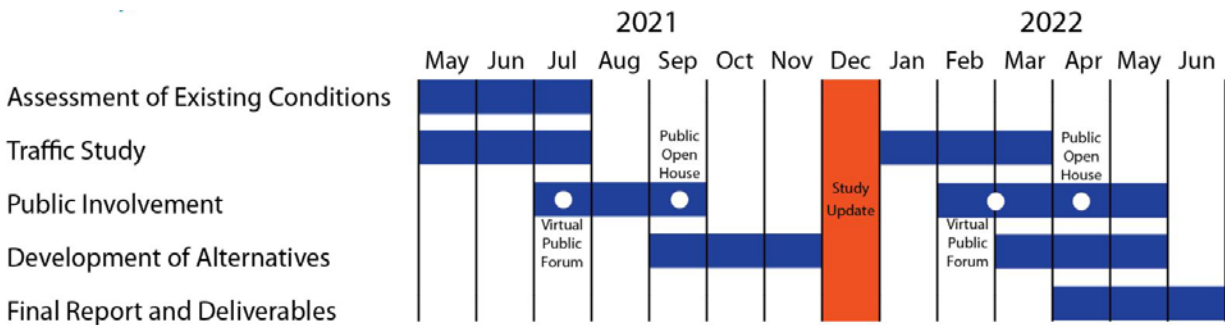


FIGURE 1: DRESDEN DRIVE INTERSECTION IMPROVEMENT STUDY PROCESS TIMELINE

As part of the scope revisions in Fall 2021, the study area was updated to include 21 intersection locations along Dresden Drive and the surrounding area, including the three original critical study intersections at Apple Valley Road, Ellijay Drive/Caldwell Road, and Clairmont Road. A fourth critical study intersection was added at Peachtree Road. Additionally, 22 roadway segments, including Dresden Drive, are included in the analysis. These individual intersections and roadway segments are discussed further in Chapter 3.

Location and Context Within Brookhaven

Dresden Drive is the primary east-west corridor connecting Peachtree Road (State Route (SR) 141) and Clairmont Road. The study area is along Dresden Drive between Peachtree Road (SR 141) to the west and the intersection with Clairmont Road to the east. In the adjacent neighborhoods, the roadways evaluated for revised traffic calming measures include Caldwell Drive between Dresden Drive and Redding Road, and Ellijay Drive/Coosawattee Drive between Dresden Drive and Briarwood Road. The focal points of the study are three critical intersections along Dresden Drive: Apple Valley Road, Caldwell Road/Ellijay Drive and Clairmont Road. As part of the scope revisions, a fourth critical intersection was added at Peachtree Road. The intersections at Peachtree Road, Apple Valley Road, and Ellijay Drive/Caldwell Road each fall within the boundaries of the ongoing City Centre Master Plan. Recommendations for these intersections may be considered for implementation as part of the Master Plan as appropriate. Figure 2 shows the location of Dresden Drive and the critical study intersections within the context of the City of Brookhaven. Figure 3 shows a map of the Dresden Drive corridor with the critical study intersections.

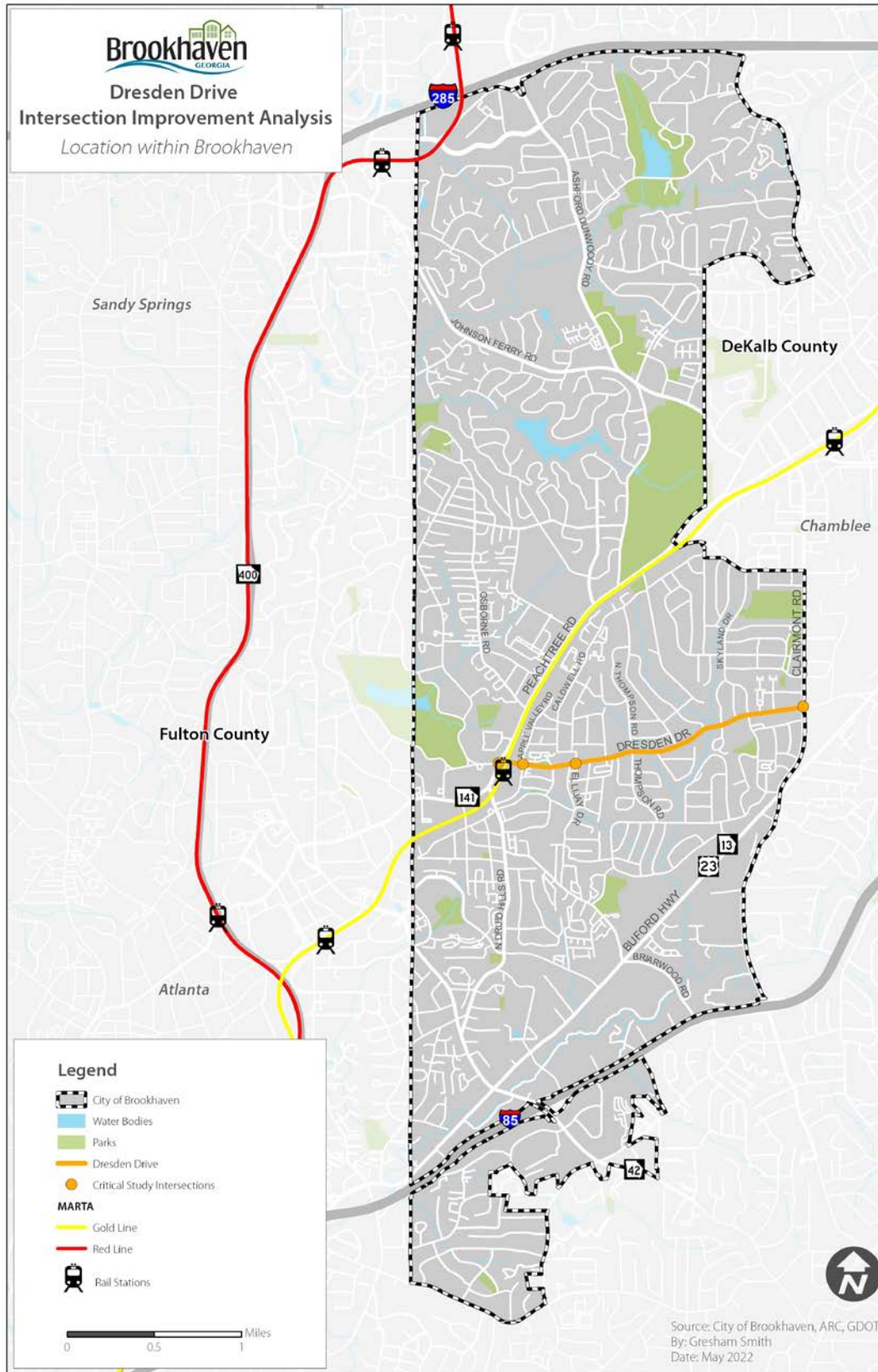


FIGURE 2: LOCATION OF DRESDEN DRIVE WITHIN THE CITY OF BROOKHAVEN

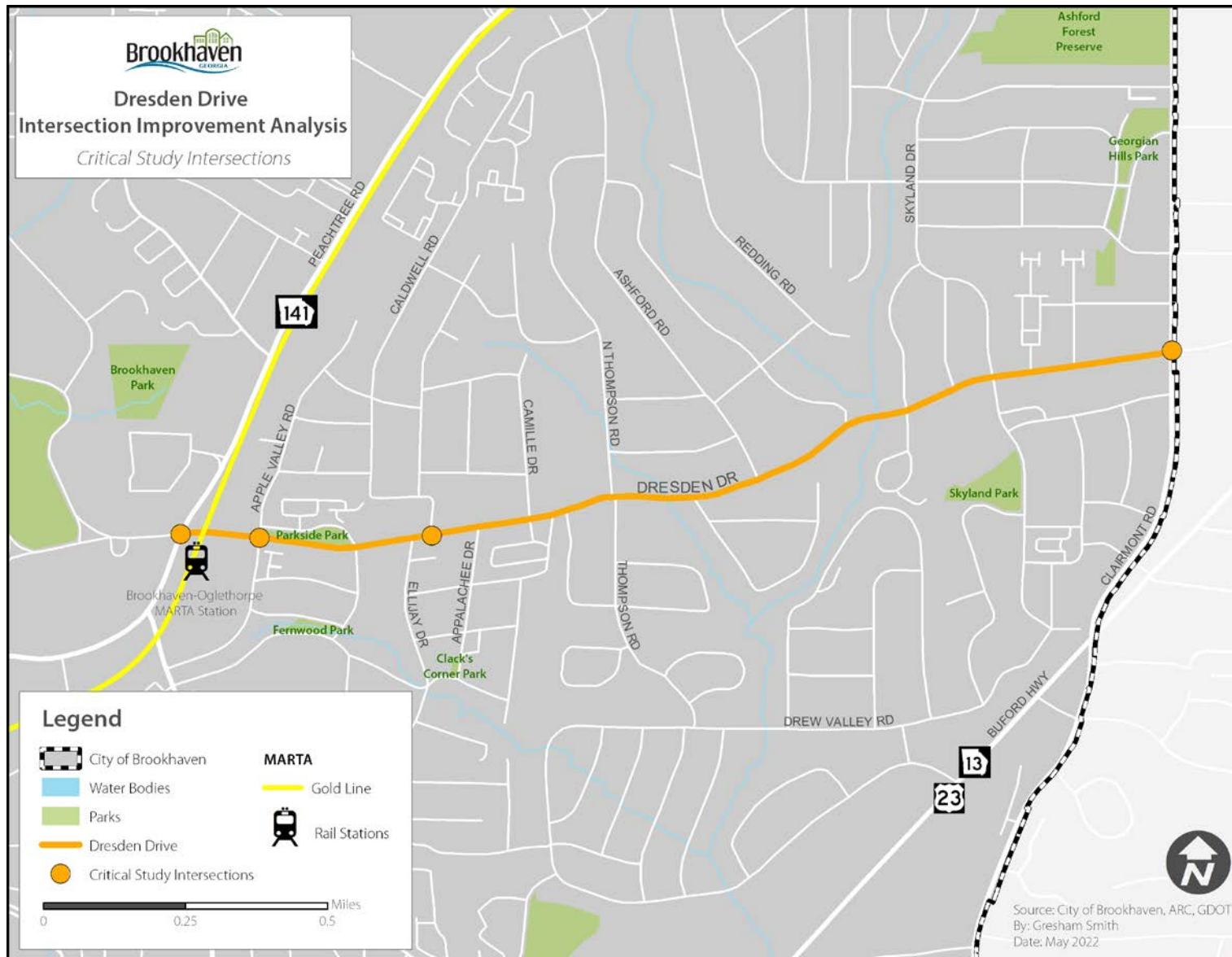


FIGURE 3: DRESDEN DRIVE INTERSECTION IMPROVEMENT STUDY CRITICAL STUDY INTERSECTIONS

Relationship to Other Planning Initiatives

As previously mentioned, this Intersection Improvement Analysis was recommended as part of the 2020 CTP Update that was adopted by the Mayor and City Council on October 13, 2020. Completed nearly six years after adoption of the initial CTP, the purpose of this update was to take stock of progress in developing the City's transportation system and implementing previous transportation plans, identify current transportation needs, and assess how the City should prioritize resources. The CTP Update revealed that the three intersections along Dresden Drive at Apple Valley Road, Caldwell Road/Ellijay Drive, and Clairmont Road should be studied further for safety and operational improvements. This is supported by the following findings from the CTP Update:

- The intersection of Dresden Drive and Clairmont Road was already recommended for \$65,000 of intersection improvements based on the Clairmont Road Special Area Plan (2019).
- Dresden Drive's intersections with Apple Valley Road and Caldwell Road are both within the boundaries of the ongoing City Centre Master Plan.
- In the existing year conditions (2017), Dresden Drive carried 12,650 AADT between Peachtree Road (SR 141) and Clairmont Road and operated at LOS E. By 2050, daily traffic volume along Dresden Drive is projected to increase to 14,950 AADT, and the roadway will continue to operate at LOS E if no improvements are made.
- Each of the three study intersections in the Intersection Improvement Analysis were found to have had at least ten reported crashes annually over the past five years, at least five injury crashes within the past five years, or at least one fatal crash in the past five years.

Brookhaven's Bicycle, Pedestrian & Trail Plan (BPTP) was adopted by the Mayor and City Council in April 2016 to create a more balanced transportation network by increasing access to pedestrian and bicycle facilities. The CTP Update project team examined overlap among recommendations from the BPTP. For example, several projects recommended filling sidewalk gaps in the short-term and then expanding sidewalk to a multi-use path along the same segment in the long-term timeframe. In cases like this, the City chose to prioritize the long-term projects over short- and medium-term projects in order to achieve the BPTP's goals and vision more expeditiously and being mindful of limited financial resources. This resulted in the combining of projects, or some short-term projects being "superseded" by longer-term projects to reflect the City's priorities. One such project affected by this re-evaluation of recommendations was Project 112-ST. This short-term project called for adding sidewalk to the north and west sides of Apple Valley Road between North Druid Hills Road and Caldwell Road. In the CTP Update, it was combined with and superseded by Project 112-LT, which upgrades sidewalks to multi-use path.

Since the BPTP was adopted, the City has made progress in implementing recommendations through the City's Sidewalk and Traffic Calming programs. Other recommendations have been incorporated into the City's Sidewalk/MUP Master Plan. Many of the sidewalks and multi-use path projects that are being considered by the City include recommendations stemming from this plan. Recommended BPTP projects relevant to the Dresden Drive Intersection Improvement Study are listed in Table 1.

TABLE 1: BPTP PROJECTS AT DRESDEN DRIVE INTERSECTIONS

Project ID	Project Name	Description	Status
112-ST	Apple Valley Road	Add sidewalk to north/west	Superseded by Project 112-LT through 2020 CTP Update
112-LT	Apple Valley Road	Add multi-use path to north/west	In Progress – Included in Sidewalk/MUP Master Plan (Project #2)
114-MT	Dresden Drive (east of Thompson Road)	Fill in gaps and widen sidewalk to multi-use path along south side	Sidewalk gaps filled in 2017; to be widened to multi-use path as redevelopment occurs; also in Sidewalk/MUP Master Plan (Project #17)
155-ST	Ellijay Drive/ Coosawattee Drive	Fill in sidewalk gaps, add sharrows, and improve crossings	In Progress – Sidewalk gaps filled in 2017. The 2020 CTP Update recommends sharrows should be installed.
160-MT	Dresden Drive (west of Thompson Road)	Wide sidewalks along south side, add bicycle lanes (as width allows)	In Progress - Multi-use path included in City Sidewalk/MUP Master Plan (Project #18)

In addition to reviewing previously completed plans and studies, the project team collaborated with the City Centre Master Plan project team, which is currently ongoing and is scheduled to conclude in 2021. The project team aligned recommendations with what is expected to be the result of the transportation analysis component of the City Centre Master Plan.

Chapter 2: Existing Conditions

As a component of the Dresden Drive Intersection Improvement Study, the project team conducted an assessment of existing conditions at the three original critical study intersections along Dresden Drive (at Apple Valley Road, Ellijay Drive/Caldwell Road, and Clairmont Road). To prepare this assessment, the project team collected data from the City of Brookhaven, the Atlanta Regional Commission (ARC), the Georgia Department of Transportation (GDOT), and other relevant agencies; conducted a field visit; used online mapping tools; and reviewed previously completed plans and studies to identify recommendations for transportation or related projects at the three study intersections. The Existing Conditions Technical Memorandum included the following components which are summarized in this chapter and included in Appendix A.

- **Prior Plan Review:** This section summarizes findings and recommendations from a review of relevant city, county, and regional plans and studies.
- **Land Use, Zoning and Character Areas:** This section describes overarching characteristics of areas along and adjacent to each critical study intersection with regard to current land use, zoning, and character areas as described in the City's Comprehensive Plan and known activity centers or points of interest.
- **Pending and Planned Development:** This section provides a high-level summary of new development and redevelopment projects that are currently underway in the study area that may have an impact on future vehicular and non-motorized traffic at the critical study intersections.
- **Pedestrian and Bicycle Facilities:** This section provides an inventory of existing and planned sidewalks, crosswalks, and bicycle facilities at each critical study intersection.
- **Transit Network and Facilities:** This section provides an overview of bus and rail service available in the study area, including routes, service hours, and frequency.
- **Programmed Transportation Projects:** This section provides a high-level overview of transportation projects along Dresden Drive, as well as Apple Valley Road, Ellijay Drive/Caldwell Road, and Clairmont Road, that are either already in progress or likely to begin in the near term. The section includes an assessment of how these projects may impact vehicular and pedestrian traffic at the study intersections.
- **Intersection Characteristics:** This section provides an overview of each study intersection, including lane configuration, posted speed limit, configuration of lanes, and functional classification of the intersecting roadways, among other characteristics.
- **Traffic Calming Districts and Devices:** This section provides an overview of traffic calming districts along Dresden Drive and the traffic calming devices located within each district.
- **Environmental Screening:** This section summarizes the findings from a high-level analysis of ecological, archaeological, and historical resources present along the study corridor.

Intersection Characteristics

DRESDEN DRIVE AT APPLE VALLEY ROAD

Dresden Drive at Apple Valley Road is a two-lane roadway with nine- to ten-foot travel lanes. The east leg of the intersection includes a two-way left-turn lane in the westbound direction. The west leg of the intersection includes a left-turn lane and a right-turn lane in the eastbound direction. Apple Valley Road is a two-lane roadway with ten-foot travel lanes. The south leg has only a left-turn lane while the north leg has a through/left-turn lane and a right-turn lane. Right-of-way width ranges from 40 to 55 feet along Dresden Drive and from 40 to 60 feet along Apple Valley Road. The speed limit is 35 miles per hour (MPH) along Dresden Drive and 25 MPH along Apple Valley Road.

The signals are mounted on mast arms and there are no protected phases for turning vehicles. Each leg of the intersection has a marked crosswalk with pedestrian signals. All four corners of the intersection have ADA-compliant curb ramps. Sidewalk widths vary between four feet and eight feet at this intersection, with the widest sidewalks southeast of the intersection corresponding to the recently completed Bramley Park development. The north side of Dresden Drive east of the intersection and the east side of Apple Valley Road north of the intersection lack continuous sidewalk adjacent to Parkside Park. Lighting exists primarily in the southeast corner of the intersection adjacent to the Bramley Park development. These intersection features are summarized in Table 2 below and depicted in Figure 4 on page 9.

TABLE 2: APPLE VALLEY ROAD INTERSECTION CHARACTERISTICS

Characteristic	Description
Intersection Type	Conventional, 4-legged
Signal Mount	Mast arms
Signal Phasing	Permissive only
Lane Configuration	North Leg (Apple Valley Road): Northbound through lane and southbound through/left-turn and right-turn lanes South Leg (Apple Valley Road): 2 through lanes (one each direction) and left-turn lane East Leg (Dresden Drive): 2 through lanes (one each direction) and left-turn lane West Leg (Dresden Drive): 2 through lanes (one each direction), left-turn lane, and right-turn lane
Lane Width	Dresden Drive: 9- to 10-foot travel lanes Apple Valley Road: 10-foot travel lanes
Speed Limit (mph)	Dresden Drive: 35 MPH Apple Valley Road: 25 MPH
Sidewalk Present?	Dresden Drive: Yes, except on north side of the road east of the intersection Apple Valley Road: Yes, but sidewalk on the west side ends south of the intersection and there is a gap on the east side between Dresden Drive and Parkside Drive
Sidewalk Width	Dresden Drive: 4 to 8 feet; widest sidewalk at Bramley Park development Apple Valley Road: 4 to 8 feet; widest sidewalk at Bramley Park development
Crosswalks	Yes, on all 4 legs
Curb Ramp	Yes, on all corners
Lighting Present	Yes, primarily in the southeast corner of the intersection
ROW	Dresden Drive: 40 to 55 feet Apple Valley Road: 40 to 60 feet



FIGURE 4: APPLE VALLEY ROAD INTERSECTION NOTES AND OBSERVATIONS

DRESDEN DRIVE AT ELLIJAY DRIVE/CALDWELL ROAD

Dresden Drive at Ellijay Drive/Caldwell Road is an offset intersection that operates from one signal controller. The west leg of Dresden Drive at the Ellijay Drive intersection is a two-lane roadway with nine-foot lanes and a two-way left-turn lane ending in a median at Ellijay Drive. Between Ellijay Drive and Caldwell Road, Dresden Drive is a two-lane roadway with ten-foot lanes and a two-way left-turn lane. The east leg of Dresden Drive has two 11-foot travel lanes with a two-way left-turn lane. Ellijay Drive has two 12-foot travel lanes, and Caldwell Road has two nine-foot travel lanes with on-street parking in the northbound direction adjacent to Village Place. Right-of-way width ranges from 55 to 80 feet along Dresden Drive, from 40 to 50 feet along Ellijay Drive, and from 35 to 40 feet along Caldwell Road. The speed limit is 35 MPH along Dresden Drive and 25 MPH along Ellijay Drive and Caldwell Road.

The signals are mounted on span wire. While westbound left-turns at Ellijay Drive and eastbound left-turns at Caldwell Road have protected-permissive signals, the left-turn signals do not always activate when vehicles are present. The intersection has locations where crosswalk markings and pedestrian signals are absent. The Ellijay Drive intersection does not have crosswalks or pedestrian signals across Dresden Drive. Only the southwest and southeast corners of the intersection at Ellijay Drive have curb ramps, but the southeast corner curb ramp is too narrow for a wheelchair to pass through. All four legs of the Caldwell Road intersection have crosswalk markings, but pedestrian signals are absent on the east and south legs of the intersection. All four corners of the Caldwell Road intersection have ADA-compliant curb ramps, but the curb ramp and markings at the northwest corner of the intersection do not align. Sidewalk widths vary between four and eight feet with the widest sidewalks northeast and southwest of the intersection at Village Place and @1377 Apartments, respectively. The north side of Dresden Drive west of Caldwell Road does not have sidewalk. Lighting exists primarily in the southwest corner of the intersection in correspondence with the @1377 apartment complex. These intersection features are summarized in Table 3 below and depicted in Figure 5 on page 11.

TABLE 3: ELLIJAY DRIVE/CALDWELL ROAD INTERSECTION CHARACTERISTICS

Characteristic	Description
Intersection Type	Offset; 3-legged at Ellijay Drive; 4-legged at Caldwell Road
Signal Mount	Span wire
Signal Phasing	Protected and permissive left-turns onto Ellijay Drive and Caldwell Road
Lane Configuration	North Leg (Caldwell Road): 2 through lanes (1 each direction) South Leg (Ellijay Drive): 2 through lanes (1 each direction) East Leg (Dresden Drive): 2 through lanes (one each direction) and left-turn lane West Leg (Dresden Drive): 2 through lanes (one each direction) and painted median
Lane Width	Dresden Drive: 9- to 11-foot travel lanes Ellijay Drive: 12-foot travel lanes Caldwell Road: 9-foot travel lanes
Speed Limit (mph)	Dresden Drive: 35 MPH Ellijay Drive and Caldwell Road: 25 MPH
Sidewalk Present?	Dresden Drive: Yes, except on north side of road west of Caldwell Road Ellijay Drive and Caldwell Road: Yes, on both sides
Sidewalk Width	4 to 8 feet; widest sidewalk at Village Place and @1377 Apartments
Crosswalks	Yes, but only on the south leg at Ellijay Drive; all 4 legs at Caldwell Road
Curb Ramp	Yes, but only on SW and SE corners at Ellijay Drive; curb present on all corners at Caldwell Road
Lighting Present	Yes, primarily in the southwest corner of the intersection
ROW	Dresden Drive: 55 to 80 feet Ellijay Drive: 40 to 50 feet Caldwell Road: 35 to 40 feet



FIGURE 5: ELLIJAY DRIVE/CALDWELL ROAD INTERSECTION NOTES AND OBSERVATIONS

DRESDEN DRIVE AT CLAIMONT ROAD

Dresden Drive at Clairmont Road is a four-lane roadway with 12-foot travel lanes and a left-turn lane in both the west and east legs of the intersection. The west leg of the intersection also has a right-turn lane. On either side of Clairmont Road, there is a right lane drop along Dresden Drive in which the outer right lane becomes right-turn lanes into businesses and Archway Drive for the east and west legs, respectively. Clairmont Road is a five-lane roadway with two 12-foot travel lanes and a center left-turn lane in the north and south legs of the intersection. Right-of-way width ranges from 75 to 95 feet along Dresden Drive and from 70 to 100 feet along Clairmont Road. The speed limit is 35 MPH along Dresden Drive and 40 MPH along Clairmont Road.

The signals are mounted on mast arms and each leg has protected-permissive phasing for left-turning vehicles. Each leg of the intersection has a marked crosswalk with pedestrian signals. All four corners of the intersection have ADA-compliant curb ramps. Sidewalk widths vary between four feet and eight feet at this intersection with the widest sidewalks northwest of the intersection at the RaceTrac gas station and at the MARTA bus shelter. West and east of the intersection, the sidewalk on Dresden Drive is not continuous. Lighting exists only in the northwest corner of the intersection with one street light pole in this location. These intersection features are summarized in Table 4 below and depicted in Figure 6 on page 13.

TABLE 4: CLAIMONT ROAD INTERSECTION CHARACTERISTICS

Characteristic	Description
Intersection Type	Conventional, 4-legged
Signal Mount	Mast arms
Signal Phasing	Protected and permissive left-turns on all legs
Lane Configuration	North Leg (Clairmont Road): 4 through lanes (2 each direction) and left-turn lane South Leg (Clairmont Road): 4 through lanes (2 each direction) and left-turn lane East Leg (Dresden Drive): 4 through lanes (2 each direction; right lane drop east of intersection and becomes turn lane into business) and left-turn lane West Leg (Dresden Drive): 2 through lanes (1 each direction), eastbound right-turn lane and left-turn lane, and westbound right-turn lane to Archway Drive
Lane Width	Dresden Drive: 12-foot travel lanes Clairmont Road: 12-foot travel lanes
Speed Limit (mph)	Dresden Drive: 35 MPH Clairmont Road: 40 MPH
Sidewalk Present?	Dresden Drive: Yes, but not continuous on either side of intersection Clairmont Road: Yes, on both sides
Sidewalk Width	Dresden Drive: 4 to 6 feet Clairmont Road: 4 to 8 feet; widest sidewalk at MARTA bus shelter
Crosswalks	Yes, on all four legs
Curb Ramp	Yes, on all corners
Lighting Present	Yes, in northwest corner of intersection
ROW	Dresden Drive: 75 to 95 feet Clairmont Road: 70 to 100 feet



FIGURE 6: CLAIRMONT ROAD INTERSECTION NOTES AND OBSERVATIONS

Prior Plan Review

The project team reviewed previously completed plans and studies relevant to the study area, focusing on identified issues, opportunities, and recommendations related to Dresden Drive and the three critical study intersections. Appendix A summarizes each plan or study the project team reviewed as part of this Intersection Improvement Analysis. The project team reviewed the following plans and studies:

- **City of Brookhaven Comprehensive Transportation Plan (2014):** Brookhaven’s first Comprehensive Transportation Plan (CTP) was adopted in 2014. As the City’s first-ever CTP, it establishes a long-term, multimodal transportation vision for the City. The plan identifies needs and deficiencies in the transportation network and presents a series of recommendations to improve the transportation system in the short-term, mid-term, and long-term.
- **City of Brookhaven Comprehensive Parks and Recreation Master Plan (2014):** The City’s Parks and Recreation Master Plan was developed as the City took over operation of parks within the City limits from DeKalb County. The plan was adopted on September 9, 2014 by City Council. It includes a community profile, summary of demographics, a needs assessment, and recommendations for park programming, site-specific park facilities, and the development of a citywide greenway.
- **DeKalb County Comprehensive Transportation Plan (2014):** In 2014, DeKalb County adopted a countywide Transportation Plan that identifies transportation investment priorities for the next 25 years, including within the City of Brookhaven. The Plan is currently being updated as the DeKalb County 2050 Unified Plan Update, which kicked off in April 2021.
- **City of Brookhaven Bicycle, Pedestrian and Trail Plan (2016):** Brookhaven’s Bicycle, Pedestrian & Trail Plan (BPTP) was adopted by City Council in April 2016 to create a more balanced transportation network by increasing access to pedestrian and bicycle facilities. The BPTP lists a series of recommended short- (ST), mid- (MT), and long-term (LT) projects. During the 2020 CTP Update, some projects were combined or superseded based on the City’s preference to advance long-term projects over short-term projects.
- **Brookhaven-Peachtree Livable Centers Initiative (LCI) (2016):** Completed in December 2016, the Brookhaven-Peachtree Livable Centers Initiative (LCI) Study Ten-Year Implementation Strategy Update is a ten-year update to the original LCI plan that envisions the Peachtree Road (SR 141) corridor’s future as a mixed-use and pedestrian-oriented center. The LCI Study includes recommendations that address economic development, redevelopment opportunities, and quality of life.
- **City of Brookhaven Transportation and Streetscape Improvements Traffic Engineering Study (2017):** In 2017, the City of Brookhaven commissioned a traffic study that focuses on using existing and future traffic data to determine appropriate transportation improvements along several segments of roadway and several key intersections. The limits of the study include Dresden Drive from Peachtree Road (SR 141) to Clairmont Road, including the three critical study intersections.
- **Clairmont Road Special Area Plan (2019):** In 2019, the City’s Community Development department completed a special area plan for the Clairmont Road corridor between Buford Highway (SR 13) and DeKalb-Peachtree Airport near 8th Street, including the Dresden Drive intersection. The City of Chamblee was a partner in this study which establishes a vision for the Clairmont Road corridor and offers recommendations intended to make the corridor more pedestrian- and bicycle-friendly.
- **City of Brookhaven Comprehensive Transportation Plan Update (2020):** In 2020, the City of Brookhaven updated its CTP, nearly six years after adoption of the initial CTP. The purpose of this update was to take stock of progress in developing the City’s transportation system and implementing previous transportation plans, identify current transportation needs, and assess how the City should prioritize resources. The CTP Update was adopted by City Council on October 13, 2020. The CTP revealed that the three intersections along Dresden Drive at Apple Valley Road, Caldwell Road/Ellijay Drive, and Clairmont Road should be studied further for safety and operational improvements and is the catalyst for this Intersection Improvement Analysis.

- **Atlanta Region's Plan - Regional Transportation Plan (2021):** The Atlanta Region's Plan was developed by ARC for the 20-County Atlanta Metro area and includes a number of long-range plans and components, including a comprehensive Regional Transportation Plan (RTP). The RTP, approved in February 2020 and most recently modified in April 2021, focuses on current transportation conditions as well as strategies, investments, and trends that will impact the Atlanta region's transportation network in the long-term future through 2050.

Land Use, Zoning, and Character Areas

POINTS OF INTEREST

Dresden Drive provides access extending from Historic Brookhaven west of Peachtree Road (SR 141) to Chamblee-Tucker Road in the City of Chamblee. The following points of interest are near the study intersections:

- Apple Valley Road
 - **Parks:** Parkside Park, Fernwood Park
 - **Transit:** Brookhaven-Oglethorpe MARTA Station
 - **Neighborhoods:** Ashford Park, Brookhaven Fields
 - **Townhomes/Apartment Complexes:** Bramley Park, ARIUM, Brookhaven Township
 - **Other:** North Druid Hills Road (which can then be used to access I-85)
- Ellijay Drive/Caldwell Road
 - **Shopping:** Village Place Brookhaven
 - **Neighborhoods:** Ashford Park, Brookhaven Fields
 - **Townhomes/Apartment Complexes:** @1377 Apartments, Towne Estates
- Clairmont Road
 - **Shopping:** Plaza Fiesta and other commercial venues along Buford Highway (US 23/SR 13)
 - **Parks:** Georgian Hills Park
 - **Neighborhoods:** Ashford Park, Skyland
 - **Other:** DeKalb-Peachtree Airport and I-85

CHARACTER AREAS

The Dresden Drive corridor straddles several character areas within Brookhaven, including the Peachtree Corridor Overlay District and Ashford Park-Drew Valley. Additionally, the intersection of Dresden Drive and Clairmont Road falls within two City of Chamblee character areas, Airport and Buford/Clairmont, due to its more commercial and arterial street environment. A common theme among most of these character areas is a future vision for a more walkable environment with pedestrian-friendly development patterns and features that support a mix of uses. The Apple Valley Road and Ellijay Drive/Caldwell Road intersections align with the Brookhaven-Peachtree LCI's goals to support multimodal transportation and offer features such as tree-lined sidewalks, bicycle infrastructure, and an interconnected street network.

ZONING & PEACHTREE ROAD OVERLAY DISTRICT

The zoning classifications currently designated for parcels along the Dresden Drive corridor are in keeping with the general characteristics of the character areas, with single- and multi-family residential zoning dominating the study area. The intersections of Apple Valley Road and Ellijay Drive/Caldwell Road are zoned as Peachtree Road-2 (PR-2), which advances policies and objectives for the Peachtree Road Overlay (PRO) District as well as from the Brookhaven-Peachtree LCI and promotes a mix of uses that are walkable and inviting. PR-2 also stipulates the construction of sidewalks within public right-of-way to accompany new development.

The PRO stipulates both landscape buffer zones and pedestrian zones along public right-of-way. The landscape buffer zone starts at the back of the curb and extends inward toward a given parcel. It is intended to accommodate

trees, plants, street furniture, lights, trash receptacles, and similar elements. With respect to streetscape elements, street trees should have a minimum of 3.5 inches in caliper and spaced at a distance of at least 30 feet on center or as approved by the City arborist. Benches, trash receptacles, and bike racks should be placed at a ratio of one each per 300 feet of frontage. The pedestrian buffer zone is typically sidewalk or multi-use path and starts at the inner edge of the landscape zone and extends inward to accommodate unimpeded pedestrian movement. Along Dresden Drive and Apple Valley Road, landscape buffer zones are required to be six to 12 feet wide and pedestrian zones (i.e. sidewalks or multi-use paths) are required to be between eight to 13 feet wide.¹ The area surrounding the Clairmont Road intersection is primarily general and local commercial. Dresden Drive west of the Clairmont Road intersection is primarily single-family residential, while Dresden Drive east of commercial parcels abutting Clairmont Road is zoned as Airport (A) by the City of Chamblee, due to proximity to DeKalb-Peachtree Airport.

Multimodal Facilities

BICYCLE FACILITIES

There are currently no dedicated on-road bicycle facilities along Dresden Drive within the study area. However, there are wide shoulders on select segments of Dresden Drive that are sometimes used by on-road cyclists, including eastbound between Apple Valley Road and Ellijay Drive and in both directions east of Caldwell Road and Camille Drive. The wide shoulders are not continuous through the Ellijay Drive/Caldwell Road intersection. There are also sharrows along Apple Valley Road to the north of the Dresden Drive intersection. The City's BPTP recommends several bicycle-related projects along the study corridor and adjacent roadways, including multi-use paths and shared bicycle/roadway lanes, known as "sharrows." Multiple bicycle and pedestrian projects were proposed as part of the BPTP within the vicinity of the study intersections.

PEDESTRIAN FACILITIES

Pedestrian facilities include sidewalks, crosswalks, pedestrian signals, and similar infrastructure along streets and within the public right-of-way. The study intersections include some pedestrian facilities, but are missing some features that would facilitate safe and comfortable access to destinations in the study area. Locations where pedestrian facilities are missing include the following:

- At the Apple Valley Road intersection, there is no sidewalk on the north side of Dresden Drive east of the intersection, nor is there sidewalk on the west side of Apple Valley Road south of Dresden Drive and on the east side of Apple Valley Road north of Dresden Drive.
- The portion of Dresden Drive between Apple Valley Road and Caldwell Road does not currently have sidewalk facilities on the north side of the road, including within Parkside Park.
- At the Ellijay Drive/Caldwell Road intersection, there is no sidewalk on the north side of Dresden Drive.
- At the Clairmont Road intersection, the south side of Dresden Drive does not have sidewalk between Skyland Drive and Clairmont Road.

At the Apple Valley Road intersection, sidewalk widths range from four to ten feet with the lowest width in the west and north legs of the intersection. The multi-use path on the south side of Dresden Drive east of Apple Valley Road in front of Bramley Park ranges from eight to ten feet. At the Ellijay Drive/Caldwell Road intersection, the sidewalks are narrower, with the exception of wide multi-use path in front of the @1377 apartment complex in the southwest corner of the intersection. At the Clairmont Road intersection, the widest sidewalk is in the northwest corner of the intersection near a MARTA bus shelter.

Crosswalks and curb ramps are present on at least one leg of each of the three study intersections. The lack of crosswalks in some locations makes it difficult for residents and visitors to access destinations along the Dresden

¹ City of Brookhaven (2018). Zoning Ordinance, p. 5-10.
https://library.municode.com/ga/brookhaven/ordinances/code_of_ordinances?nodeId=927752

Drive corridor. In addition to crossings at the study intersections, the Dresden Drive corridor has three rectangular rapid flashing beacons (RRFBs) that are in close proximity to the Village Place Brookhaven mixed-use shopping center. These are located at the Village Place west entrance and intersection with Apalachee Drive, the Village Place east entrance, and at Camille Drive. Programmed transportation projects along the Dresden Drive corridor are slated to install additional pedestrian accommodations at the Ellijay Drive/Caldwell intersection and upgrade these RRFB crossing locations. These projects are discussed in greater detail on page 22.

PROPOSED BICYCLE AND PEDESTRIAN FACILITIES

The expansion of the City's bicycle and pedestrian network is generally carried out through the City's Sidewalk Program. Initially developed through public input and the BPTP, this program maintains the future sidewalk list for each City Council district. Existing and proposed sidewalks and multi-use paths along the Dresden Drive corridor are shown in Figure 7 on page 18. To ensure compliance with the Americans with Disabilities Act of 1990 (ADA), the City has allocated \$50,000 per year for sidewalk repair and design retrofits. In September 2020, City Council adopted a program that allows for neighborhood groups to petition for sidewalk installation for their neighborhood or street, provided an application is submitted with signatures representing at least 50 percent of the residents of the street or neighborhood.² Dresden Drive is located within City Council District 2, and the most recent sidewalk list for District 2 was adopted on October 22, 2019.³ This list includes the following proposed sidewalks and multi-use paths along Dresden Drive:

- Between South Bamby Lane and 2585 North Thompson Road (Project #16) – A sidewalk is proposed on the north side of the road.
- **Between Thompson Road and Clairmont Road (Project #17)** – A multi-use path is proposed on the south side of the road. This project fulfills BPTP Recommendation 114-MT.
- **Between Apple Valley Road and Clairmont Road (Project #18)** – An existing sidewalk on the south side of the road is proposed to be widened to a multi-use path. This project fulfills BPTP Recommendation 160-MT.

In addition to proposed improvements along Dresden Drive, the City is also proposing a multi-use path on the west side of Apple Valley Road, sidewalks on both sides of Ellijay Drive, and a multi-use path on the west side of Clairmont Road to better serve pedestrians at the study intersections.

Furthermore, the BPTP lists a series of recommended short- (ST), mid- (MT), and long-term (LT) projects. Recommended projects in the study area are listed in Table 1 on page 6. During the 2020 CTP Update, some projects were combined or superseded based on the City's preference to advance long-term projects instead of short-term projects.

² City of Brookhaven (2020). Presentation of Sidewalk Installation Via Property Owner Petition- Public Works Director Hari Karikaran. <http://brookhavencityga.igm2.com/Citizens/FileOpen.aspx?Type=30&ID=38465>

³ City of Brookhaven (2019). Future Sidewalk/MUP List – District 2. https://www.brookhavenga.gov/sites/default/files/fileattachments/public_works/page/15261/future_sidewalk_mup_list_-_district_2_adopted_october_22_2019.pdf

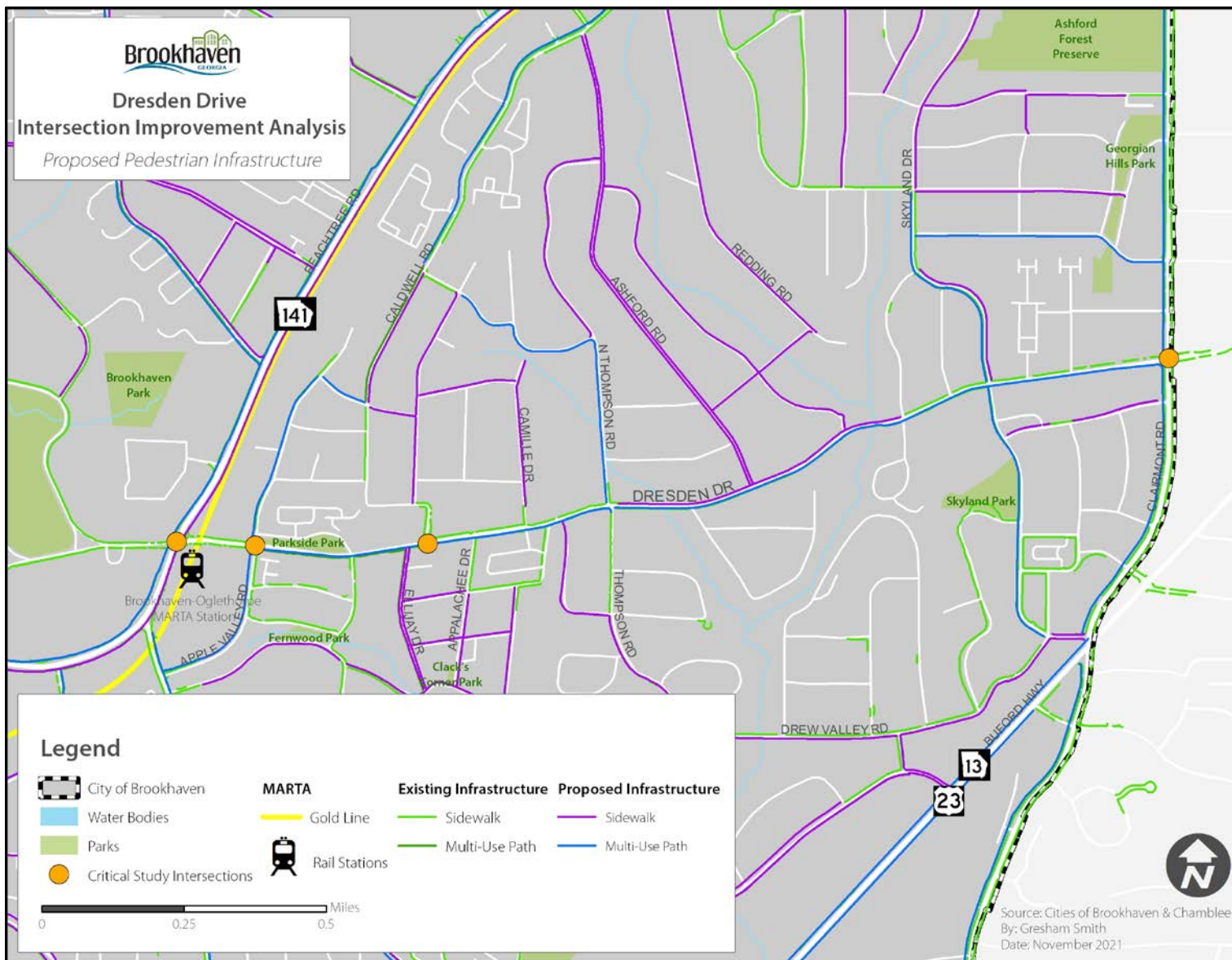


FIGURE 7: PROPOSED PEDESTRIAN INFRASTRUCTURE IN VICINITY OF DRESDEN DRIVE

Pending and Planned Development

The study intersections are in close proximity to several planned developments, including one development of regional impact (DRI). This section summarizes key information about each of these developments. Based on the information presented below, assumptions were made to incorporate anticipated development traffic, which is discussed further in the Traffic Study Technical Memorandum in Appendix B. Figure 8 on page 21 shows the location of these developments in relation to each study intersection.

CITY DEVELOPMENTS

Planned Developments

1382 Dresden Drive

During the May 4, 2021 Brookhaven City Council meeting, City Council approved the purchase of the parcel located at 1382 Dresden Drive, which is currently the location of a dry-cleaning business. The site is located to the northwest of the intersection with Ellijay Drive. Purchasing the site allows the City to have control over uses and purposes of the property; it is anticipated to be used for greenspace.⁴ As part of this purchase, City Council passed a resolution expressing the Council's desire to exclude this property from being used as a new roadway connection between Ellijay Drive and Green Meadow Lane. The 2020 CTP Update was also updated to reflect this City Council resolution.⁵ This is in line with community opposition to the connection by residents of Brookhaven Fields and Ashford Park, which was recorded during a meeting with the homeowners associations for these neighborhoods in September 2020.⁶

Dresden Village

Dresden Village is a planned mixed-use development that spans four acres on the north side of Dresden Drive to the west of the intersection with Caldwell Road, including the parcel at 1376 Dresden Drive. Previous plans for the project consisted of 30,000 square feet (SF) of retail and restaurant space and 180 luxury apartments, which was approved by City Council in 2017.^{7, 8} In 2020, the plan and an accompanying tax break were withdrawn from consideration due to a lack of viability as a result of the COVID-19 pandemic. The developer is currently in the process of developing new site plans for the proposed development.⁹

DEVELOPMENTS OF REGIONAL IMPACT (DRIS)

Brookhaven-Oglethorpe MARTA Station TOD (DRI #2604)

This DRI (DRI# 2604) was a transit-oriented development (TOD) located in the City of Brookhaven on the Brookhaven-Oglethorpe MARTA Station site, bounded by Peachtree Road, Dresden Drive, Apple Valley Road, and North Druid Hills Road. The proposed project consisted of a mix of uses on 17.75 acres, including 200,000 SF of office space; 63,100 SF of commercial (retail and restaurant) space; 547 residential units (340 apartments, 107 stacked flats/condominiums, and 100 senior living units); a 75,000 SF (125 room) hotel; and a town green/park. The DRI review process was triggered by a rezoning application that was filed with the City, and the review was

⁴ City of Brookhaven (2021). Agenda Item 4400.

http://brookhavencityga.ig2.com/Citizens/Detail_LegiFile.aspx?Frame=&MeetingID=2220&MediaPosition=4341.541&ID=4400&CssClass=

⁵ City of Brookhaven (2021). ORD-2021-05-04.

http://brookhavencityga.ig2.com/Citizens/Detail_LegiFile.aspx?Frame=&MeetingID=2220&MediaPosition=4341.541&ID=4400&CssClass=

⁶ Gano, A.B., A. Haber & R. Kamenetzky (2020). Requested Modification to Project X (Dresden Village), Slide 19.

⁷ Connolly Investment & Development (2020). Dresden Village. <http://dresdenvillage.net/home/>

⁸ Price, H. (2020). Brookhaven withdraws tax break for Dresden Village, says project is no longer 'viable.' *Reporter Newspapers*.

<https://reporternewspapers.net/2020/11/18/brookhaven-withdraws-tax-break-for-dresden-village-says-project-is-no-longer-viable/>

⁹ Ibid.

closed in July 2016.¹⁰ The project was canceled in 2017 but could potentially be revisited with MARTA through the ongoing City Centre Master Plan initiative.¹¹ A visioning exercise completed in 2019 imagined a mixed-use development at this site consisting of a new City Hall, a performing arts center, commercial and office facilities, residential housing, and an underground parking deck; however, there is currently no implementation funding.¹²

FUTURE ANTICIPATED DEVELOPMENTS

Several planned development projects in the vicinity of Dresden Drive were identified by the City of Brookhaven. An updated list of these developments and their planned land uses, based on information provided by the City, is provided below. The total number of estimated trips generated by the anticipated land-use and distribution assumptions are included in the Traffic Study Technical Memorandum in Appendix B.

- **North of Apple Valley Road** – North of the Apple Valley Road intersection, the City of Brookhaven is exploring the creation of an “Apple Valley Entertainment District” one-half mile north of the Brookhaven-Oglethorpe MARTA station. The City partnered with the Urban Land Institute (ULI) Technical Assistance Panel (TAP) to explore a 22-acre redevelopment in 2020 that incorporates the Peachtree Road Overlay District and that prioritizes multimodal infrastructure.¹³ TAPs are one- to two-day visioning sessions during which professionals from multiple disciplines gather to review and develop recommendations for a site, in the context of no financial or property constraints.¹⁴ This exercise produced a future potential vision for 465,000 SF of space, including 367,300 SF of new construction and 80 percent of the site dedicated to multi-family housing. There would also be pathways to the MARTA station and Town Brookhaven. There is no funding for implementation of this vision at this time.
- **Pappas-Terwilliger** – The plans for the Pappas-Terwilliger development were rejected by the City of Brookhaven. There are currently no active proposals on this site. However, this site has been identified for possible future development.
- **Bramley Park** – The Bramley Park project has been completed and the development opened in 2021. Therefore, trips to and from this development were not captured in the historical 2016 traffic counts.
- **University Baptist Church** – The City of Brookhaven confirmed that there are no active proposals for the redevelopment of University Baptist Church. Therefore, no additional trips were included for this development. However, this site has been identified for possible future development.

¹⁰ Atlanta Regional Commission (2016). Brookhaven-Oglethorpe MARTA Station TOD (DRI #2604) – Regional Review Finding. [http://documents.atlantaregional.com/Land%20Use/Reviews/ID1697/Final%20Report%20-%20Brookhaven-Oglethorpe%20MARTA%20Station%20TOD%20\(DRI%202604\).pdf](http://documents.atlantaregional.com/Land%20Use/Reviews/ID1697/Final%20Report%20-%20Brookhaven-Oglethorpe%20MARTA%20Station%20TOD%20(DRI%202604).pdf)

¹¹ Bagby, D. (2020). Brookhaven ready to restart MARTA station redevelopment talks. *Reporter Newspapers*. <https://reporternewspapers.net/2019/03/01/brookhaven-ready-to-restart-marta-station-redevelopment-talks/>

¹² TSW (2019). City Centre at Brookhaven Open Studio.

¹³ Urban Land Institute (2020). Brookhaven Entertainment District Walk-Through. <https://www.youtube.com/watch?v=UWF-epXgalw>

¹⁴ ULI Americas (2021). Technical Assistance Panels. <https://americas.uli.org/technical-assistance-panels/>



FIGURE 8: PENDING AND PLANNED FUTURE DEVELOPMENT SITES ALONG DRESDEN DRIVE

Programmed Transportation Projects

The Dresden Drive corridor is the site of three transportation projects sponsored by the City of Brookhaven and the Georgia Department of Transportation (GDOT). These projects are depicted geographically along the Dresden Drive corridor in Figure 9 on page 23.

DRESDEN DRIVE STREET LIGHT IMPROVEMENTS

During the May 25, 2021 City Council Meeting, City Council adopted a resolution that amended the City's street light funding budget to allow for the City to replace existing street lights along Dresden Drive with LED street lights and to improve lighting throughout the corridor within the City limits.¹⁵ Georgia Power is assisting the City with this effort which is currently underway.

PEDESTRIAN CROSSWALK UPGRADES

The City of Brookhaven received Local Maintenance and Improvement Grant (LMIG) funding to upgrade three existing rapid-flashing beacons (RRFBs) at Camille Drive, Apalachee Drive, and the Village Place Brookhaven entrance. Improvements included new lighted crosswalk signs, in-pavement lighting, and restriping pavement markings. These upgrades were completed in Winter 2021.

GDOT PI #0013138 - ASHFORD DUNWOODY ROAD/DRESDEN DRIVE ATMS

The Ashford Dunwoody Road/Dresden Drive Automated Transportation Management System (ATMS) Project (GDOT PI #0013138), sponsored by GDOT, is implementing signal and communication equipment improvements along the two corridors. This project will expand the ITS network along Ashford Dunwoody Road from Perimeter Summit Parkway to Peachtree Road (SR 141) and along Dresden Drive from Peachtree Road (SR 141) to Clairmont Road, including the three study intersections. The geographic extents of this project are shown in Figure 9. The project includes ITS improvements, signal equipment upgrades, communications/interconnections, CCTV, related signing/striping/ADA upgrades, and improved timing of all signals. The purpose of this project is to help reduce traffic congestion, travel time and length of vehicle queues, relieving congestion at key intersections and facilitating better traffic flow through updated signal timing and monitoring. The three study intersections are expected to undergo signal communication upgrades as part of this project. Furthermore, the Ellijay Drive/Caldwell Road intersection will undergo signal upgrades and pedestrian improvements. Construction is ongoing and is expected to be complete by mid-2022.¹⁶

¹⁵ City of Brookhaven (2021). ORD-2021-05-06.

<https://www.brookhavenga.gov/sites/default/files/fileattachments/finance/page/21901/ord2021-05-06dresdendriveledlights.pdf>

¹⁶ City of Brookhaven (2020). FY2021 Adopted Budget - Capital Improvement Program , p. 243.

https://www.brookhavenga.gov/sites/default/files/fileattachments/finance/page/21901/7_capital_improvement_plan_final.pdf



FIGURE 9: PROGRAMMED PROJECTS ALONG DRESDEN DRIVE

Intersection Safety & Crash Analysis

CRASH HISTORY

This section provides a summary of crash trends and patterns at each study intersection. According to data obtained from GDOT's Georgia Electronic Accident Reporting System (GEARS) crash database, over a five year period from January 1, 2015 through December 31, 2019, the following crashes occurred at each intersection:

- Dresden Drive @ Apple Valley Road – 49 Crashes
- Dresden Drive @ Ellijay Drive/Caldwell Road – 50 Crashes
- Dresden Drive @ Clairmont Road – 151 crashes

The summary data provided below is based on reports submitted by law enforcement agencies. At each intersection, nearly half of all crashes were rear end collisions. Angle crashes and sideswipe crashes between vehicles traveling in the same direction were most frequent at the Clairmont Road intersection. The vast majority of crashes at the key intersections resulted in property damage only, however, a share of crashes at each intersection resulted in injuries, and a fatality crash was reported at the Clairmont Road intersection.

An assessment of contributing factors revealed that following too close and failure to yield were the most common factors in all crashes at each study intersection. Less common factors, also noted in the crash database, include improperly changing lanes, improper turning, improper backing, and misjudged clearances. The following sections provide a breakdown of crash types and patterns experienced at each study intersection over the past five years.

The crash severity follows the KABCO Injury Classification scale, which includes fatal crashes (K), serious injury crashes (A), minor injury crashes (B), complaint of injury crashes (C), and other crashes (O). For the purposes of this Intersection Improvement Analysis, fatal, serious injury, and minor injury crashes as well as bicycle and pedestrian crashes are discussed for each study intersection along Dresden Drive.

CRASHES BY INTERSECTION

Dresden Drive at Apple Valley Road

Over the past five years, 49 reported crashes occurred at the Apple Valley Road intersection with an average of ten crashes per year. Table 5 shows the breakdown by year for crash type and crash severity at this intersection. The largest share of crashes at this intersection were rear end crashes (53.1 percent). Approximately 32.7 percent of crashes were angle crashes. Approximately 76 percent of crashes, or 37 crashes, at the Apple Valley Road intersection resulted in property damage only (PDO) and 24 percent, or 12 crashes, resulted in injury to 16 people. Two crashes involved a pedestrian and/or cyclist, one of which resulted in severe injury, and three minor injury crashes were reported at this intersection over the past five years. An analysis of the primary contributing factors for crashes at this intersection shows that 20 crashes were attributed to following too closely (41 percent) and eight crashes were due to failure to yield (16 percent).

TABLE 5: CRASH HISTORY AT APPLE VALLEY ROAD INTERSECTION (2015-2019)

Year	Crash Type							Total Crashes	Crash Severity	
	Angle	Head On	Rear End	Sideswipe - Same Direction	Sideswipe - Opposite Direction	Not A Collision with Motor Vehicle	Not Specified		# of Injury Crashes	# of Fatal Crashes
2015	1	1	7	1	0	1	0	11	4	0
2016	0	0	6	0	0	2	0	8	2	0
2017	4	0	5	1	0	0	0	10	1	0
2018	7	0	4	0	0	1	0	12	3	0
2019	4	0	4	0	0	0	0	8	2	0
Total	16	1	26	2	0	4	0	49	12	0
	32.7%	2.0%	53.1%	4.1%	0.0%	8.1%	0.0%	100.0%	24%	0%

Dresden Drive at Ellijay Drive/Caldwell Road

Over the past five years, 50 reported crashes occurred at the Ellijay Drive/Caldwell Road intersection with an average of ten crashes per year. Table 6 below shows the breakdown by year for crash type and crash severity at this intersection. The largest share of crashes at this intersection were rear end crashes (54 percent). Approximately 24 percent of crashes were angle crashes. Approximately 82 percent, or 41 crashes, at the Ellijay Drive/Caldwell Road intersection resulted in property damage only (PDO) and 18 percent, or nine crashes, resulted in injury. There was one minor injury pedestrian crash that was reported at this intersection over the past five years. An analysis of the primary contributing factor for crashes at this intersection shows that 24 crashes were due to following too closely (48 percent), eight crashes were due to misjudged clearance (16 percent), seven crashes were due to failure to yield (14 percent), and five crashes were due to improper backing (10 percent).

TABLE 6: CRASH HISTORY AT ELLIJAY DRIVE/CALDWELL ROAD INTERSECTION (2015-2019)

Year	Crash Type							Total Crashes	Crash Severity	
	Angle	Head On	Rear End	Sideswipe - Same Direction	Sideswipe - Opposite Direction	Not A Collision with Motor Vehicle	Not Specified		# of Injury Crashes	# of Fatal Crashes
2015	1	0	7	0	0	1	0	9	2	0
2016	3	0	3	1	0	0	0	7	0	0
2017	1	1	7	1	1	0	0	11	2	0
2018	3	1	5	1	0	0	0	10	1	0
2019	4	0	5	2	1	1	0	13	4	0
Total	12	2	27	5	2	2	0	50	9	0
	24.0%	4.0%	54.0%	10.0%	4.0%	4.0%	0.0%	100.0%	18%	0%

Dresden Drive at Clairmont Road

Over the past five years, 151 reported crashes occurred at the Clairmont Road intersection with an average of 30 crashes per year. Table 7 below shows the breakdown of crashes by year for crash type and crash severity at this intersection. The largest share of crashes at this intersection were rear end crashes (47.7 percent). Approximately 37.7 percent of crashes were angle crashes. Approximately 74 percent of crashes, or 112 crashes, at the Clairmont Road intersection resulted in property damage only (PDO) and 25 percent, or 38 crashes resulted in injury to 57 people. There was one fatal pedestrian crash, three serious injury crashes, and three minor injury crashes reported at this intersection over the past five years. An analysis of the primary contributing factor for crashes at this intersection shows that 63 crashes were due to following too closely (42 percent), 33 crashes were due to failure to yield (22 percent), 13 crashes were due to improperly changing lanes (9 percent), 12 crashes were due to improper turning (8 percent), and five crashes were due to misjudged clearance (3 percent).

TABLE 7: CRASH HISTORY AT CLAIRMONT ROAD INTERSECTION (2015-2019)

Year	Crash Type							Total Crashes	Crash Severity	
	Angle	Head On	Rear End	Sideswipe - Same Direction	Sideswipe - Opposite Direction	Not A Collision with Motor Vehicle	Not Specified		# of Injury Crashes	# of Fatal Crashes
2015	8	0	8	2	0	0	0	18	4	0
2016	11	1	15	0	0	1	1	29	11	0
2017	12	0	14	4	1	2	0	33	6	1
2018	12	0	9	3	0	0	0	24	7	0
2019	14	1	26	3	1	1	1	47	10	0
Total	57	2	72	12	2	4	2	151	38	1
	37.7%	1.3%	47.7%	8.0%	1.3%	2.7%	1.3%	100.0%	25%	1%

BICYCLE AND PEDESTRIAN CRASHES

Over the five-year period from 2015 to 2019, there were four reported crashes involving a pedestrian and/or cyclist at the study intersections. These crashes are summarized in this section.

One reported crash at the Apple Valley Road intersection involved a vehicle striking a pedestrian, resulting in a serious injury. The vehicle was traveling on Apple Valley Road and attempted to turn left onto Dresden Drive when it struck the pedestrian in the crosswalk. The vehicle driver was cited for failure to yield to a pedestrian. This crash occurred in dry, daylight conditions in January 2016.

Another reported crash at the Apple Valley Road intersection involved a vehicle striking a bicyclist. The crash occurred in June 2018 in dry, daylight conditions. The vehicle was traveling on Dresden Drive and attempted to turn left onto Apple Valley Road when it struck the oncoming bicyclist. The vehicle driver was cited with failure to yield while turning left. The crash did not result in injury.

A pedestrian crash also occurred at the Ellijay Drive and Caldwell Road intersections. The crash occurred in July 2019 in dry, daylight conditions and resulted in an injury. The vehicle was traveling southbound on Caldwell Road and struck a pedestrian crossing outside of the crosswalk.

The fourth reported crash involving a pedestrian and/or cyclist occurred at the Clairmont Road intersection and resulted in a fatality. More details are provided in the following section.

FATAL CRASHES

One reported fatal crash occurred over the five-year period from 2015 to 2019. The crash occurred in January of 2017 and involved a vehicle striking a pedestrian on Clairmont Road, just south of the intersection with Dresden Drive. The vehicle was traveling northbound on Clairmont Road, during dark, non-lighted conditions, and attempted to turn left onto Dresden Drive when it struck a pedestrian crossing in the turn lane, outside of the established crosswalk. The driver stated that they did not see the pedestrian until the collision occurred.

Traffic Calming

POLICY OVERVIEW

Traffic calming is defined by the Institute of Transportation Engineers (ITE) as the use of physical and psychological devices “to reduce the negative effects of motor vehicle use, alter driver behavior and improve conditions for non-motorized street users.”¹⁷ The City of Brookhaven’s Traffic Calming Program administers the City’s traffic calming policy, by which eligible neighborhoods may petition the City to authorize installation of traffic calming measures, such as speed humps, to slow vehicle speeds and minimize the impact of cut-through traffic on local streets.

The City’s current traffic calming policy was adopted on November 14, 2017 and outlines the minimum eligibility requirements and petition process necessary to establish a traffic calming district within the City. In order to be eligible for traffic calming, the road or roadways must be a local or residential street with a speed limit of 30 MPH or less. At least half of residents on the street(s) requesting traffic calming must sign a petition requesting the City conduct a traffic study to examine speed. If the traffic study demonstrates that the 85th percentile speed is at least 10 MPH greater than the posted speed limit of the street(s), the City will propose potential traffic calming measures. The proposed measures must preserve access for emergency vehicles, bicycles, and pedestrians. The City Council must give approval of the measures for funding and implementation. Each property in the traffic calming district must also agree to pay a \$25 annual fee as part of their property taxes for maintenance of the traffic calming devices.

TRAFFIC CALMING DISTRICTS ADJACENT TO DRESDEN DRIVE

The project team inventoried existing traffic calming districts within the study area to understand the extent of traffic calming devices and signage within each district. Many districts along Dresden Drive were created prior to the City’s incorporation in 2012 and were adopted by the DeKalb County Board of Commissioners. Those districts, including all policies and maintenance agreements, were grandfathered into the City after the City’s incorporation. Traffic calming devices installed within these districts include speed humps, center islands, and signage. Figure 10 shows the location of the traffic calming districts within the study area, and Table 8 on the following page highlights the traffic calming devices present in each district.

¹⁷ City of Brookhaven (2017). Traffic Calming Policy, p. 1.
https://www.brookhavenga.gov/sites/default/files/fileattachments/public_works/page/15231/traffic_calming_policy_final_november_14_2017.pdf

TABLE 8: TRAFFIC CALMING DISTRICTS ADJACENT TO DRESDEN DRIVE

District Name	Street(s) Served	Traffic Calming Device(s)
TC12-08	Star Drive	Speed Humps; Traffic Calming District, Speed Hump Ahead & Advisory 15 MPH Signage
TC12-12	Sylvan Circle	Speed Humps; Traffic Calming District, Speed Hump Ahead & Advisory 15 MPH Signage
TC12-13	Fernwood Circle	Speed Humps; Traffic Calming District, Speed Hump Ahead & Advisory 15 MPH Signage
TC12-14	Caldwell Road	Speed Humps; Center Islands; Traffic Calming District, Speed Hump Ahead & Advisory 15 MPH Signage
TC12-17	Ashford Road, Winding Way & Redding Way	Speed Humps; Traffic Calming District, Speed Hump Ahead & Advisory 15 MPH Signage
TC12-19	Coosawattee Drive	Speed Humps; Traffic Calming District, Speed Hump Ahead & Advisory 15 MPH Signage
TC12-20	Cortez Lane	Speed Humps; Traffic Calming District, Speed Hump Ahead & Advisory 15 MPH Signage
TC12-24	Redding Road	Speed Humps; Traffic Calming District, Speed Hump Ahead & Advisory 15 MPH Signage
TC12-26a	Oaklawn Avenue	Curb Extension; Right-Turn Only Signage (on Oaklawn Avenue); Turn Prohibited Signage (on Caldwell Road)
TC12-26b	Sunland Drive	Curb Extension; Right-Turn Only Signage (on Sunland Dr); Turn Prohibited Signage (on Caldwell Road)
TC14-01	Apple Valley Road	Speed Humps; Speed Hump Ahead & Advisory 15 MPH Signage
TC14-03	Green Meadows Lane	Speed Humps; Speed Hump Ahead & Advisory 15 MPH Signage
TC15-02	North Thompson Road	Speed Humps; Speed Hump Ahead & Advisory 15 MPH Signage
TC15-07	Apalachee Drive	Four-Way Stop at Canoochee Drive

Environmental Screening

As part of the Dresden Drive Intersection Improvement Study, the project team completed an environmental screening of the Dresden Drive corridor and the three study intersections to examine ecology, underground storage tanks, history, archaeology, and environmental justice. The purpose of this screening was to identify protected or vulnerable resources that might be impacted by potential improvements at study intersections. A summary of findings from the screening is provided in the Existing Conditions Technical Memorandum located within Appendix A.

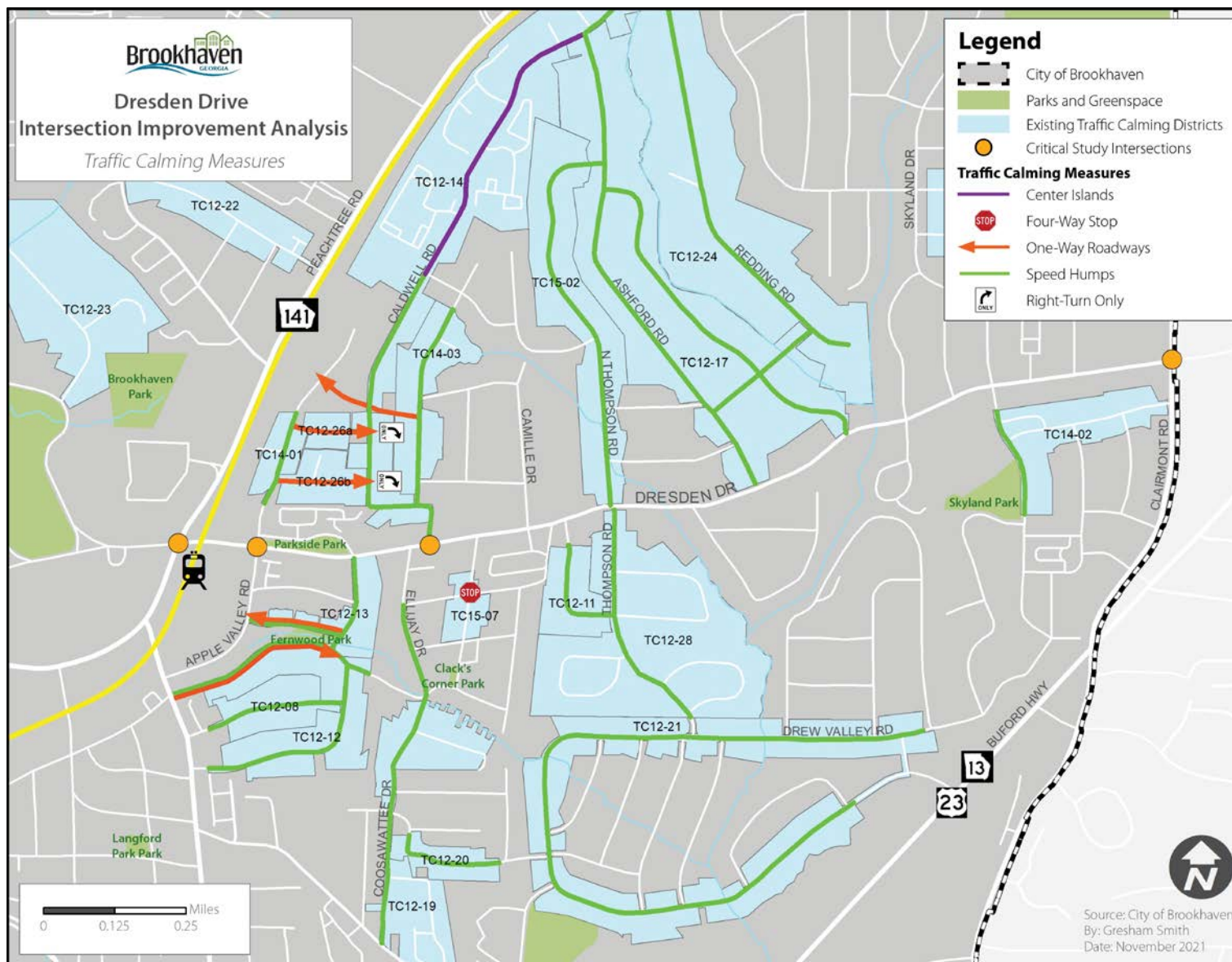


FIGURE 10: TRAFFIC CALMING DISTRICTS ADJACENT TO DRESDEN DRIVE

Chapter 3: Traffic Analysis

As part of the Dresden Drive Intersection Improvement Study, the project team completed a detailed traffic study for study intersections along and in the vicinity of Dresden Drive to support project recommendations. This chapter provides a summary of the findings from the traffic study. The following sections summarize existing conditions at each of the study intersections, including traffic volumes, historical crash trends, and capacity analyses, as well as future conditions at each intersection. Details on this process, methodology, and findings are available in the Traffic Study Technical Memorandum and supporting documentation included in Appendix B.

The study area has been updated to include 21 intersection locations along Dresden Drive and the surrounding area. These locations are shown in Figure 11. Additionally, 22 roadway segments, including Dresden Drive, are included in the analysis. These locations are shown in Figure 12.

Process Summary

For the purposes of this study, new traffic count data was collected by Marr Traffic Data Collection on January 20, 2022. Peak hour turning movement counts were collected at each of the 21 study intersections, and 24-hour bi-directional counts were collected on all 22 study roadway segments. Using this newly collected data, the project team performed capacity analysis at the critical study intersections (Peachtree Road, Apple Valley Road, Caldwell Road/Ellijay Drive and Clairmont Road). For the purposes of intersection capacity analysis, Caldwell Road and Ellijay Drive intersections were considered two separate intersections. The analysis at the other study intersections and study roadway segments were limited to traffic volume projections.

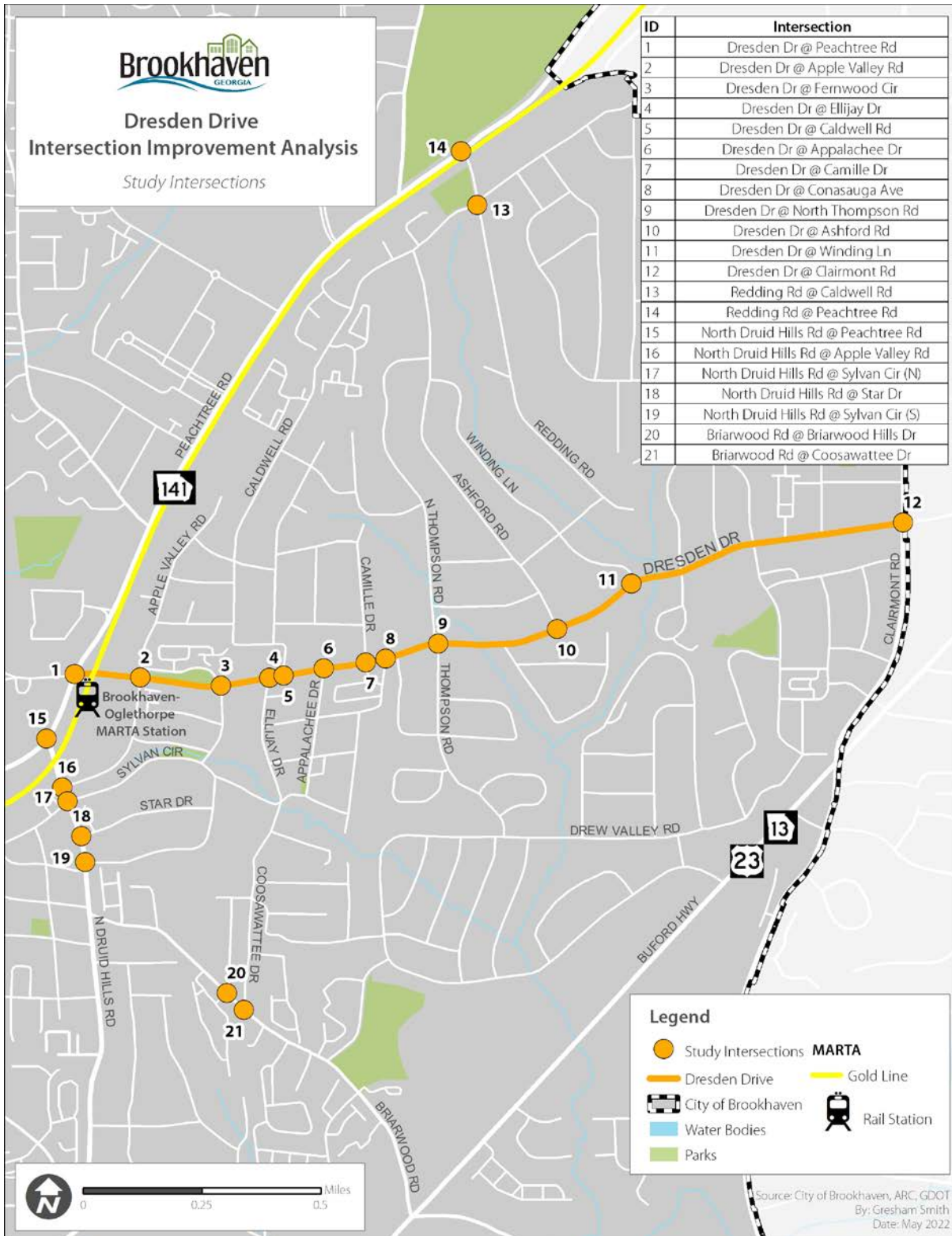


FIGURE 11: DRESDEN DRIVE INTERSECTION IMPROVEMENT STUDY INTERSECTIONS

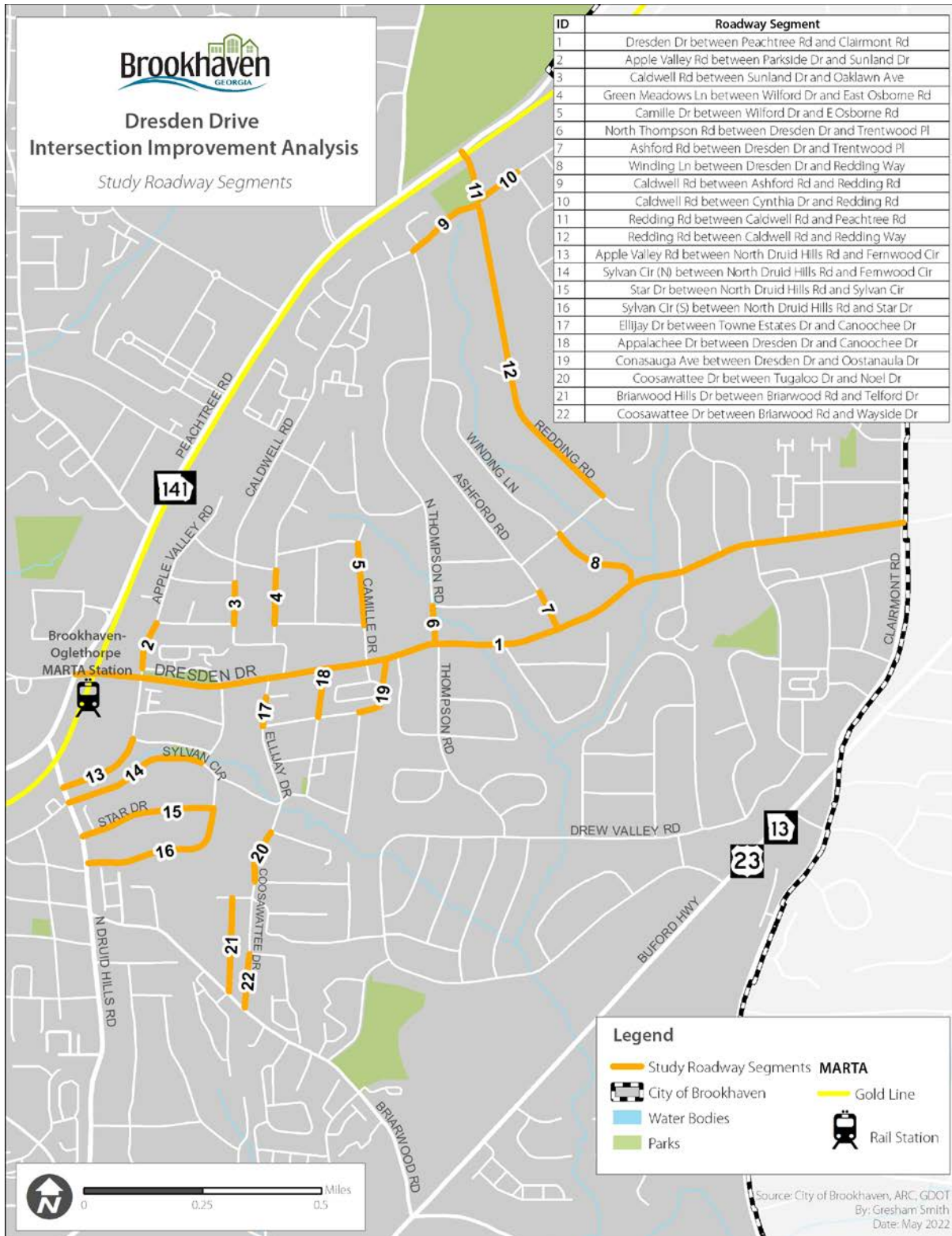


FIGURE 12: DRESDEN DRIVE INTERSECTION IMPROVEMENT STUDY ROADWAY SEGMENTS

Existing Conditions

Based on the Existing Year (2022) morning (AM) and afternoon (PM) peak hour turning movement traffic volumes, the existing traffic control (signals, stop signs), and existing lane configurations, AM and PM peak hour traffic operations were analyzed at the four study intersections using the methodologies outlined in the Highway Capacity Manual (HCM) 6th Edition, and the Synchro 11.0 software program. According to the HCM, there are six levels of service (LOS) by which the operational performance of an intersection may be described. These levels of service range between LOS A, which indicates a relatively free-flowing condition, and LOS F, which indicates operational breakdown.

The results of the intersection LOS and delay analysis for the Existing Year (2022) conditions are summarized in Table Table 9. As shown, four (4) intersections operate at LOS D or better in the AM and PM peak hours, and one intersection (Peachtree Road at Dresden Drive and Brookhaven Drive) operates at LOS E or worse during both the AM and PM peaks. Detailed HCM analyses, including capacity analysis worksheets that summarize queueing and detailed delay and LOS data by approach and movement, can be found in Appendix B. While the capacity analysis reflects a LOS D or better for four critical study intersections, heavy congestion does exist due to multiple operational issues, such as closely spaced intersections, on-street parking, and weaving patterns. While it appears that this section of Dresden Drive has the capacity to accommodate the existing traffic volumes, these issues have been observed to impact operations along the corridor.

TABLE 9: EXISTING YEAR (2022) INTERSECTION LEVEL OF SERVICE

ID	Intersection Name	Intersection Control Type	AM LOS Delay (s)	PM LOS Delay (s)
1	Dresden Dr @ Peachtree Rd	Signal	E 59.1	F 85.2
2	Dresden Dr @ Apple Valley Rd	Signal	B 10.8	B 13.2
3	Dresden Dr @ Ellijay Dr	Signal	A 6.1	A 6.9
4	Dresden Dr @ Caldwell Rd	Signal	A 6.8	A 7.4
5	Dresden Dr @ Clairmont Rd	Signal	D 35.7	D 36.3

Future Conditions

Future conditions were analyzed at all the study intersections and study roadway segments based on projected traffic volumes on three different time horizons. The years 2027, 2037 and 2047 were chosen as the 5-year, 15-year, and 25-year horizons to conduct the traffic analysis for future conditions. To perform the future analysis, anticipated traffic volumes were developed at each of the 21 study intersections and 22 roadway segments for low-, medium-, and high-growth scenarios.

GROWTH SCENARIOS

Based on the projected growth analyses, three (3) different growth scenarios were developed to be representative of the possible future traffic volumes along Dresden Drive and other roadways within the study area. The three (3) growth scenarios are as follows:

- **Low-Growth Scenario** – An applied annual background growth rate of 0.5% plus anticipated development traffic
- **Medium-Growth Scenario** – An applied average annual background growth rate of 0.75% plus anticipated development traffic

- **High-Growth Scenario** – An applied average annual background growth rate of 1.0% plus anticipated development traffic

The three (3) growth scenarios were applied at each study intersection and roadway segment to develop projected traffic volumes for the 5-year, 15-year and 25-year horizons and to conduct the traffic analysis for all future conditions. In developing recommendations, the project team focused on the long-term (2047) time horizon and the medium-growth scenario. For this reason, the following sections briefly summarize the future year capacity analysis and findings – both with and without recommendations for these conditions (details on other scenarios and timelines are in the Traffic Study Technical Memorandum).

FUTURE CAPACITY ANALYSIS - WITHOUT RECOMMENDATIONS

Based on the Future Year AM and PM peak hour turning movement traffic volumes (provided in Appendix B of the Traffic Study Technical Memorandum), AM and PM peak hour traffic operations were analyzed at the critical study intersections along Dresden Drive for the 5-year, 15-year, and 25-year horizons for low-, medium-, and high-growth scenarios to determine future operations **if no changes are made**. It should be noted that existing signal phasings were retained in this analysis, with only minor changes to phase splits to accommodate changes in volume. Detailed HCM analyses, including capacity analysis worksheets that summarize queueing, delay, and LOS data by approach and movement, can be found in the Traffic Study Technical Memorandum and its appendices. The section below summarizes the long-term future capacity analysis without recommendations.

Future Year (2047) Medium growth Analysis

The results of the intersection LOS and delay analysis for the Future Year (2047) medium-growth condition are summarized in Table 10. As shown, four (4) intersections operate at LOS D or better in the AM peak hours and three (3) intersections operate at LOS D or better in the PM peak hours. The Peachtree Road at Dresden Drive intersection operates at LOS F during both the AM and PM peaks for this growth scenario. The Dresden Drive at Apple Valley Road intersection also operates at LOS F during the PM peak under this growth scenario.

TABLE 10: FUTURE YEAR (2047) INTERSECTION CAPACITY ANALYSIS (WITHOUT RECOMMENDATIONS)

ID	Intersection Name	Medium-Growth Scenario	
		AM LOS Delay (s)	PM LOS Delay (s)
1	Dresden Dr @ Peachtree Rd	F >100	F >100
2	Dresden Dr @ Apple Valley Rd	D 39.0	F >100
3	Dresden Dr @ Ellijay Dr	A 6.6	B 15.0
4	Dresden Dr @ Caldwell Rd	B 11.3	B 10.7
5	Dresden Dr @ Clairmont Rd	D 42.9	D 54.4

Based on these findings, the project team developed recommendations for improvements to each of these intersections, which are briefly summarized below, with additional details provided in Chapter 5:

- Dresden Drive at Peachtree Road - Widen Peachtree Road to six lanes with additional turn lanes and turn lane improvements.
- Dresden Drive at Apple Valley Road – Add turn lanes, make turn lane improvements, and adjust traffic signal phasing.

- Dresden Drive at Ellijay Drive and Caldwell Road – Install crosswalks with pedestrian ramps and pedestrian signals.
- Dresden Drive at Clairmont Road – Construct additional turn lanes and turn lane improvements, and adjust traffic signal phasing and flashing yellow arrows.
- Neighborhood Traffic Calming – Design and construct mini-roundabouts to reduce cut-through traffic and improve multimodal safety, and install speed tables along Briarwood Hills Drive.

FUTURE CAPACITY ANALYSIS - WITH RECOMMENDATIONS

As stated previously, of the different analysis years, under the various growth scenarios discussed in the previous sections, recommendations were developed based on the 25-year horizon under the medium-growth scenario for the Future Year (2047). Based on the Future Year (2047) conditions under the medium-growth scenario, field observations, and input from the City and local community, several recommendations are proposed to address operational deficiencies at the critical study intersections along Dresden Drive and implement traffic calming measures throughout the surrounding Brookhaven Fields and Ashford Park neighborhoods on the north and south sides of Dresden Drive.

Future Year (2047) Medium Growth Analysis – with Recommendations

The results of the intersection LOS and delay analysis for the Future Year (2047) conditions, with the recommended improvements, under the medium-growth scenario are summarized in Table 11. As shown, with the proposed improvements, three (3) intersections are expected to operate at LOS D or better in the AM and PM peak hours. All five (5) intersections operate at LOS D or better in the AM peak hour, and three (3) intersections operated at LOS D or better in the PM peak hour under this scenario. The Dresden Drive at Peachtree Road and Dresden Drive at Apple Valley Road intersections operate at LOS E during the PM peak under, but with significant reductions in delay when compared to the analysis without recommendations.

TABLE 11: FUTURE YEAR (2047) INTERSECTION CAPACITY ANALYSIS (WITH RECOMMENDATIONS)

ID	Intersection Name	Medium-Growth Scenario	
		AM LOS Delay (s)	PM LOS Delay (s)
1	Dresden Dr @ Peachtree Rd	D 37.9	E 79.2
2	Dresden Dr @ Apple Valley Rd	D 42.4	E 76.7
3	Dresden Dr @ Ellijay Dr	A 5.3	B 15.0
4	Dresden Dr @ Caldwell Rd	B 11.3	B 10.7
5	Dresden Dr @ Clairmont Rd	D 44.3	D 52.0

Chapter 4: Public Involvement

Throughout the course of the Dresden Drive Intersection Improvement Study, several mechanisms were used to inform and engage the community, with an emphasis on opportunities to review and comment upon existing conditions and draft final recommendations at two public forums, presentations to the Mayor and City Council, and in-person intercept surveys to gather information about experiences navigating the study intersections. Summaries and comments for each public forum are provided in Appendix C. This chapter summarizes public and stakeholder involvement efforts. The City of Brookhaven maintained a [project website](#) over the course of the project to provide a virtual forum for interested community members and stakeholders to learn about the project and submit feedback to City staff and consultants. A snapshot of this website is shown in Figure 13.

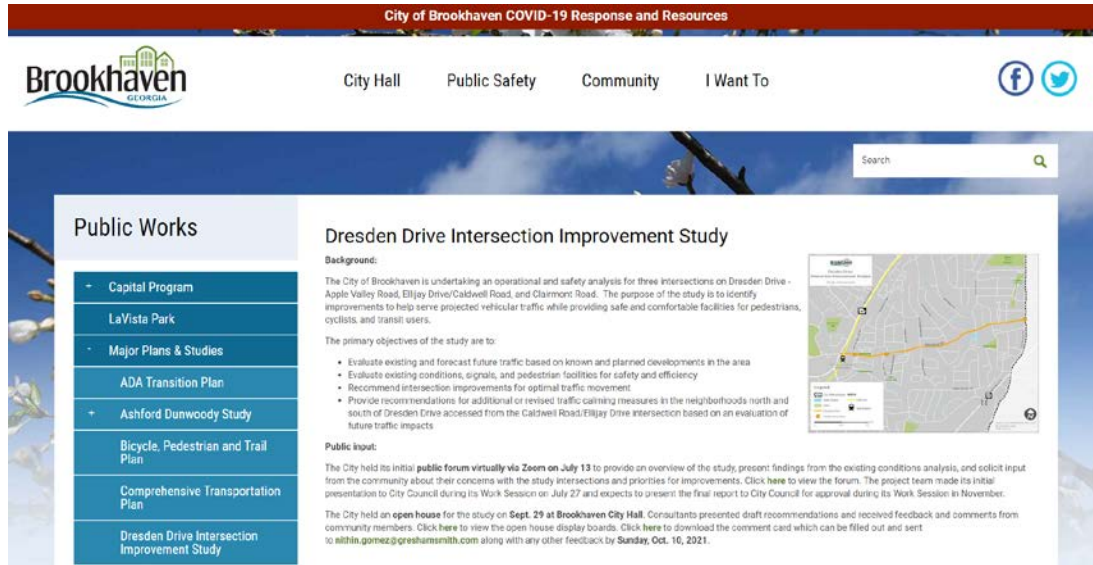


FIGURE 13: SNAPSHOT OF PROJECT WEBPAGE ON CITY OF BROOKHAVEN'S WEBSITE

INITIAL STUDY ACTIVITIES

Intercept Surveys

The project team visited the study intersections on two different occasions - a Wednesday at lunchtime and a Saturday morning - and asked people about their experience navigating the study intersections (Figure 14). In total, the team surveyed 26 people. Most participants were local residents out getting exercise with their dogs or kids, or visiting the farmer’s market or local restaurants. Most people reported feeling comfortable walking along Dresden Drive, but expressed concerns about crossing the road, particularly at the flashing beacon crosswalks east of Village Place – they reported that drivers often don’t stop when the lights are flashing, either because they’re not paying attention or because the lights are difficult to see in the daytime. They also expressed concerns about the increasing volume of traffic and difficulty parking, and indicated that local residents try to walk for short trips in the area.



FIGURE 14: PROJECT TEAM MEMBERS CONDUCTING INTERCEPT SURVEYS

Existing Conditions City Council Presentation

The first presentation to the Brookhaven City Council occurred during the July 27, 2021 City Council Work Session at Brookhaven City Hall. At this meeting, the project team presented potential ideas for consideration at each of the three study intersections and sought feedback regarding next steps to prepare for the second public forum in September 2021. The presentation provided background information on existing conditions and outlined themes from the intercept surveys and the first public forum.

First and Second Public Forums

On July 13, 2021, the City of Brookhaven hosted a virtual public forum during which the project team presented findings from the existing conditions assessment and preliminary analysis from the traffic study for the intersections (Figure 15). The team also used real-time interactive polling (Figure 16) to gather feedback from participants on their experiences traveling at the three intersections and potential improvements for each location. In addition to project team members, approximately 28 people attended the meeting via Zoom and more than 250 people viewed the livestream via Facebook. Participants submitted a range of comments and questions addressing the intersections and the scope of the project. Participants were not concerned about traffic congestion at the intersections but instead desired more of a focus on bicycle and pedestrian infrastructure at the intersections as well as within the surrounding neighborhoods.

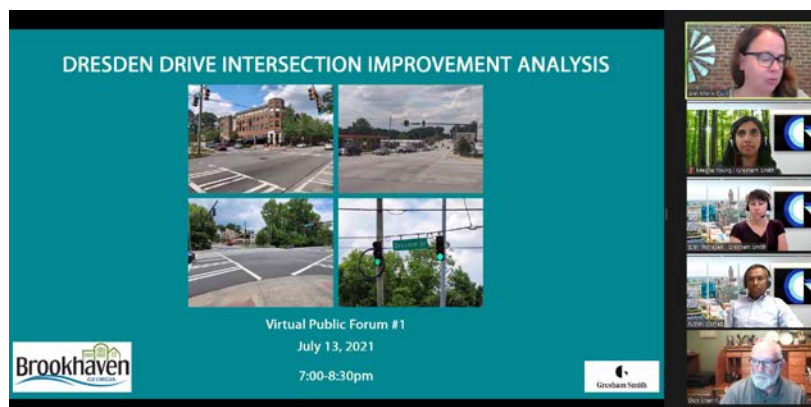


FIGURE 15: SCREENSHOT OF THE OPENING SLIDE WITH PROJECT TEAM MEMBERS TO THE RIGHT

Recurring themes that emerged from the comments submitted and addressed by the project manager are summarized as follows.

- **Development Assumptions** – Participants asked the project team about development assumptions in the request for proposals (RFP) and if those have changed. Each approved development project was assigned a traffic growth rate based upon approved traffic studies and trip generation rates consistent with the methodology from the Institute of Transportation Engineers (ITE) Trip Generation Manual. These assumptions were included in the Traffic Study Technical Memorandum.
- **Crash Data** – The project team was asked about how crash data was collected for this study. The project team accessed crash data for the study intersections through GDOT’s Georgia Electronic Accident Reporting System (GEARS).
- **Bicycle Infrastructure** – Participants requested that more emphasis be placed on bicyclists not just these intersections, but also in the surrounding neighborhoods. It was noted that the Brookhaven Bike Alliance has prioritized the redesign of Dresden Drive as a bike-friendly corridor in a 2019 poll. Several comments stated a desire for prioritizing multi-modal safety and connectivity, as well as in having bike lanes along the length of Dresden Drive. The draft recommendations favor car travel over biking and walking, and do not do enough to provide facilities for cyclists.
- **Zoning** – Sidewalks and multi-use path requirements vary by zoning district, and two of the three study intersections are within the Peachtree Overlay District, which has specific regulations by zoning class for multimodal infrastructure. The project team considered these requirements in developing preliminary and final recommendations.
- **Pedestrian Infrastructure** – Several comments discussed the standards for sidewalks versus multi-use paths and use by bicycles. GDOT and the City of Brookhaven follow the minimum width guidelines of ten feet for shared-use or multi-use paths established by the American Association of State Highway Transportation Officials (AASHTO). These facilities can be used by all forms of non-motorized transportation, including pedestrians, cyclists, and skaters. Several participants expressed support for the improved flashing beacon crosswalks. Participants would like to have sidewalks along the full length of Dresden Drive.
- **Traffic Considerations** – Participants noted the need to reflect what is happening in the surrounding neighborhoods and along Peachtree Road (SR 141) as inputs for this study. Beyond the developments, participants asked about the type of data the project team used to inform 2046 future traffic volumes for the intersections. Several people expressed concern about cut-through traffic in Brookhaven Fields and on Sunland Drive. People generally support traffic calming – to help people cross Dresden Drive and to reduce neighborhood cut-through traffic. Suggestions were made to increase signage indicating traffic calming, making sure traffic calming devices are bicycle-friendly. However, some comments indicate that speed humps do not calm traffic. A more comprehensive study is needed to look at all of Dresden Drive as well as other streets like Redding Road, North Druid Hills Road, and the intersection of Peachtree Road at Dresden Drive. Location specific comments were made regarding several locations:
- Caldwell Road: more center islands, extend traffic calming past Redding Road, replace medians as they are detrimental to cyclists.
 - Add speed humps to Sunland Drive
 - Make E Osborne Road a two-way street (to deter using Sunland Drive as a cut-through)
- **Community Engagement** – There was a question about the community engagement that was conducted for this Intersection Improvement Analysis. In addition to the project team conducting two intercept survey sessions, this virtual public forum was part of the engagement process. The project team hosted additional opportunities for engagement prior to the completion of the analysis in November 2021. Furthermore, the project team was provided with a copy of a presentation given to City Council members John Park and Madeleine Simmons on October 5, 2020 by representatives of Brookhaven Fields and Ashford Park. The team reviewed this information and incorporated into the Intersection

Improvement Analysis. City Council representative John Park for District 2 also had some remarks and encouraged any residents with concerns to reach out to him.

- **Apple Valley Road Intersection** - Left turns from Apple Valley to Dresden Drive are not the key issue here (several comments pointed to the intersection at Peachtree Road, which is outside of the scope of this study). The draft improvements presented at the second public forum favored vehicular traffic over walking and biking. Several people expressed concern that dual northbound left-turn lanes would draw more traffic from North Druid Hills Road; however, there was support for protected left-turn phases. People would like to see more bike infrastructure at this intersection; specifically several comments suggested that instead of adding turn lanes, the recommendations should focus on reducing or narrowing vehicle lanes and adding bike lanes on Apple Valley Road, or should prioritize biking and walking rather than driving in this area.
- **Ellijay Drive/Caldwell Road Intersection** – Several comments touched on the shared center left-turn lane between the intersections, suggesting other options, including: making it one-way (rather than two-way) so that people can only turn left onto Caldwell Road, providing left-turn arrows for turning from Dresden Drive onto Ellijay Drive, and considering side-by-side left-turn lanes. There were concerns with limited sight distance caused by on-street parking and rideshare services blocking traffic, especially near Ellijay Drive and the Valenza/Haven parking lot. There was also support for adding the new crosswalk at the east leg of Ellijay Drive, aligning crosswalks, and making it safer to cross Dresden Drive.
- **Clairmont Road Intersection** – Very few intersection-specific comments were provided.

Based on feedback received during the September 2021 public forum, the City of Brookhaven requested that the project team consider expanding the scope of services to include additional analysis of neighborhood traffic along streets in the Ashford Park and Brookhaven Fields neighborhoods which can be accessed via the Caldwell Road and Ellijay Drive intersections at Dresden Drive. The City and project team met in October 2021 to discuss an update to the traffic study scope of services and an approach for collecting new count data, refining the analysis, and developing updated recommendations. Pursuant to this meeting and subsequent discussions, the project team expanded the scope of services to include traffic volume data collection at additional neighborhood intersections and along neighborhood street segments and a sensitivity analysis based on low-, medium-, and high-growth scenarios that reflect all potential and approved development in the study area.

STUDY UPDATE ACTIVITIES

Study Process Update

On December 13, 2021, the project team in consultation with City of Brookhaven staff and Councilmember John Park as well as area stakeholders, had a meeting which introduced a revised scope for the Dresden Drive Intersection Improvement Study to address revised development assumptions, multiple growth assumptions, and a review of potential bicycle facilities. Analysis of potential traffic volumes for the updated analysis was to consider all potential future development (based on what is allowed per the City's zoning code) and all approved development. This meeting also served as an opportunity to confirm the development assumptions that the project team would utilize going forward and to get concurrence from City staff, elected officials, and neighborhood stakeholders.

Third and Fourth Public Forums

On Thursday, March 3, 2022 at 7:00 PM, the City of Brookhaven hosted a virtual public forum for the Dresden Drive Intersection Improvement Study. The event was conducted virtually through Zoom and Facebook Live due to public health and social distancing concerns stemming from the COVID-19 pandemic. At this meeting, the project team presented their revised approach and data assumptions to support the analysis of 21 intersections and 22 roadway segments in the vicinity of Dresden Drive (Figure 18). In addition to project team members, there were approximately 12 people who attended the meeting via Zoom, and more than 170 viewers via Facebook. The

purpose of this virtual meeting was to discuss the scope revisions made by the City to complete a more thorough analysis of neighborhood traffic movements to consider options for traffic calming beyond what is in place now on neighborhood streets due to possible increases in potential future traffic.

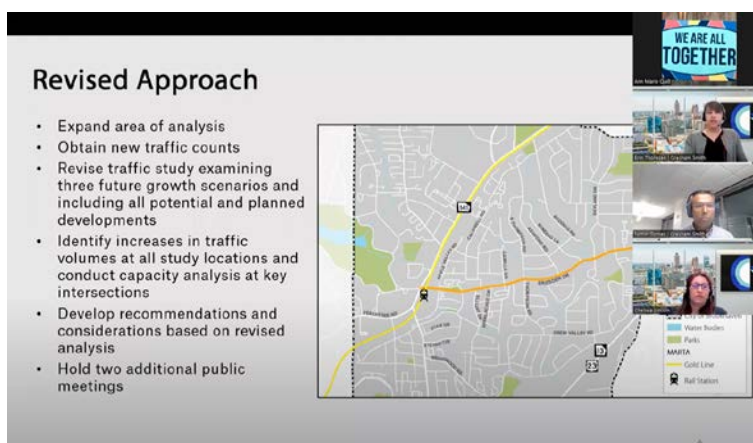


FIGURE 18: REVISED APPROACH SLIDE FROM MARCH 2, 2022 VIRTUAL PUBLIC FORUM

The City of Brookhaven hosted a Public Open House for the Dresden Drive Intersection Improvement Study on Thursday, April 14, 2022 at 7:00 PM. The open house was held in-person at Brookhaven City Hall, as the team felt it was important to provide an opportunity for dialog and exchanges of information and to be able to answer questions from participants in real-time (Figure 19). Since the meeting was conducted as an open house, attendees were encouraged to arrive at any time during the 90-minute window and were free to browse materials at their own pace. Display boards were spaced out around the room and team members and City staff were present to answer questions and discuss the materials presented. In addition to the project team and City staff, approximately 13 people attended the Public Forum Open House, and another two people submitted comments via email.



FIGURE 19: MEETING PARTICIPANTS TALK WITH CONSULTANT PROJECT MANAGER AND CITY COUNCILMEMBER JOHN PARK

The purpose of the Public Open House was to present draft recommendations for the critical study intersections being evaluated as part of this study and to solicit feedback and comments from community members. Materials presented include an overview of the study and the revised approach, a summary of draft recommendations and considerations, and draft recommendations for each of the study intersections as well as for traffic calming strategies and other considerations for on-street bicycle facilities and development traffic studies.

Summary of Comments/Feedback

- **Pedestrian Infrastructure** – People expressed the need for a sidewalk on the north side of Dresden Drive between Apple Valley Road and Caldwell Road. One participant appreciated the new pedestrian crossing accommodations with illuminated crosswalks near Village Place Brookhaven.
- **Bicycle Facilities** – One participant also asked if the bicycle facility considerations will be made through a Complete Streets lenses, but this will be addressed at a later time during the update of the Bicycle,

Pedestrian, and Trails Plan slated to kick off later in 2022. One attendee thought a two-way cycle track on the south side of Dresden Drive could be a feasible alternative to the potential cross-section presented during the public open house.

- **On-Street Parking Facilities** – One participant mentioned that existing on-street parking along Dresden Drive near Kaleidoscope Pub should become rideshare pick-up and drop-off.
- **Traffic Calming Locations and Recommendations** – Participants asked about potential traffic calming recommendations at several locations in the vicinity of Dresden Drive including along Camille Drive (projected 105 percent increase). One participant asked about the feasibility of speed cushions and speed tables along Dresden Drive. At the public open house on draft recommendations, most members of the public who provided comments preferred mini-roundabouts to diagonal diverters in both the Ashford Park and Brookhaven Fields neighborhoods. Other comments received include considering installing a speed limit sign with speed feedback along Ellijay Drive as well as additional speed tables.
- **Peachtree Road Intersection Recommendations** – Several comments noted that turning cycles are not long enough at the intersection. Improvements here need to be coordinated with the North Druid Hills Road intersection and there should be consideration for following the recommendations from the City Centre Master Plan for this location (implementing a road diet).
- **Apple Valley Road Intersection Recommendations** – One comment suggested that leading pedestrian intervals (LPIs) should be implemented at the intersection to allow pedestrians a head start of several seconds when crossing Dresden Drive and Apple Valley Road before vehicular traffic is given a green signal. This would improve multimodal safety at this intersection. Sharrows are not needed on Parkside Drive and are not likely to be used. People expressed support for protected left-turn phases but there was concern that a multi-use path may be unsafe for pedestrians.
- **Ellijay Drive/Caldwell Road Intersection Recommendations** – There were concerns with limited sight distance caused by on-street parking and rideshare services blocking traffic, especially near Ellijay Drive and the Valenza/Haven parking lot. There was also support for adding the new crosswalk at the east leg of Ellijay Drive, aligning crosswalks, and making it safer to cross Dresden Drive
- **Clairmont Road Intersection Recommendations** – Overall, very few intersection-specific comments were provided about recommendations at this location; however, one person noted that Dresden Drive at this location should only be expanded to build protected bicycle lanes.

CITY COUNCIL PRESENTATION - REPORT ADOPTION

After review and approval of a draft report by City staff in May 2022, the final draft report was made available on the City's website. The project team made a final presentation to City Council on June 14, 2022. The presentation summarized the purpose of the Dresden Drive Intersection Improvement Study, the planning process, draft final recommendations, and revisions made to recommendations subsequent to the first City Council presentation and based upon feedback from the second public forum. The final report and recommendations are expected to be presented again for consideration for adoption following this first presentation.

Chapter 5: Recommendations

Recommendations Context

The Dresden Drive Intersection Improvement Study proposes a series of recommendations based upon the findings from a review of prior and ongoing plans, projects and studies, as well as analysis of existing conditions, current and projected traffic volumes based on all approved and potential future development, and input from the City and community members. This analysis focuses primarily on three intersections along Dresden Drive, as identified in the City's 2020 CTP Update: Apple Valley Road, Ellijay Drive/Caldwell Road, and Clairmont Road. These intersections were recommended for evaluation, in part, due to their relatively higher number of crashes and the proportion or number of injury crashes compared to other intersections throughout the City of Brookhaven that are not on state routes or part of other comprehensive corridor studies.

It should be noted that two of the study intersections – Apple Valley Road and Ellijay Drive/Caldwell Road – fall within the boundaries of the Peachtree Road Overlay (PRO) district and are also part of the study area being evaluated as part of the ongoing City Centre Master Plan. Any future developments or infrastructure improvements in this area should fulfill the requirements of the overlay district, as well as recommendations from the City Centre Master Plan.

The study also evaluated traffic volumes on neighborhood streets in the Brookhaven Heights and Ashford Park neighborhood that can be accessed via the intersections of Ellijay Drive and Caldwell Road at Dresden Drive and offers recommendations for neighborhood traffic calming strategies.

Recommendations for this study comprise two main components: proposed intersection improvements for select intersections considered to be critical to the analysis and proposed recommendations for additional neighborhood traffic calming for streets that can be accessed via Ellijay Drive and Caldwell Road. Intersection improvements consist of a series of recommendations which have been integrated into an overall proposed concept for each of the key study intersections. These recommendations include, but are not limited to the following types of improvements:

- Longer or additional turn lanes
- Signal phasing changes
- New sidewalk and multi-use path segments
- New crosswalks and pedestrian signals
- Lighting and signage

Recommendations for additional traffic calming focus on neighborhood streets that can be accessed via the Ellijay Drive and Caldwell Road intersections with Dresden Drive, between Dresden Drive and Briarwood Road to the south and between Dresden Drive and Redding Road to the north. These recommendations are intended to complement existing traffic calming measures, such as speed tables. They focus on reducing the likelihood of cut-through traffic and slowing vehicles along neighborhood streets.

These recommendations are geographically depicted in Figure 34 on page 61. This report also includes a project list with cost estimates for each of the recommended intersection improvements (see Table 18 on page 62). Cost estimates developed for this analysis are high-level costs appropriate for a conceptual study. They are reported in 2022 dollars and are based upon the preliminary conceptual recommendations, reflecting the estimated cost of elements such as pavement and concrete, signing and marking, changes to traffic signals, and walls needed to minimize impacts to adjacent property and to support infrastructure. They also include a 20 percent contingency. Recommendations and next steps will be identified and prioritized by the City of Brookhaven in accordance with City priorities, based on factors such as completion of other infrastructure projects and available funding.

GENERAL CONSIDERATIONS

- Design and construction of recommendations should be done in accordance with PRO and other City standards for design and development of public streets, as well as GDOT's Plan Development Process, applicable AASHTO and other design guidelines, and construction standards.
- Implementation of recommendations should also align with approved plans and studies, like the Bicycle, Pedestrian and Trail Plan as well as the City's approved sidewalk list.
- It will be important to align development of future designs and construction with the City's forthcoming Multimodal Plan (to be completed started in mid-2022).
- It is recommended that any future improvements at the Apple Valley Road and the Ellijay Drive/Caldwell Road intersections complement the overarching vision and recommendations of City Centre Master Plan, including guiding principles of pedestrian and cyclist connectivity - especially to greenspaces.

Intersection Improvements

This section describes recommended improvements for each critical study intersection and additional considerations as they relate to future design and implementation. The project team analyzed multiple growth scenarios at three different time horizons, as discussed in the Traffic Study Technical Memorandum. Recommendations are derived from analysis of the medium-growth scenario for the long-term future year time horizon (2047), along with field observations, and input from the City and local community. Recommendations are proposed to address operational deficiencies at the critical study intersections along Dresden Drive. The descriptions and illustrative diagrams are conceptual in nature. Design and engineering details, such as precise alignment and exact location or extent of walls, will be worked out during the engineering phase of each project, to be implemented incrementally over time according to City priorities.

The following sections summarize recommended improvements at the critical study intersections; for details, please see the Traffic Study Technical Memorandum.

DRESDEN DRIVE AT APPLE VALLEY ROAD

This project would design and construct improvements to the intersection of Dresden Drive and Apple Valley Road that include adding a second northbound left-turn-only lane and shifting the eastbound approach south to accommodate the additional receiving lane, extending the length of the southbound right-turn lane, adding a dedicated southbound left-turn lane, and adding wide sidewalk and multi-use trail. It would also adjust traffic signal heads and signal phasing, accordingly, providing dedicated left-turn phases and flashing yellow arrows (FYAs) for left-turns where appropriate, adding right-turn arrows for eastbound and westbound right-turns that provide an additional turn phase, and add leading pedestrian intervals for pedestrians crossing the south and east legs of the intersection.

Additionally, the project would construct the appropriate pedestrian and streetscape improvements within the project limits along Apple Valley Road and along Dresden Drive west of Apple Valley Road, in accordance with the PRO district. These include ten-foot-wide pedestrian zone (multi-use path or 'MUP') and six-foot-wide landscape zone with a new connection along the east side of Apple Valley Road to Parkside Park and Parkside Drive. The project would also include a raised crosswalk with flashing beacon across Apple Valley Road just south of Sunland Drive to enhance pedestrian connectivity.

These recommendations are depicted in the intersection improvement concept in Figure 20.

Summary of Recommendations

- Install a second left-turn-only lane for northbound left turns; change signal phasing to protected only
- Shift eastbound approach lanes south to accommodate additional receiving lane on Dresden Drive west of Apple Valley Road.

- Provide a protected left-turn signal phase and change signal phasing to protected-only for eastbound left-turns (to address limited sight distance caused by vehicles in the opposing left-turn lane).
- Add a protected left-turn signal phase for westbound left turns.
- Lengthen the southbound right-turn lane and install a dedicated southbound left-turn lane, so the southbound approach consists of one right-turn lane, one through lane, and one left-turn lane.
- Add flashing yellow arrows (FYAs) for westbound and southbound permissive left-turn phases.
- Add a right-turn overlap signal phase for eastbound and southbound right-turns.
- Add leading pedestrian interval for crosswalks across south and east legs.
- Extend the wide sidewalk along the east side of Apple Valley Road and install crosswalk across Parkside Drive.
- Install a raised midblock crossing with rapid-flashing beacon south of Sunland Drive.
- Install MUP or wide sidewalk with minimum required landscape buffer in the following locations:
 - Along the west side of Apple Valley Road
 - Along both sides of Dresden Drive west of Apple Valley Road
 - From the north end of the existing wide sidewalk (approximately 2573 Apple Valley Road) to Sunland Drive on the east side of Apple Valley Road
- Additionally, shared bicycle lane markings or “sharrows” should be considered for installation along Parkside Drive as part of the future Citywide multimodal plan – sharrows are recommended here to improve access to Parkside Park and as an alternative to biking along Dresden Drive between Apple Valley Drive and Fernwood Circle

Additional Considerations

- This intersection falls within the PRO district; design and implementation should adhere to applicable requirements, such as width of landscape and pedestrian zones, as well as spacing of street trees, lighting, and other streetscape elements.
- This intersection falls within the City Centre Master Plan study area; as the City prepares to implement this project, staff should review guiding principles and recommendations from the plan and adjust recommendations as needed to align with the City Centre plan.
- A wall is recommended in the northeast corner of the intersection to minimize negative impacts to Parkside Park and the stream that runs through the park; however, a wall may not be needed if grading can be done in such a way that does not negatively impact the stream.
- The Bicycle, Pedestrian and Trail Plan recommends an MUP along the west side of Apple Valley Road; however, topography and property boundaries present constraints; as an alternative option, an eight-foot-wide walkway should be considered for this side of the road with a 10-foot-wide MUP on the east side of the road (this would also be consistent with PRO requirements).



FIGURE 20: RECOMMENDED IMPROVEMENTS AT DRESDEN DRIVE AND APPLE VALLEY ROAD

DRESDEN DRIVE AT ELLIJAY DRIVE/CALDWELL ROAD

This project would design and construct minor improvements to the intersection of Dresden Drive at Ellijay Drive and Caldwell Road, including installing a new crosswalk across Dresden Drive on the east leg of the Ellijay Drive intersection and installing accompanying pedestrian signals to facilitate crossing the road. It would also include extending a small segment of sidewalk along the north side of Dresden Drive within the footprint of the project, from the existing sidewalk west of Caldwell Road to the western edge of Ellijay Drive. The project would also include repaving and restriping pavement markings between the signals. These recommendations are depicted in the intersection improvement concept in Figure 21.

Summary of Recommendations

- Install a crosswalk across the east leg of the Ellijay Drive intersection, with pedestrian ramps and signals for crossing in both directions.
- Install new sidewalk along the north side of Dresden Drive, from west of Caldwell Road to the edge of the proposed crosswalk on the east leg of the Ellijay Drive intersection.

Additional Considerations

- The recommended sidewalk on the north side of Dresden Drive should be coordinated with the proposed Dresden Village development and the future re-purposing of 1382 Dresden Drive (former Rita's Cleaners).
- Several other improvements to this intersection are being made as part of the ongoing Ashford Dunwoody Road/Dresden Drive ITS System Expansion Project (GDOT PI# 0013138), including new closed-circuit television and communication equipment, new traffic signals with flashing yellow arrows for left turns, and new/upgraded pedestrian facilities.
- On May 4, 2021, City Council passed a resolution (ORD-2021-05-04) that directed City staff to amend the 2020 Comprehensive Transportation Plan (CTP) Update to remove reference to the possible realignment of Ellijay Drive and Caldwell Road and potential extension of Green Meadows Lane to Dresden Drive. This action precluded consideration of the potential realignment as part of this Intersection Improvement Analysis.
- As an option to improve sight distance for drivers on Ellijay Drive turning right onto Dresden Drive the City could consider either removing the two on-street parking spaces closest to the Ellijay Drive intersection on the south side of Dresden Drive or could add a right-turn arrow to the signal phasing to control right-turn movements.
- Several suggestions were made during the September 29, 2021 Public Forum Open House to convert the two-way left-turn lane between the signals at Ellijay Drive and Caldwell Road eastbound left-turn only (to Caldwell Road). This would potentially increase the risk of rear-end collisions and therefore was not incorporated into the recommendations.

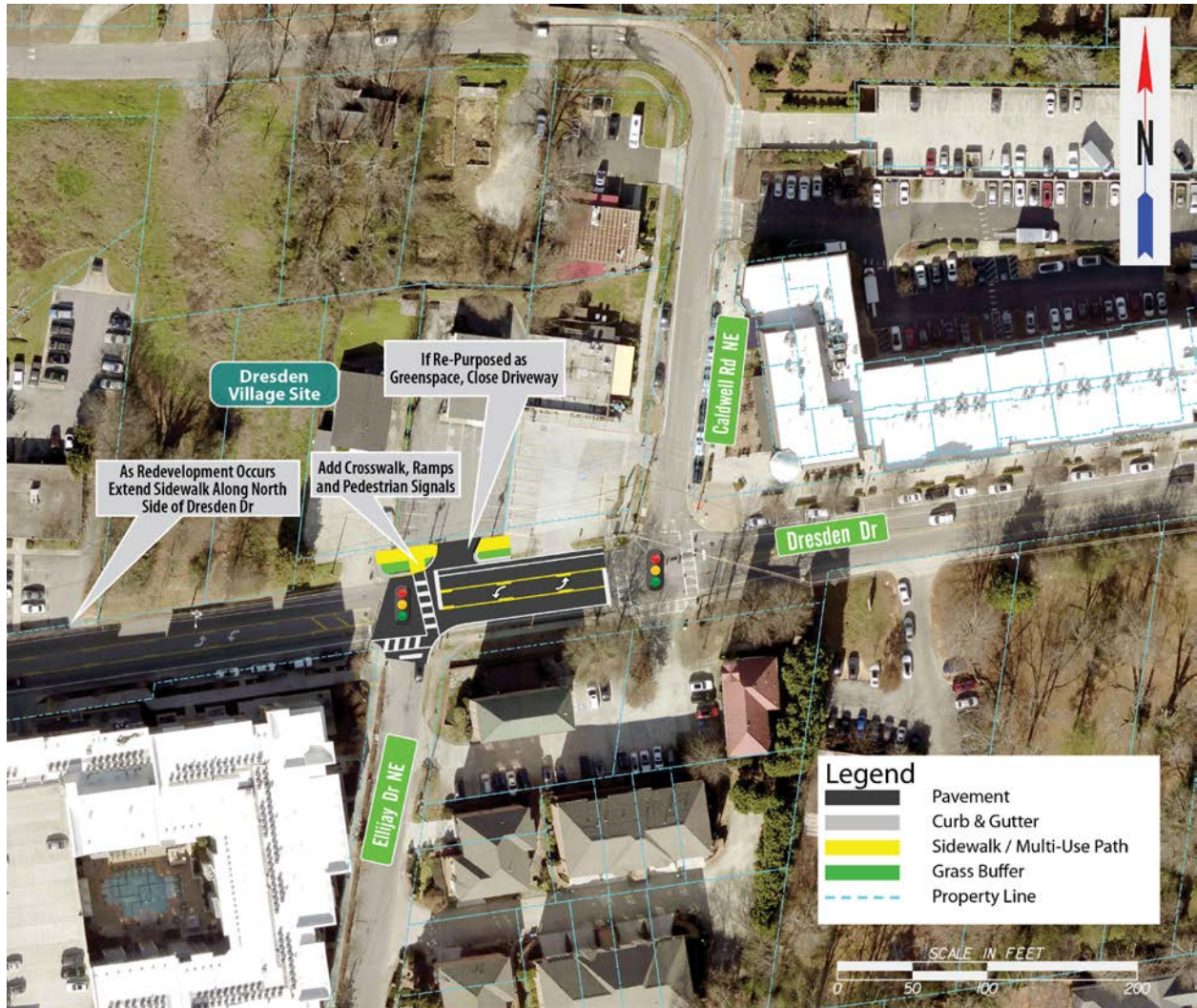


FIGURE 21: RECOMMENDED IMPROVEMENTS AT DRESDEN DRIVE AND ELLIJAY DRIVE/CALDWELL ROAD

DRESDEN DRIVE AT CLAIMONT ROAD

This project would design and construct a series of improvements to the intersection of Dresden Drive at Clairmont Road, including an extension of the eastbound right-turn lane to provide additional storage capacity and a multi-use path along the south side of Dresden Drive, consistent with the Bicycle, Pedestrian and Trail Plan. The project would also convert the westbound through/right-turn lane to a dedicated right-turn-only lane with a single through-lane and a single receiving lane on Dresden Drive west of Clairmont Road, with appropriate pavement markings and signage. The project would also adjust traffic signal phasing as needed to accommodate the above changes, add flashing yellow arrows for all permissive left-turn phases, add right-turn arrows for eastbound and westbound right-turns, and prohibit eastbound and westbound right turns on red. It would also add lighting to existing utility poles south of Dresden Drive and evaluate the need for No Loading and/or No Parking signs along the west side of Clairmont Road south of Dresden Drive.

In addition, the project recommends that the City of Brookhaven work with the City of Chamblee and property owners to mitigate driveway turning conflicts at the CVS entrance on Clairmont Road south of Dresden Drive and to seek opportunities to consolidate commercial driveway access along Clairmont Road where possible. These recommendations are depicted in the intersection improvement concept in Figure 22.

Summary of Recommendations

- Extend the eastbound right-turn-only lane.
- Install a ten-foot-wide multi-use path on the south side of Dresden Drive.
- Add FYAs for all permissive left-turn phases.
- Convert the outside westbound through/right-turn lane to a dedicated right-turn-only lane, with a single through-lane and a single receiving lane on Dresden Drive west of Clairmont Road.
- Prohibit right-turns on red and add right-turn overlap signal phases for eastbound and westbound right-turns.
- Add street light to the existing utility pole south of the intersection on the west side of Clairmont Road.
- Evaluate the need for No Loading and/or No Parking signage along the west side of Clairmont Road south of Dresden Drive.

Additional Considerations

- Clairmont Road forms the boundary between the City of Brookhaven and the City of Chamblee, therefore coordination with Chamblee would be needed to facilitate any improvements that affect the east side of Clairmont Road.
- The City of Brookhaven should work with the City of Chamblee and property owners to mitigate driveway turning conflicts at the CVS entrance on Clairmont Road.

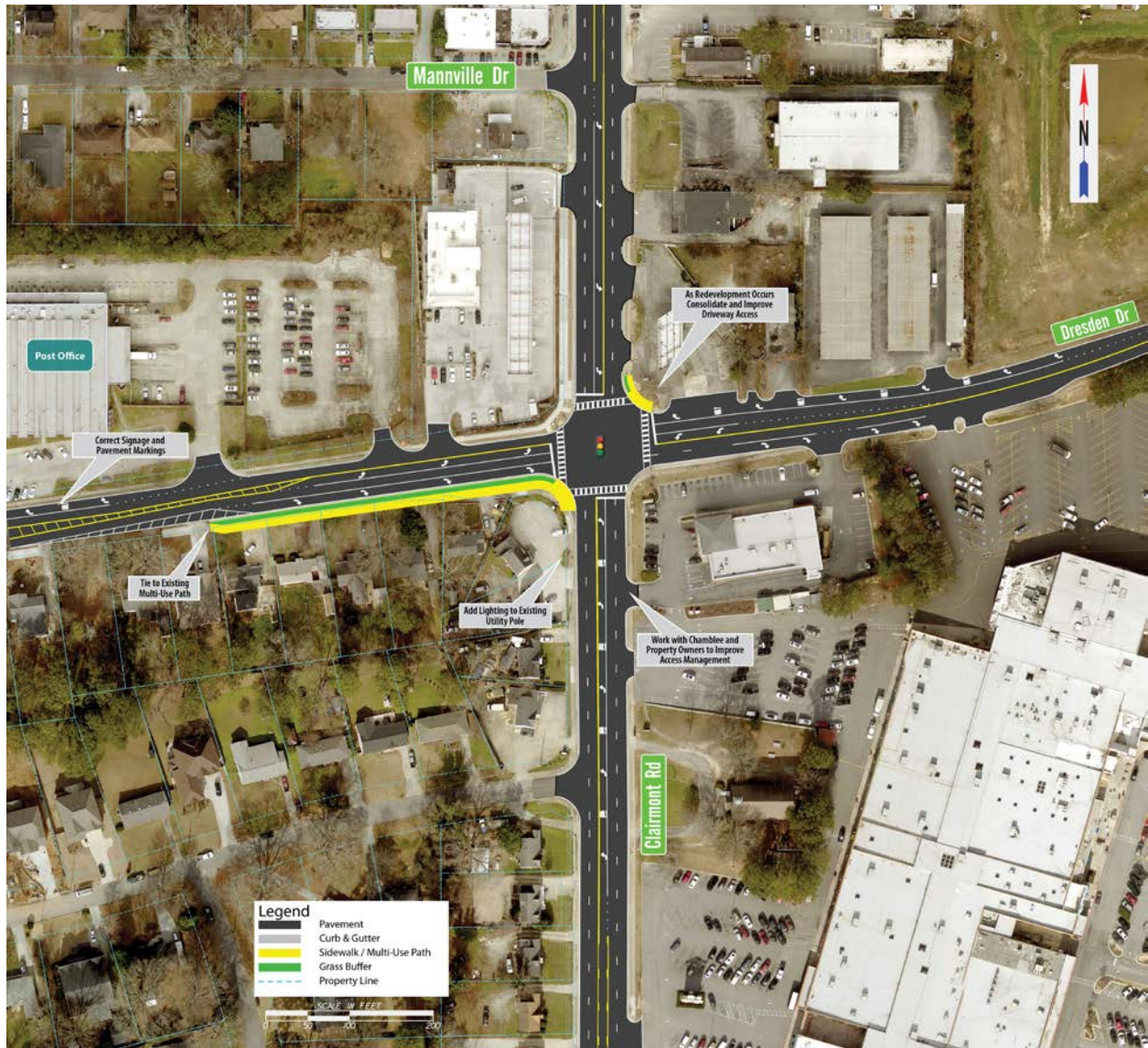


FIGURE 22: RECOMMENDED IMPROVEMENTS FOR DRESDEN DRIVE AT CLAIRMONT ROAD

DRESDEN DRIVE AT PEACHTREE ROAD

Recommended improvements for the intersection of Dresden Drive at Peachtree Road include widening Peachtree Road to six lanes, with three through lanes on both the northbound and southbound approaches. In addition to the widening, this project would also design and construct additional turn lanes on all legs and implement traffic signal phasing changes.

Summary of Recommendations

- Widen Peachtree Road to six lanes: three lanes on the northbound approach and three on the southbound approach.
- Install a second right-turn-only lane for westbound and northbound right turns; change to protected-only signal phasing and add a right-turn overlap phase.
- Install a dedicated right-turn-only lane for southbound right turns and add a right-turn overlap phase
- Install a second left-turn-only lane for southbound left turns; change signal phasing to protected-only
- Install a dedicated eastbound left-turn-only lane, so the eastbound approach consists of one right-turn lane, one through lane, and one left-turn lane, and add a right-turn overlap phase.

Any future design plans and improvements at this intersection would require coordination with the Georgia Department of Transportation (GDOT), since Peachtree Road is also State Route 141. Therefore, development of a detailed concept design was not a part of this study's scope. Likewise, future designs and improvements at this intersection should also consider the appropriate pedestrian and streetscape improvements within the project limits, in accordance with the PRO district. This includes a six-to-ten-foot-wide landscape zone and 10-to-15-foot pedestrian zone along Peachtree Road.

*It should be noted that the recommendation for widening Peachtree Road to six lanes at the Dresden Drive intersection is in conflict with the proposed number of lanes along Peachtree Road (four lanes; two lanes in each direction) identified in the approved concept report (dated 06/18/2018) and concept design for GDOT Project PI # 0010326. The project design for PI # 0010326 was developed based on the Brookhaven-Peachtree LCI plan which identified improvements to traffic operations, streetscape elements and pedestrian facilities along Peachtree Road between North Druid Hills Road and Ashford Dunwoody Road. **Therefore, improvements at the Dresden Drive at Peachtree Road intersection should be advanced in coordination with GDOT and at the time when redevelopment proposals for key properties (including the Brookhaven MARTA station) are advanced.** Traffic studies should be performed as part of these proposals to estimate the projected future traffic generated and to identify improvements to accommodate that traffic. Improvements at this intersection should address needs identified in those traffic studies as well as the multimodal needs identified in the Brookhaven-Peachtree LCI plan.*

Neighborhood Traffic Calming

Many streets in the Brookhaven Heights and Ashford Park neighborhoods north and south of Dresden Drive already have traffic calming measures in place. These include speed tables and signage. However, there are several neighborhood streets that can be accessed via the Ellijay Drive and Caldwell Road intersections which do not already have traffic calming measures in place. It is anticipated that as development along Dresden Drive continues, there will be a likely increase in the volume of traffic traveling along neighborhood streets, some of which may be using neighborhood streets as a cut-through from roads such as Peachtree Road and Briarwood Road.

According to the Federal Highway Administration (FHWA) and the Institute of Transportation Engineers (ITE), the primary purpose of traffic calming is to “support the livability and vitality of residential and commercial areas through improvements in non-motorist safety, mobility, and comfort.” This can be achieved through reducing vehicle speeds or volumes on streets through a combination of signage and physical measures – horizontal,

vertical, lane narrowing, and other measures that use self-enforcing physical or perceptual means to change behavior. Traffic calming is as unique as the neighborhoods and communities in which it is implemented; a range of strategies and measures is available for consideration and use. The FHWA/ITE Traffic Calming ePrimer is a solid resource for information and design considerations.¹⁸ Context, travel speeds, and traffic volumes should all be considered in determining and designing traffic calming strategies. This often involves consideration of trade-offs and attempting to strike a balance between providing an efficient transportation network and maintaining a safe and livable environment for all users.

ABOUT DIAGONAL DIVERTERS

Diagonal diverters are physical barriers placed diagonally across an intersection to prevent through movements and restrict turning movements in certain directions. Typically they are used on four-legged intersections to create two unconnected intersections. They are designed to break up cut-through traffic and force right or left turns. They can be designed to allow bicycle and pedestrian access via at-grade pass-throughs, and can also be designed with break-away bollards or lockable gates to accommodate emergency vehicles if needed. Figure 23 shows an example of a diagonal diverter. Additional details on the design and placement of diagonal diverters may be found in the FHWA Traffic Calming ePrimer.



FIGURE 23: EXAMPLE OF A DIAGONAL DIVERTER

Source: Creative Commons / Paul Krueger via FHWA Traffic Calming ePrimer, https://safety.fhwa.dot.gov/speedmgt/ePrimer_modules/module3pt3.cfm#mod321

ABOUT MINI-ROUNDBABOUTS

Mini-roundabouts are a type of traffic circle typically located in residential neighborhood settings that are designed to reduce speeds at minor intersections. A small, modern or mini-roundabout is a raised island placed within an unsignalized intersection, around which traffic circulates. The center island forces motorists to use reduced speed when entering and passing through the intersection, whether the vehicle path is straight through or involves turning to or from side streets. Mini roundabouts are also effective at reducing the number of angle and turning collisions, as well as reducing the severity of any collisions that do occur because of the reduced vehicle speeds.



FIGURE 24: EXAMPLE OF A MINI-ROUNDBABOUT

Mini-roundabouts are designed following roundabout design principles, so that traffic can circulate counterclockwise around or partially over the central island, depending on context and conditions. They should be designed with small painted splitter islands to direct traffic entering the intersection; these painted, flush islands can be driven over by trucks, school buses, and fire trucks as needed (in some cases, mountable splitter islands can be used). Mini-roundabouts can be installed using a combination of pavement markings and raised

¹⁸ FHWA, Traffic Calming ePrimer, https://safety.fhwa.dot.gov/speedmgt/traffic_calm.cfm

islands based on consideration of the needs of multimodal users, the turning radius, lane width, and available right-of-way. Figure 24 shows an example of a mini-roundabout. Additional details on the design and placement of mini-roundabouts may be found in the FHWA Traffic Calming ePrimer.

ABOUT SPEED TABLES

Speed tables are raised surfaces placed across the width of a street, designed to physically limit the speed at which vehicles can traverse them. Like a speed hump, speed tables extend across the width of the travel lane. They are wide enough flat top surface to accommodate the entire wheelbase of a typical passenger car. They may be designed with crosswalks across the flat surface. Speed tables may be installed on local or collector streets with posted speed limits of 30 mph or less, and should generally be located away from intersections, at mid-block locations. Figure 25 shows an example of a speed table. Additional details on the design and placement of mini-roundabouts may be found in the FHWA Traffic Calming ePrimer.

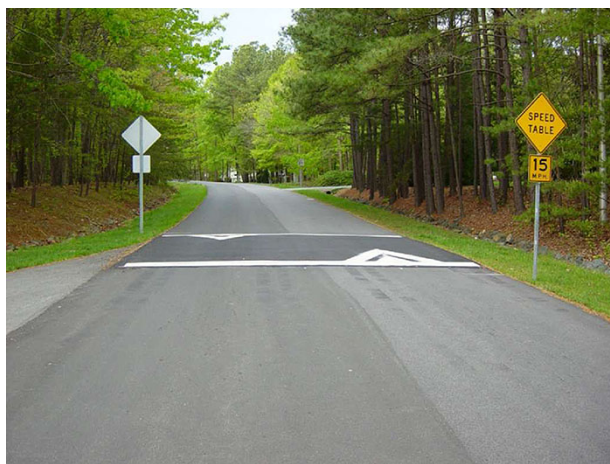


FIGURE 25: EXAMPLE OF A SPEED TABLE

Source: Institute of Transportation Engineers (ITE)

POTENTIAL TRAFFIC CALMING STRATEGIES

To address concerns about cut-through traffic on neighborhood streets north and south of Dresden Drive that can be accessed from Caldwell Road and Ellijay Drive, the project team presented two scenarios with potential recommendations: a series of diagonal diverters and access restrictions or a series of mini-roundabouts, paired with additional speed tables on one streets.

Scenario 1: Diagonal Diverters and Access Restrictions

To address cut-through traffic on neighborhood streets north and south of Dresden Drive, the project team presented options for a series of diagonal diverters and access restrictions, including two alternatives options for the area north of Dresden Drive between Peachtree Road and Redding Road.

Specifically, for streets that can be accessed from Caldwell Road (north of Dresden Drive) between Dresden Drive and Redding Road, the project team presented two alternatives (A and B):

- **Alternative A** included a series of diagonal diverters and street closures at the following locations, to restrict straight-through movements and redirect vehicles along other streets, reducing the likelihood of cut-through traffic.
- Either install a diagonal diverter at the intersection of Ashford Road and North Thompson Road to restrict northbound and southbound through- and right-turn movements OR close access on Ashford Road, just north of Thompson Road, where the power lines cross the roadway, as shown in Figure 26.
- Install a diagonal diverter at the intersection of Caldwell Road and Cheshire Way to restrict northbound and southbound through- and left-turn movements, as shown in Figure 27.
- Close Redding Way at the location of the bridge/culvert between Redding Road and Winding Lane, as shown in Figure 28.
- **Alternative B** proposed a diagonal diverter at the intersection of Redding Road and Caldwell Road to restrict northbound and southbound through- and right-turn movements coming from Peachtree Road, as shown in Figure 29.



FIGURE 26: ALTERNATIVE A PART 1 - DIAGONAL DIVERTER AT ASHFORD RD AND N THOMPSON RD



FIGURE 27: ALTERNATIVE A PART 2 - DIAGONAL DIVERTER AT CALDWELL RD AND CHESHIRE WAY



FIGURE 28: ALTERNATIVE A PART 3 - CLOSE ACCESS ON REDDING WAY BETWEEN REDDING RD AND WINDING LN



FIGURE 29: ALTERNATIVE B - DIAGONAL DIVERTER AT REDDING RD AND CALDWELL RD

For streets that can be accessed via Ellijay Drive (south of Dresden Drive), the team proposed diagonal diverters at one location, along with one street closure, and speed tables along Briarwood Hills Drive:

- Install a diagonal diverter at the intersection where Ellijay Drive/Coosawattee Drive meets Cartecay Drive to prevent through-movements as well as southbound right-turns from Ellijay Drive to Cartecay Drive and northbound right-turns from Coosawattee Drive to Cartecay Drive, as shown in Figure 30
- Close Fernwood Circle between Sylvan Circle and Fernwood Circle, to prevent using Fernwood Circle as access between Sylvan Circle and Dresden Drive, as shown in Figure 31
- Install speed tables along Briarwood Hills Drive to reduce the likelihood of people using this street as a parallel alternative to Coosawattee Drive.



FIGURE 30: PROPOSED DIAGONAL DIVERTER AT ELLIJAY DR/COOSAWATTEE AND CARTECAY DR SOUTH OF DRESDEN DRIVE

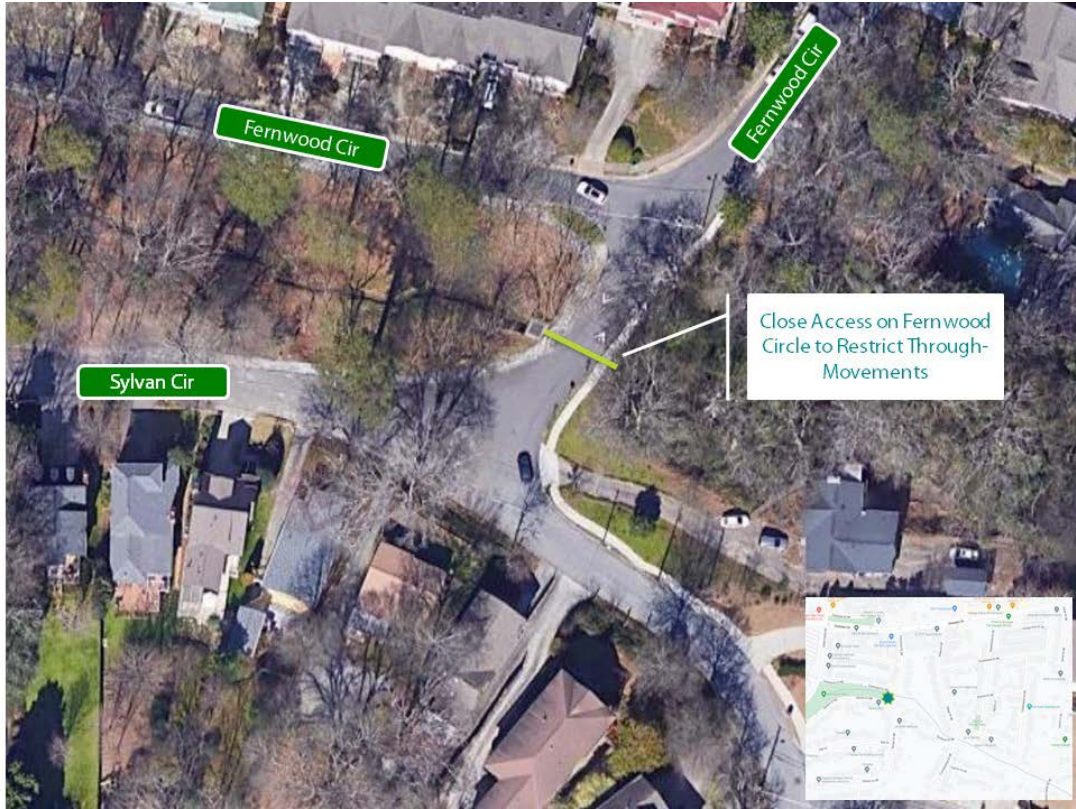


FIGURE 31: PROPOSED STREET CLOSURE ON FERNWOOD CIRCLE

Scenario 2: Mini-Roundabouts

As an alternative to the diagonal diverters and road closures, the project team proposed that a series of mini-roundabouts could be installed at six neighborhood intersections to serve as a disincentive to cut-through and to reduce vehicular speeds on neighborhood streets, while not preventing specific movements.

- Redding Road at Caldwell Road
- Ashford Road at N Thompson Road
- Redding Way at Winding Lane
- Caldwell Road at Cheshire Way
- Ellijay Drive/Coosawattee Drive at Cartecay Drive
- Sylvan Circle at Fernwood Circle

Recommended Traffic Calming Strategies

Based on community and City feedback on the preliminary proposed traffic calming strategies, this study recommends implementing a series of mini-roundabouts (in lieu of a combination of diagonal diverters and access restrictions). Mini-roundabouts will help reduce the speed of vehicles traveling through neighborhood streets and may help reduce the likelihood of cut-through traffic without restricting access to certain streets.

Additionally, to accompany the mini-roundabouts, the study recommends installing speed tables along Briarwood Hills Drive.

SUMMARY OF RECOMMENDATIONS

Install a series of mini-roundabouts at the following intersections, as depicted in Figure 34:

- Redding Road at Caldwell Road
- Ashford Road at North Thompson Road
- Redding Way at Winding Lane
- Caldwell Road at Cheshire Way
- Ellijay Road and Coosawattee Drive at Cartecay Drive
- Sylvan Circle at Fernwood Circle
- Install speed tables along Briarwood Hills Drive

Additional Considerations

- Mini-roundabouts can be designed as temporary installations for testing and evaluation. If proven to be effective, they can be upgraded or converted to permanent installations using more permanent materials.

Other Considerations

ON-STREET BICYCLE CONSIDERATIONS

To accompany recommendations for future intersection improvements and neighborhood traffic calming strategies, the project team was also asked to evaluate potential considerations and trade-offs for providing on-street bicycle facilities along Dresden Drive. These considerations may be helpful for the City's forthcoming Multimodal Plan (an update to the Bicycle, Pedestrian, & Trail Plan from 2016). During engagement activities as part of this Intersection Improvement Analysis, community members repeatedly expressed interest in having on-street bicycle facilities along Dresden Drive.

Given the current configuration of the roadway, presence of on-street parking, and recent and ongoing development, providing on-street bicycle facilities would require several potential trade-offs and likely would incur additional costs. As an example, Dresden Drive near Ellijay Drive currently has one travel lane in each direction and a center left-turn lane, as shown in Figure 32. The south side of the road has a wide sidewalk, landscaped buffer, and some on-street parking. The north side of the road has utility poles and no sidewalk.



FIGURE 32: EXISTING TYPICAL SECTION ALONG DRESDEN DRIVE NEAR ELLIJAY DRIVE

Given the posted speed limit and traffic volume along Dresden Drive, on-street bicycle lanes should be physically separated from vehicular travel lanes. In order to accommodate this, one option could be to preserve the existing curb on the south side of Dresden Drive and to remove the on-street parking and center left-turn lane. This would provide room for one separated bicycle lane with an appropriate buffer and physical barrier in each direction. The widths shown below reflect minimum recommendations per FHWA and the NACTO Separated Bike Lane Design Guide.

Trade-offs to accommodate on-street bicycle lanes in this part of Dresden Drive may include the following, as illustrated in Figure 33:

- Removal of existing on-street parking
- Removal of the two-way center turn lane
- Acquisition of additional ROW to the north of Dresden Drive, which may encroach on existing properties, driveways, and could require future dedication by property owners or acquisition costs
- Relocation of some utility poles



FIGURE 33: POTENTIAL TYPICAL SECTION WITH PROTECTED BICYCLE LANES

DEVELOPMENT TRAFFIC STUDIES

As new development proposals are advanced in the future, the City should require developers to conduct traffic impact studies as part of these applications. These studies should be based on actual development quantities put forth by the proposal and should take into account the most current traffic data and growth assumptions at the time of the application.

The scopes of these studies should be comprehensive to not only examine the developer’s own site plan but also interactions with other proposals for nearby developments. Required roadway and intersection improvements identified as part of each development proposal should consider all users of Dresden Drive including bicyclists and pedestrians and should consider and reexamine recommendations included in this study at the critical study intersections.

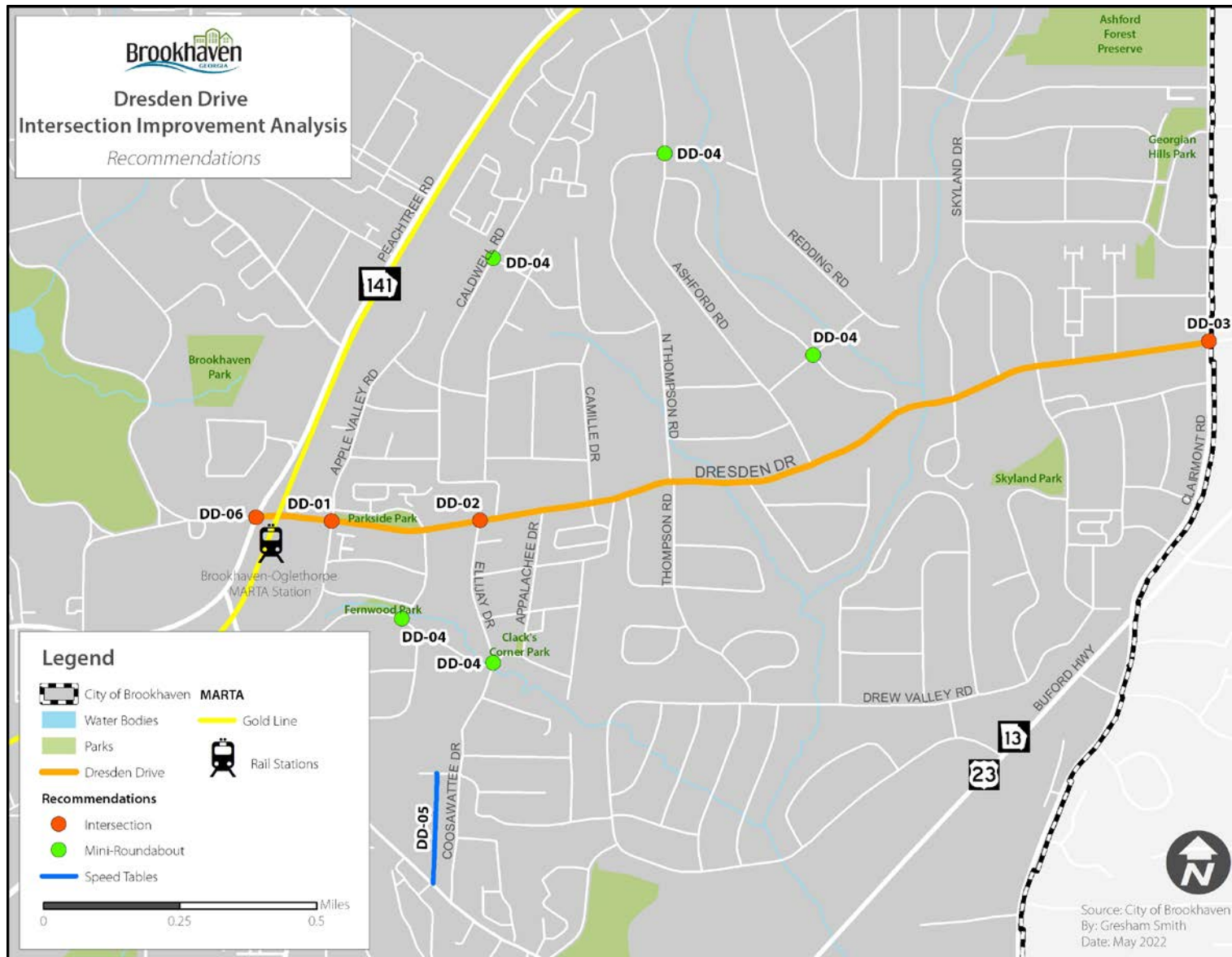


FIGURE 34: DRAFT FINAL RECOMMENDATIONS

Project List

TABLE 12: DRESDEN DRIVE INTERSECTION IMPROVEMENT STUDY PROJECT RECOMMENDATIONS

Project ID	Name	Description	Estimated Cost
DD-01	Apple Valley Road Intersection Improvements	Add a second northbound left-turn-only lane; extend the southbound right-turn lane; add a dedicated southbound left-turn lane; install new wide sidewalk along the west side of Apple Valley Rd from Fernwood Cir to Sunland Dr and along both sides of Dresden Dr west of Apple Valley Rd; fill gaps in the wide sidewalk along the east side of Apple Valley Rd between Dresden Dr and Parkside Dr and from 2573 Apple Valley Rd to the south side of Sunland Dr; install a raised crosswalk with a rectangular rapid flashing beacon (RRFB) just south of Sunland Dr; and install pedestrian curb-ramps and crosswalks where needed. Upgrade traffic signal heads and signal phasing as appropriate, including providing dedicated left-turn phases and FYAs, adding right-turn overlap phases for eastbound and southbound right turns, and leading pedestrian intervals for the south and east legs of the intersection.	PE: \$300K - \$400K ROW: \$1M - \$1.1M UTL: \$300K - \$400K CST: \$3.1M - \$3.7M TOTAL: \$4.7M - \$5.6M
DD-02	Ellijay Drive Intersection Improvements	Add a new crosswalk (including pedestrian curb-ramps) across Dresden Dr on the east leg of the Ellijay Dr intersection; install pedestrian signals to facilitate crossing the road; extend the sidewalk along the north side of Dresden Dr from the existing sidewalk west of Caldwell Rd to the western edge of Ellijay Dr.	PE: ~ \$20K ROW: ~ \$10K UTL: \$75K - \$100K CST: \$150K - \$200K TOTAL: \$250K - \$300K
DD-03	Clairmont Road Intersection Improvements	Extend the eastbound right-turn lane and install a multi-use path along the south side of Dresden Dr within the limits of improvements; convert the westbound through/right-turn lane to a dedicated right-turn-only lane with a single through-lane and a single receiving lane on Dresden Dr west of Clairmont Rd; add FYAs for all permissive left-turn phases; prohibit eastbound and westbound right-turns on red and add overlap phases for those movements. Add a street light to the existing utility pole south of Dresden Dr and evaluate the need for No Loading and/or No Parking signs along the west side of Clairmont Road south of Dresden Drive. Seek opportunities to mitigate turning conflicts at commercial driveways close to the intersection where possible.	PE: \$100K - \$150K ROW: \$350K - \$450K UTL: \$250K - \$300K CST: \$1.1M - \$1.3M TOTAL: \$1.9M - \$2.1M
DD-04	Mini-Roundabouts at Six Locations	Design and construct a series of mini-roundabouts at six locations in the Brookhaven Heights and Ashford Park neighborhoods: Redding Rd at Caldwell Rd; Ashford Rd at N Thompson Rd; Redding Way at Winding Ln; Caldwell Rd at Cheshire Way; Ellijay Dr/Coosawattee Dr at Cartecay Dr; Sylvan Cir at Fernwood Cir.	PE: \$180K - \$270K ROW: \$75K - \$100K UTL: \$60K - \$180K CST: \$1.8M - \$2.7M TOTAL: \$2.2M - \$3.3M
DD-05	Speed Tables on Briarwood Hills Drive	Install speed tables along Briarwood Hills Dr to slow vehicle speeds and reduce the use of this road as a parallel alternative to Coosawattee Dr.	TOTAL: \$12,500 - \$55,000
DD-06	Coordinate with GDOT to Improve Dresden Drive at Peachtree Road	Work with GDOT staff to identify opportunities for intersection improvements to Peachtree Rd (SR 141) at Dresden Dr to include widening to six lanes with additional turn lanes and turn lane improvements. These improvements should also be based upon needs identified through traffic studies developed as part of future redevelopment proposals.	Staff Time*

*Costs would be determined once the full scope of improvements is determined