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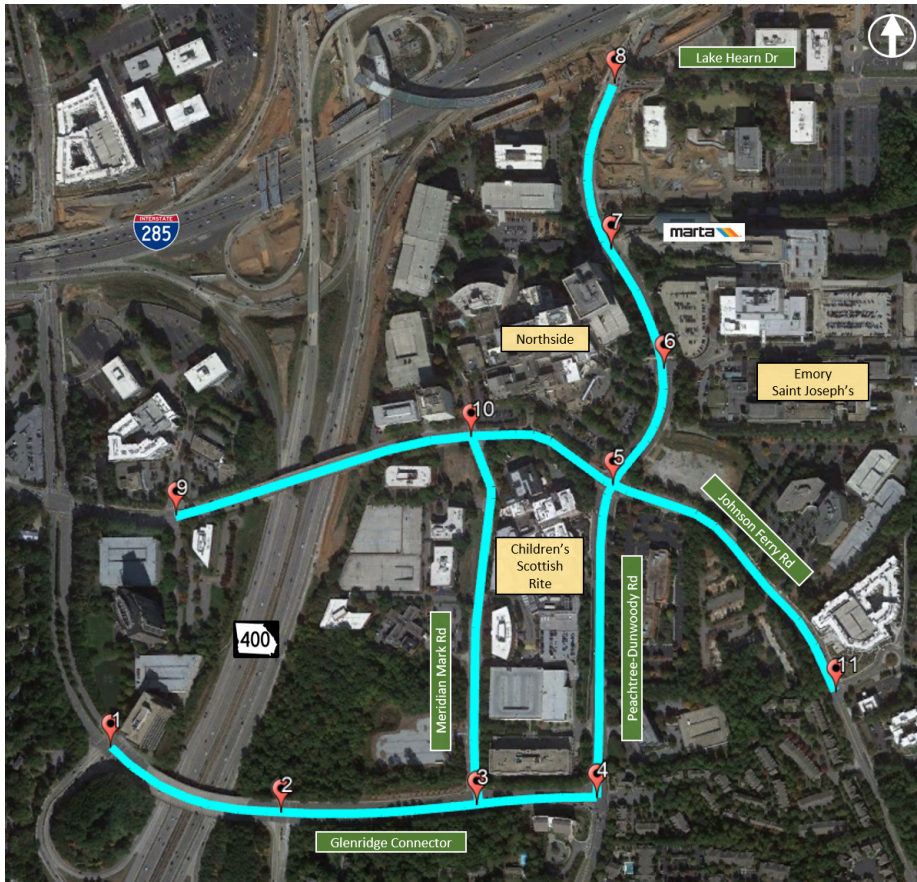
- A: Project Fact Sheets
- B: Concept Layouts (Two Projects)

Note: A separate document, the Technical Appendix, includes additional information as noted in this report.

Introduction and Purpose

The Medical District encompasses an area in Sandy Springs near the I-285 at SR 400 interchange which includes three hospitals and primarily office buildings supporting the medical industry. The study area includes the streets of Peachtree Dunwoody Road, Johnson Ferry Road, Glenridge Connector, and Meridian Mark Road. It is important that the street network provides for the efficient and safe movement of people and vehicles to support the continued growth expected in the area.

Figure 1 illustrates the streets and eleven study intersections within the study area.



The roadway safety analysis study was initiated to identify safety improvements and projects which the City can program for implementation. The study reviewed both roadway geometric conditions and crash history to identify opportunities to improve conditions for vehicles, pedestrians, and bicyclists. The study developed project recommendations which can be programmed and implemented in phases.

The intersection of Peachtree Dunwoody Road at Johnson Ferry Road is the highest volume location and highest crash location within the study area. The study reviewed the geometric conditions and safety issues. A preliminary concept layout was prepared to illustrate one option the City could program for implementation.

Figure 1: Study Area

Many cities throughout North America are developing strategies to eliminate deadly and serious injury crashes. The USDOT/FHWA state reducing deaths requires implementation of a Safe System approach. One focus area is designing and managing the street infrastructure to reduce crash risk.



Data-Driven Safety Analysis

The Medical District also serves many multimodal trips – pedestrian, bicycle, private shuttles, MARTA and Xpress transit. The study identified opportunities to improve multimodal facilities and connections, as illustrated in **Figure 2**. An increase in pedestrian and bicycle volumes is expected with the addition of the 400 Multiuse Trail, future hospital expansion, and office development within the Medical District. Enhancements to the multimodal network will be necessary to accommodate the growth and reduce the vehicle demand on the street network. The network can:

- Connect 400 Multiuse Trail to the MARTA Medical Center Station
- Improve the access to 400 Multiuse Trail along Johnson Ferry Road
- Serve 'last mile' trips from MARTA to major hospitals and office buildings
- Improve bicycle connectivity to the network beyond the Medical District

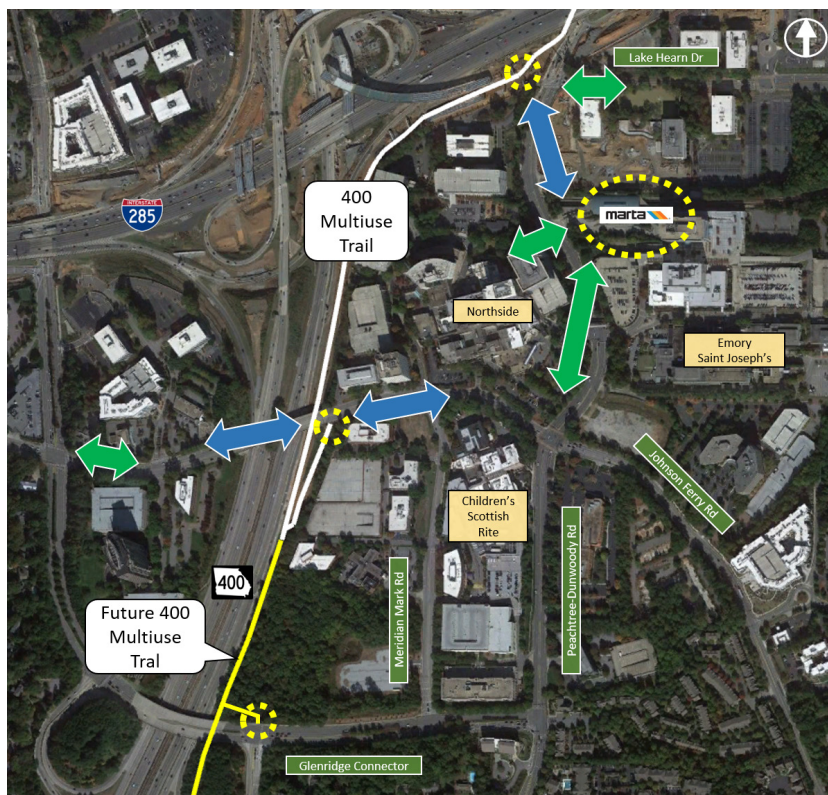


Figure 2: Multimodal Network Opportunities

The study also provided wayfinding signage recommendations. The recommendation is to install directional signage within the District to guide drivers to the three hospital emergency driveways. The hospital representatives agreed the most important guidance for drivers is to quickly and safely reach the emergency entrance. Additional signage would complement the existing hospital signs at driveways. The signage context and design standards can be coordinated with the City's Wayfinding and Signage Plan. Additionally, wayfinding signage is recommended for pedestrians and bicyclists.



The Results

The study initially identified a list of 26 projects which could be implemented using multiple strategies. The list included seven categories of project types, which included: Complete Street, Intersection, Multimodal, Midblock, Traffic Signal Upgrades, Wayfinding, and Lighting. The project list was refined, combining projects as appropriate, resulting in 12 recommended projects. The study identified additional recommendations may have a variety of potential implementation options and could be incorporated into a programmed project. The study also identified a high priority recommendation to address the one fatal crash which occurred within the study area at the intersection of Glenridge Connector at Meridian Mark Road. This recommendation consisted of signal timing and signage and is explained in the 'additional recommendations' section.

Table 1 and Figure 3 indicate the 12 projects. The projects and recommendations are further explained in the recommendations section and fact sheets.

Project Number & Tier			Project Category
Tier 1	Tier 2	Tier 3	
1			Intersection - Pedestrian
2			Intersection - Pedestrian
3			Traffic Signal Upgrades*
4			Wayfinding for Drivers*
5			Complete Street
	6		Intersection
	7		Complete Street
	8		Intersection (Two Locations)
		9	Midblock: Vehicular & Pedestrian
		10	Midblock: Vehicular
		11	Intersection (Two Locations)
		12	Wayfinding for Pedestrians & Cyclists*

* Project not mapped



Figure 3: Recommended Projects

The project recommendations were vetted with City of Sandy Springs Public Works Department and key stakeholders. Key stakeholders included Children's Healthcare of Atlanta – Scottish Rite Hospital, Emory Saint Joseph's Hospital, Northside Hospital, and Georgia DOT District 7. Virtual meetings with key stakeholders allowed for discussion and input in developing recommendations. The project team also sought input from staff at the Perimeter Community Improvement District, MARTA and Xpress transit. The potential implementation options identified include the following:

- Stand-alone project
- Add into existing project
- GDOT partnership
- Perimeter CID partnership project
- Future City TSPLOST project

The City can choose individual recommendations or projects and implement them as appropriate considering funding, programming, partnership, and sequencing considerations. The study provided recommendations for prioritizing the improvements into three tiers – Tier 1 (highest), Tier 2, and Tier 3 (lowest). Projects with the highest expected Safety Benefit/Cost ratio were prioritized into Tier 1.

The projects can be presented to state and regional partners for programming and funding requests. Some projects may be good candidates to receive safety funding or assistance from Georgia DOT to implement, particularly the traffic signal upgrade project and the project at the Glenridge Connector at SR 400 ramps. A fact sheet for each project and many of the recommendations is provided to summarize the information and aid programming.

Existing Conditions Assessment

The study was initiated in July 2020. The study consisted of three major phases: Existing Conditions Assessment, Recommendations Development, and Finalize Recommendations.

The first effort performed was the Existing Conditions Assessment, which included both a geometric review of street conditions and historical crash review.

GEOMETRIC STREET ASSESSMENT

A thorough inventory of existing geometric conditions and observations of traffic conditions was performed during multiple time periods. Some of the findings included crosswalks needing upgrades, narrow sidewalks and gaps, steep vertical grades and curves on Peachtree Dunwoody Road, varying traffic signal equipment conditions, limited bicycle facilities, and streetlights not provided on all street segments.

Exhibits for the eleven study intersections and two midblock roadway segments were created to document observations. The exhibits identified street features and some potential opportunities to address infrastructure and safety concerns. The exhibits are included in **Technical Appendix, Appendix A**.

CRASH HISTORY ANALYSIS

Five years of crash history (year 2015-2019) was obtained from Georgia DOT's Safety Office. The data was screened to include only crashes occurring within the study area (i.e. not along adjacent freeways or within parking lots). A total of 781 crashes occurred within the study area during the five-year period, or an average of 156 crashes per year. **Table 2** summarizes the crashes by type (manner of collision) and severity (fatality, injury, and property damage only). The table also provides the number of pedestrian crashes (14), bicycle crashes (2), and total crashes per year.

Table 2: Crash Review Summary					
Study Area Summary					
Five Years: 2015 - 2019					
Crash Type	Fatality (K)	Injury (ABC)	Property Damage Only (O)	Total Crashes	Percentage of Total Crashes
Angle	0	19	43	62	21%
Angle-Left	1	20	51	72	
Angle-Right	0	2	25	27	
Head On	0	1	1	2	0%
Not A Collision with Motor Vehicle	0	19	11	30	4%
Rear End	0	70	313	383	49%
Sideswipe-Opposite Direction	0	0	3	3	0%
Sideswipe-Same Direction	0	22	180	202	26%
Total Crashes	1	153	627	781	100%
Percent of Total Crashes	0.1%	19.6%	80.3%		100%
Crashes involving Bicyclists or Pedestrians	0	14	2	16	
	2015	2016	2017	2018	2019
Total Crashes per Year	130	169	168	140	174

Note: Number of crashes, not total fatalities or injuries

The location of the fatality, injury, and property damage only crashes are illustrated in **Figure 4**. This image provides an overview of where crashes occur. A City performed review of citywide crash data for the year 2017 indicated the intersection of Peachtree Dunwoody Road at Johnson Ferry Road ranked #26. This was the highest ranked location in the study area.

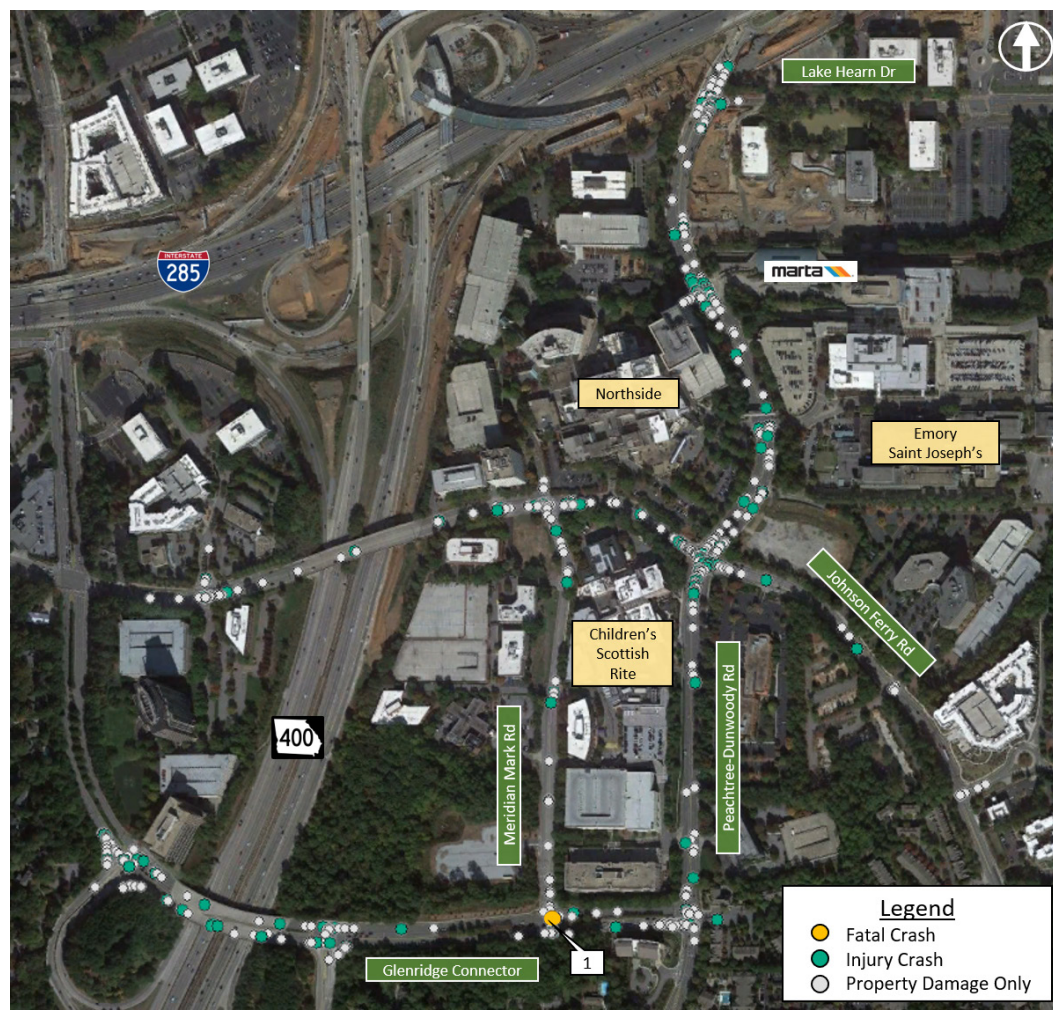


Figure 4: Study Area Crashes by Severity

A thorough crash review and summary of findings is included in the **Technical Appendix, Appendix B**. The appendix includes 19 collision diagrams prepared at the study intersections, midblock, and driveway locations. This crash data information provided a basis for the next phase of the project - identifying safety countermeasures.

STAKEHOLDER INVOLVEMENT

The existing conditions assessment information was presented to City of Sandy Springs Public Works Department and key stakeholders during the first stakeholder meeting. Key stakeholders included Children's Healthcare of Atlanta – Scottish Rite Hospital, Emory Saint Joseph's Hospital, Northside Hospital, and Georgia DOT District 7. Two virtual meetings were held with the stakeholders to inform them of the study, share information, and receive input on areas of safety concern. The project team also spoke with staff at the Perimeter Community Improvement District, MARTA and Xpress transit to solicit input. This information aided the recommendations development phase.

Two stakeholder meetings were held on September 16th, 2020. The presentation and meeting minutes are included in the **Technical Appendix, Appendix C**.

RELEVANT STUDIES AND PROJECTS IN THE AREA

A review of relevant studies and projects affecting the Medical District area was performed to inform the analysis of potential recommendations. A summary of these follows:

Recent and Active Transportation Studies in Study Area:

1. Last Mile Connectivity Study: The cities of Sandy Springs, Brookhaven, and Dunwoody, and the Perimeter Community Improvement Districts partnered to conduct a study of last mile connectivity. The study's two main objectives were to identify projects and enhancements to provide safe, comfortable non-automobile options for short-distance trips and improve transit service use. The study resulted in a list of projects and strategies to encourage alternative modes of travel within the study area, which were taken into consideration in this study.
2. Sub Area Analysis Johnson Ferry Road Corridor: This Perimeter CID led study included an analysis of transportation conditions, including travel patterns and traffic impacts if a new ramp connection was provided at Johnson Ferry Road to the SR 400 Express lanes. The final report was completed September 2019.
3. Concept Study at Peachtree Dunwoody Road at Johnson Ferry Road: This Perimeter CID led effort is developing potential improvement concepts at the intersection. The study was initiated in June 2020.
4. The Next Ten Comprehensive Plan for City of Sandy Springs, adopted 2017.

Planned and Active Projects in or adjacent to study area:

1. Transform 285/400 Project: This active GDOT project is reconstructing the interchange of I-285 at SR 400. Within the study area, the project includes modifications at the intersection of Peachtree Dunwoody Road at Lake Hearn Drive and the construction of a segment of '400 Multiuse Trail' within the interchange project limits. The expected completion date for construction is year 2021.
2. 400 Multiuse Trail (within the interchange): A segment of the 12-foot wide multi-use path is being constructed. The path begins south of Johnson Ferry Road along the east side of SR 400, and extends to the north side of I-285 along the west side of Peachtree Dunwoody Road.
3. 400 Multiuse Trail (south of interchange): City of Sandy Spring project number T-60 is the construction of the multiuse path along SR 400 between the existing segments located in the City of Atlanta/Buckhead and Johnson Ferry Road. The project is in design with right-of-way scheduled for Fall of 2020.
4. T 0021 - Combination project: The Perimeter CID led project includes two improvements. The first component, the construction of a 12-foot wide multi-use path along the west side of Peachtree Dunwoody Road between I-285 and Hammond Drive, will extend the 400 Multiuse Trail trail system. The second component is roadway reconstruction along Lake Hearn Drive, between Peachtree Dunwoody Road and Perimeter Center Parkway. The roadway improvements include modifications at the intersection of Peachtree Dunwoody Road at Lake Hearn Drive, and adding travel lanes along Lake Hearn Drive and adding a two-way cycle track along the south side. This project is currently in concept development.
5. I-285 Top End Express Lane Project (PI 0001758): GDOT led projects to add express lanes at the interchange of SR 400 at I-285 and along I-285. The projects may include ramp connections from the express lanes to the surface streets of Perimeter Center Parkway and Johnson Ferry Road.

Recommendations

The team identified recommendations based on the field review of existing geometric conditions and the crash history analysis. The focus on improving safety meant utilizing many resources to identify alternatives. Safety project countermeasures were identified based on FHWA's proven safety countermeasure initiative, AASHTO's Highway Safety Manual, the CMF (crash modification factor) clearinghouse, and previous safety project experience. Safety improvement recommendations considered included wider pedestrian facilities, bicycle facilities, multiuse paths, upgraded lighting, street enhancements, leading pedestrian intervals, raised medians, driveway channelization, crosswalk visibility enhancements, and intersection modifications.

The team considered many alternatives, analyzed the options, and selected the alternative that reflected the overall best value and balanced the need to address operations, safety, project cost, and limit property impacts.

RECOMMENDED PROJECTS

The study identified 12 projects plus additional recommendations. Additional recommendations may have a variety of potential implementation options and could be incorporated into a programmed project. The study also identified a high priority recommendation to address the one fatal crash which occurred within the study area at the intersection of Glenridge Connector at Meridian Mark Road. This recommendation consisted of signal timing and signage, and is explained in the 'additional recommendations' section.

The study provided recommendations for prioritizing the improvements into three tiers – Tier 1 (highest), Tier 2, and Tier 3 (lowest). **Table 3** summarizes the primary information for the twelve projects.

Table 3: Recommended Projects

	Table 3: Recommended Projects			
#	Project Category	Location	Description	Planning Level Cost Estimate
1	Intersection - Pedestrian	Peachtree Dunwoody Road at Hollis Cobb Circle/MARTA Medical Center Station	Phase 1: Install exclusive pedestrian signal phase to address high crash location	
2	Intersection - Pedestrian	Peachtree Dunwoody Road at Northside Hospital / Emory Saint Joseph's Hospital	Phase 1: Install pedestrian crosswalks across Peachtree Dunwoody Road	
3	Traffic Signal Upgrades	11 locations with Medical District	Improve intersections by installing FYA (flashing yellow arrow) signal heads & backplates w/ reflective tape	
4	Wayfinding for Drivers	Medical District	Implement wayfinding to guide drivers to three hospital emergency driveways	
5	Complete Street	Johnson Ferry Road	Phase 1: Construct new multiuse path along south side of street to accommodate new 400 Multiuse Trail connection and install raised median; Limits - Glenridge Connector to Meridian Mark Rd	
6	Intersection	Peachtree Dunwoody Road at Johnson Ferry Road	Geometric reconstruction to include pedestrian and vehicular upgrades	
7	Complete Street	Peachtree Dunwoody Road	Construct complete street treatments to accommodate future increase in pedestrian and bicycle volumes; Limits - Lake Hearn Rd to Hospital Driveways	
8	Intersection (Two Locations)	Glenridge Connector at Peachtree Dunwoody Road	Improve intersection w/ pedestrian and vehicular upgrades	
		Johnson Ferry Road at Old Johnson Ferry Road		
9	Midblock: Vehicular & Pedestrian	Meridian Mark Road	Improve geometrics at Children's Hospital Main Driveway and restripe street to provide dedicated turn lanes; Limits - Children's Hospital Main Driveway to Glenridge Connector	
10	Midblock: Vehicular	Peachtree Dunwoody Road	Install raised median; modify driveway access to 5505 Peachtree Dunwoody Rd & 5555 Peachtree Dunwoody Road; Limits - Glenridge Connector and Johnson Ferry Rd	
11	Intersection (Two Locations)	Glenridge Connector at SR 400 SB Ramps	Improve intersection w/ pedestrian and vehicular upgrades	
		Glenridge Connector at SR 400 NB Ramps		
12	Wayfinding for Pedestrians & Cyclists	Medical District	Implement branded wayfinding to guide pedestrians and cyclists to hospitals, major businesses, and destinations	

A fact sheet summarizing each project is provided to aid programming. Each fact sheet has information about the project, benefits, considerations, cost estimate, and graphics. The project fact sheets are included in the **Report Appendix, Appendix A**.

ADDITIONAL RECOMMENDATIONS

In addition to the projects, the study identified additional recommendations which may have a variety of potential implementation options. Some of the following recommendations could be incorporated into a programmed project. A fact sheet for four of the recommendations are provided in the **Report Appendix, Appendix A**.

1. High Priority Recommendation at the intersection of Glenridge Connector at Meridian Mark Road - To address the one fatal crash within the study area, recommendations were provided which do not require programming a major project. See Recommendation **Fact Sheet R-1**.
2. Enhancement to current joint City of Sandy Springs/Perimeter CID project T-0021 – Add an enhanced pedestrian crossing with a separate marked cycle crossing on the south and west leg of the intersection. This enhances the 'last-mile' multimodal connection between 400 Multiuse Trail and MARTA Medical Center Station. See Recommendation **Fact Sheet R-2**.
3. Install Street Lighting - The project would add roadway lights and pedestrian lights in locations which currently do not have lighting. See Recommendation **Fact Sheet R-3**.
4. New Sidewalks – The recommendation is to install sidewalks to fill gaps in three locations. These gaps are expected to be included in the list for the City's sidewalk installation program. These are relatively small gaps, and therefore recommended to be prioritized for implementation due to the pedestrian activity in the Medical District. See Recommendation **Fact Sheet R-4**.
5. Glenridge Connector – Between SR 400 and Meridian Mark Road, construct a multiuse path (replacing the existing sidewalk) along the north side of the street to accommodate the new 400 Multiuse Trail connection.
6. Install Signage – install additional warning and advisory signs to improve driver's awareness of high volume of pedestrians and bicyclists in the area.
7. Develop a design standard for the pedestrian and bicycle facilities within the Medical District. This would serve as a guide for the multiple projects and ensure design consistency. The design standards could including topics such as preferred and minimum widths for multiuse paths and sidewalks, crosswalk design, consistent signage, landscaping, lighting, etc. These standards would augment typical street sections identified in the Development Code, Technical Manual.
8. Partner with Perimeter CIDs and City of Brookhaven to implement a complete street with bicycle accommodations along Lake Hearn Drive and Perimeter Summit Parkway, between Peachtree Dunwoody Road and Ashford Dunwoody Road. This would enhance the bicycle network and connections to 400 Multiuse Trail.
9. To improve safety when the City designs the recommended street improvement projects, the designs should consider elements which move people, separate travel modes, slow vehicles, and increase visibility.

ADDITIONAL CONSIDERATION - POTENTIAL NEW STREET

Previous transportation studies performed in the Medical District area have considered the potential of a new street to the east. The most recent study, titled 'Sub Area Analysis Johnson Ferry Road Corridor', was performed for the Perimeter CIDs in September 2019. The new street would extend Perimeter Center Parkway from Lake Hearn Drive to intersect with Johnson Ferry Road. Previous studies have shown this new street could provide a reliever to the congested Peachtree Dunwoody Road corridor, especially at the closely spaced intersections of the I-285 Eastbound On-ramp and Lake Hearn Drive. This study mentions this street connection for two reasons – it would improve street network connectivity by providing alternate routes for pedestrian, bicyclists, and vehicles. Additionally, it could enhance safety by reducing congestion and providing secondary routes for emergency vehicles.

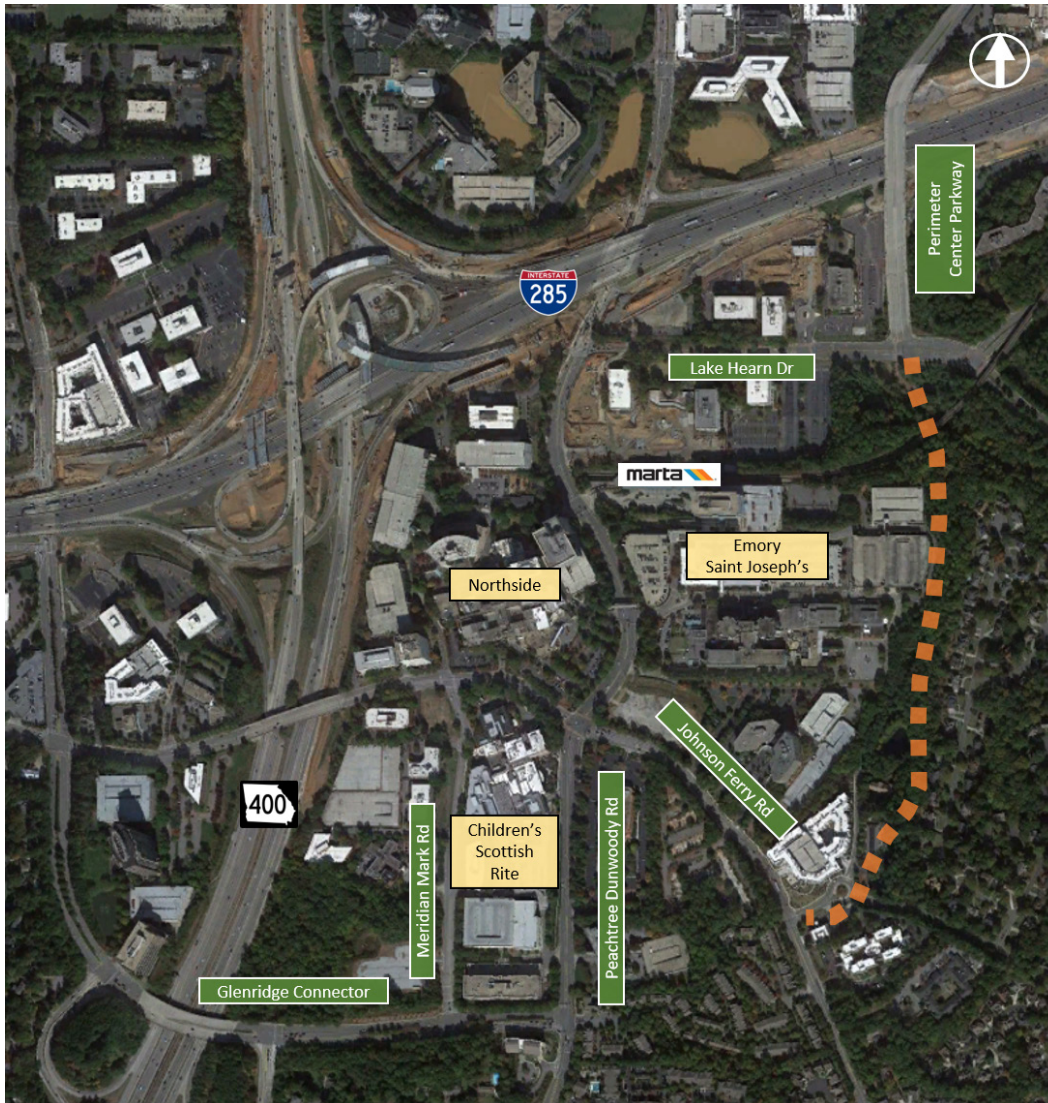


Figure 5: Potential New Street Location

MULTIMODAL TRANSPORTATION

A review of previous studies and planned multimodal facilities in the area was performed. A review of available pedestrian and bicycle volume data, along with field observations of existing conditions informed the team's review of concepts to improve safety and comfort for people walking and bicycling in the Medical District.

In the area there are dedicated bike lanes along Perimeter Summit Parkway, Perimeter Center Parkway and short segments of Peachtree Dunwoody Road. There are sidewalks along most street segments within the Medical District and one multiuse path along the east side of Glenridge Connector/Glenridge Drive. The 400 Multiuse Trail multiuse facility has a segment under construction and future segments within the Medical District.

There are many opportunities to enhance the multimodal network within the Medical District. Constructing a network of multiuse paths within the Medical District along the public streets is recommended. The multiuse path, with a preferred width of 10-feet to 12-feet, provides for high pedestrian volumes as well as bicyclists. The path separates pedestrians and bicyclists from vehicles with a buffer width of 5-feet (6-feet preferred). The buffer allows for planting of trees and placement of signs or utilities. **Figure 6** indicates the proposed multiuse paths within the Medical District. The implementation of this network was incorporated into the individually proposed projects, which can be built out in phases.

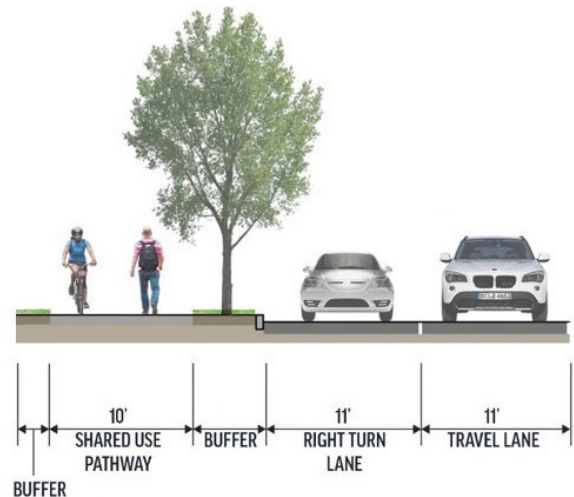


Figure 6: Proposed Multiuse Path Network

PROJECT CONCEPTS AND COST ESTIMATES

For two projects identified below, engineered concept layouts were prepared to illustrate the proposed improvements, identify impacts, and develop a planning level cost estimate. For other projects, a project schematic illustrating the proposed improvement or project limits was developed.

- **Project #6** – Intersection - Peachtree Dunwoody Road at Johnson Ferry Road
- **Project #7** – Complete Street - Peachtree Dunwoody Road

Planning level cost estimates were prepared for eight projects (as shown in Table 3). The planning level cost estimates include Preliminary Engineering (PE), Construction (CST), right-of-way (ROW), and a contingency. The estimates were based on rough quantities and major cost items, with many assumptions. The estimates were prepared based on the concept layout, which is based on GIS data, contours, and parcel data. The concept layouts are included in the Report Appendix, Appendix B. The preliminary engineering stage would further define the concept, impacts, and the cost estimates. The planning level cost estimates are included in the **Technical Appendix, Appendix D**.

FINALIZING RECOMMENDATIONS

The project recommendations were vetted with City of Sandy Springs Public Works Department and key stakeholders. Key stakeholders included Children's Healthcare of Atlanta – Scottish Rite Hospital, Emory Saint Joseph's Hospital, Northside Hospital, and Georgia DOT District 7. The meetings allowed for discussion and input in developing recommendations. The two stakeholder meetings were held on February 24, 2021 and March 5, 2021. The presentation and meeting minutes are included in the **Technical Appendix, Appendix C**.

Based on the study findings and input from stakeholders, the list of projects was prioritized.



APPENDIX A

Jul 20, 2020



T-7241 MEDICAL DISTRICT ROADWAY SAFETY ANALYSIS

PROJECT FACT SHEET

Project ID	1
Project Category	Intersection - Pedestrian
Project Location	Peachtree Dunwoody Road at Hollis Cobb Circle/ MARTA Medical Center Station
Project Description	Improve intersection w/ pedestrian upgrades to address high crash location
Limits	n/a
Implementation Tier	1

Additional Project Information	
Project Addresses Concern	Pedestrian safety (high pedestrian crash location)
Recommended Actions	Prioritize pedestrian improvement project
Other	- FYA (Flashing Yellow Arrow) and Backplates indicated in separate project (No.3) - Pedestrian warning signs could be installed (for example R10-15; MUTCD sign for left-turn/right yield to peds)

#	Existing Conditions / Safety Concerns	Recommendation	Benefit/Consideration
1	Nine pedestrian injury crashes in the pedestrian crossing of Peachtree Dunwoody Road and vehicle-pedestrian conflict; 12-hour pedestrian count recorded a total of 987 pedestrians at the intersection	Install Exclusive Pedestrian Phase	Improves safety and visibility for pedestrians; 51% crash reduction factor based on CRF #4117; Many options considered
2	Crosswalk across MARTA driveway is faded	Re-install crosswalk marking on MARTA driveway	
3	Crosswalk across Peachtree Dunwoody Road has limited visibility due to uphill grade on Hollis Cobb Circle approach	Possibly add warning signs for turning vehicles	Improve pedestrian safety; Improve driver awareness
4	Traffic signal: Protected-permissive left-turn for NB and SB; 5-stack signal head	Install FYA (Note: SB mast arm long enough for FYA); separate project	Improves driver awareness of permissive left-turn
5	Traffic signal: Permitted left-turn for EB & WB	Install FYA (flashing yellow arrow); might require new mast arm for WB direction; separate project	Improves driver awareness of permissive left-turn
6	Traffic signal: Pedestrian phase is concurrent with vehicle phase in WB & EB direction	See recommendation #1 above	
7	No raised median along north leg of Peachtree-Dunwoody Rd	Add median; separate project	Improve vehicle safety by preventing U-Turn's and reducing side swipe crashes

Preliminary Cost Estimate: (#1 & 2)

Preliminary Eng.:	
Construction Cost:	
Contingency:	
Total Project Cost:	

A Safety Benefit/Cost Ratio was calculated for installing the Exclusive Pedestrian Phase. The Safety B/C ratio is between 187 (lower range) and 331 (higher range).

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PREPARED BY

Updated: 7/7/2021



Project ID	1
Project Category	Intersection - Pedestrian
Project Location	Peachtree-Dunwoody Road at Hollis Cobb Circle/ MARTA Medical Center Station

Recommendation - Exclusive Pedestrian Phase (Pedestrian Scramble)

- Benefit: Removes vehicle-pedestrian conflict by signal timing
- Impacts: Requires **34 seconds** for walk plus pedestrian clearance interval, which impacts vehicle operations
- Cost: Option has minimal implementation cost
- Additional consideration: Provides improved crossing for pedestrian and bicyclists and accommodate higher volumes with the 400 Multiuse Trail connection to the north
- Addresses issue: High

Options Not Recommended

Option A – Leading Pedestrian Interval

- Benefit: Provide advance pedestrian walk indication to improve pedestrian visibility
- Impacts: Requires additional 3 seconds for side-street signal phase
- Signal timing: Expected to have minimal impact to signal timing & vehicle operations
- Cost: Option has minimal implementation cost
- Addresses issue: Low

Option B– Add protected only left-turn (green arrow) phase for eastbound Hollis Cobb Circle

- Benefit: Provides left-turn vehicle movement in advance of the pedestrian walk indication
- Impacts: Would require split times of 20 seconds for AM, 18 seconds for MD, and 20 seconds for PM
- Cost: Option has low implementation cost
- Addresses issue: Medium

Options considered to address pedestrian crossing of Peachtree Dunwoody Road and vehicle-pedestrian conflict / history of pedestrian injury crashes

Options Not Recommended

Option C – Remove crosswalk on north leg (crossing Peachtree Dunwoody Road)

- Benefit: Removes vehicle-pedestrian conflict by geometry
- Benefit: Eastbound left-turn vehicles from Hollis Cobb Circle may have improved flow
- Requires signage and pedestrian obedience to use crosswalk on south leg
- Consideration: Majority of pedestrian currently use the north leg crosswalk – therefore this may result in pedestrians ignoring this geometric change
- Signal timing: No impacts to signal timing
- Cost: Option has low implementation cost
- Additional consideration: Limits crossing for pedestrian and bicyclists who may access the 400 Multiuse Trail to north
- Addresses issue: High

Option D – Pedestrian Bridge or Underpass across Peachtree-Dunwoody Road

- Benefit: Removes vehicle-pedestrian conflict by geometry
- Impacts: To accommodate ramps would require land/private property to the west and modifying the MARTA entry area
- Cost: Option has high implementation cost
- Addresses issue: High



T-7241 MEDICAL DISTRICT ROADWAY SAFETY ANALYSIS

PROJECT FACT SHEET

Project ID	2
Project Category	Intersection - Pedestrian
Project Location	Peachtree Dunwoody Road at Northside Hospital/Emory Saint Joseph's Hospital
Project Description	Phase 1: Install pedestrian crosswalks across Peachtree Dunwoody Road
Limits	n/a
Implementation Tier	1



Additional Project Information	
Project Addresses Concern	Pedestrian safety
Other	FYA and backplates mentioned in separate project

Preliminary Cost Estimate:	
Preliminary Eng.:	
ROW Cost:	
Construction Cost:	
Contingency:	
Total Project Cost:	

#	Existing Conditions / Safety Concerns	Recommendation	Benefit/Consideration
1	No lane arrows on west driveway; lane arrows on east driveway	Add/improve lane arrows	Improves driver navigation
2	Two standard marked crosswalks along Peachtree Dunwoody Road (crossing driveways); no crosswalks across main road; 12-hour pedestrian count recorded a total of 22 pedestrian crossing Peachtree Dunwoody Road	Add crosswalks across Peachtree-Dunwoody Road	Improve pedestrian safety
3	Signs: Do Not Block signs at intersection; however, no pavement marking	Add 'Do Not Block' pavement markings	Increase driver awareness
4	Traffic signal: No Leading Ped Interval (LPI)	Provide LPI (Leading Ped Interval) for crosswalk crossing Peachtree Dunwoody	Improves safety and visibility for pedestrians; 37% CRF (Crash Reduction Factor) with LPI
5	Traffic signal: Protected/permitted left-turn for NB and SB: 5-stack signal head	Install FYA's (included in separate project)	Improves driver awareness of permissive left-turn; Potentially remove 6 crashes

A Safety Benefit/Cost Ratio of 1.2 was calculated for the project

PAGE 1 OF 1

PREPARED BY

Updated: 07/07/2021



T-7241 MEDICAL DISTRICT ROADWAY SAFETY ANALYSIS

PROJECT FACT SHEET

Project ID	3
Project Category	Traffic Signal Upgrades
Project Location	11 locations within Medical District
Project Description	Improve intersections by installing FYA (flashing yellow arrow) signal heads & backplates w/ reflective tape
Limits	n/a
Implementation Tier	1

Preliminary Cost Estimate:	
Preliminary Eng.:	
ROW Cost:	
Construction Cost:	
Contingency:	
Total Project Cost:	

Note: Preliminary Cost Estimate will need to be validated with field inventory and engineering review. The cost estimate only includes a design fee and the contractor installation fee. GDOT will provide the equipment.

Note: The Preliminary Engineering effort included these assumptions:

- Schematics as-builts would be prepared and include phasing diagram, signal and pedestrian signal heads, location of traffic signal cabinet, and any noted traffic signal pull-boxes.
- Schematic would be on GIS/aerial imagery and based on existing traffic signal files available from the City.
- Schematics would be modified/revised for FYA and back-plate upgrade to include list of materials to be provided by GDOT and installation notes for the CoSS signal contractor.

Additional Project Information	
Project Addresses Concern	Improves driver awareness of permissive left-turn movement and improves signal visibility for drivers during day and night.
Detailed Project Description	This project installs FYA (flashing yellow arrow) signal heads for permitted left-turn movements. Additionally, signal heads will be upgraded with backplates w/ reflective tape.
Recommended Action	• Apply for GDOT funding partnership (through Safety Office) to purchase signal equipment; the City would pay for design and installation • The project would include: An inventory and at minimum a schematic design; applying to GDOT for equipment; hiring contractor to install the equipment
Options Considered	• Permissive only, vehicles must yield to perform left-turn • Protected only, vehicles have designated time to perform left-turn • As part of the signal upgrades, an additional option is to replace the pedestrian push buttons with buttons with 'chirp' confirmation; currently pedestrian 'chirp' buttons are located at about 10 stations within the district • As part of the upgrades, add illuminated street name signs at missing locations (#1, 2, 6, 9, 10, 11)
Benefit/Consideration	• Mast arms at some locations can accommodate the FYA signal head • Mast arms at some locations are too short; a new pole and mast arm will be required • Improved pedestrian push buttons accommodate the expected increase in pedestrian and bicycle movements between multiple hospital and medical office buildings in the area

A Safety Benefit/Cost Ratio of 67
was calculated for the project

PAGE 1 OF 2

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T-7241 MEDICAL DISTRICT ROADWAY SAFETY ANALYSIS

PROJECT FACT SHEET

Project ID	3
Project Category	Traffic Signal Upgrades
Project Location	11 locations within Medical District

The project is recommended to include the blue shaded recommendations in the table below:

#	Intersection	Install FYA (Y or N)	Install Backplates w/ Reflective Tape (Y or N)	Notes
1	Glenridge Connector at SR 400 SB Ramps	Y	Y	Install backplates; Separate project will handle FYA; new mast arm required
2	Glenridge Connector at SR 400 NB Ramps	N	Y	Install backplates
3	Glenridge Connector at Meridian Mark Rd	Y	Y	Install one FYA for Eastbound (FYA signal either needs to be pedestal mounted in median or on new longer mast arm)
4	Glenridge Connector at Peachtree Dunwoody Rd	Y	Y	Install one FYA for Westbound on existing mast arm
5	Peachtree Dunwoody Rd at Johnson Ferry Rd	N	Y	Install backplates
6	Peachtree Dunwoody Rd at Northside Hospital / Emory St. Joseph's Hospital	Y	Y (existing backplates do not have reflective tape)	Install two FYA for Northbound & Southbound on existing mast arm
7	Peachtree Dunwoody Rd at Hollis Cobb Circle/MARTA Medical Center Station	Y	Y (existing backplates do not have reflective tape)	Install four FYA
8	Peachtree Dunwoody Rd at Lake Hearn Drive	Y	Y (existing backplates do not have reflective tape)	Do not include – expect the Transform 285/400 project construction to handle
9	Johnson Ferry Road at Trimble Rd / Glenridge Point Pkwy	Y	Y	Separate project could handle one FYA; new mast arm required (WB direction)
10	Johnson Ferry Road at Hollis Cobb Circle/Meridian Mark Rd	Y	Y	Install two FYA
11	Johnson Ferry Road at Old Johnson Ferry Road	Y	Y (2 existing signal heads have backplates with reflective tape)	Install one FYA for Eastbound
12	Meridian Mark Road @ 993 Driveway	N	Y	

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T-7241 MEDICAL DISTRICT ROADWAY SAFETY ANALYSIS

PROJECT FACT SHEET

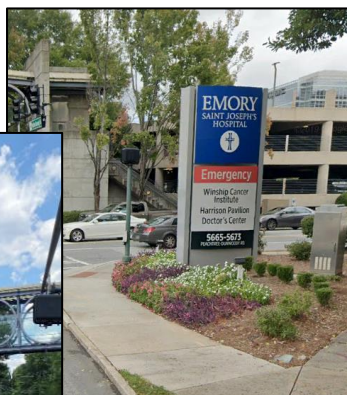
Project ID	4
Project Category	Wayfinding for Drivers
Project Location	Medical District
Project Description	Implement wayfinding to guide drivers to three hospital emergency driveways
Limits	n/a
Implementation Tier	1



Additional Project Information

Project Addresses Concern	• Driver navigation & awareness
Detailed Project Description	• Implement unique LOCALIZED wayfinding to guide drivers to three hospital emergency driveways; the standard "H" sign does not provide adequate wayfinding in an area with three hospitals • The signage is meant to complement the existing hospital signs at driveways
Recommended Action	• Coordinate with the City's Wayfinding & Signage Program – which will provide wayfindings to districts and major destinations within the City; the wayfinding could use the context and design standards in the Program (shown below) • Incorporate into complete street projects (including projects #5, 6, & 7) as applicable
Benefit/Consideration	• The goal is to improve navigation and reduce travel times

Existing Hospital Signs



City's Wayfinding & Signage Program: Standards

Preliminary Cost Estimate:

Total Project Cost:



A Safety Benefit/Cost Ratio
is not available for this type
of project

PAGE 1 OF 2

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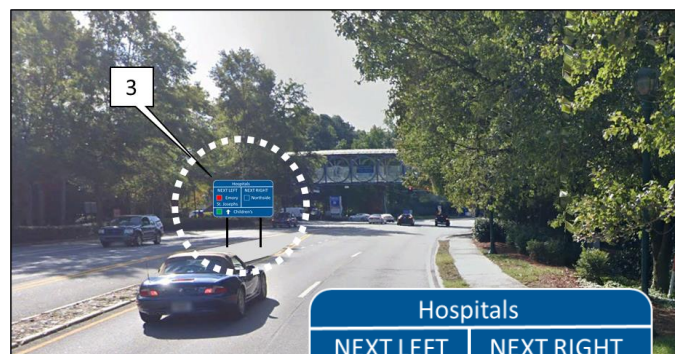
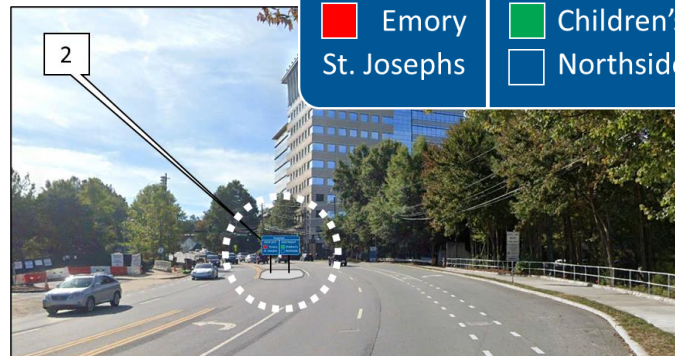


T-7241 MEDICAL DISTRICT ROADWAY SAFETY ANALYSIS

PROJECT FACT SHEET

Project ID	4
Project Category	Wayfinding for Drivers
Project Location	Medical District

The study developed an example for wayfinding signage to direct drivers approaching the Medical District. The graphics below illustrate the potential guide signs for drivers approaching on I-285 Eastbound. The driver would pass locations #1, 2, 3, and possibly 4.



Hospitals	
KEEP LEFT	KEEP RIGHT
Emory St. Josephs	Children's
Northside	

Hospitals	
NEXT LEFT	NEXT RIGHT
Emory St. Josephs	Northside
Children's	



A Safety Benefit/Cost Ratio is not available for this type of project

PAGE 2 OF 2

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T-7241 MEDICAL DISTRICT ROADWAY SAFETY ANALYSIS

PROJECT FACT SHEET

Project ID	5
Project Category	Complete Street
Project Location	Johnson Ferry Road
Project Description	Phase 1: Construct new multiuse path along south side of street to accommodate new 400 Multiuse Trail connection and install raised median
Limits	Glenridge Connector to Meridian Mark Rd
Implementation Tier	1



Project Location

Preliminary Cost Estimate:

Preliminary Eng.:

ROW Cost:

Construction Cost:

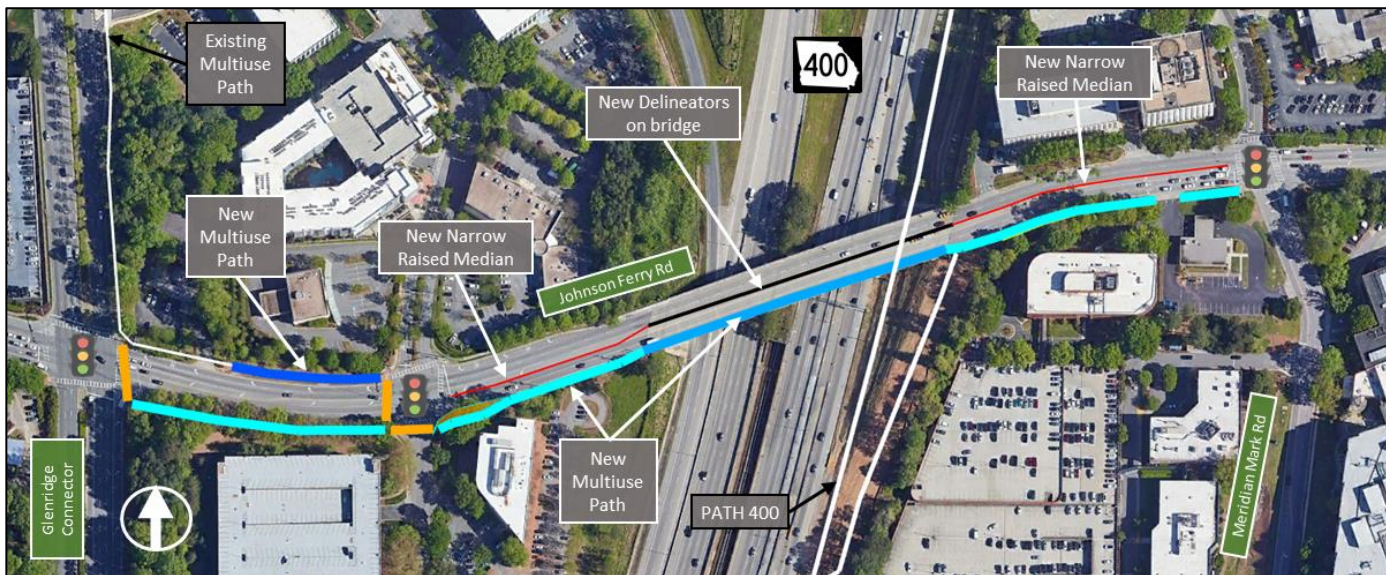
Contingency:

Total Project Cost:



A Safety Benefit/Cost Ratio
of 0.6 was calculated for
this project

Project Schematic



Note: This project includes the major components of the raised median, multiuse path, and improvements at two intersections: Glenridge Point Parkway and Meridian Mark Rd. Additional project information is provided on separate pages

PAGE 1 OF 5

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Updated: 07/07/2021



Project ID	5
Project Category	Complete Street
Project Location	Johnson Ferry Road

Additional Project Information – for the raised median:

Project Addresses Concern	• Vehicular safety and operations
Detailed Project Description	• This project installs a new narrow raised median along Johnson Ferry Road, between Glenridge Point Parkway and Meridian Mark Road; delineators are used on the bridge deck • Three driveways would be modified to only allow right-turns entering and exiting • A westbound u-turn location would be provided at the signal at Glenridge Point Parkway. A pavement 'bump out' would be installed at the intersection to accommodate the u-turn movement • An eastbound u-turn location can be provided at the signal at Meridian Mark Road (existing pavement)
Options – Not selected	• Considered an alternative to maintain the eastbound left-turn movement entering driveway at 980; crash history indicates this movement could be allowed; however, close proximity to the signal at Meridian Mark Road may preclude this option • Consider not installing raised median on bridge to accommodate future SR 400 Express Lane entrance
Benefit / Consideration	• Removes 8 angle crashes for vehicles exiting the driveway at 960 • Removes 6 angle crashes for vehicles exiting the driveway at 993 • Removes 1 angle crash for vehicles entering the driveway at 980 • Improves vehicular safety by providing physical median (existing condition is double-yellow line) • Improves driver safety; RCUT (restricted crossing u-turn) intersection reported CRF is 54% (Crash Reduction Factor - source FHWA) • Prohibits certain turning movements; however minor road traffic can make a right turn followed by a u-turn at a designated location to continue in the desired direction
Other	• There are three mid-block driveways • Project does not preclude potential future SR 400 Express Lane entrance/exit connection to Johnson Ferry Road; median/delineators can be modified at ramp locations



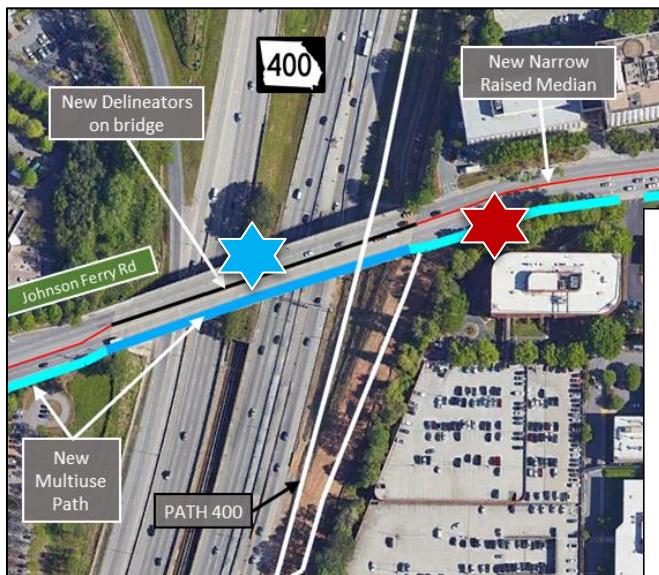
T-7241 MEDICAL DISTRICT ROADWAY SAFETY ANALYSIS

PROJECT FACT SHEET

Project ID	5
Project Category	Complete Street
Project Location	Johnson Ferry Road

Additional Project Information – for the Multiuse Path:

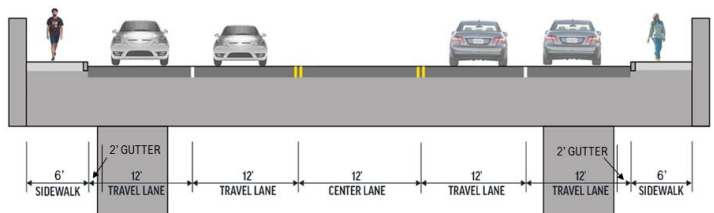
Project Addresses Concern	• Pedestrian and Bicycle Safety
Detailed Project Description	• This project will provide a multiuse path for pedestrians and cyclists use. This project will tie into, and improve, the 400 Multiuse Trail connection to the south side of Johnson Ferry Road. 400 Multiuse Trail is under construction at the time of this study.
Options	• The study identified the potential to modify the bridge over SR 400 to accommodate a 10-foot multiuse path on the south side.
Benefit/Consideration	• Accommodates increased pedestrian and bicycle movements between multiple hospital and medical office buildings in area • Improves pedestrian and bicycle safety; replaces an existing 3-foot wide sidewalk • Improves connection of the 400 Multiuse Trail tie into Johnson Ferry Road



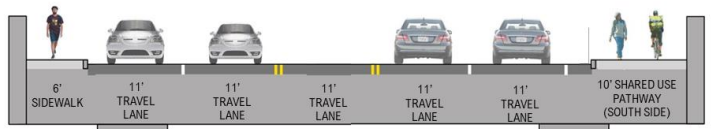
Existing 3-foot wide sidewalk



Bridge over SR 400 - Existing Condition



Proposed Condition





Project ID	5
Project Category	Complete Street
Project Location	Johnson Ferry Road

Location: Johnson Ferry Road at
Glenridge Point Parkway



Additional Project Information – for improvements at the signalized intersection:

Project Addresses Concern	• Pedestrian Safety • Vehicle safety and operations
Other	• FYA and Backplates mentioned in separate project

#	Existing Conditions / Safety Concerns	Recommendation	Benefit/Consideration
1	Missing detectable warning on NE corner ramp	Reconstruct ADA ramp	
2	Signs: Overhead standard street name signs	Illuminated Street Signs	Improves guidance for drivers at night
3	Traffic signal: Protected/permitted left-turn WB: 5-stack signal head (due to mast arm length)	Install FYA; would require new mast arm (current too short)	Improves driver awareness of permissive left-turn
4	Traffic signal: Pedestrian phase is concurrent with vehicle phase in WB & EB direction	Provide LPI (Leading Pedestrian Interval)	Improves safety and visibility for pedestrians
5	Rear end crashes along westbound Johnson Ferry Road approaching traffic signal; apparent vehicles running the red signal	Install one supplemental (advance) signal head for westbound Johnson Ferry Road (install on mast arm in southeast corner)	Improves driver awareness and guidance; potentially reduces 23 rear end crashes



T-7241 MEDICAL DISTRICT ROADWAY SAFETY ANALYSIS

PROJECT FACT SHEET

Project ID	5
Project Category	Complete Street
Project Location	Johnson Ferry Road

Location: Johnson Ferry Road at
Hollis Cobb Circle/Meridian Mark Road

Additional Project Information - for improvements at the signalized intersection:

Project Addresses Concern	• Pedestrian Safety • Vehicle safety and operations
Other	• FYA and Backplates mentioned in separate project



#	Existing Conditions / Safety Concerns	Recommendation	Benefit/Consideration
1	Missing detectable warning at SE and SW corner	Reconstruct ADA ramp	
2	Crosswalk does not meet current standard; meets in painted island in SE corner	Improve ped crossing; revise layout; add channelized island	
3	Pedestrian signal head (SE corner) located too far from crosswalk	Reconstruct ped signal	
4	Signs: Two standard street name signs	Illuminated Street Signs	Improves guidance for drivers at night
5	Signs: Overhead "Right Turn Yield to Pedestrians" (non-standard) on southbound approach	Replace with standard sign	
6	Signs: Besides two large hospital signs, no directional signs at intersection	Add directional signs	Improve driver navigation
7	Traffic signal: Pedestrian phase is concurrent with vehicle phase in NB & SB direction; 12-hour pedestrian count recorded a total of 773 pedestrians at the intersection	Provide LPI (Leading Pedestrian Interval)	Improves safety and visibility for pedestrians
8	Traffic signal: Protected-Permissive left-turn for EB & WB; 5-stack signal head	Install FYA	Improves driver awareness of permissive left-turn

Options Considered

- For recommendation #7: Three options were considered to improve pedestrian crossings at intersection. The two options not selected include:
 - Option - Exclusive Pedestrian Phase (Pedestrian Scramble)
 - Option - Remove split-phase, include Exclusive Pedestrian Phase, and change northbound lanes
- This study recommended implementing an LPI. As part of the engineering phase of the project, the city may want to consider other options.
- Additionally, it is recommended to monitor the pedestrian volumes. In the future there may be a need to consider providing an exclusive pedestrian phase.

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T-7241 MEDICAL DISTRICT ROADWAY SAFETY ANALYSIS

PROJECT FACT SHEET

Project ID	6
Project Category	Intersection
Project Location	Peachtree Dunwoody Road at Johnson Ferry Road
Project Description	Geometric reconstruction to include pedestrian and vehicular upgrades
Limits	n/a
Implementation Tier	2

Additional Project Information

Project Addresses Concern	• Pedestrian Safety • Vehicle safety and operations
Other	• Backplates mentioned in separate project

See separate Concept
Layout for details

Preliminary Cost Estimate:

Preliminary Eng.:

ROW Cost:

Construction Cost:

Contingency:

Total Project Cost:

A Safety Benefit/Cost Ratio
of 0.46 was calculated for
this project

The expected annual
reduction in crashes was
calculated as:
17.2 crashes (51 percent)

This project improves both safety
and operations. Operational
benefits have not been quantified
by this safety study, which can be
addressed in the concept phase of
preliminary engineering



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T-7241 MEDICAL DISTRICT ROADWAY SAFETY ANALYSIS

PROJECT FACT SHEET

Project ID	6
Project Category	Intersection
Project Location	Peachtree Dunwoody Road at Johnson Ferry Road

#	Existing Conditions / Safety Concerns	Recommendation	Benefit/Consideration
1	<u>Eastbound approach of Johnson Ferry Road:</u> 26 side-swipe same direction crashes and 28 rear end crashes; observed vehicles making late lane changes due to the inside through lane becomes a 'drop lane' (left-turn only); the two eastbound through lanes change to only one through lane at intersection	• Add second overhead lane assignment signs before curve & • Carry two eastbound through lanes across intersection & fully develop dual left-turn lanes	• Reduce crashes and improve driver maintaining proper lane • Requires widening yet accommodates option for dual southbound left-turn lanes
2	<u>Horizontal - Peachtree Dunwoody northbound through vehicles</u> are not able to see across the intersection to the receiving travel lane; observed vehicles changing lanes/drifting; 6 side-swipe same direction crashes and 27 rear end crashes in the northbound travel lanes before and after intersection	• Improve horizontal alignment of Peachtree Dunwoody Road; shift to east to straighten through lanes	• Reduce crashes and improve driver's maintaining proper lane
3	<u>Vertical - Peachtree Dunwoody northbound through vehicles</u>	Improve vertical condition with two options (both included in concept): • Option 1: Raise pavement on south leg and add reverse crown on north side (northbound lanes) • Option 2: Cut/lower Johnson Ferry Road +/- 3ft on east leg	• Option 1 reduces the 'hump' for northbound lanes • Option 2 further reduces the 'hump'; however, has higher cost, staging, and utility impacts
4	Southbound right-turn drivers have limited visibility of pedestrians in the northwest corner due to the large hospital sign; 5 crashes involved right-turn vehicles and westbound through vehicles	Add channelized island with yield control	Improves pedestrian safety and right-turn operation
5	Four crosswalks are concrete; condition varies with some deterioration; not smooth for pedestrians	Remove concrete crosswalks and replace	Provide smooth surface for walking/wheelchairs
6	No green arrow indication for southbound left-turn when 'bulb is out' (based on City's Lucy requests)	Provide double signal indications for all colors (currently only red is double-indicated)	Improves safety and operations
7	Signs: Overhead lane assignment signs	Add hospital directional signs	Improves driver navigation

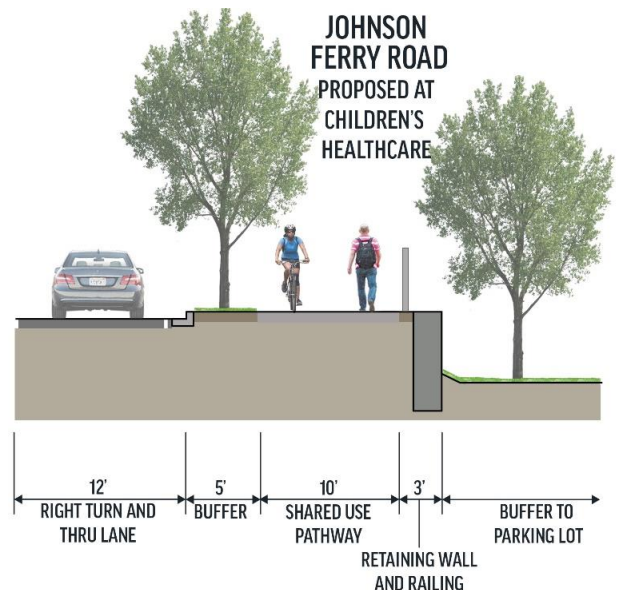
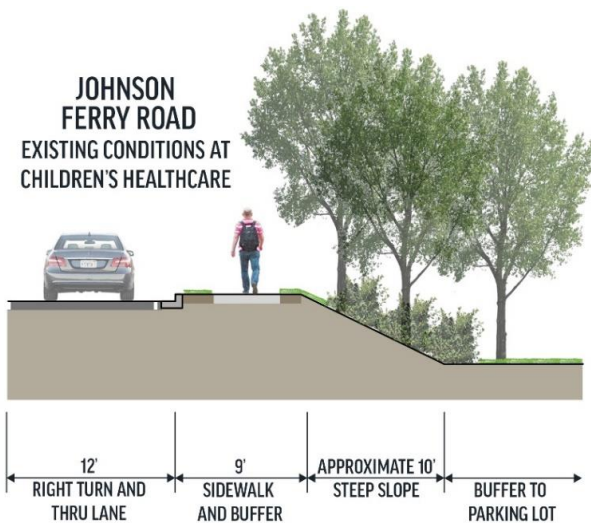
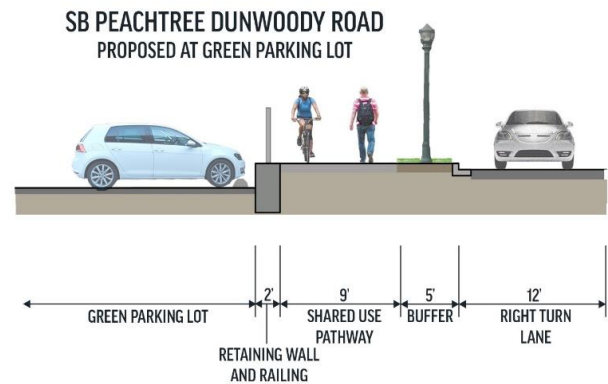
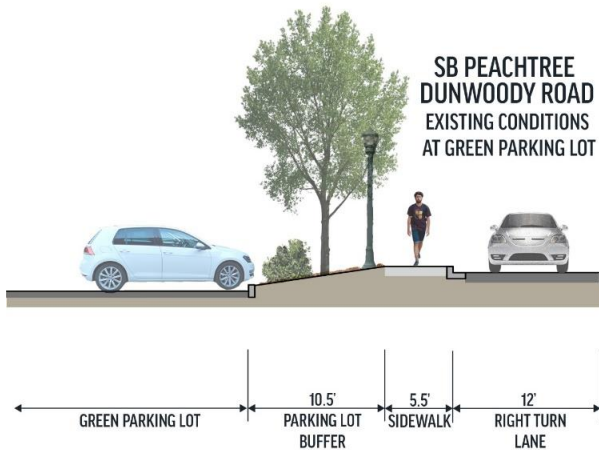


T-7241 MEDICAL DISTRICT ROADWAY SAFETY ANALYSIS

PROJECT FACT SHEET

Project ID	6
Project Category	Intersection
Project Location	Peachtree Dunwoody Road at Johnson Ferry Road

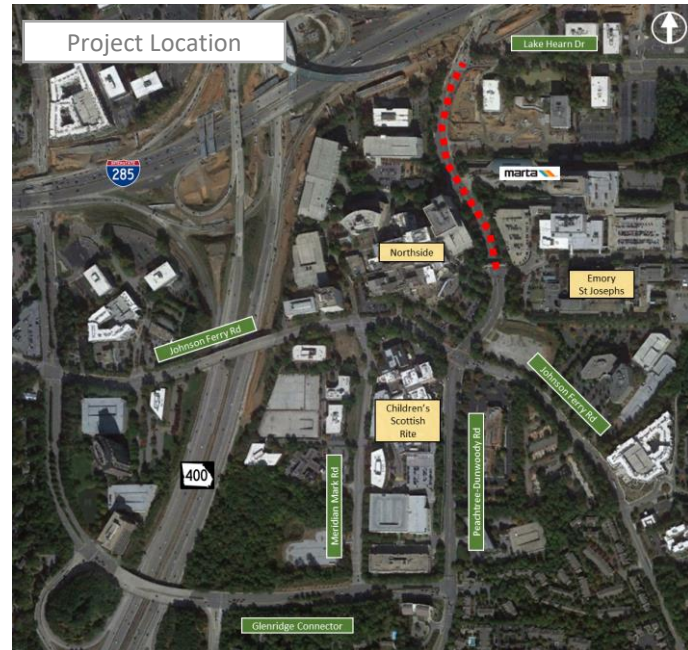
The study team identified the urban conditions may require variations to the typical cross-section and retaining walls to accommodate multiuse paths along Johnson Ferry Road and Peachtree Dunwoody Road. Below are illustrations of the existing conditions and proposed conditions, and options to reduce impacts to adjacent properties.





Project ID	7
Project Category	Complete Street
Project Location	Peachtree Dunwoody Rd
Project Description	Construct complete street treatments to accommodate future increase in pedestrian and bicycle volumes
Limits	Lake Hearn Drive to Hospital Driveways
Implementation Tier	2

See separate Concept
Layout for details



Additional Project Information	
Project Addresses Concern	• Vehicular safety and operations • Pedestrian and Bicycle Safety
Detailed Project Description	• This project installs a new raised median along Peachtree Dunwoody Road. • The driveway to the new Hyatt House would be modified to only allow right-turns to exit (matches site plan provided by city). A northbound u-turn location would be provided at the signal at Lake Hearn Drive. • This second driveway for Emory (primarily used by ambulances and delivery vehicles) would be modified to only allow right-turns to exit (matches site plan provided by city). A northbound u-turn location would be provided at the signal to the north.
Benefit/Consideration	• Remove 7 angle crashes for vehicles entering the driveway; including 2 injury crashes • Improves vehicular safety by providing physical median (existing condition is double-yellow line) in horizontal curve with some short medians in places • Improves driver safety; RCUT (restricted crossing u-turn) intersection reported CRF is 54% (Crash Reduction Factor - source FHWA) • Prohibits certain turning movements; however minor road traffic can make a right turn followed by a U-turn at a designated location to continue in the desired direction
Options	• Also considered closing the median opening. • Allow the southbound left-turn and install a sign 'For Authorized Hospital Use Only'. • A 'Do Not Block the Box' pavement markings and signs could be added across the northbound lanes – to assist the Ambulances entering the driveway

A Safety Benefit/Cost Ratio of 0.25 was
calculated for this project

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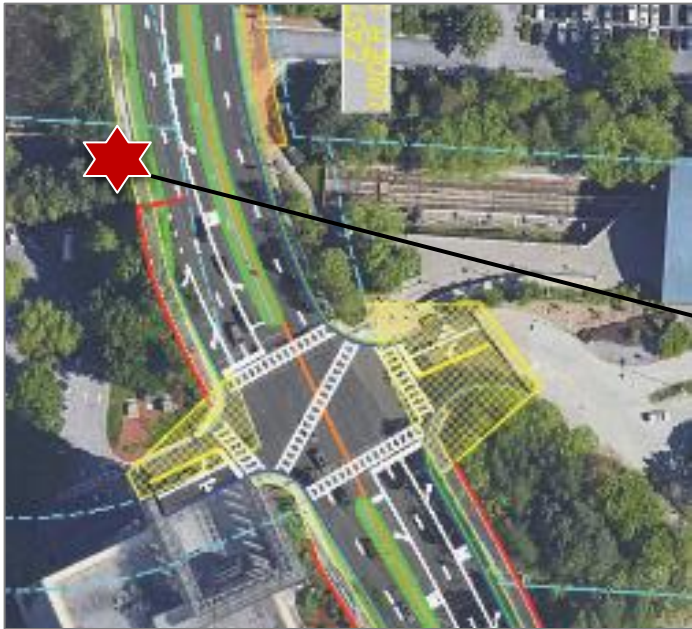
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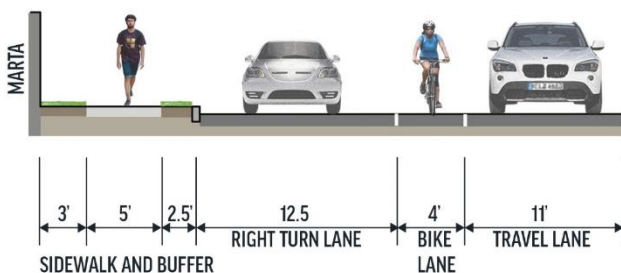
Project ID	7
Project Category	Complete Street
Project Location	Peachtree Dunwoody Rd

Preliminary Cost Estimate:	
Preliminary Eng.:	
ROW Cost:	
Construction Cost:	
Contingency:	
Total Project Cost:	

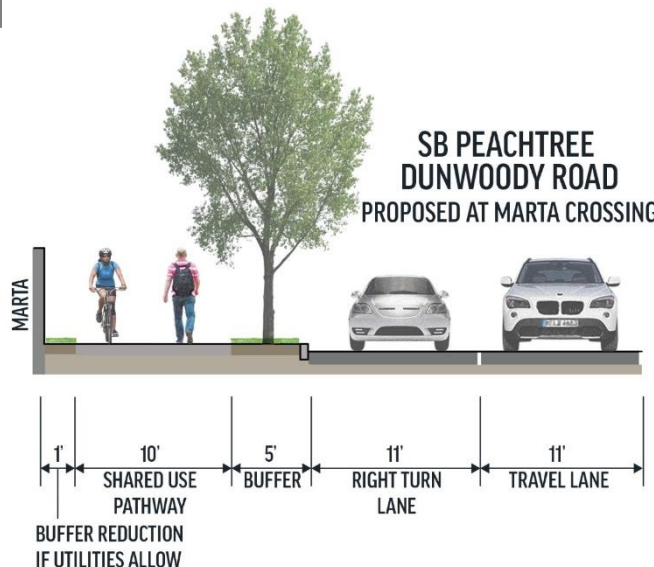


The study team identified the constraint for road modifications at the MARTA tunnel located to the north of the Hollis Cobb Circle intersection. Peachtree Dunwoody Road currently features a substandard southbound bike lane that does not connect to the north or south. To better accommodate a wider range of people bicycling, it is proposed to remove the bike lane and narrow the right turn lane to 11 feet. Shifting the curb outward by 5.5 feet will permit provision of a 10-foot shared use path and 5-foot buffer with a minimal but acceptable buffer of 1 foot between the path and the MARTA headwall. Below is an illustration of the existing conditions and proposed conditions.

**SB PEACHTREE DUNWOODY ROAD
EXISTING CONDITIONS AT MARTA CROSSING**



**SB PEACHTREE DUNWOODY ROAD
PROPOSED AT MARTA CROSSING**

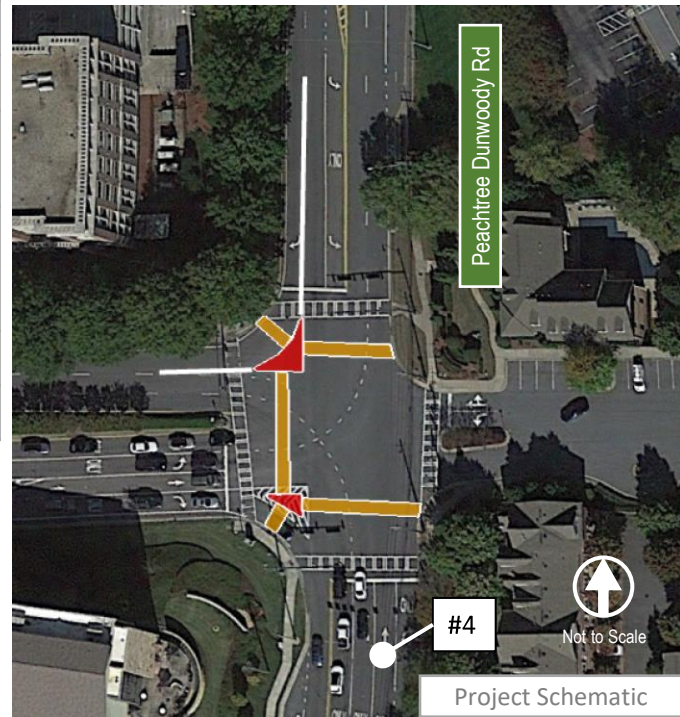




T-7241 MEDICAL DISTRICT ROADWAY SAFETY ANALYSIS

PROJECT FACT SHEET

Project ID	8 (Part 1 of 2)
Project Category	Intersection
Project Location	Glenridge Connector at Peachtree Dunwoody Road
Project Description	Improve intersection w/ pedestrian and vehicular upgrades
Limits	n/a
Implementation Tier	2



Additional Project Information

Project Addresses Concern	• Pedestrian Safety • Vehicle safety and operations
Other	• FYA and Backplates mentioned in separate project

#	Existing Conditions / Safety Concerns	Recommendation	Benefit/Consideration
1	Crosswalk across Glenridge Connector (west side) has limited visibility due to location and hill for southbound right-turn drivers	Improve & revise ped crossing by adding channelized islands in two corners; add pedestrian warning signs	Reduces conflict between vehicles and pedestrians; improves pedestrian crosswalk location and visibility
2	Southbound outside travel lane become right-turn only lane at intersection	Change to free-flow right-turn and add channelized island	Accommodate traffic volumes; reduce SB rear end crashes
3	Signs: Overhead lane assignment signs for eastbound direction	Add hospital directional signs	Improves driver navigation
4	Sign: Overhead lane assignment signs; "To 400" and "To I-285"	Re-locate to the beginning of the turn lanes (farther in advance)	Improve driver awareness and guidance
5	Traffic signal: Protected only left-turn for SB; 3-stack signal head	Provide dual indication for all three colors (red/yellow/green)	Improve driver safety when signal bulb burns out
6	Traffic signal: No overlap phases present	Add overlap phase for EB right-turn during NB left-turn phase	Potentially remove 10 rear end crashes

A Safety Benefit/Cost Ratio of 19 was calculated for this project

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T-7241 MEDICAL DISTRICT ROADWAY SAFETY ANALYSIS

PROJECT FACT SHEET

Project ID	8 (Part 2 of 2)
Project Category	Intersection
Project Location	Johnson Ferry Road at Old Johnson Ferry Road
Project Description	Implement pedestrian and vehicular upgrades
Limits	n/a
Implementation Tier	2

Additional Project Information

Project Addresses Concern	• Pedestrian Safety • Vehicle safety and operations
Other	• FYA and Backplates mentioned in separate project



Preliminary Cost Estimate (both locations):

Preliminary Eng.:	
ROW Cost:	
Construction Cost:	
Contingency:	
Total Project Cost:	

#	Existing Conditions / Safety Concerns	Recommendation	Benefit/Consideration
1	Two standard marked crosswalks; crosswalk across Johnson Ferry is faded	Re-install crosswalk markings on one location	
2	Signs: Three standard street name signs	Install illuminated signs	Improves guidance for drivers at night
3	Traffic signal: Pedestrian phase is concurrent with vehicle phase in SB direction for crosswalk (left-turn vehicles cross crosswalk)	Provide pedestrian only phase for the east leg crosswalk	Removes conflict between vehicle and pedestrians; another option considered was to use an LPI (Leading Pedestrian Interval)
4	Traffic signal: Protected-permissive left-turn for eastbound Johnson Ferry Road; 5-stack signal head	Install FYA (mast arm is long enough)	Improves driver awareness of permissive left-turn



T-7241 MEDICAL DISTRICT ROADWAY SAFETY ANALYSIS

PROJECT FACT SHEET

Project ID	9
Project Category	Midblock: Vehicular & Pedestrian
Project Location	Meridian Mark Road
Project Description	Improve lane geometry at Children's Hospital Main Driveway and restripe street to provide dedicated turn lanes
Limits	Children's Main Driveway to Glenridge Connector
Implementation Tier	3

Preliminary Cost Estimate:

Preliminary Eng.:

ROW Cost:

Construction Cost:

Contingency:

Total Project Cost:

Note: Preliminary Cost Estimate ONLY includes the street mill and overlay cost between the two driveways for '993'



Project Location

Additional Project Information

Project Addresses Concern	Vehicle safety and operations; pedestrians crossing Meridian Mark Road
Detailed Project Description	- This project will improve roadway geometry with realignment, restriping and new dedicated turn lanes along Meridian Mark Road - See schematic layout for details of recommendations.
Recommended Action	A short-term recommendation is to add crosswalk warning signage (double-sided and on both sides of street) at the crosswalk at the Children's Hospital main driveway.
Options	- At Children's Hospital main driveway – considered an all-way stop control intersection or a roundabout (north leg volumes are +/- 500 during the AM, mid-day, and PM peak hour) - Project could be combined with other recommended projects (i.e. sidewalk and/or lighting) - Many of the recommendations could be implemented as part of a street resurfacing project
Benefit/Consideration	- Project would not directly address crashes reported in past 5 years; however, improved geometry is expected to improve driving conditions and reduce crash potential - Note: The layout is applicable if the single eastbound left-turn lane is maintained at the signal at Glenridge Connector
Additional improvements	- See the Existing Conditions Exhibit for additional upgrade options at the traffic signal at 993 Meridian Mark Rd and along the street - Provide lighting at pedestrian crosswalks. See Recommendation R-3

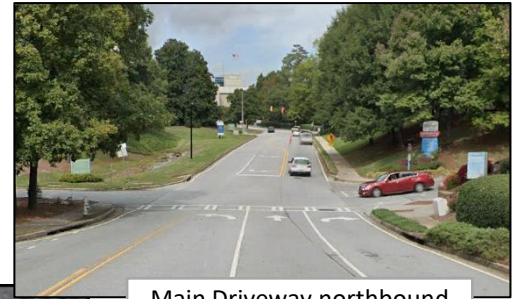
A Safety Benefit/Cost Ratio is not available for this type of project



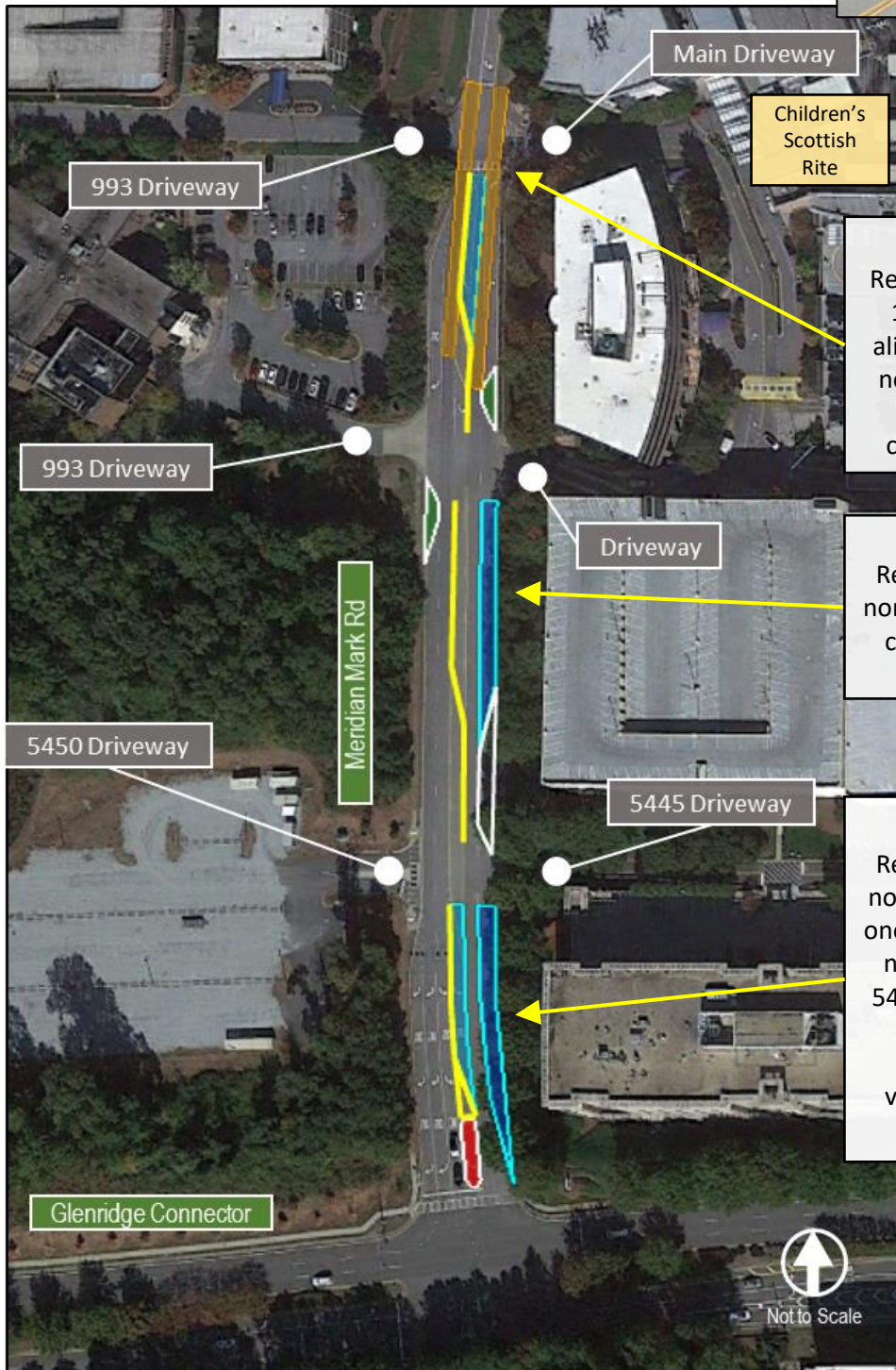
T-7241 MEDICAL DISTRICT ROADWAY SAFETY ANALYSIS

PROJECT FACT SHEET

Project ID	9
Project Location	Meridian Mark Road



Main Driveway northbound



Recommendation C:
Re-stripe street to provide minimum 11-foot travel lanes and improve alignment of through lanes (remove northbound right-turn lane); install all-way stop control; install crosswalks on all four approaches

Recommendation B:
Restripe one lane to be a dedicated northbound right-turn lane; build two curb 'bulbouts' to minimize street width

Recommendation A:
Restripe one lane to be a dedicated northbound right-turn lane; re-stripe one southbound left-turn lane to be a northbound left-turn lane into the 5450 driveway; add a raised median at the south end of the street
Note: The southbound left-turn volume does not require two lane capacity



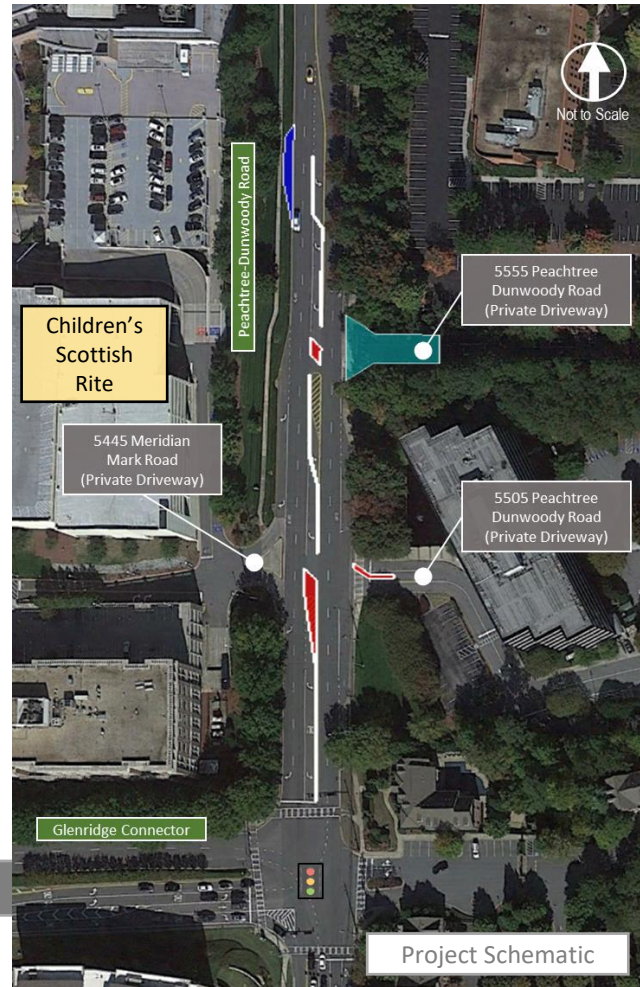
T-7241 MEDICAL DISTRICT ROADWAY SAFETY ANALYSIS

PROJECT FACT SHEET

Project ID	10
Project Category	Midblock: Vehicular
Project Location	Peachtree Dunwoody Road
Project Description	Install raised median; modify driveway access to 5505 Peachtree-Dunwoody Rd & 5555 Peachtree- Dunwoody Road
Limits	Glenridge Connector and Johnson Ferry Road
Implementation Tier	3

Preliminary Cost Estimate:	
Preliminary Eng.:	
ROW Cost:	
Construction Cost:	
Contingency:	
Total Project Cost:	

Additional Project Information	
Project Addresses Concern	Vehicular safety and operations
Detailed Project Description	- This project implements a new raised median along Peachtree Dunwoody Road. - The driveway to 5505 Peachtree Dunwoody Road would be modified to only allow right-turns to exit. A northbound u-turn location would be provided. - The driveway to 5555 Peachtree Dunwoody Road would be modified to only allow right-turns to exit. A northbound u-turn location would be provided.
Options	Project could be combined with other recommended projects
Benefit / Consideration	- Removes 4 angle crashes for vehicles entering/exiting driveway to 5505 Peachtree Dunwoody Road and removes 2 angle crashes at driveway to 5555 Peachtree Dunwoody Road - Improve driver safety; RCUT (restricted crossing u-turn) intersection reported CRF is 54% (Crash Reduction Factor - source FHWA) - Prohibits certain turning movements; however minor road traffic can make a right turn followed by a U-turn at a designated location to continue in the desired direction - Provides a dedicated u-turn location for vehicles accessing the Children's main emergency entrance



A Safety Benefit/Cost Ratio of 2 was
calculated for this project



T-7241 MEDICAL DISTRICT ROADWAY SAFETY ANALYSIS

PROJECT FACT SHEET

Project ID	11 (Part 1 of 2)
Project Category	Intersection
Project Location	Glenridge Connector at SR 400 Southbound Ramps
Project Description	Improve intersection w/ pedestrian and vehicular upgrades
Limits	n/a
Implementation Tier	3



Additional Project Information

Project Addresses Concern	• Pedestrian infrastructure • Vehicle safety
Recommended Actions	• Request GDOT funding partnership through District 7; this is a GDOT permitted signal on the state system and will require permitting
Other	• FYA's and backplates also indicated in separate project

The two intersections were grouped into one project because both require GDOT permitting

#	Existing Conditions / Safety Concerns	Recommendation	Benefit/Consideration
1	Missing detectable warning all locations	Reconstruct ADA ramp	Meets current standard
2	Crosswalks do not meet current standard; meet in painted island in two corners	Improve ped crossing – revise layout (see exhibit)	Improve pedestrian safety and meets current standard
3	No pedestrian connection/walkway to business	Construct pedestrian connection	Improves pedestrian access to business (Note: Potential ROW/easement cost)
4	Signs: Four standard street name signs	Illuminated Street Name Signs (4)	Improves guidance for drivers at night
5	Rear end crashes along eastbound Glenridge Connector approaching traffic signal	Install one supplemental (advance) signal head for eastbound Glenridge Connector (install on mast arm in southwest corner)	Improves visibility of traffic signal; potentially reduces rear end crashes (16 crashes)
6	No skip striping for dual left-turn lanes exiting private driveway	Add skip striping	Improve driver guidance and reduces side-swipe crashes (2 crashes)
7	Traffic signal: Protected/permitted left-turn for eastbound Glenridge Connector; 5-stack signal head	Install FYA (flashing yellow arrow); would require new mast arm (current too short)	Improves driver awareness of permissive-left-turn

A Safety Benefit/Cost Ratio of 2.5 was calculated for this project

PAGE 1 OF 1

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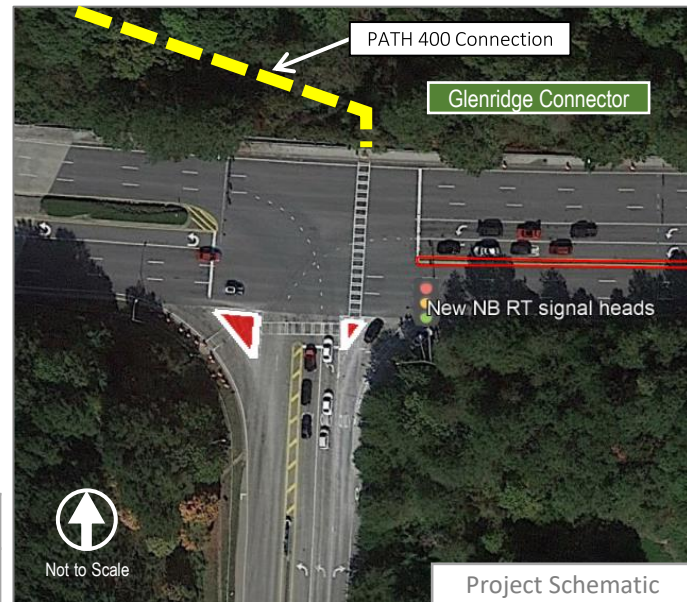
Updated: 07/07/2021



Project ID	11 (Part 2 of 2)
Project Category	Intersection
Project Location	Glenridge Connector at SR 400 Northbound Ramps
Project Description	Improve intersection w/ pedestrian and vehicular upgrades
Limits	n/a
Implementation Tier	3

Additional Project Information

Project Addresses Concern	- Pedestrian Safety - Vehicle safety and operations
Recommended Actions:	Request GDOT funding partnership through District 7; this is a GDOT permitted signal on the state system and will require permitting
Other	Signal backplates indicated in separate project



Preliminary Cost Estimate (both intersections):

Preliminary Eng.:

ROW Cost:

Construction Cost:

Contingency:

Total Project Cost:

#	Existing Conditions / Safety Concerns	Recommendation	Benefit/Consideration
1	Missing detectable warning at ramp in SE corner	Reconstruct ADA ramp	
2	Crosswalks do not meet current standard; meet in painted island in two corners	Improve ped crossing by revising the layout; add two channelized islands	Improve pedestrian safety and meets current standard
3	Pedestrian signal head located too far from crosswalk in SE corner	Reconstruct ped signal	Improve pedestrian infrastructure
4	Signs: Two standard street name signs	Illuminated Street Signs	Improves guidance for drivers at night
5	No raised median at intersection	On east leg extend raised median to intersection	Improve vehicle safety by preventing U-Turn's and reducing Side Swipes
6	Traffic Signal: No independent northbound right-turn signal heads for dual right-turn lanes	Add right-turn signal heads to existing mast arm	Improves driver awareness and traffic operation

Note: An additional improvement recommendation in the report: Along Glenridge Connector – Between SR 400 and Meridian Mark Road, construct a multiuse path (replacing the existing sidewalk) along the north side of the street to accommodate the new 400 Multiuse Trail connection. This improvement is not included in project #11.



Project ID	12
Project Category	Wayfinding for Pedestrians & Cyclists
Project Location	Medical District
Project Description	Implement branded wayfinding to guide pedestrians and cyclists to hospitals, major businesses, and destinations
Limits	Peachtree Dunwoody Rd; Johnson Ferry Rd; Meridian Mark Rd
Implementation Tier	3



A Safety Benefit/Cost Ratio
is not available for this type
of project

Preliminary Cost Estimate:

Total Project Cost:



Additional Project Information

Project Addresses Concern	• Pedestrian and cyclist navigation
Detailed Project Description	• Implement branded wayfinding to guide pedestrians and cyclists to hospitals, major businesses and destinations. • The signage should be attractive, uniform, and easy to update.
Recommended Action	• Coordinate with the City's Wayfinding and Signage Program • Incorporate into complete street projects (including projects #5, 6, & 7) as applicable
Benefit/Consideration	• The goal is to provide information and improve the movement of people and cyclists. • Increase navigation and reduce travel times



T-7241 MEDICAL DISTRICT ROADWAY SAFETY ANALYSIS

RECOMMENDATION

Recommendation ID	R-1
Project Location	Glenridge Connector at Meridian Mark Road



Additional Project Information

Project Addresses Concern	Vehicle safety and operations
Recommended Actions	<u>A high priority recommendation to address the one fatal crash was #3 below and adding signage: Install "signal ahead" signs on eastbound approach (both in median and shoulder)</u> - Landscaping removal could be performed in the short-term
Options Considered	- For recommendation #2: add dual left-turn lanes for eastbound; make this a protected only left-turn movement. This would require replacing the raised median island with new pavement. - For recommendation #3: provide a technology solution like a Wavetronix Advance Radar to 'actively' identify eastbound through vehicles which will not clear the intersection stop bar, and provide green extension to clear vehicle
Other	FYA and Backplates mentioned in separate project (this will also improve driver's awareness of signals on eastbound approach)

#	Existing Conditions / Safety Concerns	Recommendation	Benefit/Consideration
1	Missing detectable warning on NE corner ramp	Reconstruct ADA ramp	
2	Traffic Signal: Protective-Permissive left-turn for EB; however, limited sight distance for EB due to trees and bushes	Trim trees and remove bushes in median; Install FYA for EB LT (FYA signal would either need to be pedestal mounted in median or new longer mast arm)	Improve driver visibility; Improves driver awareness of permissive left-turn; Potentially reduces 5 eastbound left-turn crashes
3	13 left-turn angle crashes occurred between southbound left-turn vehicles and eastbound through vehicles; the crash reports indicated half of the crashes were due to eastbound through vehicles running the red light	Add a longer vehicle clearance interval for the Glenridge Connector eastbound approach; Existing red is 2.3s seconds; proposed 3.0s; Existing yellow is 4.6s; proposed 5.0 seconds	Goal is to clear the through vehicles prior to the southbound left-turn green signal

Additional OPERATIONAL improvement recommendation: Construct a longer eastbound left-turn lane by removing part of the raised median to accommodate the high AM peak hour volume.

PAGE 1 OF 1

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Updated: 07/07/2021



T-7241 MEDICAL DISTRICT ROADWAY SAFETY ANALYSIS

RECOMMENDATION

Recommendation ID	R-2
Project Location	Peachtree Dunwoody Road at Lake Hearn Drive
Description	Enhancements to current joint City of Sandy Springs/Perimeter CID project T-0021

Additional Project Information	
Project Addresses Concern	• Pedestrian Safety - to address future increase in bike/ped crossings to the 400 Multiuse Trail • Vehicle safety and operations
Recommended Actions	• Incorporate recommendations into the current City of Sandy Springs T-0021 project
Options Considered	• Add a protected left-turn phase for eastbound (driveway exit)
Other	• FYA and Backplates mentioned in separate project (this is anticipated to be addressed as part of the Transform 285/400 project) • Note: Transform 285/400 project includes new 12-foot multiuse path under I-285 and along east side of SR 400 • Note: Transform 285/400 construction currently impacting/affecting intersection

#	Existing Conditions / Safety Concerns	Recommendation	Benefit/Consideration
1	Couple crashes involved mid-block U-turn movement	Add raised median along Peachtree Dunwoody Road south of intersection	Improve vehicle safety by preventing u-turns and reducing Side Swipes
2	Note: Project T-0021 proposes new geometry which would require split-phase signal operation for side-streets		Split-phase would improve ability for eastbound left-turn vehicles to make turn without waiting for gap
3	Four standard marked crosswalks	Enhance pedestrian crossing with a separate marked cycle crossing on south and west leg of intersection (connects to two-way cycle track along Peachtree Dunwoody and planned two-way cycle track along south side of Lake Hearn Dr); see example image	Part of 'last-mile' multimodal connection between the 400 Multiuse Trail and MARTA Medical Center Station
4	Traffic signal: Permitted left-turn for WB & EB	Install FYA	Improves driver awareness of permissive left-turn
5	Traffic signal: Protected-Permissive left-turn for NB & SB; 5-stack signal head	Install FYA	Improves driver awareness of permissive left-turn; Reduces 6 SB and NB left-turn crashes
6	23 sideswipe same direction crashes in both north and south direction along Peachtree Dunwoody Road	Improve lane striping and lane designation signage; consider solid lane lines for lane shift areas	Provide improved driver information and guidance



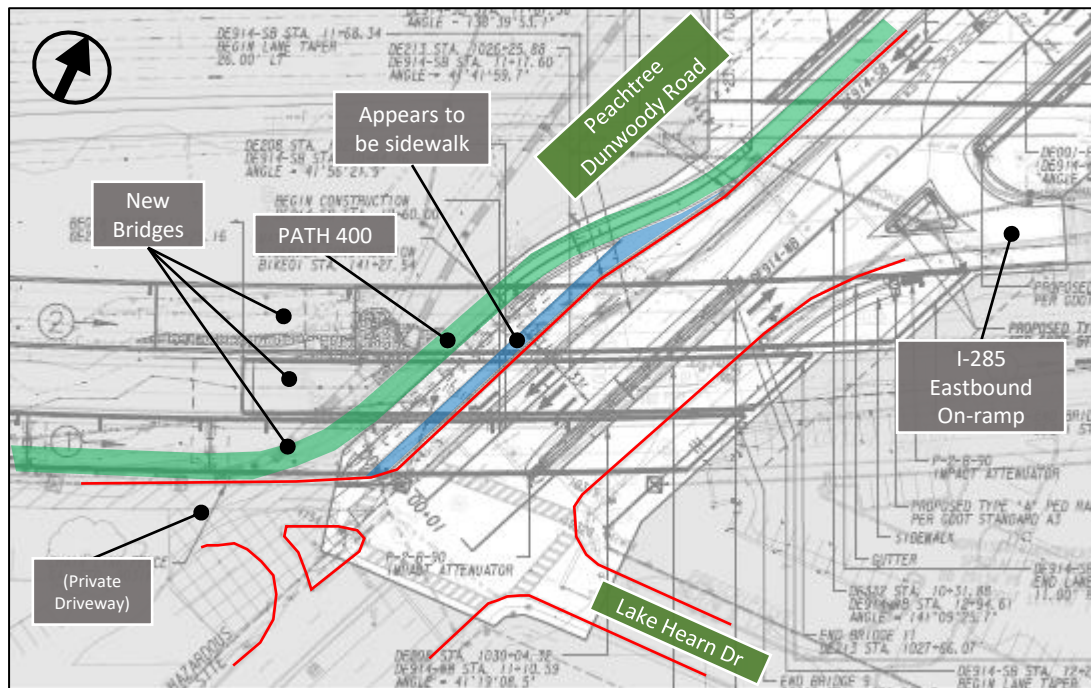
T-7241 MEDICAL DISTRICT ROADWAY SAFETY ANALYSIS

RECOMMENDATION

Project ID	R-2
Project Location	Peachtree-Dunwoody Road at Lake Hearn Drive

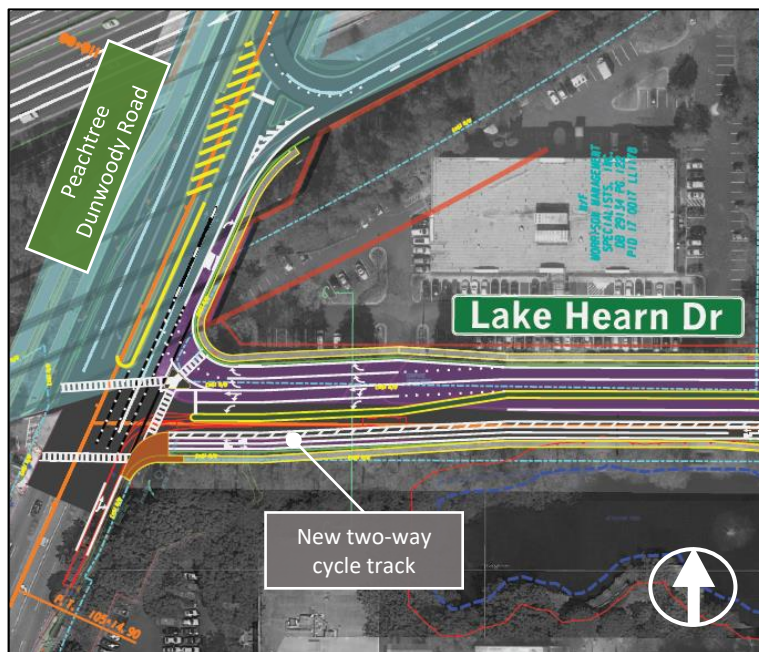
FOR INFORMATION: Transform 285/400 project

'Released for Construction' Plans at intersection



FOR INFORMATION: T-0021 Project

Concept Layout at intersection



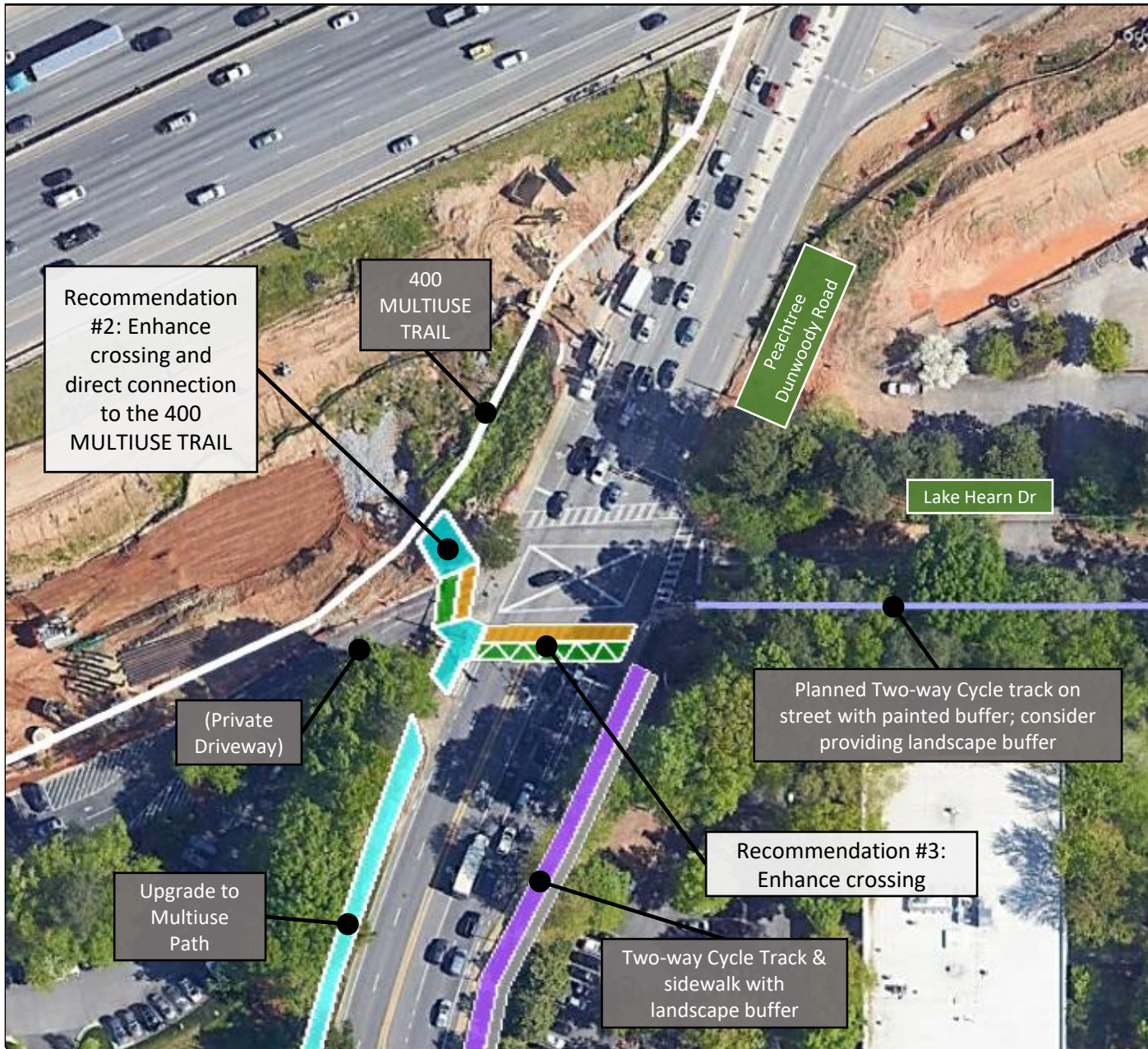


Project ID

R-2

Project Location

Peachtree-Dunwoody Road at Lake Hearn Drive



Example



Example image: Enhance pedestrian crossing with a separate marked cycle crossing on south leg of intersection

PAGE 3 OF 3

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Updated: 07/07/2021



Recommendation ID	R-3
Category	Lighting
Project Location	Meridian Mark Road, Peachtree-Dunwoody Road, Johnson Ferry Road, Lake Hearn Drive; Glenridge Connector
Description	Add roadway and pedestrian lights

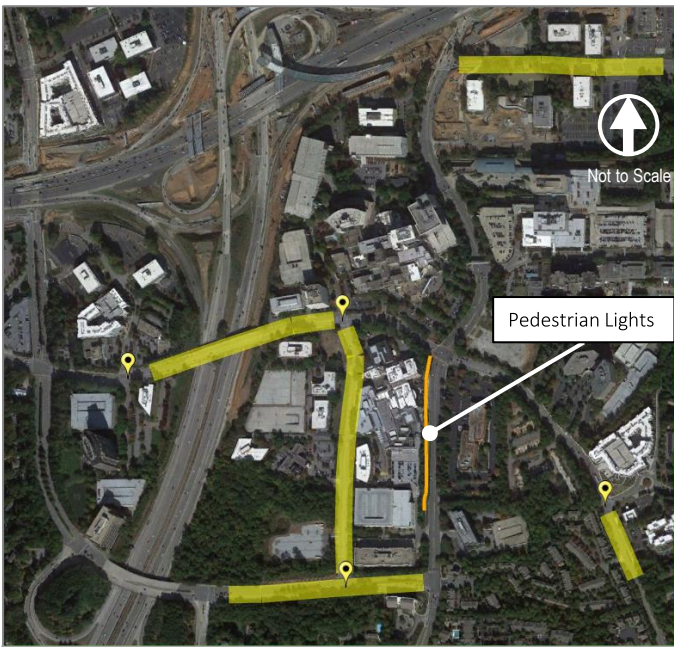


Image indicates streets and intersections without lighting based on nighttime field observation

Additional Project Information	
Project Addresses Concern	Streets with no lighting; limited visibility of pedestrian & limited visibility for drivers/pedestrians
Detailed Project Description	- The project would add roadway lights in locations which currently do not have lighting (image indicates suggested locations); this includes 4 intersections (Glenridge Connector @ Meridian Mark Road, Johnson Ferry Road @ Glenridge Point Parkway, Johnson Ferry Road @ Meridian Mark Road, Johnson Ferry Road @ Old Johnson Ferry Road) - The project would add pedestrian lights along the west side of Peachtree Dunwoody Road in a segment; there are existing pedestrian lights along Peachtree Dunwoody Road, between Lake Hearn Drive and Glenridge Connector
Recommended Action	Project could be included with other recommended projects
Option	City could coordinate with power company to install roadway lights at key intersections in the short term
Benefit/Consideration	- Improves visibility for drivers and pedestrians - Improves driver navigation
Other	Lake Hearn Drive is outside the study limits; however, the recommendation was included for information



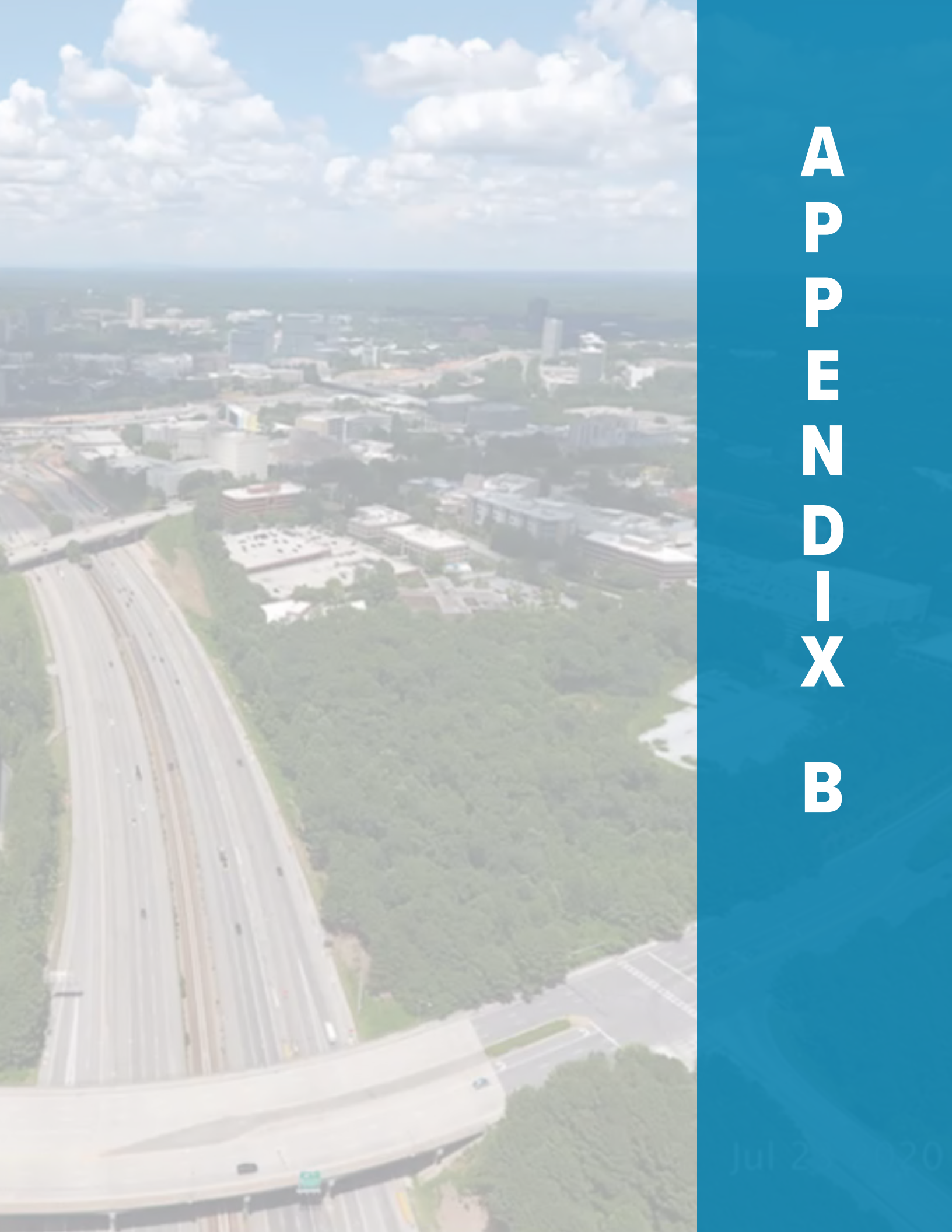
Recommendation ID	R-4
Category	Pedestrian
Project Location	Glenridge Connector, Johnson Ferry Road, Meridian Mark Road
Description	New sidewalks: Install sidewalk to fill gaps in three locations



Project Locations

Additional Project Information	
Project Addresses Concern	• Pedestrian Safety
Detailed Project Description	• This project installs new sidewalks to fill gaps and prevent pedestrians from walking in the street.
Recommended Action	• Include in City’s Sidewalk Implementation Program • Recommended priority is Meridian Mark Road location first and Glenridge Connector location second
Options	• Coordinate with other project recommendations; a multiuse path or other facility may be recommended and could be constructed • A multiuse path is recommended along the west side of Meridian Mark Road
Benefit/Consideration	• Accommodates increased pedestrian movements between multiple hospital and medical office buildings in area • Improves pedestrian safety; Adding sidewalks has a reported CRF of 65% (Crash Reduction Factor - source FHWA)

Location	Length (ft)
Glenridge Connector	180
Johnson Ferry Road	505
Meridian Mark Road	740

An aerial photograph of a city landscape. In the foreground, a multi-lane highway runs diagonally from the bottom left towards the center. To the right of the highway is a large, dense green forested area. Beyond the forest, there are several large, modern buildings, likely part of a university or corporate campus. In the far background, a city skyline with various skyscrapers is visible under a blue sky with scattered white clouds. A solid blue vertical bar covers the right side of the image, containing the text 'APPENDIX B' and a date at the bottom.

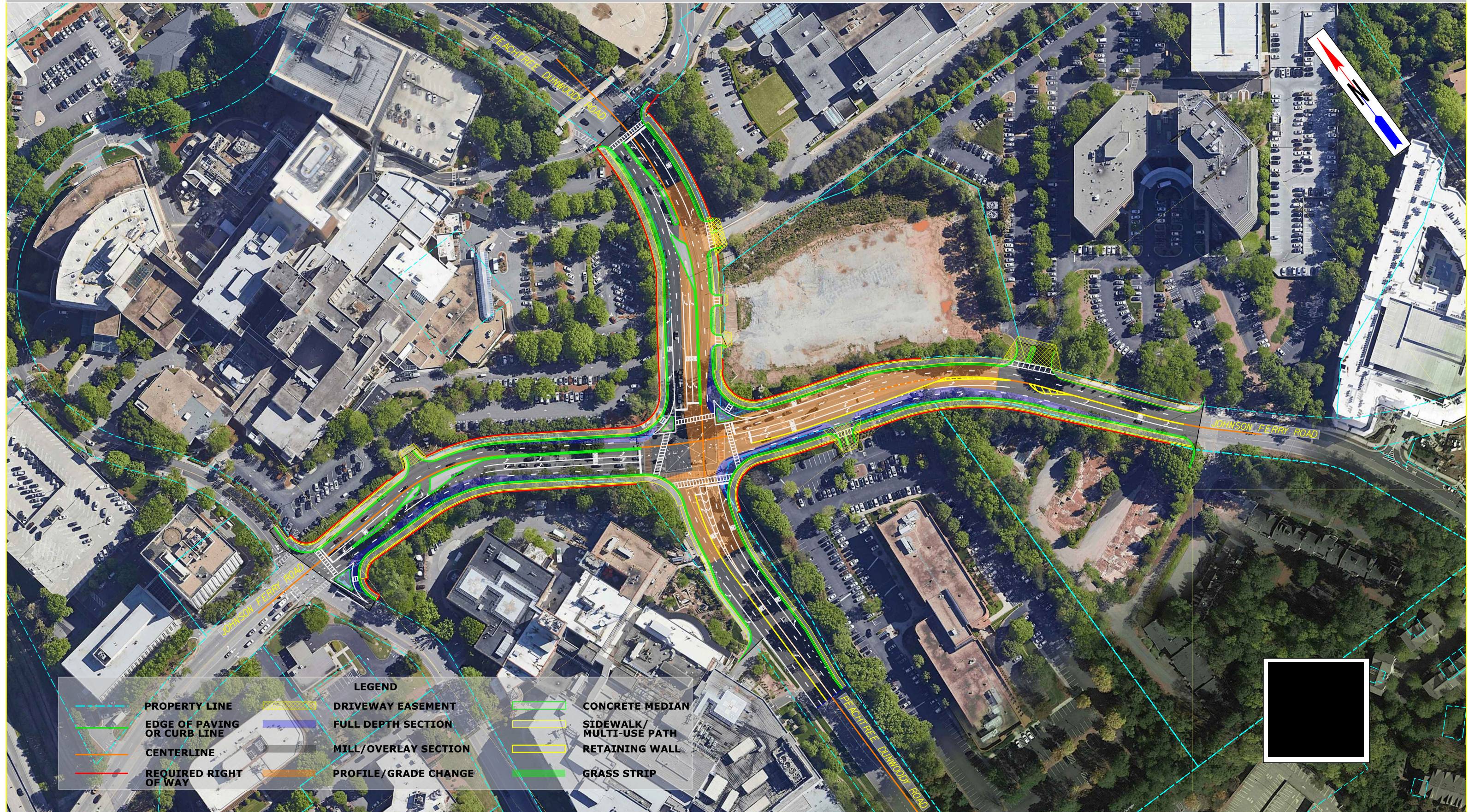
APPENDIX B

Jul 25, 2020

Medical District Roadway Safety Analysis Peachtree Dunwoody Road at Johnson Ferry Road

Concept

SCALE IN FEET
0 80 160 320



Medical District Roadway Safety Analysis Peachtree Dunwoody Road Complete Street

Concept

SCALE IN FEET
0 80 160 320

