Georgia Department of Transportation

# Interoffice Memo
## Office of Design Policy & Support

**DATE:** **9/21/2021**

**FILE:** P.I.# 0016063
Fulton County / GDOT District 7 - Metro Atlanta

**FROM:** Dave Peters for R. Christopher Rudd, PE, State Design Policy Engineer

**TO:** SEE DISTRIBUTION

**SUBJECT:** **APPROVED CONCEPT REPORT**

Attached is the approved Concept Report for the above subject project.

Attachment

Distribution:
Hiral Patel, Director of Engineering
Joe Carpenter, Director of P3
Albert Shelby, Director of Program Delivery
Carol Comer, Director, Division of Intermodal
Darryl VanMeter, Assistant Director of P3/State Innovative Delivery Administrator
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Andrew Heath, State Traffic Engineer
Angela Robinson, Financial Management Administrator
Erik Rohde, State Project Review Engineer
Patrick Allen, State Materials Engineer
Nick Fields, State Utilities Administrator
Eric Conklin, State Transportation Data Administrator
Attn: Systems & Classification Branch
Benny Walden, Statewide Location Bureau Chief
Paul DeNard, District Engineer
Landon Perry, District Preconstruction Engineer
Shun Pringle, District Utilities Manager
Porshia Hayden, Project Manager
BOARD MEMBER - 5th & 13th Congressional Districts

# Project Concept Report

| | | | |
|---|---|---|---|
| Project Type: | Intersection Improvement | P.I. Number: | 0016063 |
| GDOT District: | 7 | County: | Fulton |
| Federal Route Number: | N/A | State Route Number: | 6 |
| Project Number: | N/A | | |

WELCOME ALL ROAD & WELCOME ALL ROAD CONN @ SR6/Camp Creek Pkwy - STUDY

Concept Report resubmitted 7/13/2021

**Submitted for approval:** Mike Lobdell 6/30/2020

Mike Lobdell, P.E., PTOE Kimley-Horn and Associates — Date

6/30/2020

City of East Point Kimberly W. Peabott KEBD — Date 7/17/20

State Program Delivery Administrator Gabrielle Williams — Date 7/13/20

GDOT Project Manager — Date

**Recommendation for approval:** * Recommendations on File/AT

* Eric Duff — 11/06/2020
State Environmental Administrator — Date

* Chris Raymond — 08/05/2020
for State Traffic Engineer — Date

*Joshua Taylor — 02/08/2021
for Project Review Engineer — Date

* Marcela Coll — 08/10/2020
for State Utilities Engineer — Date

* Paul DeNard — 08/10/2020
District Engineer — Date

* Donn Digamon — 11/02/2020
State Bridge Engineer — Date

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☒ MPO Area: This project is consistent with the MPO adopted Regional Transportation Plan (RTP)/Long Range Transportation Plan (LRTP).

☐ Rural Area: This project is consistent with the goals outlined in the Statewide Transportation Plan (SWTP) and/or is included in the State Transportation Improvement Program (STIP).

* Charles Robinson — 08/06/2020
State Transportation Planning Administrator — Date

# PROJECT LOCATION MAP


Welcome All Road Realignment and Intersection Improvements

# PLANNING AND BACKGROUND

**Project Justification Statement:**

The Project Justification Statement was developed by Kimley-Horn and Associates for the Aerotropolis Atlanta Community Improvement District.

Welcome All Road and Camp Creek Parkway (SR 6) are currently connected by Welcome All Connector. The intersection at Welcome all Road and Welcome All Connector currently operates under all-way stop control. Welcome All Road is two-lane, undivided urban minor arterial (GDOT Functional Classification) that widens to a four-lane, divided urban minor arterial (GDOT Functional Classification) with a posted speed limit of 35 MPH around the industrial park. Camp Creek Parkway (SR 6) is a four-lane, divided urban principal arterial (GDOT Functional Classification) with a posted speed limit of 55 MPH.

In 2013, a road safety audit was conducted on SR 6/Camp Creek Pkwy in Fulton County. One of the top recommendations of the study was a safety project for the intersection of Welcome All Connector and Camp Creek Pkwy (SR 6). During the road safety audit, it was noted that trucks traveling east on SR 6/Camp Creek Pkwy and turning right on to the Welcome All Connector were tracking over the pedestrian accommodations and damaging the shoulder. Another observation was that the left turn lane for the Welcome All Connector on to SR 6/Camp Creek Pkwy did not have adequate storage for the queue.

The project goals are to: a) improve traffic operations at SR 6/Camp Creek Parkway and Welcome All Road Connector, b) improve traffic operations at Welcome All Road and Welcome All Road Connector and c) reduce the number of crashes.

**Existing conditions:** SR 6/Camp Creek Parkway is a four-lane divided arterial with a 32 ft depressed median. Travel lanes are 12 ft wide with a 10 ft shoulder, 4 ft of which is paved. The intersection of SR 6/Camp Creek Parkway and Welcome All Connector is signalized and has exclusive right and left turn lanes for all directions. Near the intersection are two overpass bridges. One bridge is for Welcome All Road over SR 6/Camp Creek Parkway and the other is a CSX rail line over SR 6/Camp Creek Parkway.

Welcome All Connector is 36 ft wide (3-12 ft wide lanes) local road that is stop controlled at Welcome All Road. It transitions from curb and gutter to grass shoulders.

Welcome All Road is a two-lane minor arterial with 12 ft wide travel lanes and curb and gutter.

A major natural gas pipeline crosses under SR 6/Camp Creek Parkway approximately 150 east of the intersection with Welcome All Connector.

**Other projects in the area:**

752700- SR 6 from Chattahoochee River to I-285: Widening SR 6 from four lanes to six. Project is currently in long range.

0013142 I-285 @ SR 6 Diverging Diamond Interchange: Reconstruct the interchange at I-285 and SR 6/Camp Creek Parkway to a diverging diamond interchange.

**MPO:** Atlanta TMA **TIP #:** FS-215

**Congressional District(s):** 5 & 13

**Federal Oversight:** ☐ PoDI ☒ Exempt ☐ State Funded ☐ Other

**Projected Traffic (Welcome All Road):** AADT 24 HR T: 8.5 %

Current Year (2019): 10,600 Open Year (2025): 11,600 Design Year (2045): 14,150

Traffic Projections Performed by: Kimley-Horn and Associates

Date approved by the GDOT Office of Planning: 7/15/19

**AASHTO Functional Classification (Mainline):** *Prinipal Arterial*

**AASHTO Context Classification (Mainline):** *Urban*

**AASHTO Project Type (Mainline):** *Construction on existing roads*

**Complete Streets - Bicycle, Pedestrian, and/or Transit Standard Warrants:**

Warrants met: ☐ None ☐ Bicycle ☒ Pedestrian ☒ Transit

Welcome All Road has a curb and gutter but is without sidewalks. The bridge over Camp Creek and the bridge over SR 6/Camp Creek Parkway have a four ft wide sidewalk on both sides of Welcome All Road. Welcome All Road has bus stops from two different bus routes within the project limits. Sidewalk is recommended for the east side of Welcome All Road. To construct sidewalk on the west side of Welcome All would encroach on RR ROW.

**Is this a 3R (Resurfacing, Restoration, & Rehabilitation) Project?** ☒ No ☐ Yes

**Pavement Evaluation and Recommendations**

Initial Pavement Evaluation Summary Report Required? ☒ No ☐ Yes

Feasible Pavement Alternatives: ☒ HMA ☐ PCC ☐ HMA & PCC

## DESIGN AND STRUCTURAL

**Description of the proposed project:** The proposed project is in Fulton County within the City of Atlanta and the City of East Point. The intersection of SR 6/Camp Creek Parkway and Welcome All Connector is approximately 1.5 mile west of I-285. The Project proposes to realign Welcome All Road beginning south of the bridge over Camp Creek to create a three-legged T-intersection with SR 6/Camp Creek Parkway at the same location as SR 6/Camp Creek Parkway and Welcome All Connector do now. Welcome All Road north of the bridge over Camp Creek would be replaced and realigned to a three-legged intersection with the new realigned Welcome All Road. The laneage of Welcome All Road at the intersection with SR 6/Camp Creek Parkway will have dual left turn lanes and a free flow right turn lane. The left turn lane from SR 6/Camp Creek Parkway to be extended from 180 ft to 400 ft. The proposed project length is approximately 1500 ft on Welcome All Road and 2000 ft on SR 6/Camp Creek Parkway. Welcome All Road over Camp Creek will have four 12 ft lanes and a two way left turn lane. Starting approximately 200 ft south of the Bridge over SR 6/Camp Creek Parkway, Welcome All Road will be two 12 ft lanes.

**Major Structures:**

| Structure | Existing | Proposed |
|---|---|---|
| 121-0362-0 | Welcome All Road over Camp Creek is 136 ft long x 38.6 ft wide, four span bridge carrying two 14 ft lanes and two 4 ft sidewalks. | Welcome All Road over SR 6/Camp Creek is proposed to be 160 ft long x 81 ft wide (four 12 ft lanes with 14 ft left turn lane and 6 ft sidewalks.) |
| 121-0363-0 | Welcome All Road over SR 6/Camp Creek Parkway is 108 ft long x 50.4 ft wide, two span bridge carrying two 16 ft lanes and two 4 ft sidewalks. | Existing Bridge is proposed to remain |
| Retaining walls | Cast in place cantilever walls | Existing walls are proposed to remain |

**Accelerated Bridge Construction (ABC) techniques anticipated:** ☒ No ☐ Yes

**Is the project located on a NHS roadway?** ☐ No ☒ Yes

**Is the project located on a Special Roadway or Network?** ☒ No ☐ Yes *Network Type*

**Mainline Design Features: SR 6/Camp Creek Parkway, Principal Arterial**

| Feature | Existing | *Policy | Proposed |
|---|---|---|---|
| **Typical Section:** | | | |
| - Number of Lanes | 4 | | 4 |
| - **Lane Width(s)** | **12 ft** | **12 ft** | **12 ft** |
| - **Median Width & Type** | **24 ft Flush and 36 ft Depressed** | **24 ft Flush and 36 ft Depressed** | **24 ft 10 ft - 37 ft** |
| - **Outside Shoulder Width** | **10 ft** | **10 ft** | **10 ft** |
| - **Outside Shoulder Slope** | **4:1** | **4:1** | **4:1** |
| - **Inside Shoulder Width** | **6 ft** | **6 ft** | **6 ft** |
| - **Sidewalks** | **N/A** | **N/A** | **N/A** |
| - Auxiliary Lanes | 12 ft | | 12 ft |
| - **Bike Accommodation** | **N/A** | **N/A** | **N/A** |
| Posted Speed | 45 MPH | | 45 MPH |
| **Design Speed** | **50 MPH** | **55 MPH** | **55 MPH** |
| **Minimum Horizontal Curve Radius** | **1146 ft** | **1480 ft** | **1146 ft** |
| **Maximum Superelevation Rate** | **7%** | **8%** | **7%** |
| **Maximum Grade** | **3.5%** | **5%** | **3.5%** |
| **Access Control** | **Limited Access** | **Limited Access** | **Limited Access** |
| Design Vehicle | WB 67 | | WB 67 |
| Check Vehicle | | | |
| Pavement Type | Asphalt | | Asphalt |

**According to current GDOT design policy if applicable*

**Mainline Design Features: Welcome All Road, Minor Arterial, Welcome All Road Connector**

| Feature | Existing | *Policy | Proposed |
|---|---|---|---|
| **Typical Section:** | | | |
| - Number of Lanes | 2 | | 4 |
| - **Lane Width(s)** | **12 ft** | **12 ft** | **12 ft** |
| - **Median Width & Type** | **None** | **None** | **14 ft Flush** |
| - **Outside Shoulder Width** | **10 ft** | **10 ft** | **9.5ft - 10ft** |
| - **Outside Shoulder Slope** | **4:1** | **4:1** | **4:1** |
| - **Sidewalks** | **None** | **5 ft** | **5 ft** |
| - Auxiliary Lanes | | | |
| - **Bike Accommodation** | **N/A** | **N/A** | **N/A** |
| Posted Speed | 35 MPH | | 35 MPH |
| **Design Speed** | **35 MPH** | **35 MPH** | **35 MPH** |
| **Minimum Horizontal Curve Radius** | **N/A** | | **371 ft** |
| **Maximum Superelevation Rate** | **N/A** | | **4%** |
| **Maximum Grade** | **3.5%** | | **3.5%** |
| **Access Control** | Permit | | Permit |
| Design Vehicle | WB 62 | | WB 62 |
| Check Vehicle | WB 67 | | WB 67 |

| | | | |
|---|---|---|---|
| Pavement Type | Asphalt | | Asphalt |

**Design Exceptions/Design Variances to FHWA or GDOT Controlling Criteria anticipated:**

| FHWA or GDOT Controlling Criteria | No | Undetermined | Yes | DE or DV | Approval Date (if applicable) |
|---|---|---|---|---|---|
| 1. Design Speed | ☒ | ☐ | ☐ | | |
| 2. Design Loading Structural Capacity | ☒ | ☐ | ☐ | | |
| 3. Stopping Sight Distance | ☒ | ☐ | ☐ | | |
| 4. Horizontal Curve Radius | ☐ | ☐ | ☒ | DV | |
| 5. Maximum Grade | ☒ | ☐ | ☐ | | |
| 6. Vertical Clearance | ☒ | ☐ | ☐ | | |
| 7. Superelevation Rate | ☒ | ☐ | ☐ | | |
| 8. Lane Width | ☒ | ☐ | ☐ | | |
| 9. Cross Slope | ☒ | ☐ | ☐ | | |
| 10. Shoulder Width | ☒ | ☐ | ☐ | | |

**Design Variances to GDOT Standard Criteria anticipated:**

| GDOT Standard Criteria | Reviewing Office | No | Undetermined | Yes | Approval Date (if applicable) |
|---|---|---|---|---|---|
| 1. Access Control | DP&S | ☒ | ☐ | ☐ | |
| 2. Shoulder Width | DP&S | ☒ | ☐ | ☐ | |
| 3. Intersection Sight Distance | DP&S | ☒ | ☐ | ☐ | |
| 4. Intersection Skew Angle | DP&S | ☒ | ☐ | ☐ | |
| 5. Tangent Lengths on Reverse Curves | DP&S | ☒ | ☐ | ☐ | |
| 6. Lateral Offset to Obstruction | DP&S | ☒ | ☐ | ☐ | |
| 7. Rumble Strips | DP&S | ☒ | ☐ | ☐ | |
| 8. Safety Edge | DP&S | ☒ | ☐ | ☐ | |
| 9. Median Usage | DP&S | ☒ | ☐ | ☐ | |
| 10. Roundabout Illumination Levels | DP&S | ☒ | ☐ | ☐ | |
| 11. Complete Streets Warrants | DP&S | ☒ | ☐ | ☐ | |
| 12. ADA Requirements in PROWAG | DP&S | ☒ | ☐ | ☐ | |
| 13. GDOT Construction Standards | DP&S | ☒ | ☐ | ☐ | |
| 14. GDOT Drainage Manual | DP&S | ☒ | ☐ | ☐ | |

**VE Study anticipated:** ☒ No ☐ Yes ☐ Completed – Date: _____

**Lighting Required:** ☒ No ☐ Yes

**Off-site Detours Anticipated:** ☒ No ☐ Undetermined ☐ Yes
If yes: Roadway type to be closed: ☐ Local Road ☐ State Route
Detour Route selected: ☐ Local Road ☐ State Route
District Concurrence w/Detour Route: ☐ No/Pending ☐ Received *Select a date*

**Transportation Management Plan [TMP] Required:** ☐ No ☒ Yes
If Yes: Project classified as: ☒ Non-Significant ☐ Significant
TMP Components Anticipated: ☒ TTC ☐ TO ☐ PI

## INTERSECTIONS AND INTERCHANGES

**Interchanges/Major Intersections:** SR 6/Camp Creek Parkway at Welcome All Road Connector

**Intersection Control Evaluation (ICE) Required:** ☐ No ☒ Yes

**Roundabout Concept Validation Required:** ☒ No ☐ Yes ☐ Completed – Date: Date

## UTILITY AND PROPERTY

**Railroad Involvement:** 50. This project has a parallel impact to CSX Transportation Inc,. at approximate RRMP ANB-0850.47, the closest crossing is at RRMP # ANB-0850.47, Inv. # 643046P. Therefore, RR coordination will be required. The City of East Point, is responsible for RR coordination.

**Utility Involvements:** Fulton County Water & Sewer, Atlantic Telephone and Telegraph (AT&T), Georgia Power Distribution, Plantation Pipeline

**SUE Required:** ☒ No ☐ Yes ☐ Undetermined

**Public Interest Determination Policy and Procedure recommended:** ☒ No ☐ Yes

**Right-of-Way (ROW):** Existing width: 150 ft. Proposed width: 150 ft.

Required Right-of-Way anticipated: ☐ None ☒ Yes ☐ Undetermined

Easements anticipated: ☐ None ☐ Temporary ☒ Permanent * ☒ Utility ☐ Other

***** *Permanent easements will include the right to place utilities.*

| | | |
|---|---|---|
| Anticipated total number of impacted parcels: | | 3 |
| Displacements anticipated: | Businesses: | |
| | Residences: | |
| | Other: | |
| | Total Displacements: | 0 |

**Location and Design approval:** ☐ Not Required ☒ Required

**Impacts to USACE property anticipated:** ☒ No ☐ Yes ☐ Undetermined

## CONTEXT SENSITIVE SOLUTIONS

**Issues of Concern:** None

**Context Sensitive Solutions Proposed:** N/A

## ENVIRONMENTAL & PERMITS

**Anticipated Environmental Document:** **NEPA ~ CE**

**Level of Environmental Analysis:**

☒ The environmental considerations noted below are based on preliminary desktop or screening level environmental analysis and are subject to revision after the completion of resource identification, delineation, and agency concurrence.

☐ The environmental considerations noted below are based on the completion of resource identification, delineation, and agency concurrence.

**Water Quality Requirements:**
**MS4 Permit Compliance – Is the project located in a MS4 area?** ☐ No ☒ Yes

**Is there a Project Level Exclusion that applies to this project:** ☒ No ☐ Yes

**Is Non-MS4 water quality mitigation anticipated?** ☒ No ☐ Yes

**Environmental Permits/Variances/Commitments/Coordination anticipated:**

| Permit/Variance/Commitment/ Coordination Anticipated | No | Yes | Remarks |
|---|---|---|---|
| 1. U.S. Coast Guard Permit | ☒ | ☐ | |
| 2. Forest Service/NPS | ☒ | ☐ | |
| 3. CWA Section 404 Permit | ☐ | ☒ | |
| 4. Tennessee Valley Authority Permit | ☒ | ☐ | |
| 5. USACE Real Estate Outgrant | ☒ | ☐ | |
| 6. Buffer Variance | ☐ | ☒ | |
| 7. Coastal Zone Management Coordination | ☒ | ☐ | |
| 8. NPDES | ☐ | ☒ | |
| 9. FEMA | ☐ | ☒ | FEMA maps show project site in a flood plain area. Only minimal impacts are anticipated. |
| 10. Cemetery Permit | ☒ | ☐ | |
| 11. Other Permits | ☒ | ☐ | |
| 12. Other Commitments | ☒ | ☐ | |
| 13. Other Coordination | ☒ | ☐ | |

**Is a PAR required?** ☒ No ☐ Yes ☐ Completed – Date:

**Environmental Comments and Information:**
**NEPA/GEPA:** A Categorical Exclusion is anticipated for NEPA documentation. No 4f resources identified within project limits.

**Ecology:** Streams, buffered state waters, wetlands and floodplains are located within or adjacent to the preliminary project area. A seasonal protected species survey is anticipated for the state protected bay star-vine *(Schisandra glabra),* which would need to be completed during the flowering period in late-May or June. The Bridge over Camp Creek may need to be screened for the presence of migratory birds.

**History:** A review of Georgia's Natural, Archaeological, and Historic Resources GIS site (GNAHRGIS) has been conducted. According to GNARGIS, no known historic resources exist within the project area. Other than the two bridges within the project area, the only other structure is a cold-storage facility in the NE quadrant of the Camp Creek Parkway and Welcome All Road intersection. The two bridges are less than 50 years in age. Based on these considerations, it is not anticipated that a National Register eligible or listed site will be impacted by the proposed project; however, a history survey must be conducted for confirmation.

**Archeology:** Using a 100-meter buffer surrounding the proposed project area, according to GNAHRGIS, there is only one known archaeology site, 9FU67. The eligibility of this site is unknown. Site 9FU67 is located in the southeast quadrant of the Camp Creek Parkway and Welcome All Road intersection and is approximately 50 meters outside of the actual proposed project area. Due to this and the project's proximity to Camp Creek, there is potential for additional sites to be discovered as a result of the required archaeological survey. If the proposed project area is extended to include Site 9FU67, additional testing would be required. A Phase 1 Study is required during preliminary design.

**Air Quality:** Proposed project improvements consist of adding two left turn lanes and an accompanying traffic signal and extending an existing left turn lane for additional storage. Based on the project including intersection improvements and additional storage capacity, it is anticipated that a carbon monoxide (CO) analysis will not be required.

**Air Quality:**

| | | |
|---|---|---|
| Is the project located in an Ozone Non-attainment area? | ☐ No | ☒ Yes |
| Is a Carbon Monoxide hotspot analysis required? | ☒ No | ☐ Yes |

**Noise Effects:** Only one receptor, a storage facility, is located within the proposed project area. A Type I noise analysis is required for this project.

**Public Involvement:** Public Information Open House

**Major stakeholders:** Traveling public, City of Atlanta, City of East Point, Aerotropolis Atlanta Community Improvement District

## CONSTRUCTION

**Issues potentially affecting constructability/construction schedule:** Maintaining traffic while project is constructed

**Early Completion Incentives recommended for consideration:** ☒ No ☐ Yes

## COORDINATION, ACTIVITIES, RESPONSIBILITIES, AND COSTS

**Federal Aviation Administration (FAA) coordination anticipated:** ☐ No ☒ Yes

**Initial Concept Team Meeting:** N/A.

**Concept Team Meeting:** Concept Team Meeting held September 13, 2019.

**Other coordination to date:** N/A

| Project Activity | Party Responsible for Performing Task(s) |
|---|---|
| Concept Development | Atlanta Aerotropolis Community Improvement Districts |
| Design | Atlanta Aerotropolis Community Improvement Districts |
| Right-of-Way Acquisition | City of East Point |
| Utility Coordination (Preconstruction) | Atlanta Aerotropolis Community Improvement Districts |
| Utility Relocation (Construction) | Utility Owners |
| Letting to Contract | City of East Point |
| Construction Supervision | City of East Point |
| Providing Material Pits | N/A |

| | |
|---|---|
| Providing Detours | N/A |
| Environmental Studies, Documents, & Permits | Atlanta Aerotropolis Community Improvement Districts |
| Environmental Mitigation | N/A |
| Construction Inspection & Materials Testing | City of East Point |

**Project Cost Estimate Summary and Funding Responsibilities:**

| | PE Activities | | ROW | Reimbursable Utilities** | CST* | Total Cost |
|---|---|---|---|---|---|---|
| | PE Funding** | Section 404 Mitigation | | | | |
| Date of Estimate: | *5/3/2019* | *8/17/2021* | *5/2/2019* | *9/2/2020* | *1/13/2021* | |
| Funded By: | Fed/Local | | TBD | TBD/Local | TBD | |
| Programmed Cost: | $500,000 | | TBD | TBD | TBD | |
| Estimated Cost: | **$525,000** | **$35,000** | **$12,000** | **$405,000** | $5,871,781 | **$6,848,781** |
| Total Cost Difference: | | | | | | |

*CST Cost includes: Construction, Engineering and Inspection, Contingencies and Liquid AC Cost Adjustment. **-AT**
** Includes Railroad Preliminary Estimate

**Alternative selection:**

| **Preferred Alternative:** Widen and Realign Welcome All Road | | | |
|---|---|---|---|
| **Estimated Property Impacts:** | **3** | **Estimated Total Cost:** | **$6,848,781** |
| **Estimated ROW Cost:** | **$12,000** | **Estimated CST Time:** | **24 months** |
| **Rationale:** The predominant movement for traffic on Welcome All Road is turning left from Welcome All Connector and most northbound traffic on Welcome All Road turns right onto the Welcome All Connector. Realigning the intersection so that the predominant movements become through movements addresses the primary operational issues observed. The queue from Welcome All Connector turning left on to Welcome All Road is eliminated because the movement is uninterrupted in the preferred alternative. The west bound left turn from SR 6/Camp Creek Parkway to Welcome All Connector should be extended to a total of 400 ft plus a taper to capture the 95$^{th}$ percentile queue. A free flow right turn from the Welcome All Connector to east bound SR 6/Camp Creek Parkway is recommended. The preferred alternative address the source of queuing onto SR 6 Camp Creek Pkwy by replacing the single lane stop controlled with a dual lane free flow movement. | | | |

| **No-Build Alternative:** Welcome All Road at Welcome All Connector remains a side street stop | | | |
|---|---|---|---|
| **Estimated Property Impacts:** | | **Estimated Total Cost:** | 0 |
| **Estimated ROW Cost:** | | **Estimated CST Time:** | |
| **Rationale:** As traffic continues to grow in the area, queuing traffic will further deteriorate operations on SR 6/Camp Creek Pkwy and Welcome All Road. | | | |

| **Alternative 1:** Signalized Florida T at Welcome All Road with bridge widening | | | |
|---|---|---|---|
| **Estimated Property Impacts:** | **3** | **Estimated Total Cost:** | 2,600,000 |
| **Estimated ROW Cost:** | **$60,000** | **Estimated CST Time:** | **24 months** |
| **Rationale:** The left turn from Welcome All Connector to south bound Welcome All Road would benefit from a signal interconnected with SR 6/Camp Creek Parkway. The southbound through traffic on Welcome All Road would not have to stop. However, the south bound through movement is not a heavy movement. This alternative could allow a protected west bound movement from the Welcome All Connector turning left on to south Welcome All Road to only stop for the north bound Welcome All Road through traffic. | | | |

| **Alternative 2:** Signalizing Welcome All Road at the Welcome All Connector | | | |
|---|---|---|---|
| **Estimated Property Impacts:** | **0** | **Estimated Total Cost:** | 1,400,000 |
| **Estimated ROW Cost:** | **$0** | **Estimated CST Time:** | **12 months** |
| **Rationale:** Signalizing Welcome All Road at Welcome All Connector, lengthening the left turn lane from west bound SR 6/Camp Creek Parkway mitigates the queuing on Welcome All Road Connector and the left turn queue from SR 6/Camp Creek Pkwy. The left turn storage would be extended 360 ft to accommodate anticipated peak queue without blocking through traffic. A signal at Welcome All Road and Welcome All Connector interconnected with SR 6/Camp Creek Parkway at Welcome All Connector can be timed so that most left turns from SR 6/Camp Creek Parkway will not have to stop at the Welcome All Road at Welcome All Connector signal. Alternative 2 could be implemented in shorter time than the preferred alternative. Alternative 2 does not meet the long term growth of truck traffic in the area and would not address the capacity bottleneck caused where Welcome All Road tapers from four lanes to two. | | | |

| **Alternative 3:** Roundabout at Welcome All Road and Welcome All Connector | | | |
|---|---|---|---|
| **Estimated Property Impacts:** | **0** | **Estimated Total Cost:** | 1,800,000 |
| **Estimated ROW Cost:** | **$0** | **Estimated CST Time:** | **18 months** |
| **Rationale:** The distance between the roundabout and the signalized intersection of SR 6/Camp Creek Parkway means that the risk of the queue from the signalized intersection is likely to cause operational problems in the roundabout. With current traffic volumes, the queue approaching the roundabout from SR 6/Camp Creek Parkway is nearly long enough to back into the signalized intersection of SR 6/Camp Creek Parkway. | | | |

| **Alternative 4:** Welcome All Road Realignment without replacing bridge | | | |
|---|---|---|---|
| **Estimated Property Impacts:** | **0** | **Estimated Total Cost:** | 1,700,000 |
| **Estimated ROW Cost:** | **$0** | **Estimated CST Time:** | **12 months** |
| **Rationale:** The predominant movement for traffic on Welcome All Connector is a left turn on to Welcome All Road Connector and most northbound traffic on Welcome All Road turns right onto the Welcome All Connector. Realigning the intersection so that the predominant movements become through movements addresses the primary safety and operational issues observed. However, without widening Welcome All Road and replacing the bridge, the horizontal curve must have a radius less than 150 ft. | | | |

**Comments:**

## LIST OF ATTACHMENTS/SUPPORTING DATA

1. Concept Layout
2. Typical sections
3. Detailed Cost Estimates:
    a. Construction including Engineering and Inspection and Contingencies

b. Revisions to Programmed Costs forms, & Liquid AC Cost Adjustment forms
c. Right-of-Way
d. Utilities
**e. Mitigation Estimate**

**4.** TE Study
a. Capacity analysis summary
*b.* Capacity analysis summary
c. Crash summaries

**5.** ICE Report(s)
a. Stage 1 Screening Decision Record
b. Concurrence Memo
c. Stage 2 Alternative Selection Decision Record
d. Approved Waiver Request

**6.** S I & A Report(s)

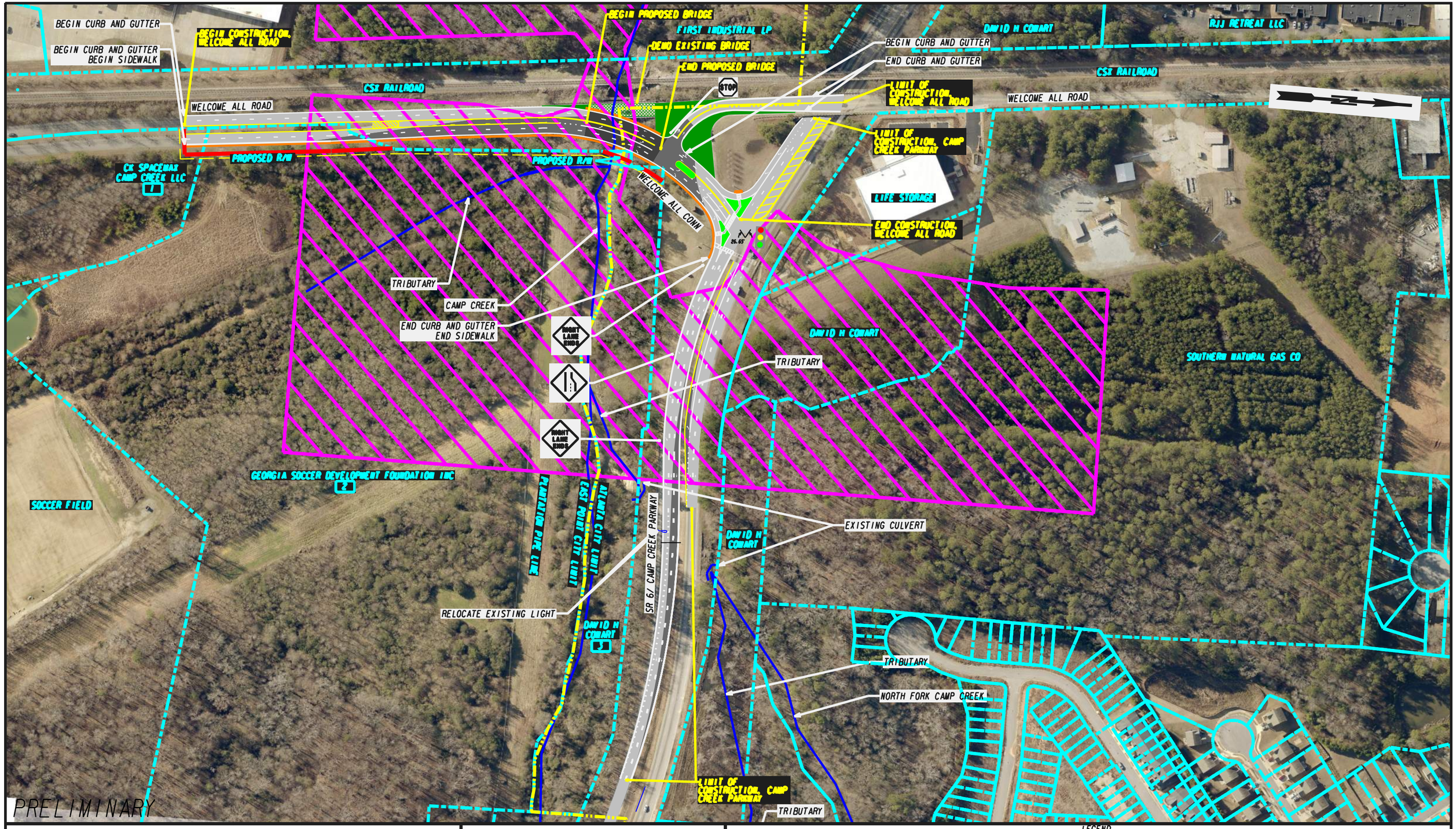
**7.** MS4 Concept Report Summary

**8.** Minutes of Concept meetings

## APPROVALS

Concur: _____ **9/10/2021**
Director of Engineering Date

Approve: _____ 9/21/2021
Chief Engineer Date



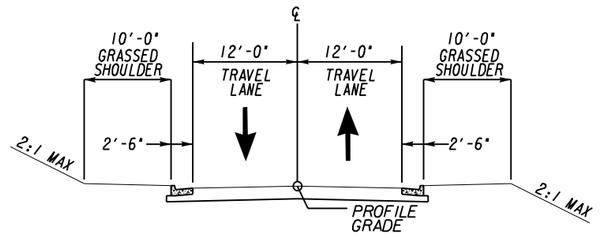

WELCOME ALL ROAD &
WELCOME ALL ROAD
CONN- STUDY
P. I. NO. 0016063
FULTON COUNTY OCTOBER 24, 2019

SCALE IN FEET
0 100 200 400

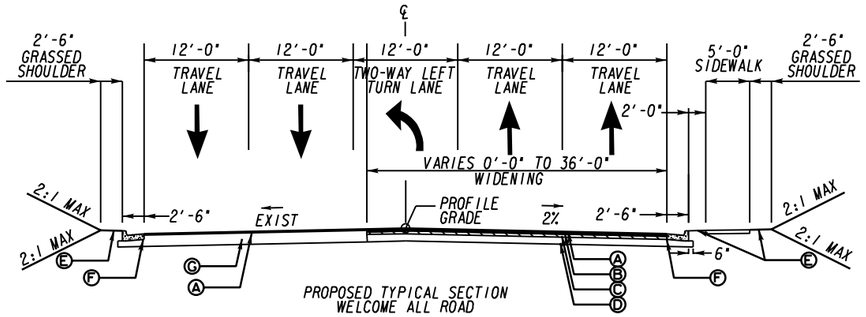
LEGEND

- PROPOSED EASEMENT
- PROPERTY LINES
- FLOODPLAIN AREA
- PROPOSED ROADWAY MARKINGS
- PROPOSED TRAFFIC SIGNAL
- PROPOSED STOP SIGN
- PROPOSED STRIPING
- PROPOSED RIGHT-OF-WAY
- PROPOSED RESURFACE
- EXISTING TRAFFIC SIGNAL
- PROPOSED BRIDGE
- PROPOSED MEDIAN
- PROPOSED GRASSED AREA
- PROPOSED SIDEWALK
- PROPOSED FULL-DEPTH PAVEMENT

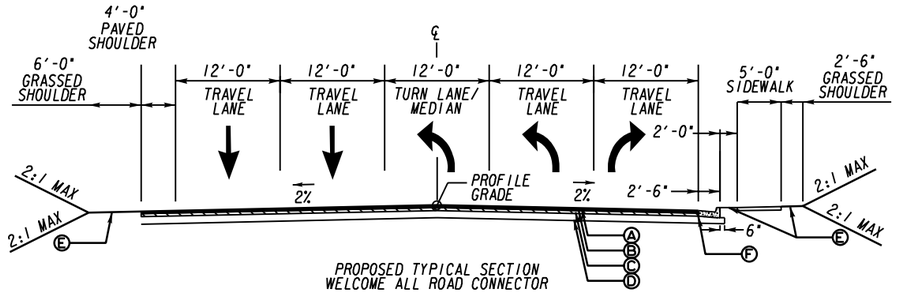
Ⓐ RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL BITUM MATL &H LIME(165 LB/SY)
Ⓑ RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL &H LIME(220 LB/SY)
Ⓒ RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL &H LIME(660 LB/SY)
Ⓓ GR AGGR BASE CRS, INCL MATL (12")
Ⓔ PERMANENT GRASSING
Ⓕ CONC CURB AND GUTTER, 8IN X 30IN, TP 2
Ⓖ RETAIN EXISTING PAVEMENT



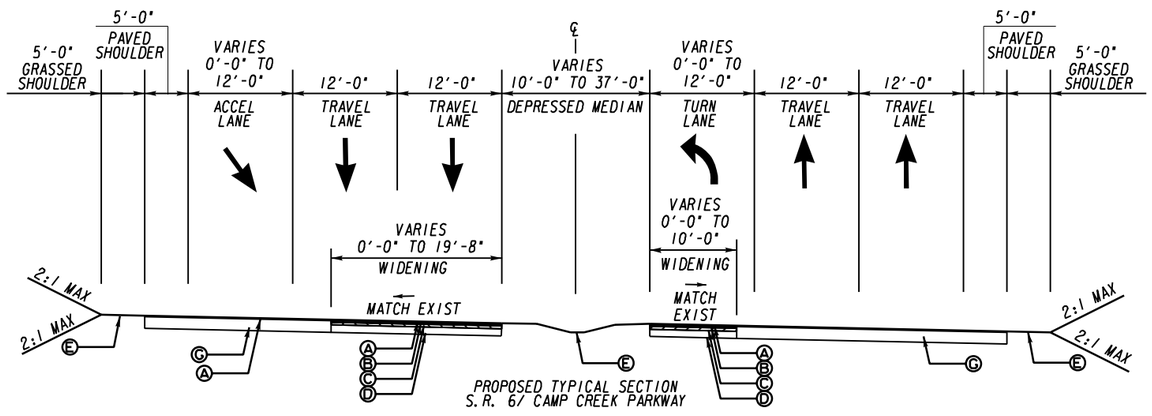

EXISTING TYPICAL SECTION
WELCOME ALL ROAD



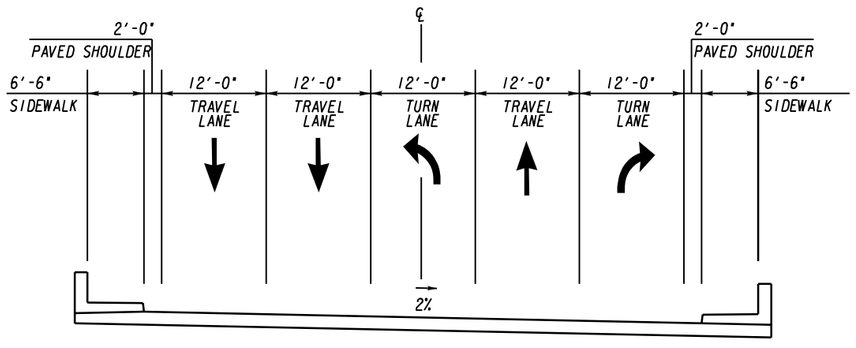

PROPOSED TYPICAL SECTION
WELCOME ALL ROAD




PROPOSED TYPICAL SECTION
WELCOME ALL ROAD CONNECTOR




PROPOSED TYPICAL SECTION
S.R. 6/ CAMP CREEK PARKWAY




PROPOSED TYPICAL SECTION
WELCOME ALL ROAD BRIDGE

PRELIMINARY

WELCOME ALL ROAD &
WELCOME ALL ROAD
CONN- STUDY
P. I. NO. 0016063
FULTON COUNTY OCTOBER 24, 2019

| CostEstimate | RefItem | Unit | | Quantity | UnitPrice | Total | SupplementalDescription |
|---|---|---|---|---|---|---|---|
| 5 | 210-0100 | LS | GRADING COMPLETE - | 1 | $ 1,500,000.00 | $ 1,500,000.00 | 16063 |
| 10 | 150-1000 | LS | TRAFFIC CONTROL - | 1 | $ 85,000.00 | $ 85,000.00 | 16063 |
| 15 | 153-1300 | EA | FIELD ENGINEERS OFFICE TP 3 | 1 | $ 85,000.00 | $ 85,000.00 | 16063 |
| 20 | 156-0100 | LS | GPS DATA COLLECTION AND SUBMITTAL | 1 | $ 9,601.00 | $ 9,601.00 | 16063 |
| 25 | 310-1101 | TN | GR AGGR BASE CRS, INCL MATL | 3633 | $ 30.00 | $ 108,990.00 | |
| 30 | 402-3130 | TN | RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL BITUM MATL & H LIME | 1546 | $ 80.00 | $ 123,680.00 | |
| 35 | 402-3190 | TN | RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2,INCL BITUM MATL & H LIME | 463 | $ 86.00 | $ 39,818.00 | |
| 40 | 402-3121 | TN | RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME | 1389 | $ 68.22 | $ 94,757.58 | |
| 45 | 413-0750 | GL | TACK COAT | 951 | $ 1.77 | $ 1,683.27 | |
| 50 | 432-0206 | SY | MILL ASPH CONC PVMT, 1 1/2 IN DEPTH | 14529 | $ 1.80 | $ 26,152.20 | |
| 55 | 441-0104 | SY | CONC SIDEWALK, 4 IN | 855 | $ 24.00 | $ 20,520.00 | |
| 60 | 441-0108 | SY | CONC SIDEWALK, 8 IN | 50 | $ 97.62 | $ 4,881.00 | |
| 65 | 441-0748 | SY | CONCRETE MEDIAN, 6 IN | 235 | $ 94.78 | $ 22,273.30 | |
| 70 | 441-6222 | LF | CONC CURB & GUTTER, 8 IN X 30 IN, TP 2 | 3805 | $ 13.46 | $ 51,215.30 | |
| 75 | 446-1100 | LF | PVMT REINF FABRIC STRIPS, TP 2, 18 INCH WIDTH | 2189 | $ 3.82 | $ 8,361.98 | |
| 80 | 641-1100 | LF | GUARDRAIL, TP T | 125 | $ 89.94 | $ 11,242.50 | |
| 85 | 641-1200 | LF | GUARDRAIL, TP W | 415 | $ 19.82 | $ 8,225.30 | |
| 90 | 641-5001 | EA | GUARDRAIL ANCHORAGE, TP 1 | 2 | $ 1,511.29 | $ 3,022.58 | |
| 95 | 641-5015 | EA | GUARDRAIL TERMINAL, TP 12A, 31 IN, TANGENT, ENERGY-ABSORBING | 2 | $ 2,825.31 | $ 5,650.62 | |
| 100 | 540-1101 | LS | REMOVAL OF EXISTING BR, STA NO - | 1 | $ 280,000.00 | $ 280,000.00 | 1 |
| 105 | 543-9000 | LS | CONSTRUCTION OF BRIDGE COMPLETE - | 1 | $ 1,740,750.00 | $ 1,740,750.00 | 1 |
| 110 | 657-1054 | LF | PREFORMED PLASTIC SOLID PVMT MKG, 5 IN, WHITE, TP PB | 500 | $ 7.19 | $ 3,595.00 | |
| 115 | 657-3054 | GLF | PREFORMED PLASTIC SKIP PVMT MKG, 5 IN, WHITE, TP PB | 340 | $ 3.53 | $ 1,200.20 | |
| 120 | 657-3086 | GLF | PREFORMED PLASTIC SKIP PVMT, MKG, 8 IN, CONTRAST (BLACK-YELLOW), TP PB | 340 | $ 3.09 | $ 1,050.60 | |
| 125 | 657-5016 | EA | PREFORMED PLASTIC PVMT MKG, WORDS AND/OR SYM, ARROW TP 1, WHITE, TP PB | 3 | $ 501.91 | $ 1,505.73 | |
| 130 | 653-0120 | EA | THERMOPLASTIC PVMT MARKING, ARROW, TP 2 | 12 | $ 84.37 | $ 1,012.44 | |
| 135 | 653-0110 | EA | THERMOPLASTIC PVMT MARKING, ARROW, TP 1 | 5 | $ 221.87 | $ 1,109.35 | |
| 140 | 653-1501 | LF | THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, WHITE | 5380 | $ 0.85 | $ 4,573.00 | |
| 145 | 653-1502 | LF | THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, YELLOW | 3470 | $ 0.80 | $ 2,776.00 | |
| 150 | 653-1804 | LF | THERMOPLASTIC SOLID TRAF STRIPE, 8 IN, WHITE | 1055 | $ 2.31 | $ 2,437.05 | |
| 155 | 653-1704 | LF | THERMOPLASTIC SOLID TRAF STRIPE, 24 IN, WHITE | 90 | $ 7.44 | $ 669.60 | |
| 160 | 653-3501 | GLF | THERMOPLASTIC SKIP TRAF STRIPE, 5 IN, WHITE | 3678 | $ 0.66 | $ 2,427.48 | |
| 165 | 653-3502 | GLF | THERMOPLASTIC SKIP TRAF STRIPE, 5 IN, YELLOW | 668 | $ 0.55 | $ 367.40 | |
| 170 | 653-6006 | SY | THERMOPLASTIC TRAF STRIPING, YELLOW | 715 | $ 4.26 | $ 3,045.90 | |
| 175 | 433-1100 | SY | REINF CONC APPROACH SLAB, INCL CURB | 360 | $ 209.32 | $ 75,355.20 | |
| 180 | 647-1000 | LS | TRAFFIC SIGNAL INSTALLATION NO - | 1 | $ 30,000.00 | $ 30,000.00 | 1 |
| 185 | 550-1240 | LF | STORM DRAIN PIPE, 24 IN, H 1-10 | 1900 | $ 45.03 | $ 85,557.00 | |
| 190 | 550-4224 | EA | FLARED END SECTION 24 IN, STORM DRAIN | 2 | $ 1,132.63 | $ 2,265.26 | |
| 195 | 668-1100 | EA | CATCH BASIN, GP 1 | 10 | $ 2,332.00 | $ 23,320.00 | |
| 200 | 163-0232 | AC | TEMPORARY GRASSING | 1 | $ 465.44 | $ 465.44 | |
| 205 | 163-0240 | TN | MULCH | 39 | $ 153.36 | $ 5,981.04 | |
| 210 | 163-0301 | EA | CONSTRUCT AND REMOVE CONSTRUCTION EXITS | 2 | $ 2,000.00 | $ 4,000.00 | |
| 215 | 165-0030 | LF | MAINTENANCE OF TEMPORARY SILT FENCE, TP C | 7550 | $ 0.71 | $ 5,360.50 | |
| 220 | 165-0041 | LF | MAINTENANCE OF CHECK DAMS - ALL TYPES | 10 | $ 3.96 | $ 39.60 | |
| 225 | 165-0105 | EA | MAINTENANCE OF INLET SEDIMENT TRAP | 10 | $ 83.39 | $ 833.90 | |
| 230 | 167-1000 | EA | WATER QUALITY MONITORING AND SAMPLING | 12 | $ 355.80 | $ 4,269.60 | |
| 235 | 167-1500 | MO | WATER QUALITY INSPECTIONS | 12 | $ 1,264.95 | $ 15,179.40 | |
| 240 | 171-0030 | LF | TEMPORARY SILT FENCE, TYPE C | 7550 | $ 3.20 | $ 24,160.00 | |
| 245 | 603-2181 | SY | STN DUMPED RIP RAP, TP 3, 18 IN | 65 | $ 47.62 | $ 3,095.30 | |
| 250 | 603-7000 | SY | PLASTIC FILTER FABRIC | 65 | $ 4.66 | $ 302.90 | |
| 255 | 643-8200 | LF | BARRIER FENCE (ORANGE), 4 FT | 7550 | $ 2.22 | $ 16,761.00 | |
| 260 | 700-6910 | AC | PERMANENT GRASSING | 2 | $ 852.78 | $ 1,705.56 | |
| 265 | 700-7000 | TN | AGRICULTURAL LIME | 4 | $ 109.08 | $ 436.32 | |
| 270 | 700-8000 | TN | FERTILIZER MIXED GRADE | 2 | $ 708.04 | $ 1,416.08 | |
| 275 | 700-8100 | LB | FERTILIZER NITROGEN CONTENT | 94 | $ 3.58 | $ 336.52 | |
| 280 | 716-2000 | SY | EROSION CONTROL MATS, SLOPES | 9050 | $ 1.25 | $ 11,312.50 | |
| 285 | 169-0020 | EA | ENHANCED DRY SWALE, NO. - | 2 | $ 6,000.00 | $ 12,000.00 | 16063 |
| 290 | 169-0021 | EA | ENHANCED DRY SWALE MAINTENANCE | 2 | $ 3,000.00 | $ 6,000.00 | 16063 |
| 295 | 632-0003 | EA | CHANGEABLE MESSAGE SIGN, PORTABLE, TYPE 3 | 4 | $ 8,146.00 | $ 32,584.00 | |
| 300 | 163-0527 | EA | CONSTRUCT AND REMOVE RIP RAP CHECK DAMS, STONE PLAIN RIP RAP/SAND BAGS | 10 | $ 434.73 | $ 4,347.30 | |
| 305 | 163-0550 | EA | CONSTRUCT AND REMOVE INLET SEDIMENT TRAP | 10 | $ 197.56 | $ 1,975.60 | |
| | | | | | TOTAL | $ 4,625,654.40 | |

Georgia Department of Transportation

# Interoffice Memo

**FILE**

| | | | |
|---|---|---|---|
| PI NUMBER | 0016063 | PROJECT DESCRIPTION | SR 6/Camp Creek Pkwy at Welcome All Road |
| OFFICE | Program Delivery | | |
| DATE | Wednesday, January 13, 2021 | | |

**From:** Cadell Hall

**To:** Erik Rohde, P.E., State Project Review Engineer
via email Mailbox: CostEstimatesandUpdates@dot.ga.gov

**Subject:** **REVISIONS TO PROGRAMMED COSTS**

| | |
|---|---|
| **Project Manager:** | Genine Bryant |
| **Management Let Date:** | TBD |
| **Management Right of Way Date:** | FY 2022 |

**Cost Estimate Review Iteration**

| | |
|---|---|
| Date of Submittal #1 | **01/20/2021** |
| Date of Submittal #2 | |
| Date of Submittal #3 | |

**Summary of Programmed Costs and Proposed Revised Costs:**

| Estimate Type | Cost Estimate Amounts (T-Pro Without Inflation) | Last Estimate Date | Revised Cost Estimate |
|---|---|---|---|
| CONSTRUCTION | $5,454,834.00 | 02/25/2020 | $5,871,751.11 |
| RIGHT OF WAY | $77,000.00 | 02/25/2020 | $12,000.00 |
| UTILITIES | $155,000.00 | 02/25/2020 | $430,000.00 |

**Explanation for Cost Change and Contingency Justification:**

**Contingency is based on GDOT Policy 3A-9 Cost Estimating.**

**Attachments:**

Utility Cost Estimate Checklist. Right of Way Checklist, & AASHTOWare Printout

Georgia Department of Transportation

Interoffice Memo

**Design Phase Leader Validation of Final QC/QA for Construction Cost Estimate Used In This Revision to Programmed Costs:**

| | |
|---|---|
| Consultant Company or GDOT Design Office: | Kimley-Horn and Associates |
| Printed Name: | Mike Lobdell |
| Title: | Associate |
| Signature: |  |
| Date: | 2-Sep-20 |

| **FOR PROJECTS WITH A LOCAL SPONSOR** | |
|---|---|
| If the project has a local sponsor, the project manager should ensure that the local authority completes the following validation indicating that it has reviewed the construction cost estimate and whether it is in concurrence with the construction costs presented. | |
| Please select the appropriate validation below upon review of the cost estimate:<br>☐ I acknowledge that I have reviewed the project construction cost estimate and concur with the costs presented.<br>☐ I acknowledge that I have reviewed the project construction cost estimate but do not concur with the costs presented. | |
| Please provide an explanation for non-concurrence. | |
| | |
| Local Authority Name and Title: | Cadell Hall, Transportation Division Manager, City of East Point |
| | |
| Local Authority Signature: | |

Georgia Department of Transportation

# Interoffice Memo

**Cost Estimate Worksheet:**

| | | |
|---|---|---|
| **CONSTRUCTION COST ESTIMATE** (Required base estimate entered from CES and should not include E&I). → | **A** | $ 4,625,654.40 |
| **ENGINEERING AND INSPECTION** (The default E&I percentage is 5.0%, but may be adjusted per project scope.) → | **D** | $ 231,282.72 |

| Construction Cost | E&I Percentage | E&I Cost |
|---|---|---|
| B | C | D = B x C |
| $ 4,625,654.40 | 5% | $ 231,282.72 |

| | | |
|---|---|---|
| **CONTINGENCY** (Refer to the Risk and Contingencies Table included in GDOT Policy 3A-9 Cost Estimating Purpose) → | **I** | $ 971,387.42 |

| Construction Cost | E&I Cost | Construction + E&I | Contingency Percentage | Contingency Cost |
|---|---|---|---|---|
| E | F | G = E + F | H | I = G x H |
| $ 4,625,654.40 | $ 231,282.72 | $ 4,856,937.12 | 20% | $ 971,387.42 |

| | | |
|---|---|---|
| **ASPHALT FUEL PRICE ADJUSTMENT** (Leave blank if not applicable) → | **Q** | $ 43,426.57 |

| | |
|---|---|
| Date | Jan 2021 |
| Regular Unleaded | $2.103/ GAL |
| Diesel | $2.845/ GAL |
| Liquid AC | $416.00/ TON |

Current Asphalt Fuel Index Prices can be found at the link below:

http://www.dot.ga.gov/PS/Materials/AsphaltFuelIndex

| | | Tons | Percentage of Asphaltic Concrete | Tons of Asphaltic Concrete | Total Monthly Tonnage of Asphalt Cement (TMT) | Monthly Asphalt Cement Price month project let (APL) | Max. Cap | Monthly Asphalt Cement Price month placed (APM) | Price Adjustment (PA) |
|---|---|---|---|---|---|---|---|---|---|
| Liquid AC | Description | J | K | L = J x K | M = Sum of Columns L, T & W | N | O | P = (N x O)+N | Q = [((P - N) / N)] x M x N |
| | Leveling | | | | 173.98 TN | $416.00/ TON | 60% | $ 665.60 | $ 43,426.57 |
| | Patching | | | | | | | | |
| | 9.5 mm SP | | | | | | | | |
| | 12.5 OGFC | | | | | | | | |
| | 12.5 PEM | | | | | | | | |
| | 12.5 mm SP | 1546.00 TN | 5.00% | 77.30 TN | | | | | |
| | 19 mm SP | 463.00 TN | 5.00% | 23.15 TN | | | | | |
| | 25 mm SP | 1389.00 TN | 5.00% | 69.45 TN | | | | | |
| Bituminous Tack Coat | | Tack Coat | GL/TN | Tons | | | | | |
| | Description | R | S | T = R/S | | | | | |
| | Tack Coat | 951.00 GL | 232.8234 GL/TN | 4.08 TN | | | | | |
| Bituminous Tack Coat (Surface Treatment) | | SY | GL/SY | TN | | | | | |
| | Description | U | V | W = (U x V) / (232.8234 GL/TN) | | | | | |
| | Single Surface Treatment | | 0.20 Gl/SY | | | | | | |
| | Double Surface Treatment | | 0.44 Gl/SY | | | | | | |
| | Triple Surface Treatment | | 0.71 Gl/SY | | | | | | |

| | | |
|---|---|---|
| **CONSTRUCTION TOTAL COST** → | **X = A+D+I+Q** | $ 5,871,751.11 |
| **RIGHT OF WAY COST** → | **Y** | $ 12,000.00 |
| **UTILITIES COST** (Provided by Utility Office) → | **Z = Sum of Reimbursable Costs** | $ 430,000.00 |

| Utility Owner | Reimbursable Cost | Utility Owner | Reimbursable Cost |
|---|---|---|---|
| Georgia Power Distribution | $ 200,000.00 | | |
| Fulton County Water and Sewer | $ 40,000.00 | | |
| AT&T | $ 90,000.00 | | |
| Plantation Pipeline | $ 40,000.00 | | |
| CSX | $ 60,000.00 | | |

GEORGIA DEPARTMENT OF TRANSPORTATION
PRELIMINARY ROW COST ESTIMATE SUMMARY

Date: 5/2/2019 Project: 0016063
Revised: County: Fulton
PI:
Description: WELCOME ALL ROAD & WELCOME ALL ROAD CONN - STUDY
Project Termini: Welcome All Rd at Camp Creek Pkwy

Existing ROW: Varies
Parcels: 3 Required ROW: Varies

| | | |
|---|---|---|
| Land and Improvements | | $7,312.50 |
| *Proximity Damage* | *$0.00* | |
| *Consequential Damage* | *$0.00* | |
| *Cost to Cures* | *$0.00* | |
| *Trade Fixtures* | *$0.00* | |
| *Improvements* | *$0.00* | |
| Valuation Services | | $4,000.00 |
| Legal Services | | $0.00 |
| Relocation | | $0.00 |
| Demolition | | $0.00 |
| Administrative | | $0.00 |
| TOTAL ESTIMATED COSTS | | $11,312.50 |
| ***TOTAL ESTIMATED COSTS (ROUNDED)*** | | ***$12,000.00*** |

| Preparation Credits | Hours | Signature |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

Prepared By: CG#: N/A (DATE)
Approved By: CG#: (DATE)

**NOTE: No Market Appreciation is included in this Preliminary Cost Estimate**

Kimley»Horn

September 2, 2020

**Re: Conceptual Utility Cost Estimate, SR 6/Camp Creek Pkwy at Welcome All Road**

A review of utilities located on the SR 6/Camp Creek Pkwy at Welcome All Rd. Project (PI# 0016063 Fulton County) has been conducted. Listed Below is a breakdown of the anticipated reimbursable and non-reimbursable relocations cost.

| Utility Owner | Reimbursable | Non-reimbursable | Estimate Based on |
|---|---|---|---|
| Georgia Power | $200,000 | $0 | Concept Plan |
| Fulton County Water & Sewer | $40,000 | $0 | Concept Plan |
| AT&T | $90,000 | $0 | Concept Plan |
| Plantation Pipeline | $40,000 | $0 | Concept Plan |
| CSX | **$35,000** | $0 | Concept Plan |

Estimate is based on the best available information at the current stage, unforeseen prior rights information may be provided by the Utility Company at a later date that could cause some non-reimbursable costs to shift to reimbursable costs.

If additional information is needed, please contact Mike Lobdell at 404-998-8673.

**DEPARTMENT OF TRANSPORTATION**
**STATE OF GEORGIA**

---

**INTERDEPARTMENT CORRESPONDENCE**

**FILE:** PI #0016063, Fulton County

**OFFICE:** State Utilities Office

**FROM:** Jill Franks for: Patrick Allen, State Utilities Administrator

**DATE:** July 30, 2020

**TO:** Kimberly Nesbitt, State Program Delivery Administrator
Attn: Williams Gabbie, Project Manager

**SUBJECT: PRELIMINARY RAILROAD COST (CONCEPT ESTIMATE)**

A review of railroads located within the project limits on the above referenced project has been conducted based on the proposed concept report. Listed below is a breakdown of the estimated railroad costs:

| FACILITY OWNER | NON-REIMBURSABLE | REIMBURSABLE |
|---|---|---|
| CSX Transportation Inc, | | |
| – P.E. review cost for parallel impact | $0.00 | $ 25,000.00-LOCAL |
| – Const. cost for parallel impact | $0.00 | $ 35,000.00-LOCAL |
| Subtotal Reimbursable Railroad PE cost: | | **$ 25,000.00** |
| Subtotal Reimbursable Railroad UTIL/CONSTR cost: | | **$ 35,000.00** |
| Total Reimbursement Cost: | | **$ 60,000.00** |

Please note that this amount does not include other reimbursable utility costs that may be associated with this project.This project is funding by the LOCAL for PE and Utilities.

If you have any questions, please contact Jill Franks, (404) 631-1370, jfranks@dot.ga.gov or Teshome Yitateku, (404) 631-1072, tyitateku@dot.ga.gov.

PA:tty

cc: Marcela Coll, Utilities Preconstruction Manager
Angela Robinson, State Financial Management Administrator
Shun Pringle, District 7 Utilities Manager
Kevin Cowan, Utilities Railroad Crossing Manager

**From:** Westberry, Lisa
**Sent:** Tuesday, August 17, 2021 9:43 AM
**To:** Turner, Angela; Hayden, Porshia R
**Subject:** P.I. 0016063, Fulton County - Estimated Mitigation Cost for Concept Report

As requested, the estimated mitigation cost for the subject project is **$35,000.00**. This was based on a review of aerial photography, NWI mapping, and NRCS soil surveys and not an actual field verification. The total cost of mitigation credits will vary once lockdown plans are available and the final impacts to waters of the US are determined.

If you should have any questions or need any additional information, please do not hesitate to contact me.

Regards,

**Lisa Westberry**
*Special Projects Coordinator*

GDOT Georgia Department of Transportation

Office of Environmental Services
One Georgia Center, 16th Floor
600 West Peachtree Street, NW
Atlanta, GA, 30308
404.631.1772

---

TE Study

**Traffic Engineering Study**

# PI#0016063: Realignment of Welcome All Road to Camp Creek Parkway (SR 6)

Fulton County

Prepared for:

*Aerotropolis Atlanta CIDs*

Prepared by:

Kimley»Horn

September 2020
(Appendix updates/additions from Revision 1 dated August 2019)

017256002

**Traffic Engineering Study**

# PI#0016063:
# Realignment of Welcome All Road to Camp Creek Parkway (SR 6)

Fulton County

Prepared for:

*Aerotropolis Atlanta CIDs*

Prepared by:

Kimley»Horn

September 2020
(Appendix updates/additions from Revision 1 dated August 2019)

017256002

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# LIST OF FIGURES

# LIST OF TABLES



# APPENDICES

# 1.0 INTRODUCTION

The intersection of Welcome All Road at Welcome All Connector has been identified for realignment by the Aerotropolis Atlanta Community Improvement Districts (AACIDs). The intersection is proposed to be aligned such that Welcome All Road traveling towards Camp Creek Parkway (SR 6) will be the mainline through movement. Welcome All Road north of the original Welcome All Connector will "T" into the realigned Welcome All Road and be considered the side street. The intersection will operate under side street stop control. The Welcome All realignment effort has been identified through the following GDOT project:

- PI # 0016063 – Realignment of Welcome All Road to Camp Creek Parkway (SR 6)

This transportation study is being performed to analyze the existing and future traffic conditions along Welcome All Connector from Welcome All Road to Camp Creek Parkway (SR 6) to determine what geometric and operational improvements could be made in conjunction with the proposed realignment.

Welcome All Road and Camp Creek Parkway (SR 6) are currently connected by Welcome All Connector. The intersection at Welcome All Road and Welcome All Connector currently operates under all-way stop control. This project proposes the realignment of Welcome All Road to become the south leg of the intersection at Camp Creek Parkway (SR 6) and eliminate Welcome All Connector altogether. The current intersection at Welcome All Road and Welcome All Connector will be aligned such that Welcome All Road traveling towards Camp Creek Parkway (SR 6) will be the mainline through movement. Welcome All Road north of the original Welcome All Connector will "T" into the realigned Welcome All Road and operate under side street stop control and be considered as the side street to the realigned Welcome All Road.

Additional proposed modifications include widening the two-lane section of Welcome All Road south of Camp Creek Parkway (SR 6) to maintain a consistent four-lane section south of the proposed project. The northbound leg of the intersection of the realigned Welcome All Road at Camp Creek Parkway (SR 6) is proposed to add a second left-turn lane, providing dual left-turn lanes onto Camp Creek Parkway (SR 6). The proposed improvements are planned to be constructed and open to traffic by year 2025 (Base Year) with a 20-year design horizon of 2045 (Design Year).

This report summarizes the data collection, crash data, analysis of projected traffic conditions, and conclusions from the analysis of Existing Year (2019), as well as the Base Year (2025) and Design Year (2045) for the following two (2) scenarios:

1. No-Build
    a. Existing laneage and operations
2. Build
    a. Realignment of Welcome All Road

For purposes of this analysis, Welcome All Road will be considered a north-south oriented roadway and Camp Creek Parkway (SR 6) will be considered an east-west oriented roadway.

**Note:** PI #0016063 is located within the ARC's boundary and Fulton County. The purpose of this project is to reduce congestion at both study intersections and better serve heavy vehicles along Welcome All Road Connector.

# 2.0 EXISTING TRAFFIC CONDITIONS

## 2.1 Overview

Existing traffic conditions for this traffic engineering study come from the approved methodology and conditions in the Traffic Forecasting Report for the Realignment of Welcome All Road to Camp Creek Parkway (SR 6) (approved 07/16/2019) which included analyses using raw data collected from the field and published data from GDOT.

The existing conditions traffic flow diagrams can be found in **Appendix A**.

## 2.2 Study Network

lists the two (2) study intersections that are included in the study network:

| Table 1: Study Intersections | |
|---|---|
| **Intersection ID** | **Intersections along SR 306** |
| 1 | Camp Creek Parkway (SR 6) at Welcome All Connector (Signalized) |
| 2 | Welcome All Road at Welcome All Connector (All-Way Stop Control) |

**Figure 1** provides a location map of the two (2) study intersections.

## 2.2 Roadway Characteristics

Physical characteristics of the roadway segments adjacent to the study intersections were noted and considered in this analysis.

**Welcome All Road** – A four-lane, divided urban minor arterial (GDOT Functional Classification) with a posted speed limit of 35 MPH, that tapers down to a two-lane, undivided urban minor arterial (GDOT Functional Classification) approximately 700 feet south of the intersection of Welcome All Road at Welcome All Connector. The roadway maintains a two-lane, undivided urban minor arterial configuration north of the intersection.

**Camp Creek Parkway (SR 6)** – A four-lane, divided urban principal arterial (GDOT Functional Classification) with a posted speed limit of 55 MPH.

**Welcome All Connector** – A two-lane, undivided roadway with no posted speed limit. Welcome All Connector is approximately 275' in length and serves as a connection between Welcome All Road and Camp Creek Parkway (SR 6).

## 2.3 Vehicular Volumes

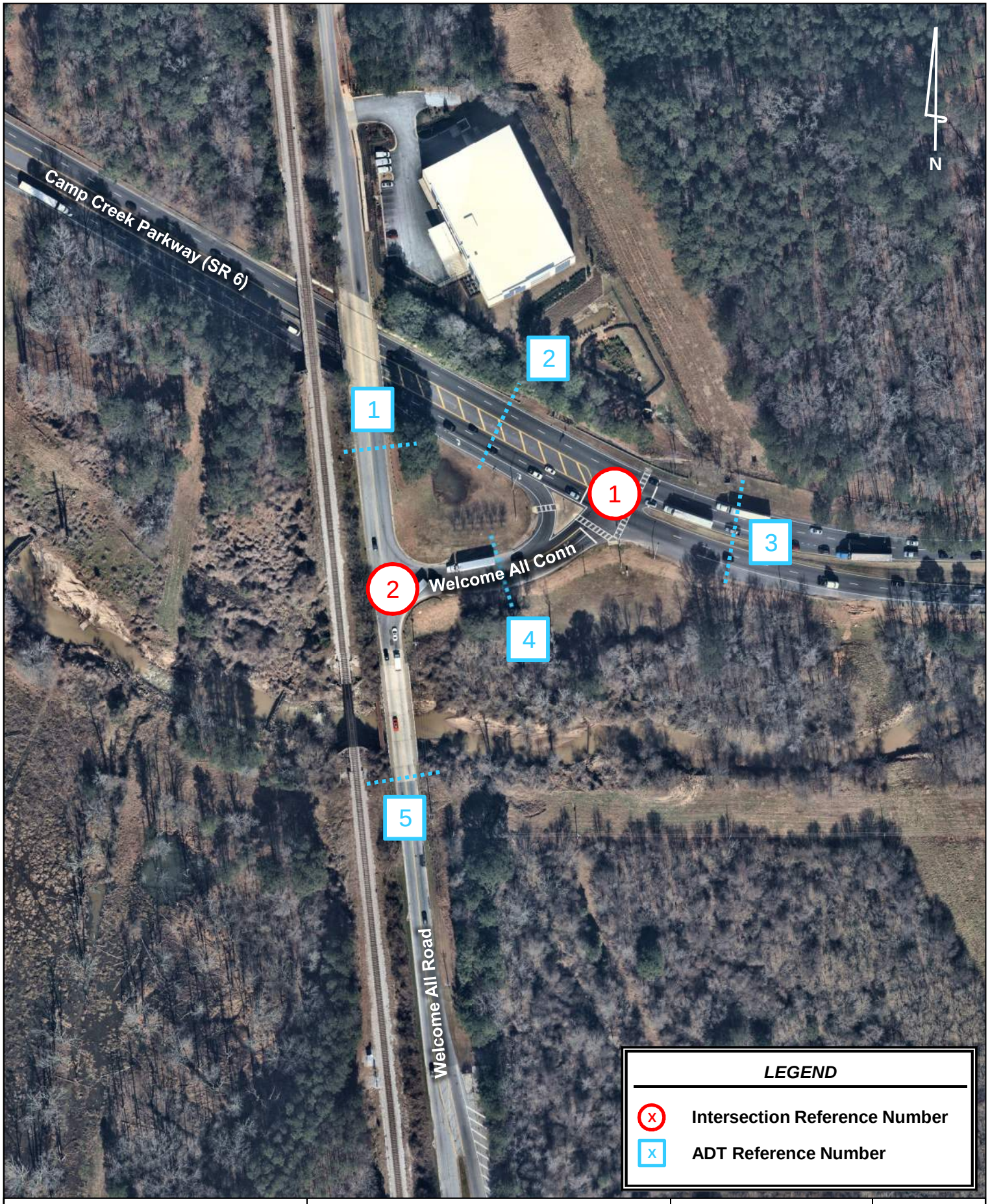
Vehicle turning movement volume counts were collected in April 2019 at both study intersections during the AM and PM peak hours to quantify existing peak hour traffic conditions and patterns. The AM peak hour counts were conducted between 6:30 AM – 9:30 AM, and the PM peak hour counts were conducted between 3:30 PM – 6:30 PM.

**Table 2** gives a summary of the approved AADT volumes (per Traffic Forecasting Report) for the roadway segments adjacent to the study intersections. The existing laneage at the study intersections is shown in **Figure 2**.

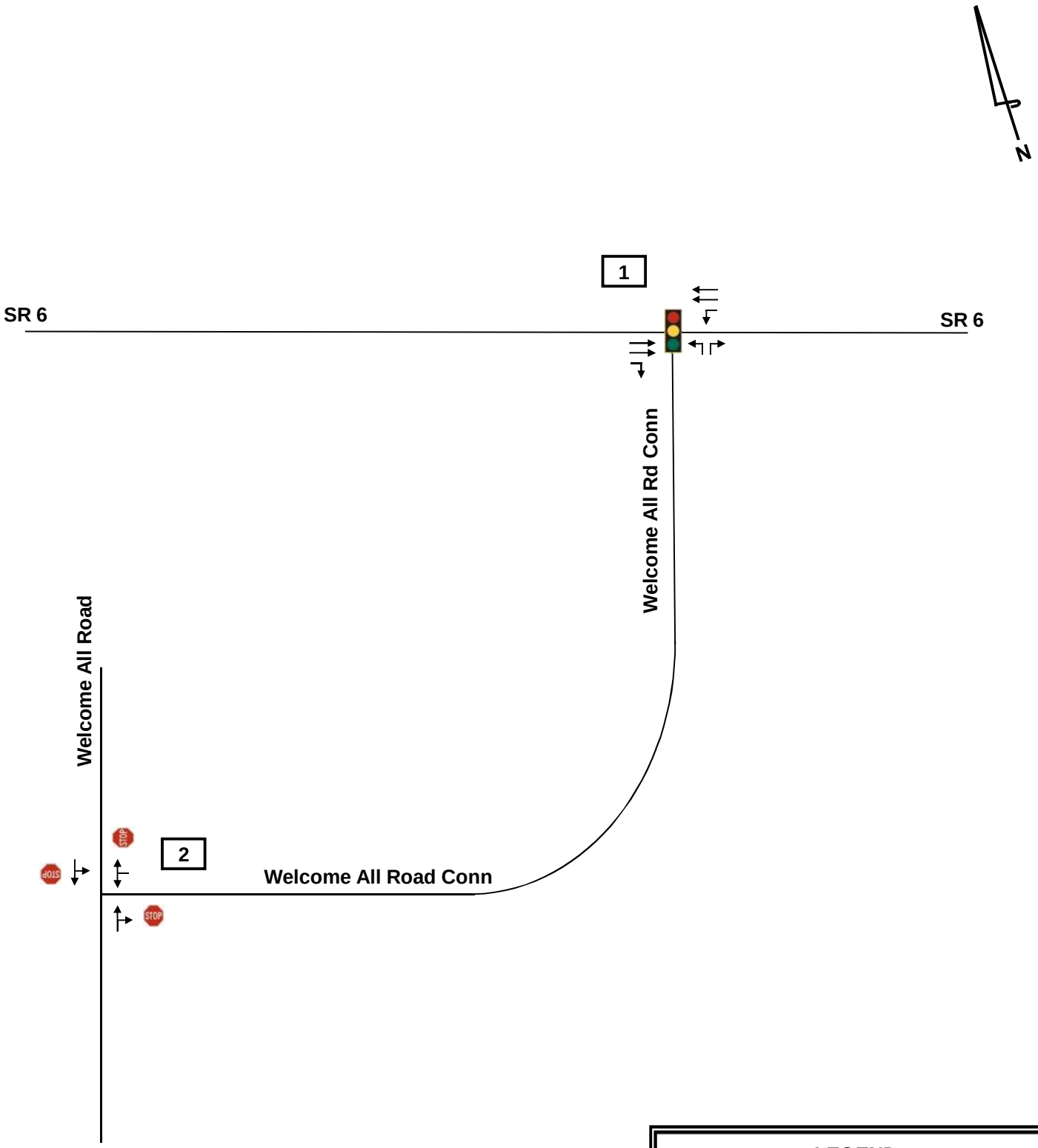
**Table 2: Annual Average Daily Traffic Volumes**

| ID | Roadway Segment | Bi-Directional AADT |
|---|---|---|
| 1 | Welcome All Road north of Welcome All Connector | 2,775 |
| 2 | Camp Creek Parkway (SR 6) west of Welcome All Connector | 44,300 |
| 3 | Camp Creek Parkway (SR 6) east of Welcome All Connector | 48,150 |
| 4 | Welcome All Connector east of Welcome All Road | 10,650 |
| 5 | Welcome All Road south of Welcome All Connector | 11,650 |

The daily truck percentages along Camp Creek Parkway (SR 6), Welcome All Road, and Welcome All Connector are approximately 11%, 8.5%, and 10.5% respectively.




| | | | |
|---|---|---|---|
| Kimley»Horn | **Welcome All Road**<br>***Traffic Engineering Study*** | **Project Location Map** | **Figure 1**<br>**Page 4** |




| | | | |
|---|---|---|---|
| Kimley»Horn | **Welcome All Road**<br>***Traffic Engineering Study*** | **Existing Roadway Geometry** | **Figure 2**<br>**Page 5** |

# 3.0 CRASH HISTORY

## 3.1 Crash Data

Crash data was obtained for each study intersection for a five-year period from January 1, 2014 to December 31, 2018 from the GDOT *Georgia Electronic Accident Reporting System* (GEARS) online crash database. Only data available through GEARS was reviewed; individual crash reports were not reviewed. Crashes were analyzed by intersection, type, time-of-day, and other surrounding circumstances. The crash data is summarized by manner of collision in **Table 3** and by year in **Table 4**. The corresponding crash data tables are included in **Appendix C**.

**Table 3: Crashes by Manner of Collision**

| Harmful Event | Camp Creek Pkwy (SR 6) at Welcome All Conn | Welcome All Rd at Welcome All Conn | Total* | *Percent* |
|---|---|---|---|---|
| Rear End | 100 | 2 | **102** | *70%* |
| Angle | 13 | 1 | **14** | *10%* |
| Sideswipe – Opposite Direction | 3 | 1 | **4** | *3%* |
| Sideswipe – Same Direction | 13 | 0 | **13** | *9%* |
| Head On | 4 | 0 | **4** | *3%* |
| All Others | 5 | 2 | **7** | *5%* |
| **Total** | **138** | **6** | **144** | ***100%*** |

In **Table 3**, the predominant crash type along the study corridor is a rear-end crash, accounting for approximately 70 percent of all the crashes reported. The second most common crash type is an angle crash (10 percent), and the third most common crash type is sideswipe – same direction (9 percent).

**Table 4: Summary of Crashes (2014 – 2018)**

| Year | Camp Creek Pkwy (SR 6) at Welcome All Conn | | Welcome All Rd at Welcome All Conn | | Total* | |
|---|---|---|---|---|---|---|
| | Crashes | Injuries | Crashes | Injuries | Crashes | Injuries |
| 2014 | 22 | 4 | 0 | 0 | **22** | **4** |
| 2015 | 20 | 5 | 2 | 1 | **22** | **6** |
| 2016 | 35 | 4 | 1 | 0 | **36** | **4** |
| 2017 | 25 | 7 | 2 | 0 | **27** | **7** |
| 2018 | 36 | 11 | 1 | 1 | **37** | **12** |
| **Total** | **138** | **31** | **6** | **2** | **144** | **33** |

A total of 144 crashes were reported at the two study intersections for the five-year period, including 33 injury crashes which resulted in 45 total injuries. A total of 138 crashes occurred at the intersection of Camp Creek Parkway (SR 6) at Welcome All Connector, 31 of which were injury crashes. A total of 6 crashes occurred at the intersection of Welcome All Road at Welcome All Connector, 2 of which were injury crashes. There were no fatal crashes reported at either intersection.

## 3.2 Intersection Crash Rates

The crash rates for the intersections of Camp Creek Parkway (SR 6) at Welcome All Connector and Welcome All Road at Welcome All Connector were calculated over the five-year period for all crashes, fatal crashes, and injury crashes, as summarized in **Table 5**. Crash rates are reported as the number of crashes per one million entering vehicles (MEV) at the intersection. Calculating crash rates provides a comparison of crash frequencies among similar facilities of varying volumes.

GDOT does not publish intersection crash rates, and they were therefore unavailable for comparison.

**Table 5: Intersection Crash Rates**

| Entering Vehicles | Number of Crashes (2014-2018) | | | Crash Rates (Crashes per MEV) | | |
|---|---|---|---|---|---|---|
| | All Crashes | Fatal | Injury | Intersection | Fatal | Injury |
| **Camp Creek Parkway (SR 6) at Welcome All Conn** | | | | | | |
| 51,065 | 138 | 0 | 31 | 1.48 | **0** | 0.33 |
| **Welcome All Road at Welcome All Conn** | | | | | | |
| 12,800 | 6 | 0 | 2 | 0.26 | **0** | 0.09 |

# 4.0 FUTURE CONDITIONS

Traffic volumes for future conditions in the traffic engineering study were taken from the approved volumes in the Traffic Forecasting Report for the Realignment of Welcome All Road to Camp Creek Parkway (SR 6) (PI #0016063). The traffic volumes generated in the forecasting report were based on both historical and future forecasted data. Historical traffic count data was obtained from the GDOT traffic count stations along the study roadway network. Population growth estimate databases were researched for the City of Atlanta and Fulton County based on the Atlanta Regional Commission (ARC), the U.S Census Bureau, and the Governor's Office of Planning and Budget. In addition to the historical data, forecasted data from the ARC Activity-Based Model (ARCABM) was evaluated for Camp Creek Parkway (SR 6) and Welcome All Road in the vicinity of the site. A summary of the growth rate analysis is provided in **Appendix D**.

## 4.1 Approved Growth Rates

***No-Build***

From Existing 2019 Conditions to Base Year 2025 No-Build Conditions, the annual growth rate is 1.5% per year. The annual growth rate from Base Year 2025 No-Build Conditions to Design Year 2045 No-Build Conditions is 1.0% per year.

***Build***

Due to the existing and anticipated capacity characteristics of this network, it is expected that the proposed roadway improvements will not encourage additional traffic or diverted trips from alternative facilities. Therefore, from Existing 2019 Conditions to Base Year 2025 Build Conditions, the annual growth rate is 1.5% per year. Similarly, the annual growth rate from Base Year 2025 Build Conditions to Design Year 2045 Build Conditions is 1.0% per year.

The background growth rates for the No-Build and Build scenarios under Base Year 2025 and Design Year 2045 are shown in **Table 6**.

**Table 6: Future Year Growth Rates**

| Scenario | Background Growth Rate |
|---|---|
| Base Year 2025 *No-Build*<br>Design Year 2025 *Build* | 1.5% |
| Base Year 2045 *No-Build*<br>Design Year 2045 *Build* | 1.0% |

## 4.2 Future Roadway Improvements

Future roadway and intersection laneage improvements were also considered in this analysis.

In addition to realigning the roadway, PI #0016063 also proposes to widen Welcome All Connector to a four-lane segment between Welcome All Road and Camp Creek Parkway (SR 6). Additionally, two left-turn lanes will be added with the construction. One of the left-turn lanes will be added at the intersection of Welcome All Connector at Welcome All Road (north of the intersection) to accommodate vehicles traveling along Welcome All Road that wish to turn left to continue traveling along Welcome All Road north of the intersection.

The second left-turn lane will be added at the intersection of Camp Creek Parkway (SR 6) at Welcome All Connector for vehicles traveling along Welcome All Connector that wish to turn left onto Camp Creek Parkway (SR 6). This left-turn will serve as one of the two left-turns that are proposed to be provided at the intersection.

# 5.0 INTERSECTION CAPACITY ANALYSIS

## 5.1 Introduction

Level-of-service (LOS) determinations were made for the weekday AM and PM peak hours for the study intersections under Existing 2019 conditions, Base Year 2025 conditions and Design Year 2045 conditions using *Synchro, Version 10*. The program uses methodologies contained in the *6th Edition Highway Capacity Manual* to determine the operating characteristics of an intersection. Capacity is defined as the maximum number of vehicles that can pass through a particular road segment or through a particular intersection within a specified period under prevailing roadway, traffic, and control conditions.

LOS is used to describe the operating characteristics of a road segment or intersection in relation to its capacity. LOS is defined as a qualitative measure that describes operational conditions and motorists' perceptions of a traffic stream. The *Highway Capacity Manual* defines six levels of service, LOS A through LOS F, with A operating the best and F the worst.

LOS for signalized intersections and all-way stop controlled unsignalized intersections are reported for the intersection as a whole. One or more movements at an intersection may experience a low level-of-service, while the intersection as a whole may operate acceptably. An overall signalized intersection LOS of D or better is generally the desirable threshold for operating conditions.

LOS for unsignalized intersections, with stop control on the minor street(s) only, are reported for the side street approaches. It is not uncommon to have long delays for stop-controlled approaches when there is a heavy traffic volume on the major street.

## 5.2 Intersection Capacity Analysis

Capacity analyses were performed for all study intersections during the AM and PM peak hours based on the peak of the overall roadway network. **Table 7** summarizes the level-of-service and average delay in seconds (per vehicle) during the AM and PM peak hours. The following scenarios include the proposed realignment of Welcome All Road

- Base Year 2025 Build
- Design Year 2045 Build

Copies of the *Synchro* intersection capacity analyses are found in **Appendix B**.

**Table 7: Level-of-Service Summary**

| INT # | Intersection | Approach/ Movement | LOS *(Delay in Seconds)* | | | | |
|---|---|---|---|---|---|---|---|
| | | | Existing 2019 | Base Year 2025 No-Build | Base Year 2025 Build | Design Year 2045 No-Build | Design Year 2045 Build |
| **AM Peak Hour** | | | | | | | |
| 1 | Camp Creek Parkway (SR 6) at Welcome All Connector (Signalized) | Overall | B (18.3) | C (26.7) | C (26.6) | D (54.3) | D (54.1) |
| 2 | Welcome All Road at Welcome All Connector* (Unsignalized) | WB Stop** | B (14.5) | C (17.0) | | D (30.2) | |
| | | NB Stop** | B (13.2) | C (15.9) | | D (29.9) | |
| | | SB Stop | A (10.0) | B (10.6) | B (13.8) | B (12.2) | C (17.1) |
| | | EBL*** | | | A (8.4) | | A (8.8) |
| **PM Peak Hour** | | | | | | | |
| 1 | Camp Creek Parkway (SR 6) at Welcome All Connector (Signalized) | Overall | C (20.2) | C (31.5) | C (31.4) | D (53.8) | D (53.5) |
| 2 | Welcome All Road at Welcome All Connector* (Unsignalized) | WB Stop** | C (19.4) | D (27.9) | | F (69.0) | |
| | | NB Stop** | C (24.1) | E (35.3) | | F (109.4) | |
| | | SB Stop | B (10.9) | B (11.8) | C (15.4) | B (14.3) | C (21.1) |
| | | EBL*** | | | A (8.8) | | A (9.4) |

** Note: At unsignalized intersections, it is not uncommon to have long delays for stop-controlled approaches when there is heavy major street volume.*
*** Note: Approach only exists for Existing and No-Build scenarios.*
**** Note: Approach only exists for Build scenarios.*

Based on the results shown in **Table 7**, both study intersections currently operate at an acceptable LOS during the AM and PM peak hours under Existing 2019 traffic conditions.

Under Base Year 2025 No-Build and Base Year 2025 Build traffic conditions, both study intersections are projected to continue operating at an acceptable LOS during the AM and PM peak hours.

Under Design Year 2045 No-Build traffic conditions both study intersections are projected to operate at an acceptable LOS during the AM peak hour; however, the westbound and northbound approaches at the intersection of Welcome All Road at Welcome All Connector (Intersection 2) are projected to operate at LOS F during the PM peak hour. It should be noted that at unsignalized intersections, it is not uncommon to have long delays for stop-controlled approaches when there is heavy major street volume.

Under Design Year 2045 Build traffic conditions, both study intersections are projected to operate at an acceptable LOS during the AM and PM peak hours.

# 6.0 INTERSECTION CONTROL EVALUATION (ICE)

The purpose of GDOT's ICE Policy is to "provide traceability, transparency, consistency, and accountability when identifying and selecting an intersection control solution that both meets the project purpose and reflects the overall best value in terms of specific performance-based criteria." GDOT's ICE Policy includes two stages: Stage 1 (Screening Decision Record) and Stage 2 (Alternative Selection Decision Record). The GDOT ICE waiver form may be submitted in lieu of the traditional ICE analysis if the project meets the criteria listed in GDOT's ICE Policy. An ICE summary for each intersection is below. ICE reports can be found in **Appendix E**.

## 6.1 Camp Creek Parkway (SR 6) at Welcome All Connector

Based on ICE screening Stage 1 and the GDOT ICE Waiver Form Camp Creek Parkway (SR 6) at Welcome All Connector does not require a full ICE analysis. In Stage 1, the only alternative to the existing traffic signal condition at this intersection is the proposed re-striping of the existing Welcome All Connector approach. Per GDOT's Ice Waiver Policy, the intersection qualifies for an ICE Waiver based on the following guidance:

> *"Proposed improvements do not substantially alter the character of the intersection, and are considered minor in nature..."*
>
> *"If only one alternative is determined to be feasible from the ICE Stage 1, then a waiver may be submitted in lieu of completing ICE Stage 2."*

The project proposes to realign the intersection of Welcome All Road at Welcome All Connector (Intersection 2). The intersection of Camp Creek Parkway (SR 6) at Welcome All Connector (Intersection 1) will be impacted minimally by the design and construction of the project. The south leg of the intersection is expected to be altered only as needed to provide a seamless transition to the proposed reconfiguration of the adjacent intersection. An additional left-turn lane for the northbound approach has been proposed at this intersection to help maintain the alignment of the downstream intersection. The intersection is proposed to remain signalized.

## 6.2 Welcome All Road at Welcome All Connector

For the intersection of Welcome All Road at Welcome All Connector (Intersection 2), the existing All Way Stop condition is changed to provide a realigned mainline condition for the existing northbound Welcome All Road leg, and the westbound Welcome All Connector leg; the southbound Welcome All Road leg becomes the minor street. Per ICE Stage 1 the following alternatives were compared, with final ICE Stage 2 scores shown below:

1. **Conventional (Minor Stop) – Preferred Alternative**
    a. ICE Stage 2 Score: 5.2
2. RCUT (Stop Control)
    a. ICE Stage 2 Score: 5.2
3. RIRO w/ Down Stream U-Turn
    a. ICE Stage 2 Score: 4.2

Based on the ICE evaluation, the highest score and preferred alternative is the Conventional Minor Stop.

# 7.0 CONCLUSION

The intersection of Welcome All Road at Welcome All Connector has been identified for realignment by the AACIDs. The intersection is proposed to be aligned such that Welcome All Road traveling towards Camp Creek Parkway (SR 6) will be the mainline through movement. Welcome All Road north of the original Welcome All Connector will "T" into the realigned Welcome All Road and be considered the side street. The intersection will operate under side street stop control.

The proposed improvements are planned to be constructed and open to traffic by year 2025 (Base Year) with a 20-year design horizon of 2045 (Design Year).

The project limits include the following intersections:

- Camp Creek Parkway (SR 6) at Welcome All Connector
- Welcome All Road at Welcome All Connector

This report summarizes the data collection, crash data, analysis of projected traffic conditions, and conclusions from the analysis of Existing Year (2019), as well as the Base Year (2025) and Design Year (2045) for the following two (2) scenarios:

1. No-Build
    a. Existing laneage and operations
2. Build
    a. Realignment of Welcome All Road

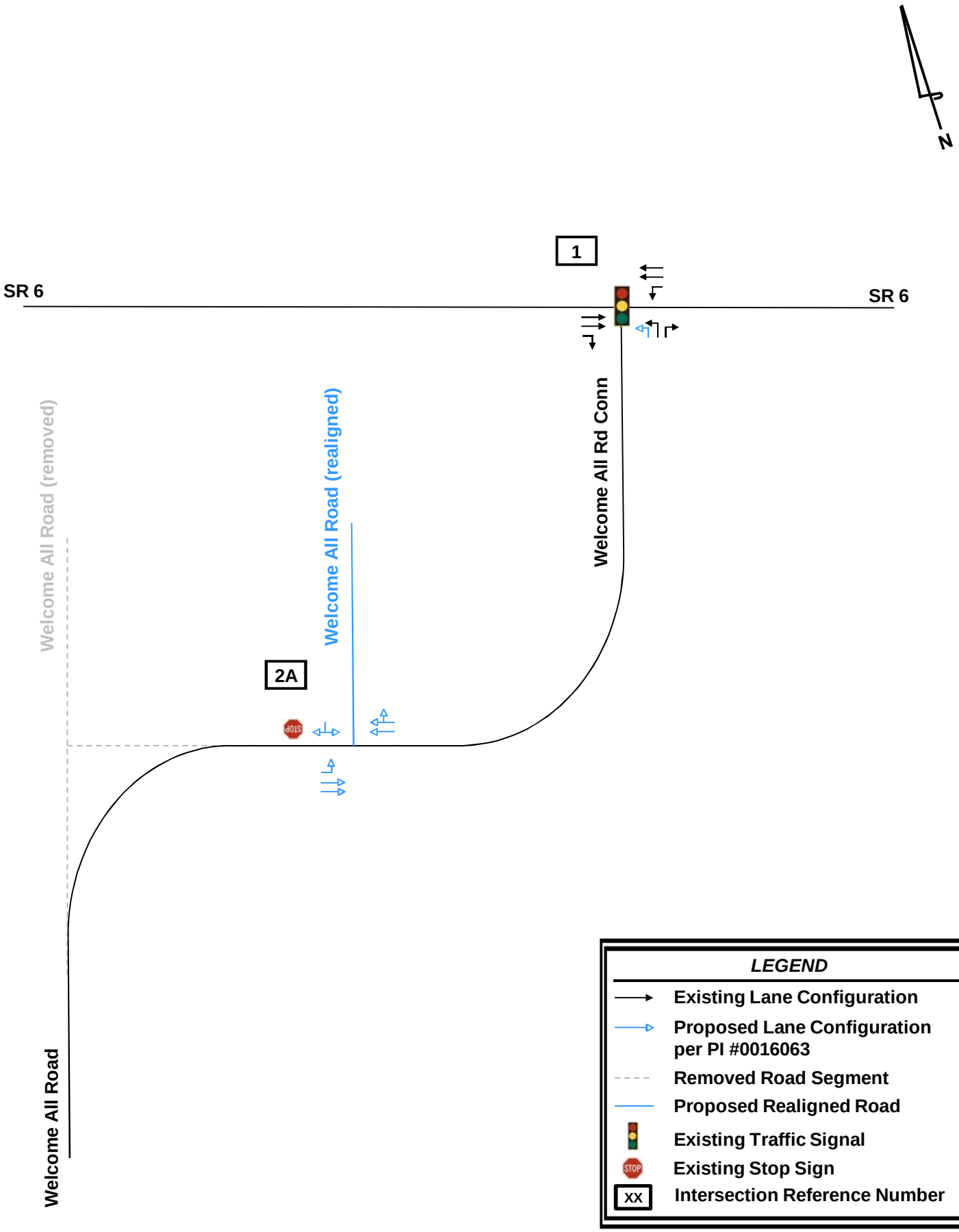
Based upon the results of this analysis, the intersection of Welcome All Road at Welcome All Connector is recommended to operate under side street stop-control and be realigned as proposed in the concept layout shown in **Appendix F** and the proposed roadway geometry shown in **Figure 3**.

PREPARED BY: _____ DATE 8/21/2019
Kimley-Horn and Associates, Inc.

RECOMMENDED BY: _____ DATE _____
District Traffic Engineer

RECOMMENDED BY: _____ DATE _____
State Traffic Engineer

APPROVED BY: _____ DATE _____
Director of Operations


N
1
SR 6
SR 6
Welcome All Rd Conn
Welcome All Road (realigned)
Welcome All Road (removed)
2A
STOP
Welcome All Road
LEGEND
Existing Lane Configuration
Proposed Lane Configuration per PI #0016063
Removed Road Segment
Proposed Realigned Road
Existing Traffic Signal
Existing Stop Sign
XX
Intersection Reference Number

# APPENDIX A:

## *Approved Traffic Flow Diagrams*

## *(07/16/2019)*

Georgia Department of Transportation

# Interoffice Memo

**FILE**: Fulton County
P.I. # 0016063

**DATE**: July 16, 2019

**FROM:** Paul Tanner, State Transportation Planning Administrator

**TO**: Kimberly Nesbitt, State Program Delivery Administrator
**Attention: Vinesha Pegram**

**SUBJECT:** **Design Traffic Forecasts** for WELCOME ALL ROAD & WELCOME ALL ROAD CONN - STUDY

Per request, we have reviewed the consultant's design traffic forecasts for the above project. Based on the information furnished, we find the design traffic forecasts to be satisfactory, and the design traffic forecasting task to be complete for the above project. The reviewed and approved design traffic forecasts for the above project is attached in 0016063_10.pdf and 0016063_10.dgn.

If you have any questions concerning this information please contact Andre Washington at 404-631-1925.

Chelsea Lincoln
Gresham Smith
Design Traffic Review Consultant to GDOT
678-478-3350

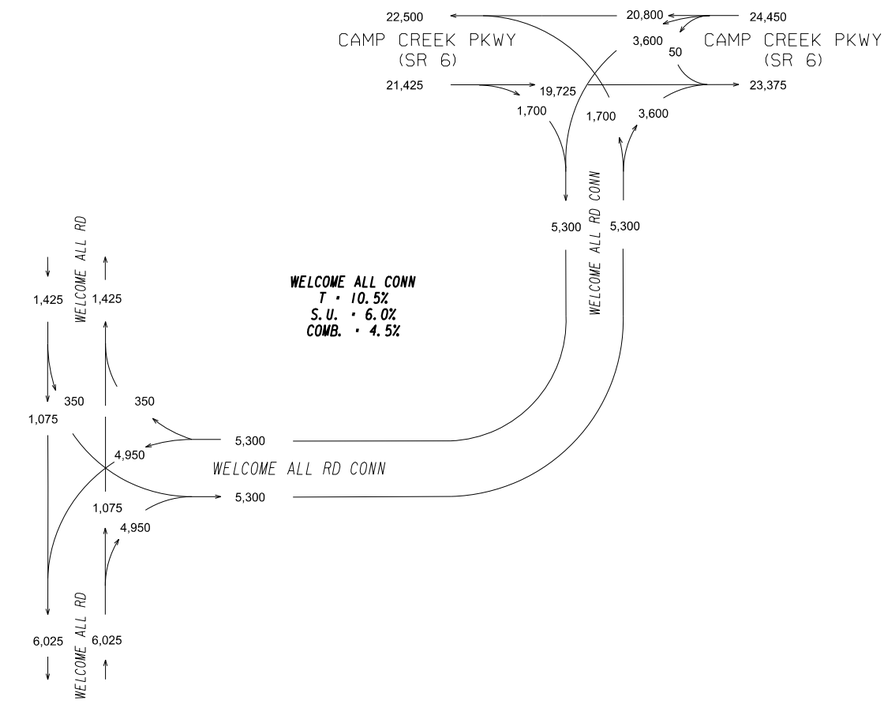
RPT/CBL

GDOT

N

CAMP CREEK PKWY (SR 6)
T = 11.5%
S.U. = 4.5%
COMB. = 7.0%

CAMP CREEK PKWY (SR 6)
T = 11.0%
S.U. = 4.0%
COMB. = 7.0%




MM = MINIMAL MOVEMENT (<25 VEHICLES PER HOUR)

WELCOME ALL ROAD REALIGNMENT
AT CAMP CREEK PARKWAY (SR 6)

FULTON COUNTY, GA
GDOT PI NO. 0016063
MAY 2019

2019 AADT
EXISTING

Kimley»Horn
Engineering, Planning, and Environmental Consultants
817 West Peachtree Street NW, Suite 601
Atlanta, Georgia 30308

REVISION DATES

**TRAFFIC DIAGRAM**

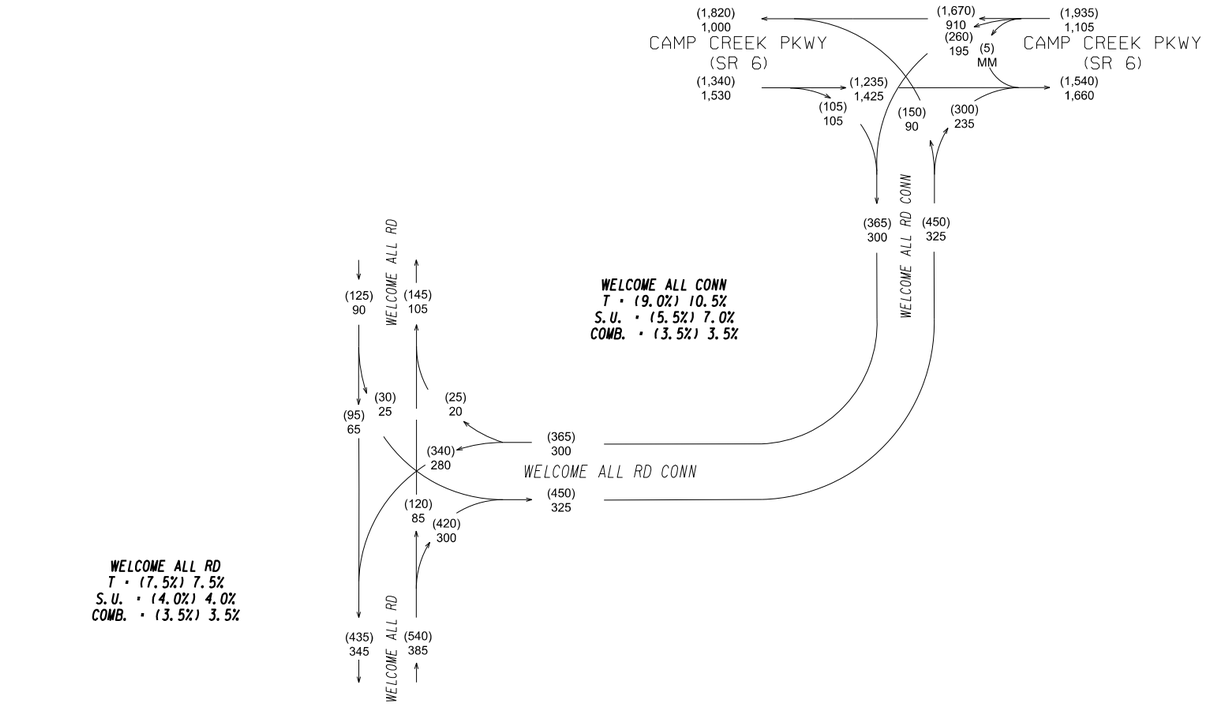
EXISTING (2019) AADT
SHEET 1 OF 1

| | | | | |
|---|---|---|---|---|
| CHECKED: | | DATE: | | DRAWING No. |
| BACKCHECKED: | | DATE: | | 10-1001 |
| CORRECTED: | | DATE: | | |
| VERIFIED: | | DATE: | | |

10/23/2015 GPLN

CAMP CREEK PKWY (SR 6)
T = (9.5%) 13.5%
S.U. = (4.0%) 6.5%
COMB. = (5.5%) 7.0%

CAMP CREEK PKWY (SR 6)
T = (9.0%) 12.5%
S.U. = (3.0%) 5.5%
COMB. = (6.0%) 7.0%




N

WELCOME ALL ROAD REALIGNMENT
AT CAMP CREEK PARKWAY (SR 6)

FULTON COUNTY, GA
GDOT PI NO. 0016063
MAY 2019

MM = MINIMAL MOVEMENT (<5 VEHICLES PER HOUR)

2019 PM DHV = (XXX)
2019 AM DHV = XXX
EXISTING

Kimley»Horn
Engineering, Planning, and Environmental Consultants
817 West Peachtree Street NW, Suite 601
Atlanta, Georgia 30308

REVISION DATES

**TRAFFIC DIAGRAM**

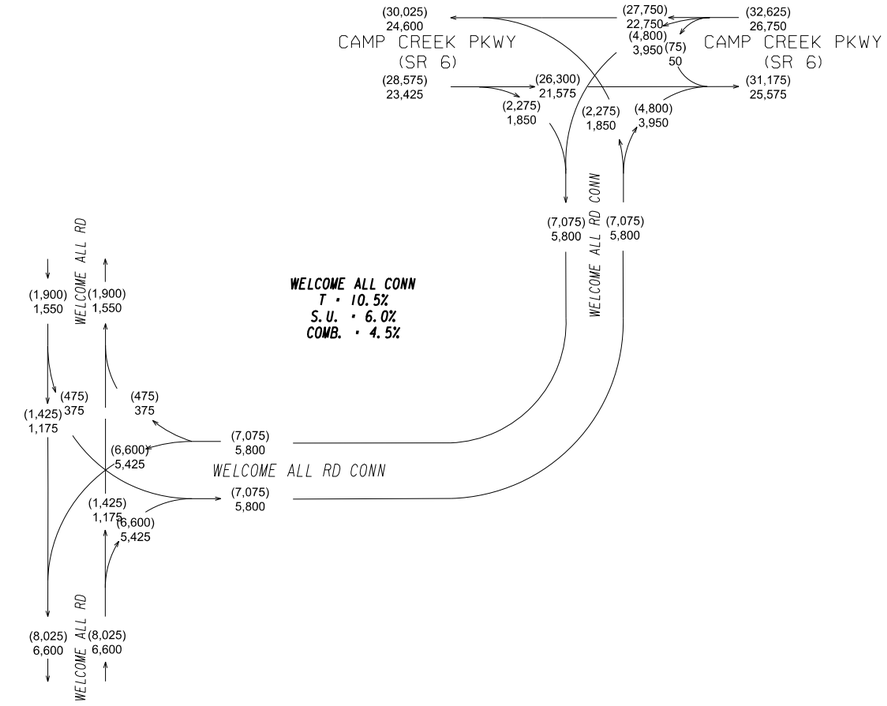
EXISTING (2019) DHV
SHEET 1 OF 1

| | | | | |
|---|---|---|---|---|
| CHECKED: | | DATE: | | DRAWING No. |
| BACKCHECKED: | | DATE: | | 10-1002 |
| CORRECTED: | | DATE: | | |
| VERIFIED: | | DATE: | | |

10/23/2015 GPLN

CAMP CREEK PKWY (SR 6)
T = 11.5%
S.U. = 4.5%
COMB. = 7.0%

*CAMP CREEK PKWY (SR 6)*
*T = 11.0%*
*S.U. = 4.0%*
*COMB. = 7.0%*




*WELCOME ALL CONN*
*T = 10.5%*
*S.U. = 6.0%*
*COMB. = 4.5%*

*WELCOME ALL RD*
*T = 8.5%*
*S.U. = 4.0%*
*COMB. = 4.5%*

MM = MINIMAL MOVEMENT (<25 VEHICLES PER HOUR)

*WELCOME ALL ROAD REALIGNMENT*
*AT CAMP CREEK PARKWAY (SR 6)*

*FULTON COUNTY, GA*
*GDOT PI NO. 0016063*
*JUNE 2019*

2045 AADT = (XXX)
2025 AADT = XXX
BASE YEAR AND DESIGN YEAR

Kimley»Horn
Engineering, Planning, and Environmental Consultants
817 West Peachtree Street NW, Suite 601
Atlanta, Georgia 30308

REVISION DATES

**TRAFFIC DIAGRAM**

BASE YEAR (2025) AND DESIGN YEAR (2045)
NO-BUILD AADT
SHEET 1 OF 1

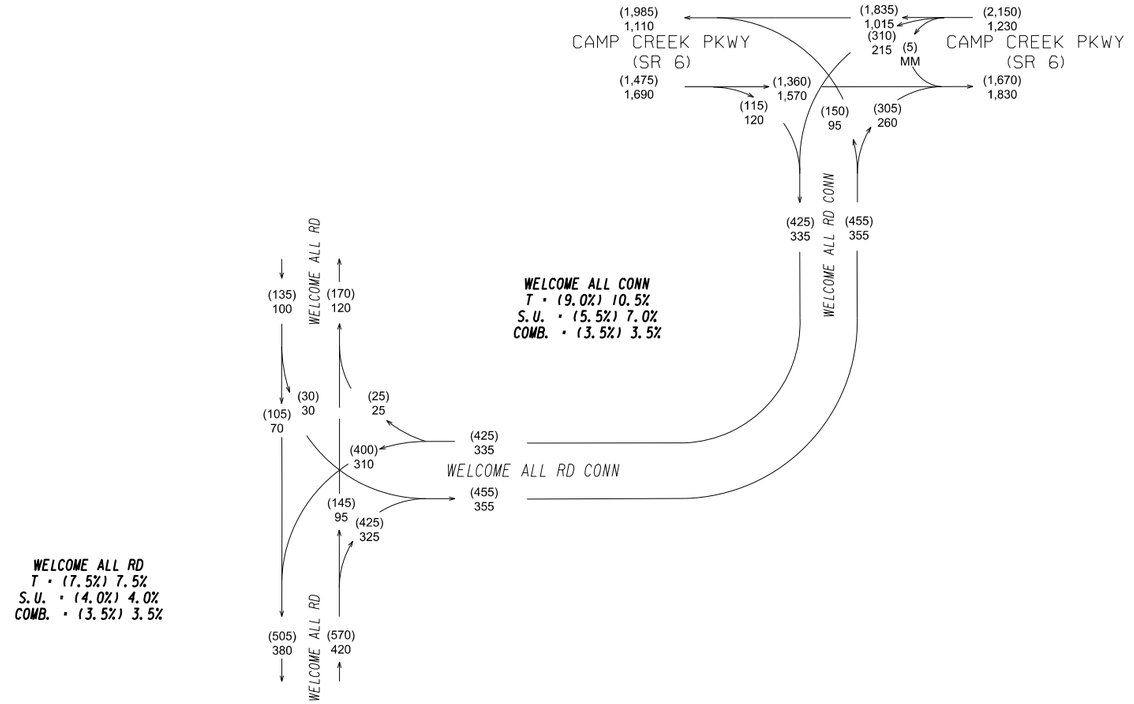
| | | | | |
|---|---|---|---|---|
| CHECKED: | | DATE: | | DRAWING No. |
| BACKCHECKED: | | DATE: | | 10-2001 |
| CORRECTED: | | DATE: | | |
| VERIFIED: | | DATE: | | |

GDOT

N

CAMP CREEK PKWY (SR 6)
T • (9.5%) 13.5%
S.U. • (4.0%) 6.5%
COMB. • (5.5%) 7.0%

CAMP CREEK PKWY (SR 6)
T • (9.0%) 12.5%
S.U. • (3.0%) 5.5%
COMB. • (6.0%) 7.0%




MM = MINIMAL MOVEMENT (<5 VEHICLES PER HOUR)

WELCOME ALL ROAD REALIGNMENT
AT CAMP CREEK PARKWAY (SR 6)

FULTON COUNTY, GA
GDOT PI NO. 0016063
JUNE 2019

2025 PM DHV = (XXX)
2025 AM DHV = XXX
BASE YEAR

Kimley»Horn
Engineering, Planning, and Environmental Consultants
817 West Peachtree Street NW, Suite 601
Atlanta, Georgia 30308

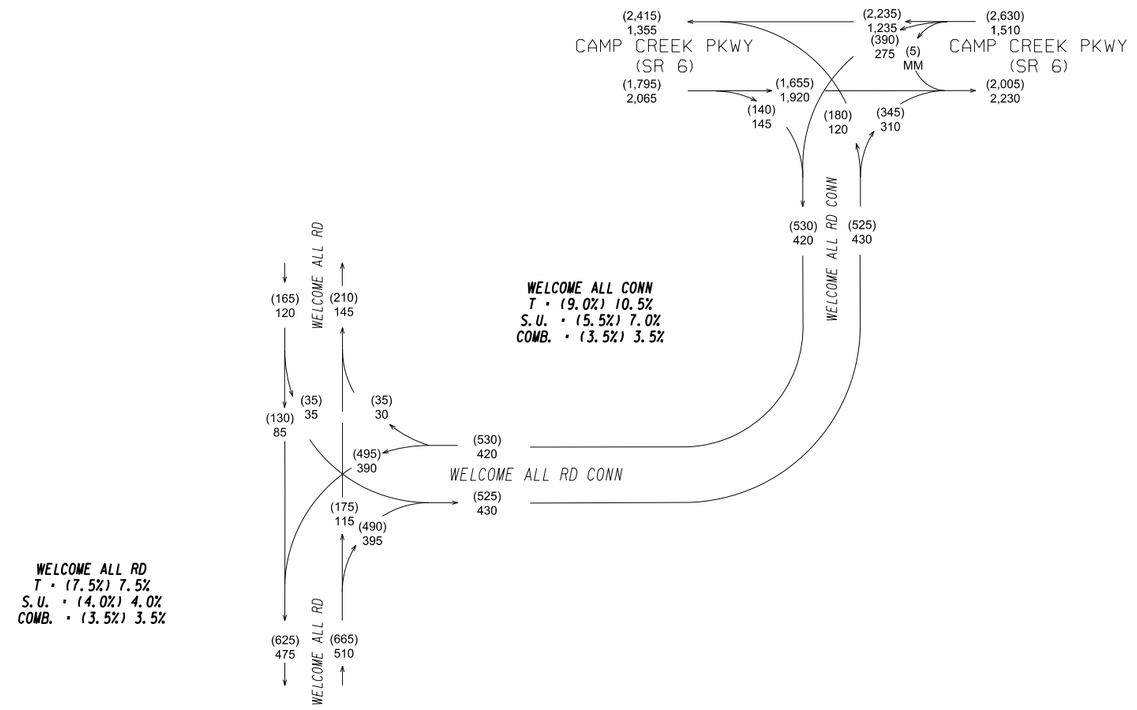
REVISION DATES

**TRAFFIC DIAGRAM**

BASE YEAR (2025)
NO-BUILD DHV
SHEET 1 OF 1

| | | | | |
|---|---|---|---|---|
| CHECKED: | | DATE: | | DRAWING No. |
| BACKCHECKED: | | DATE: | | 10-2002 |
| CORRECTED: | | DATE: | | |
| VERIFIED: | | DATE: | | |

10/23/2015 GPLN




MM = MINIMAL MOVEMENT (<5 VEHICLES PER HOUR)

WELCOME ALL ROAD REALIGNMENT
AT CAMP CREEK PARKWAY (SR 6)

FULTON COUNTY, GA
GDOT PI NO. 0016063
JUNE 2019

2045 PM DHV = (XXX)
2045 AM DHV = XXX
DESIGN YEAR

Kimley»Horn
Engineering, Planning, and Environmental Consultants
817 West Peachtree Street NW, Suite 601
Atlanta, Georgia 30308

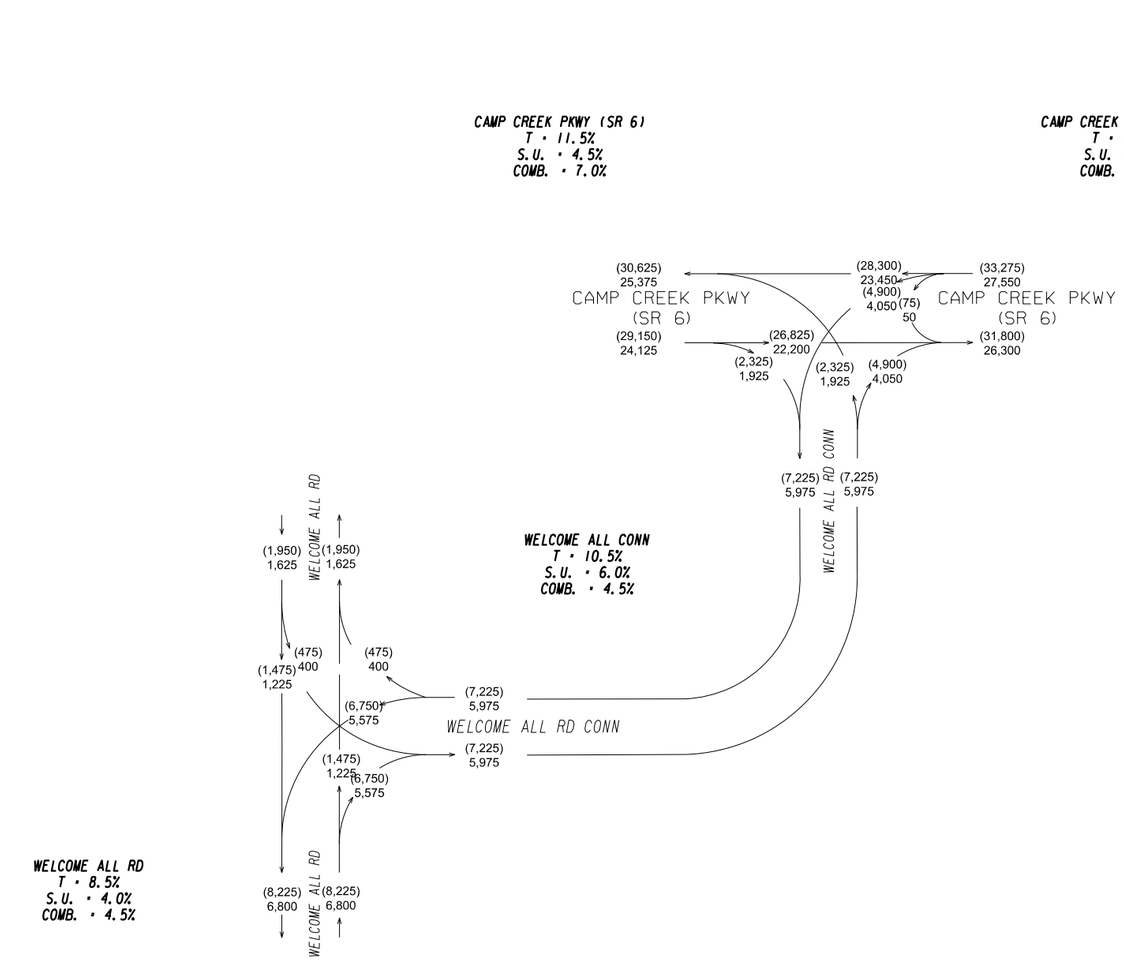
REVISION DATES

**TRAFFIC DIAGRAM**

DESIGN YEAR (2045)
NO-BUILD DHV
SHEET 1 OF 1

| | | | |
|---|---|---|---|
| CHECKED: | | DATE: | DRAWING No. |
| BACKCHECKED: | | DATE: | 10-2003 |
| CORRECTED: | | DATE: | |
| VERIFIED: | | DATE: | |

10/23/2015 GPLN




MM = MINIMAL MOVEMENT (<25 VEHICLES PER HOUR)

WELCOME ALL ROAD REALIGNMENT
AT CAMP CREEK PARKWAY (SR 6)

FULTON COUNTY, GA
GDOT PI NO. 0016063
JUNE 2019

2047 AADT = (XXX)
2027 AADT = XXX
BASE YEAR +2 AND DESIGN YEAR +2

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817 West Peachtree Street NW, Suite 601
Atlanta, Georgia 30308

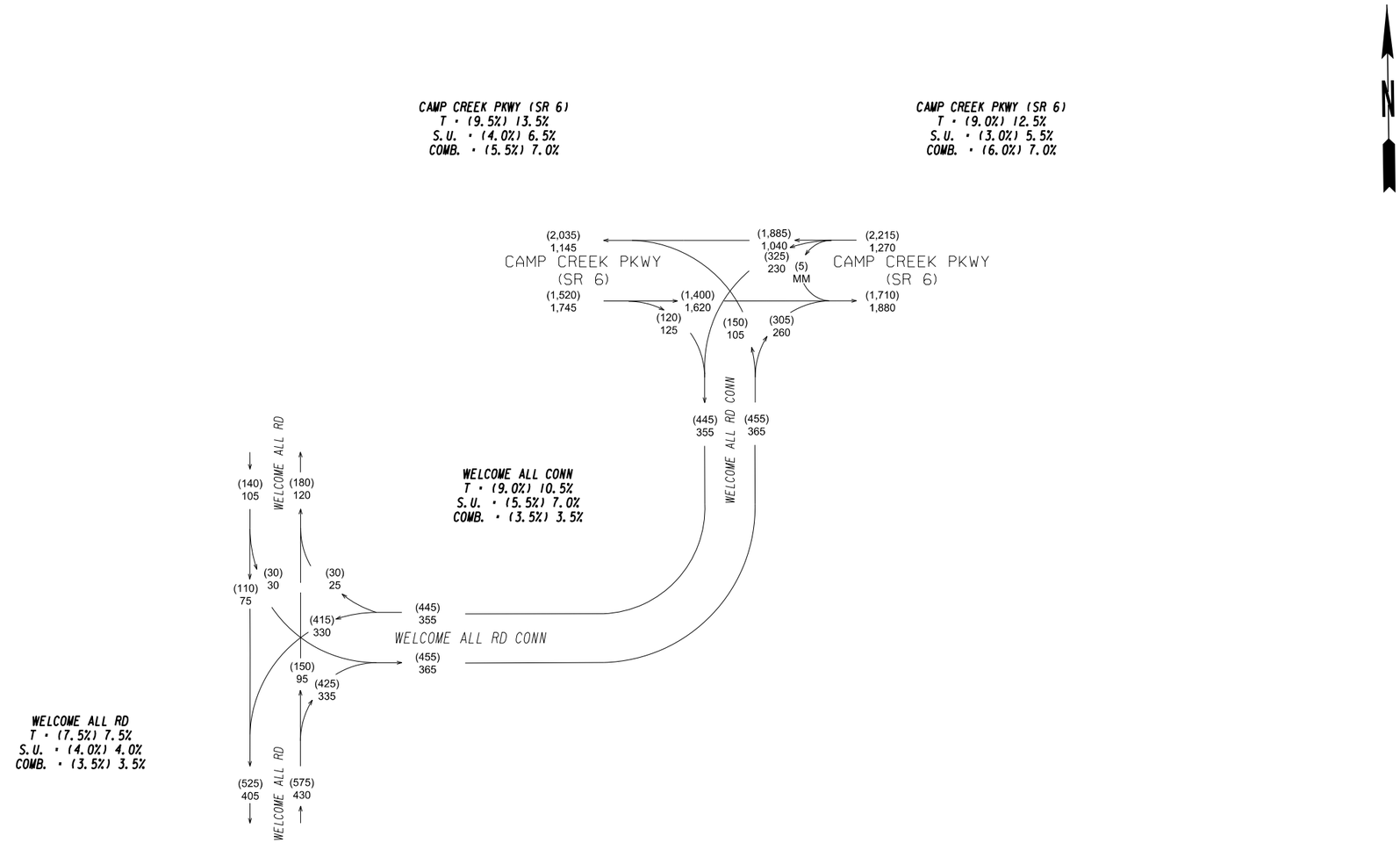
REVISION DATES

**TRAFFIC DIAGRAM**

BASE YEAR +2 (2027) AND
DESIGN YEAR +2 (2047) NO-BUILD AADT
SHEET 1 OF 1

| | | | |
|---|---|---|---|
| CHECKED: | | DATE: | DRAWING No. |
| BACKCHECKED: | | DATE: | |
| CORRECTED: | | DATE: | 10-2004 |
| VERIFIED: | | DATE: | |

10/23/2015 GPLN




MM = MINIMAL MOVEMENT (<5 VEHICLES PER HOUR)

WELCOME ALL ROAD REALIGNMENT
AT CAMP CREEK PARKWAY (SR 6)

FULTON COUNTY, GA
GDOT PI NO. 0016063
JUNE 2019

2027 PM DHV = (XXX)
2027 AM DHV = XXX
BASE YEAR +2

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Atlanta, Georgia 30308

REVISION DATES

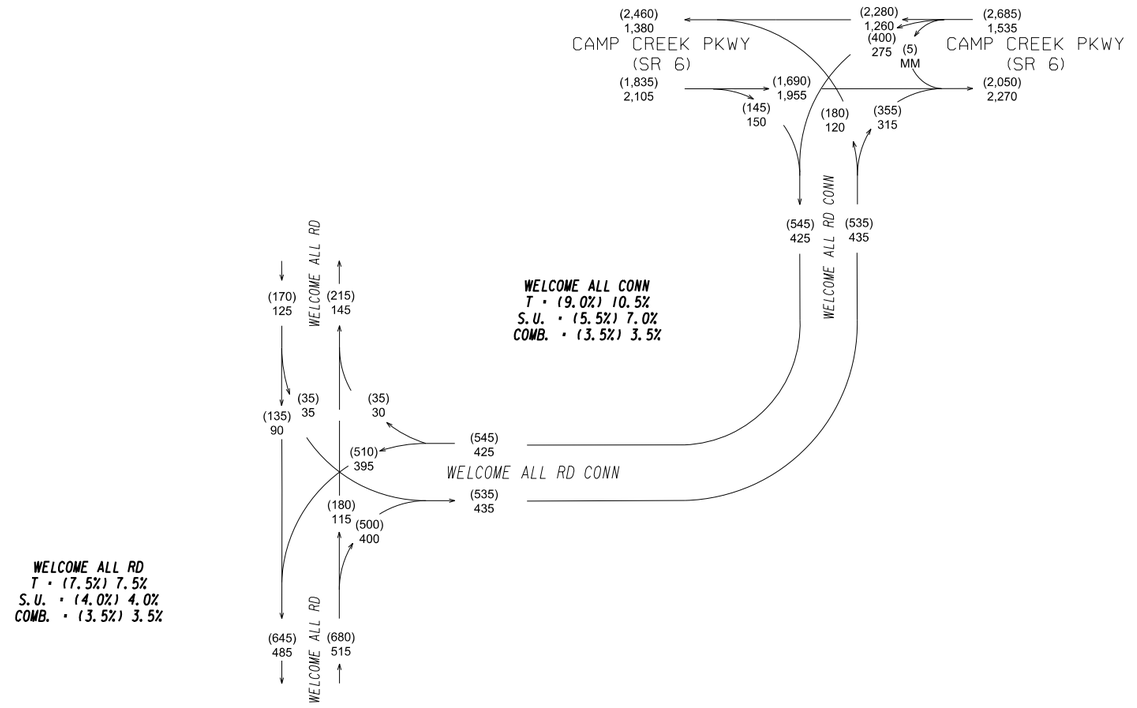
**TRAFFIC DIAGRAM**

BASE YEAR +2 (2027)
NO-BUILD DHV
SHEET 1 OF 1

| | | | |
|---|---|---|---|
| CHECKED: | | DATE: | |
| BACKCHECKED: | | DATE: | |
| CORRECTED: | | DATE: | |
| VERIFIED: | | DATE: | |

DRAWING No. 10-2005

10/23/2015 GPLN




MM = MINIMAL MOVEMENT (<5 VEHICLES PER HOUR)

WELCOME ALL ROAD REALIGNMENT
AT CAMP CREEK PARKWAY (SR 6)

FULTON COUNTY, GA
GDOT PI NO. 0016063
JUNE 2019

2047 PM DHV = (XXX)
2047 AM DHV = XXX
DESIGN YEAR +2

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817 West Peachtree Street NW, Suite 601
Atlanta, Georgia 30308

REVISION DATES

**TRAFFIC DIAGRAM**

DEISGN YEAR +2 (2047)
NO-BUILD DHV
SHEET 1 OF 1

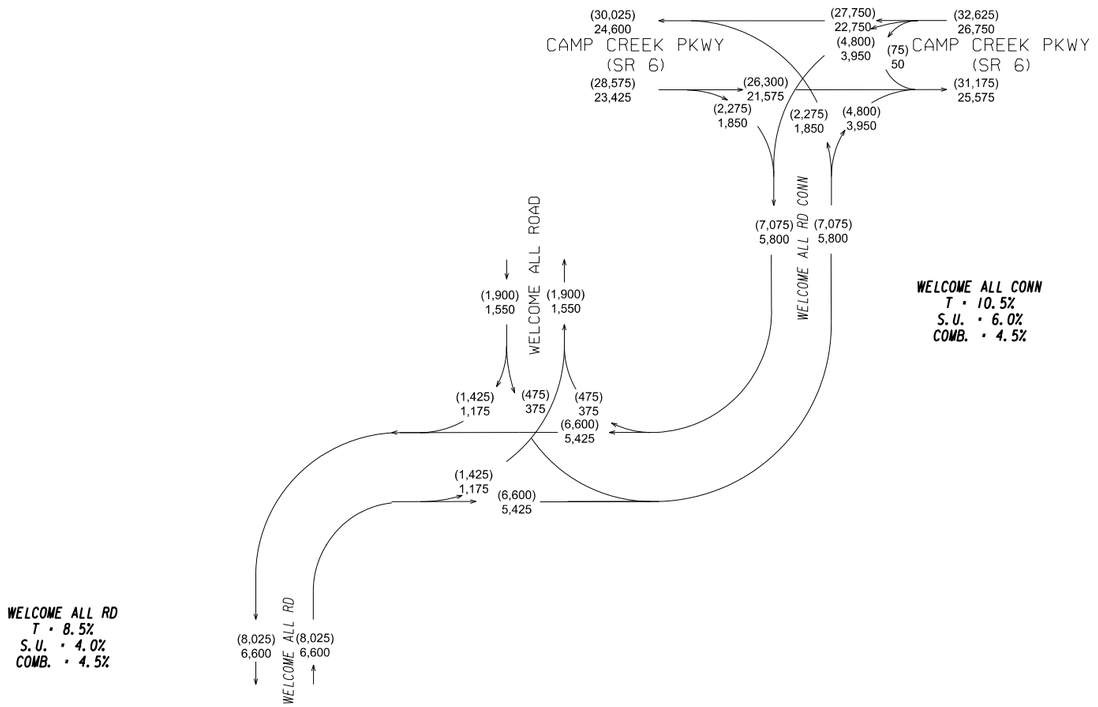
| | | DATE: | |
|---|---|---|---|
| CHECKED: | | | |
| BACKCHECKED: | | DATE: | |
| CORRECTED: | | DATE: | |
| VERIFIED: | | DATE: | |

DRAWING No. 10-2006

10/23/2015 GPLN

CAMP CREEK PKWY (SR 6)
T = 11.5%
S.U. = 4.5%
COMB. = 7.0%

CAMP CREEK PKWY (SR 6)
T = 11.0%
S.U. = 4.0%
COMB. = 7.0%




WELCOME ALL CONN
T = 10.5%
S.U. = 6.0%
COMB. = 4.5%

WELCOME ALL RD
T = 8.5%
S.U. = 4.0%
COMB. = 4.5%

WELCOME ALL ROAD REALIGNMENT
AT CAMP CREEK PARKWAY (SR 6)

FULTON COUNTY, GA
GDOT PI NO. 0016063
JUNE 2019

MM = MINIMAL MOVEMENT (<25 VEHICLES PER HOUR)

2045 AADT = (XXX)
2025 AADT = XXX
BASE YEAR AND DESIGN YEAR

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817 West Peachtree Street NW, Suite 601
Atlanta, Georgia 30308

REVISION DATES

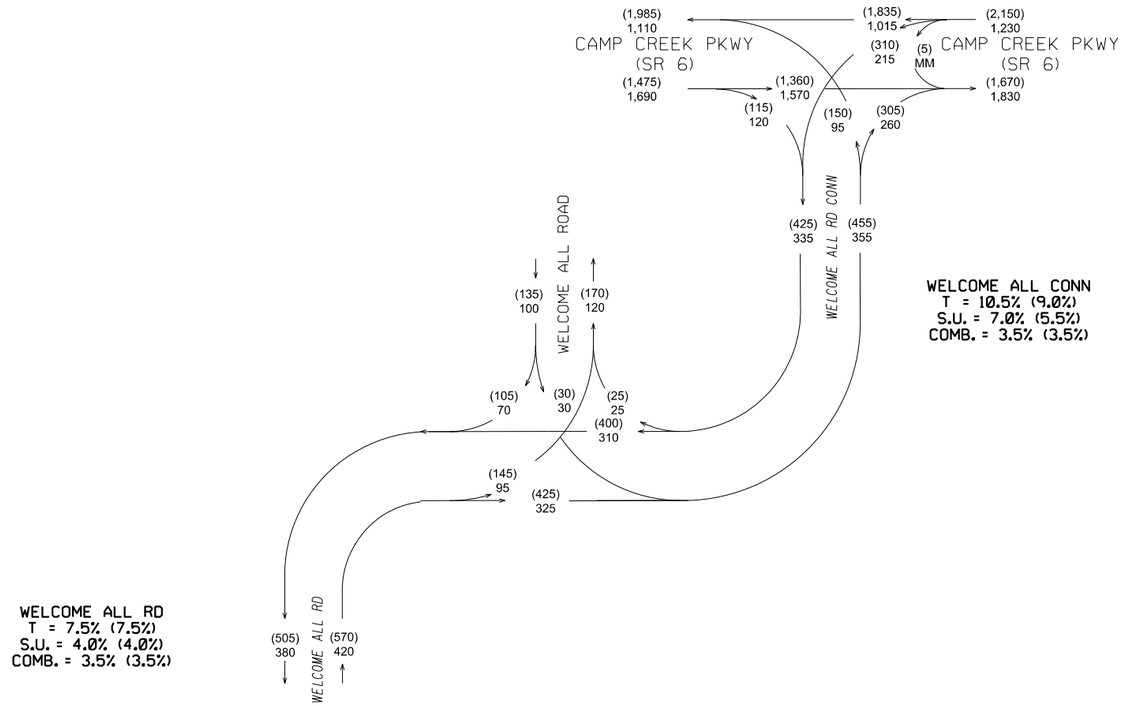
**TRAFFIC DIAGRAM**

BASE YEAR (2025) AND DESIGN YEAR (2045)
BUILD AADT
SHEET 1 OF 1

| | | | | |
|---|---|---|---|---|
| CHECKED: | | DATE: | | DRAWING No. |
| BACKCHECKED: | | DATE: | | |
| CORRECTED: | | DATE: | | 10-3001 |
| VERIFIED: | | DATE: | | |

CAMP CREEK PKWY (SR 6)
T = 13.5% (9.5%)
S.U. = 6.5% (4.0%)
COMB. = 7.0% (5.5%)

CAMP CREEK PKWY (SR 6)
T = 12.5% (9.0%)
S.U. = 5.5% (3.0%)
COMB. = 7.0% (6.0%)




WELCOME ALL CONN
T = 10.5% (9.0%)
S.U. = 7.0% (5.5%)
COMB. = 3.5% (3.5%)

WELCOME ALL RD
T = 7.5% (7.5%)
S.U. = 4.0% (4.0%)
COMB. = 3.5% (3.5%)

WELCOME ALL ROAD REALIGNMENT
AT CAMP CREEK PARKWAY (SR 6)

FULTON COUNTY, GA
GDOT PI NO. 0016063
JUNE 2019

MM = MINIMAL MOVEMENT (<5 VEHICLES PER HOUR)

2025 PM DHV = (XXX)
2025 AM DHV = XXX
BASE YEAR

Kimley»Horn
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Atlanta, Georgia 30308

REVISION DATES

**TRAFFIC DIAGRAM**

BASE YEAR (2025)
BUILD DHV
SHEET 1 OF 1

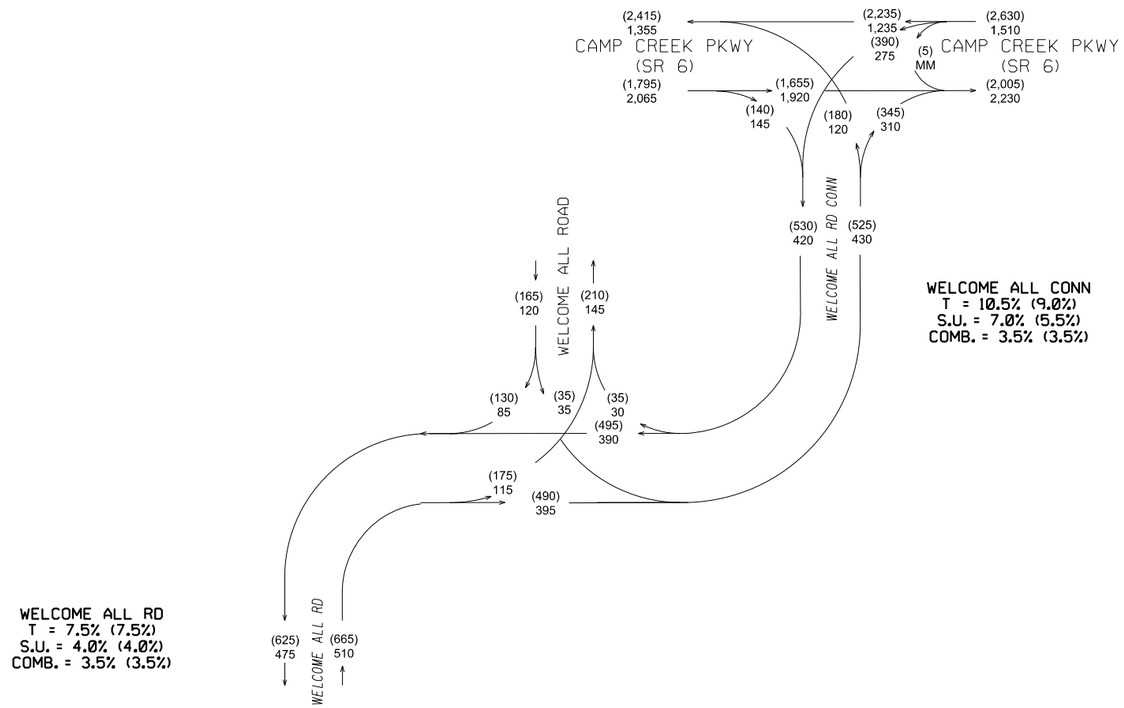
| | | | | |
|---|---|---|---|---|
| CHECKED: | | DATE: | | DRAWING No. |
| BACKCHECKED: | | DATE: | | |
| CORRECTED: | | DATE: | | 10-3002 |
| VERIFIED: | | DATE: | | |

10/23/205 GPLN

CAMP CREEK PKWY (SR 6)
T = 13.5% (9.5%)
S.U. = 6.5% (4.0%)
COMB. = 7.0% (5.5%)

CAMP CREEK PKWY (SR 6)
T = 12.5% (9.0%)
S.U. = 5.5% (3.0%)
COMB. = 7.0% (6.0%)

N




WELCOME ALL CONN
T = 10.5% (9.0%)
S.U. = 7.0% (5.5%)
COMB. = 3.5% (3.5%)

WELCOME ALL RD
T = 7.5% (7.5%)
S.U. = 4.0% (4.0%)
COMB. = 3.5% (3.5%)

WELCOME ALL ROAD REALIGNMENT
AT CAMP CREEK PARKWAY (SR 6)

FULTON COUNTY, GA
GDOT PI NO. 0016063
JUNE 2019

MM = MINIMAL MOVEMENT (<5 VEHICLES PER HOUR)

2045 PM DHV = (XXX)
2045 AM DHV = XXX
DESIGN YEAR

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Atlanta, Georgia 30308

REVISION DATES

**TRAFFIC DIAGRAM**

DESIGN YEAR (2045)
BUILD DHV
SHEET 1 OF 1

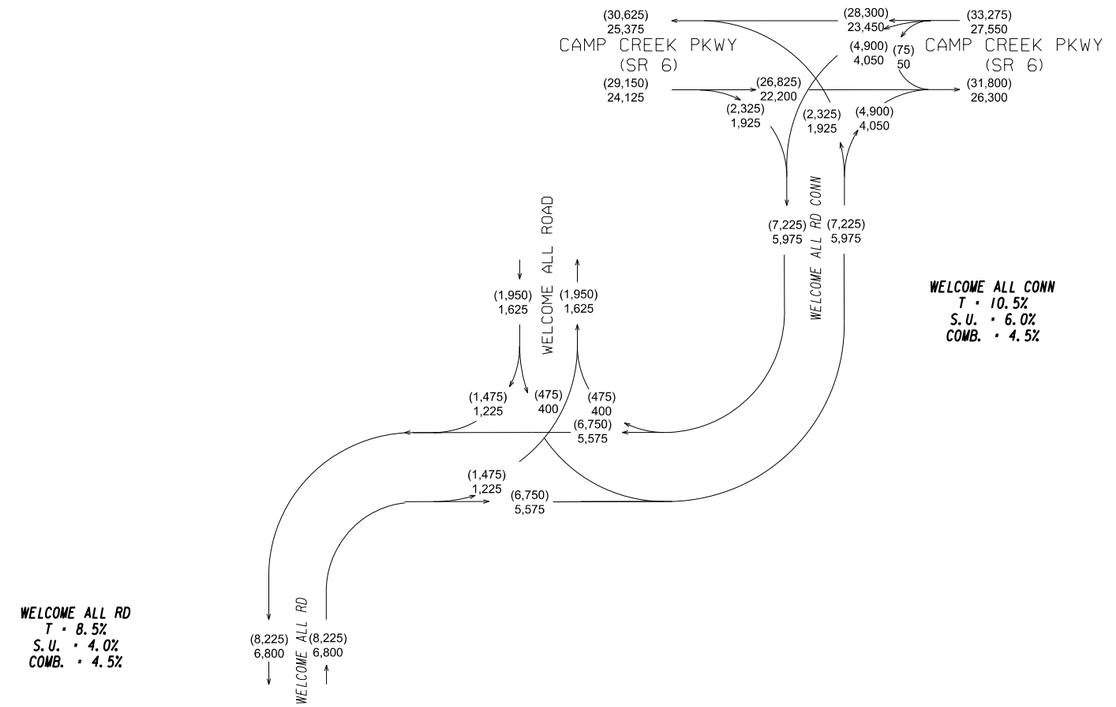
| | | | | |
|---|---|---|---|---|
| CHECKED: | | DATE: | | DRAWING No. |
| BACKCHECKED: | | DATE: | | |
| CORRECTED: | | DATE: | | 10-3003 |
| VERIFIED: | | DATE: | | |

10/23/205 GPLN

GDOT

CAMP CREEK PKWY (SR 6)
T = 11.5%
S.U. = 4.5%
COMB. = 7.0%

CAMP CREEK PKWY (SR 6)
T = 11.0%
S.U. = 4.0%
COMB. = 7.0%




WELCOME ALL CONN
T = 10.5%
S.U. = 6.0%
COMB. = 4.5%

WELCOME ALL RD
T = 8.5%
S.U. = 4.0%
COMB. = 4.5%

WELCOME ALL ROAD REALIGNMENT
AT CAMP CREEK PARKWAY (SR 6)

FULTON COUNTY, GA
GDOT PI NO. 0016063
JUNE 2019

MM = MINIMAL MOVEMENT (<25 VEHICLES PER HOUR)

2047 AADT = (XXX)
2027 AADT = XXX
BASE YEAR +2 AND DESIGN YEAR +2

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Atlanta, Georgia 30308

REVISION DATES

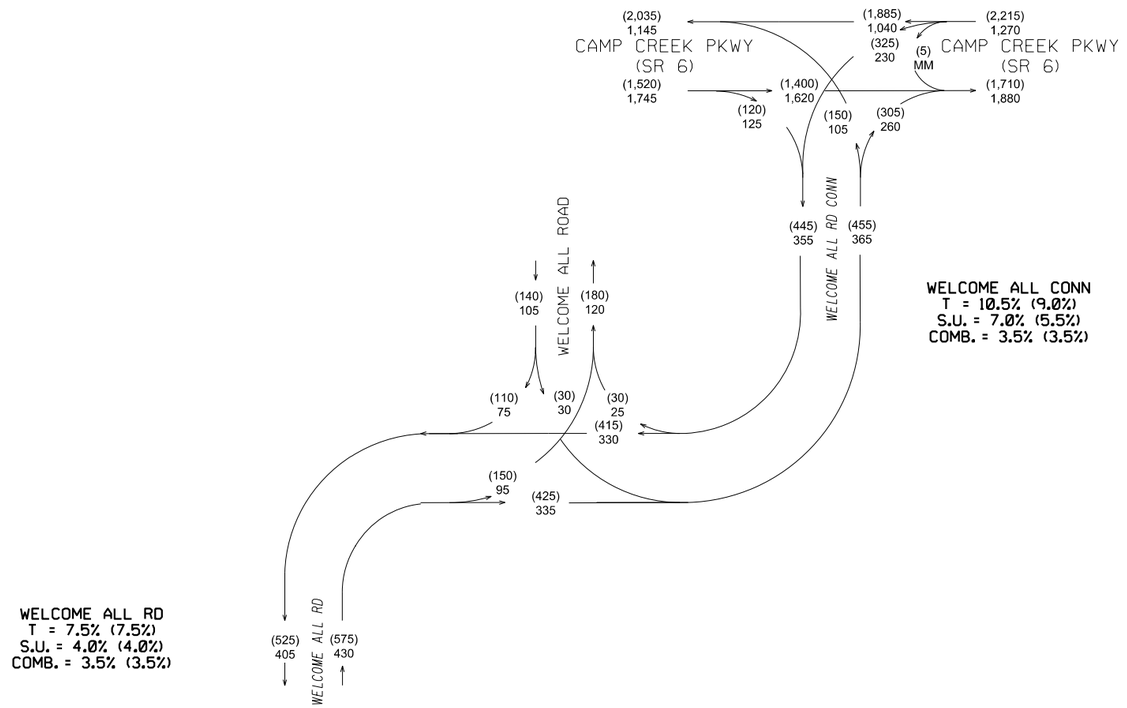
**TRAFFIC DIAGRAM**
BASE YEAR +2 (2027) AND
DESIGN YEAR +2 (2047) BUILD AADT
SHEET 1 OF 1

| | | DATE: | | DRAWING No. |
|---|---|---|---|---|
| CHECKED: | | DATE: | | 10-4004 |
| BACKCHECKED: | | DATE: | | |
| CORRECTED: | | DATE: | | |
| VERIFIED: | | DATE: | | |

10/23/2015 GPLN

CAMP CREEK PKWY (SR 6)
T = 13.5% (9.5%)
S.U. = 6.5% (4.0%)
COMB. = 7.0% (5.5%)

CAMP CREEK PKWY (SR 6)
T = 12.5% (9.0%)
S.U. = 5.5% (3.0%)
COMB. = 7.0% (6.0%)




WELCOME ALL CONN
T = 10.5% (9.0%)
S.U. = 7.0% (5.5%)
COMB. = 3.5% (3.5%)

WELCOME ALL RD
T = 7.5% (7.5%)
S.U. = 4.0% (4.0%)
COMB. = 3.5% (3.5%)

MM = MINIMAL MOVEMENT (<5 VEHICLES PER HOUR)

WELCOME ALL ROAD REALIGNMENT
AT CAMP CREEK PARKWAY (SR 6)

FULTON COUNTY, GA
GDOT PI NO. 0016063
JUNE 2019

2027 PM DHV = (XXX)
2027 AM DHV = XXX
BASE YEAR +2

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Atlanta, Georgia 30308

REVISION DATES

**TRAFFIC DIAGRAM**

BASE YEAR +2 (2027)
BUILD DHV
SHEET 1 OF 1

| | | | | |
|---|---|---|---|---|
| CHECKED: | | DATE: | | DRAWING No. |
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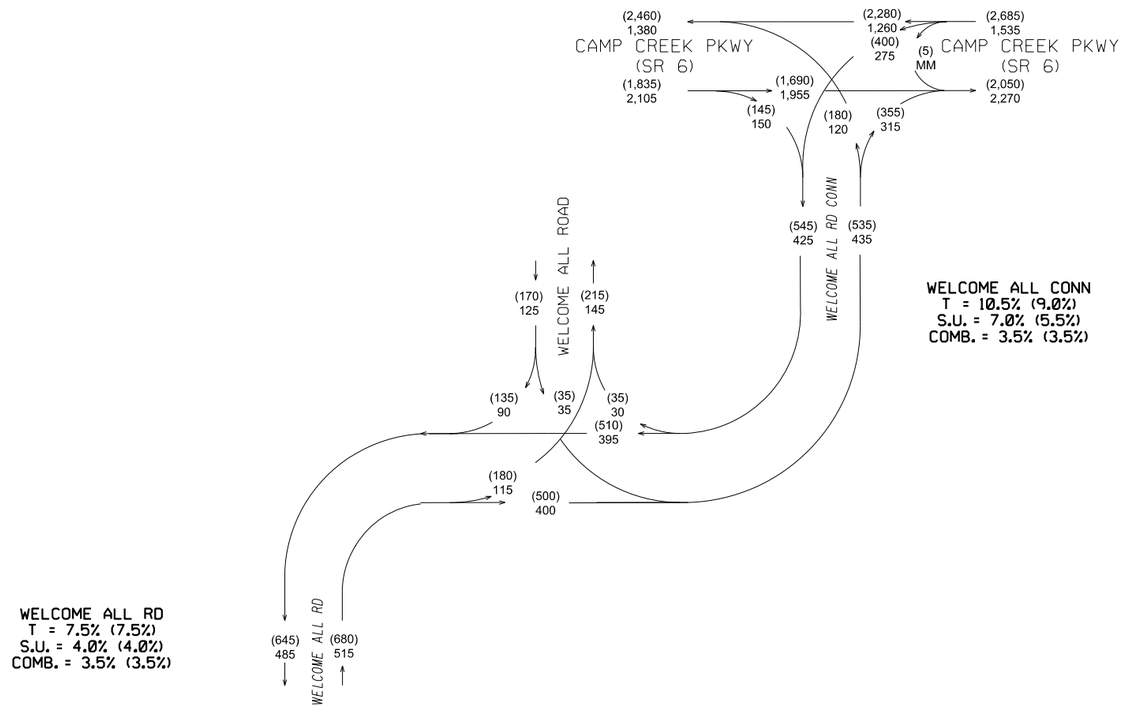
10/23/205 GPLN

CAMP CREEK PKWY (SR 6)
T = 13.5% (9.5%)
S.U. = 6.5% (4.0%)
COMB. = 7.0% (5.5%)

CAMP CREEK PKWY (SR 6)
T = 12.5% (9.0%)
S.U. = 5.5% (3.0%)
COMB. = 7.0% (6.0%)




WELCOME ALL CONN
T = 10.5% (9.0%)
S.U. = 7.0% (5.5%)
COMB. = 3.5% (3.5%)

WELCOME ALL RD
T = 7.5% (7.5%)
S.U. = 4.0% (4.0%)
COMB. = 3.5% (3.5%)

WELCOME ALL ROAD REALIGNMENT
AT CAMP CREEK PARKWAY (SR 6)

FULTON COUNTY, GA
GDOT PI NO. 0016063
JUNE 2019

MM = MINIMAL MOVEMENT (<5 VEHICLES PER HOUR)

2047 PM DHV = (XXX)
2047 AM DHV = XXX
DESIGN YEAR +2

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Atlanta, Georgia 30308

REVISION DATES

**TRAFFIC DIAGRAM**

DESIGN YEAR +2 (2047)
BUILD DHV
SHEET 1 OF 1

| | | | | |
|---|---|---|---|---|
| CHECKED: | | DATE: | | DRAWING No. |
| BACKCHECKED: | | DATE: | | |
| CORRECTED: | | DATE: | | 10-4006 |
| VERIFIED: | | DATE: | | |

10/23/205 GPLN

# APPENDIX B:

## *Synchro Capacity Analysis*

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1425 | 105 | 195 | 910 | 90 | 235 |
| Future Volume (veh/h) | 1425 | 105 | 195 | 910 | 90 | 235 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1781 | 1796 | 1767 | 1707 | 1737 | 1693 |
| Adj Flow Rate, veh/h | 1484 | 109 | 203 | 948 | 94 | 245 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, % | 8 | 7 | 9 | 13 | 11 | 14 |
| Cap, veh/h | 1685 | 758 | 269 | 2082 | 395 | 342 |
| Arrive On Green | 0.50 | 0.50 | 0.08 | 0.64 | 0.24 | 0.24 |
| Sat Flow, veh/h | 3474 | 1522 | 1682 | 3329 | 1654 | 1434 |
| Grp Volume(v), veh/h | 1484 | 109 | 203 | 948 | 94 | 245 |
| Grp Sat Flow(s),veh/h/ln | 1692 | 1522 | 1682 | 1622 | 1654 | 1434 |
| Q Serve(g_s), s | 29.6 | 2.9 | 4.0 | 11.1 | 3.5 | 11.8 |
| Cycle Q Clear(g_c), s | 29.6 | 2.9 | 4.0 | 11.1 | 3.5 | 11.8 |
| Prop In Lane | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1685 | 758 | 269 | 2082 | 395 | 342 |
| V/C Ratio(X) | 0.88 | 0.14 | 0.75 | 0.46 | 0.24 | 0.72 |
| Avail Cap(c_a), veh/h | 1818 | 818 | 529 | 2711 | 395 | 342 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 16.9 | 10.2 | 16.3 | 6.8 | 23.2 | 26.3 |
| Incr Delay (d2), s/veh | 5.1 | 0.1 | 4.3 | 0.2 | 1.4 | 12.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(95%),veh/ln | 14.9 | 1.4 | 3.1 | 4.3 | 2.6 | 8.2 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 22.0 | 10.3 | 20.6 | 7.0 | 24.6 | 38.4 |
| LnGrp LOS | C | B | C | A | C | D |
| Approach Vol, veh/h | 1593 | | | 1151 | 339 | |
| Approach Delay, s/veh | 21.2 | | | 9.4 | 34.6 | |
| Approach LOS | C | | | A | C | |

| Timer - Assigned Phs | | 2 | 3 | 4 | | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 22.5 | 10.9 | 42.0 | | 52.9 |
| Change Period (Y+Rc), s | | 4.5 | 4.5 | 4.5 | | 4.5 |
| Max Green Setting (Gmax), s | | 18.0 | 18.0 | 40.5 | | 63.0 |
| Max Q Clear Time (g_c+I1), s | | 13.8 | 6.0 | 31.6 | | 13.1 |
| Green Ext Time (p_c), s | | 0.5 | 0.4 | 6.0 | | 7.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 18.3 |
| HCM 6th LOS | B |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 13.3 |
| Intersection LOS | B |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 280 | 20 | 85 | 300 | 25 | 65 |
| Future Vol, veh/h | 280 | 20 | 85 | 300 | 25 | 65 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Heavy Vehicles, % | 11 | 13 | 2 | 6 | 18 | 2 |
| Mvmt Flow | 315 | 22 | 96 | 337 | 28 | 73 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|---|---|---|---|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left | NB | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right | SB | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay | 14.5 | 13.2 | 10 |
| HCM LOS | B | B | A |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|
| Vol Left, % | 0% | 93% | 28% |
| Vol Thru, % | 22% | 0% | 72% |
| Vol Right, % | 78% | 7% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 385 | 300 | 90 |
| LT Vol | 0 | 280 | 25 |
| Through Vol | 85 | 0 | 65 |
| RT Vol | 300 | 20 | 0 |
| Lane Flow Rate | 433 | 337 | 101 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.548 | 0.521 | 0.164 |
| Departure Headway (Hd) | 4.563 | 5.562 | 5.849 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 779 | 651 | 615 |
| Service Time | 2.662 | 3.567 | 3.873 |
| HCM Lane V/C Ratio | 0.556 | 0.518 | 0.164 |
| HCM Control Delay | 13.2 | 14.5 | 10 |
| HCM Lane LOS | B | B | A |
| HCM 95th-tile Q | 3.4 | 3 | 0.6 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1235 | 105 | 265 | 1670 | 150 | 300 |
| Future Volume (veh/h) | 1235 | 105 | 265 | 1670 | 150 | 300 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1737 | 1737 | 1796 | 1811 | 1841 | 1811 |
| Adj Flow Rate, veh/h | 1286 | 109 | 276 | 1740 | 156 | 312 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, % | 11 | 11 | 7 | 6 | 4 | 6 |
| Cap, veh/h | 1427 | 636 | 329 | 2112 | 451 | 395 |
| Arrive On Green | 0.43 | 0.43 | 0.12 | 0.61 | 0.26 | 0.26 |
| Sat Flow, veh/h | 3387 | 1472 | 1711 | 3532 | 1753 | 1535 |
| Grp Volume(v), veh/h | 1286 | 109 | 276 | 1740 | 156 | 312 |
| Grp Sat Flow(s),veh/h/ln | 1650 | 1472 | 1711 | 1721 | 1753 | 1535 |
| Q Serve(g_s), s | 25.3 | 3.2 | 5.7 | 27.6 | 5.1 | 13.2 |
| Cycle Q Clear(g_c), s | 25.3 | 3.2 | 5.7 | 27.6 | 5.1 | 13.2 |
| Prop In Lane | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1427 | 636 | 329 | 2112 | 451 | 395 |
| V/C Ratio(X) | 0.90 | 0.17 | 0.84 | 0.82 | 0.35 | 0.79 |
| Avail Cap(c_a), veh/h | 1440 | 642 | 569 | 2609 | 451 | 395 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 18.5 | 12.2 | 14.6 | 10.5 | 21.2 | 24.2 |
| Incr Delay (d2), s/veh | 8.1 | 0.1 | 5.7 | 1.9 | 2.1 | 14.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(95%),veh/ln | 13.9 | 1.5 | 3.4 | 10.9 | 4.0 | 9.6 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 26.6 | 12.3 | 20.3 | 12.4 | 23.2 | 39.0 |
| LnGrp LOS | C | B | C | B | C | D |
| Approach Vol, veh/h | 1395 | | | 2016 | 468 | |
| Approach Delay, s/veh | 25.4 | | | 13.5 | 33.7 | |
| Approach LOS | C | | | B | C | |

| Timer - Assigned Phs | | 2 | 3 | 4 | | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 22.5 | 12.7 | 34.7 | | 47.4 |
| Change Period (Y+Rc), s | | 4.5 | 4.5 | 4.5 | | 4.5 |
| Max Green Setting (Gmax), s | | 18.0 | 18.0 | 30.5 | | 53.0 |
| Max Q Clear Time (g_c+I1), s | | 15.2 | 7.7 | 27.3 | | 29.6 |
| Green Ext Time (p_c), s | | 0.5 | 0.5 | 2.2 | | 13.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 20.2 |
| HCM 6th LOS | C |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 20.8 |
| Intersection LOS | C |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 340 | 25 | 120 | 420 | 30 | 95 |
| Future Vol, veh/h | 340 | 25 | 120 | 420 | 30 | 95 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Heavy Vehicles, % | 8 | 30 | 3 | 6 | 2 | 2 |
| Mvmt Flow | 362 | 27 | 128 | 447 | 32 | 101 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|---|---|---|---|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left | NB | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right | SB | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay | 19.4 | 24.1 | 10.9 |
| HCM LOS | C | C | B |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|
| Vol Left, % | 0% | 93% | 24% |
| Vol Thru, % | 22% | 0% | 76% |
| Vol Right, % | 78% | 7% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 540 | 365 | 125 |
| LT Vol | 0 | 340 | 30 |
| Through Vol | 120 | 0 | 95 |
| RT Vol | 420 | 25 | 0 |
| Lane Flow Rate | 574 | 388 | 133 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.79 | 0.647 | 0.224 |
| Departure Headway (Hd) | 4.952 | 5.999 | 6.065 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 730 | 602 | 589 |
| Service Time | 3.002 | 4.045 | 4.136 |
| HCM Lane V/C Ratio | 0.786 | 0.645 | 0.226 |
| HCM Control Delay | 24.1 | 19.4 | 10.9 |
| HCM Lane LOS | C | C | B |
| HCM 95th-tile Q | 7.9 | 4.7 | 0.9 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1570 | 120 | 215 | 1015 | 95 | 260 |
| Future Volume (veh/h) | 1570 | 120 | 215 | 1015 | 95 | 260 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1737 | 1693 | 1767 | 1707 | 1781 | 1796 |
| Adj Flow Rate, veh/h | 1635 | 125 | 224 | 1057 | 99 | 271 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, % | 11 | 14 | 9 | 13 | 8 | 7 |
| Cap, veh/h | 1666 | 724 | 267 | 2152 | 381 | 342 |
| Arrive On Green | 0.50 | 0.50 | 0.10 | 0.66 | 0.22 | 0.22 |
| Sat Flow, veh/h | 3387 | 1434 | 1682 | 3329 | 1697 | 1522 |
| Grp Volume(v), veh/h | 1635 | 125 | 224 | 1057 | 99 | 271 |
| Grp Sat Flow(s),veh/h/ln | 1650 | 1434 | 1682 | 1622 | 1697 | 1522 |
| Q Serve(g_s), s | 39.0 | 3.8 | 5.9 | 13.0 | 3.9 | 13.5 |
| Cycle Q Clear(g_c), s | 39.0 | 3.8 | 5.9 | 13.0 | 3.9 | 13.5 |
| Prop In Lane | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1666 | 724 | 267 | 2152 | 381 | 342 |
| V/C Ratio(X) | 0.98 | 0.17 | 0.84 | 0.49 | 0.26 | 0.79 |
| Avail Cap(c_a), veh/h | 1666 | 724 | 472 | 2548 | 381 | 342 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 19.5 | 10.8 | 21.2 | 6.7 | 25.6 | 29.4 |
| Incr Delay (d2), s/veh | 17.7 | 0.1 | 6.9 | 0.2 | 1.7 | 17.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(95%),veh/ln | 22.0 | 1.8 | 4.1 | 5.0 | 3.0 | 10.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 37.2 | 10.9 | 28.2 | 6.9 | 27.3 | 46.4 |
| LnGrp LOS | D | B | C | A | C | D |
| Approach Vol, veh/h | 1760 | | | 1281 | 370 | |
| Approach Delay, s/veh | 35.3 | | | 10.6 | 41.3 | |
| Approach LOS | D | | | B | D | |

| Timer - Assigned Phs | 2 | 3 | 4 | 8 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 22.5 | 12.7 | 45.0 | 57.7 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 18.0 | 18.0 | 40.5 | 63.0 |
| Max Q Clear Time (g_c+I1), s | 15.5 | 7.9 | 41.0 | 15.0 |
| Green Ext Time (p_c), s | 0.3 | 0.4 | 0.0 | 8.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 26.7 |
| HCM 6th LOS | C |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 15.7 |
| Intersection LOS | C |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 310 | 25 | 95 | 325 | 30 | 70 |
| Future Vol, veh/h | 310 | 25 | 95 | 325 | 30 | 70 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Heavy Vehicles, % | 11 | 13 | 2 | 6 | 18 | 2 |
| Mvmt Flow | 348 | 28 | 107 | 365 | 34 | 79 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|---|---|---|---|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left | NB | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right | SB | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay | 17 | 15.9 | 10.6 |
| HCM LOS | C | C | B |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|
| Vol Left, % | 0% | 93% | 30% |
| Vol Thru, % | 23% | 0% | 70% |
| Vol Right, % | 77% | 7% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 420 | 335 | 100 |
| LT Vol | 0 | 310 | 30 |
| Through Vol | 95 | 0 | 70 |
| RT Vol | 325 | 25 | 0 |
| Lane Flow Rate | 472 | 376 | 112 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.636 | 0.598 | 0.19 |
| Departure Headway (Hd) | 4.85 | 5.722 | 6.091 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 750 | 629 | 588 |
| Service Time | 2.85 | 3.762 | 4.144 |
| HCM Lane V/C Ratio | 0.629 | 0.598 | 0.19 |
| HCM Control Delay | 15.9 | 17 | 10.6 |
| HCM Lane LOS | C | C | B |
| HCM 95th-tile Q | 4.6 | 4 | 0.7 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1360 | 115 | 310 | 1835 | 150 | 305 |
| Future Volume (veh/h) | 1360 | 115 | 310 | 1835 | 150 | 305 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1737 | 1737 | 1796 | 1811 | 1841 | 1811 |
| Adj Flow Rate, veh/h | 1417 | 120 | 323 | 1911 | 156 | 318 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, % | 11 | 11 | 7 | 6 | 4 | 6 |
| Cap, veh/h | 1383 | 617 | 369 | 2198 | 422 | 370 |
| Arrive On Green | 0.42 | 0.42 | 0.16 | 0.64 | 0.24 | 0.24 |
| Sat Flow, veh/h | 3387 | 1472 | 1711 | 3532 | 1753 | 1535 |
| Grp Volume(v), veh/h | 1417 | 120 | 323 | 1911 | 156 | 318 |
| Grp Sat Flow(s),veh/h/ln | 1650 | 1472 | 1711 | 1721 | 1753 | 1535 |
| Q Serve(g_s), s | 31.3 | 3.9 | 9.4 | 33.7 | 5.5 | 14.8 |
| Cycle Q Clear(g_c), s | 31.3 | 3.9 | 9.4 | 33.7 | 5.5 | 14.8 |
| Prop In Lane | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1383 | 617 | 369 | 2198 | 422 | 370 |
| V/C Ratio(X) | 1.02 | 0.19 | 0.87 | 0.87 | 0.37 | 0.86 |
| Avail Cap(c_a), veh/h | 1383 | 617 | 508 | 2440 | 422 | 370 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 21.7 | 13.7 | 20.2 | 11.0 | 23.6 | 27.2 |
| Incr Delay (d2), s/veh | 30.7 | 0.2 | 12.0 | 3.4 | 2.5 | 22.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(95%),veh/ln | 22.3 | 1.9 | 7.4 | 13.3 | 4.5 | 11.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 52.5 | 13.9 | 32.1 | 14.4 | 26.1 | 49.4 |
| LnGrp LOS | F | B | C | B | C | D |
| Approach Vol, veh/h | 1537 | | | 2234 | 474 | |
| Approach Delay, s/veh | 49.5 | | | 16.9 | 41.7 | |
| Approach LOS | D | | | B | D | |

| Timer - Assigned Phs | | 2 | 3 | 4 | | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 22.5 | 16.4 | 35.8 | | 52.2 |
| Change Period (Y+Rc), s | | 4.5 | 4.5 | 4.5 | | 4.5 |
| Max Green Setting (Gmax), s | | 18.0 | 18.0 | 30.5 | | 53.0 |
| Max Q Clear Time (g_c+I1), s | | 16.8 | 11.4 | 33.3 | | 35.7 |
| Green Ext Time (p_c), s | | 0.2 | 0.5 | 0.0 | | 12.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 31.5 |
| HCM 6th LOS | C |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 29.7 |
| Intersection LOS | D |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 400 | 25 | 145 | 425 | 30 | 105 |
| Future Vol, veh/h | 400 | 25 | 145 | 425 | 30 | 105 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Heavy Vehicles, % | 8 | 30 | 3 | 6 | 2 | 2 |
| Mvmt Flow | 426 | 27 | 154 | 452 | 32 | 112 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|---|---|---|---|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left | NB | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right | SB | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay | 27.9 | 35.3 | 11.8 |
| HCM LOS | D | E | B |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|
| Vol Left, % | 0% | 94% | 22% |
| Vol Thru, % | 25% | 0% | 78% |
| Vol Right, % | 75% | 6% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 570 | 425 | 135 |
| LT Vol | 0 | 400 | 30 |
| Through Vol | 145 | 0 | 105 |
| RT Vol | 425 | 25 | 0 |
| Lane Flow Rate | 606 | 452 | 144 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.885 | 0.779 | 0.261 |
| Departure Headway (Hd) | 5.255 | 6.204 | 6.548 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 685 | 579 | 551 |
| Service Time | 3.337 | 4.274 | 4.548 |
| HCM Lane V/C Ratio | 0.885 | 0.781 | 0.261 |
| HCM Control Delay | 35.3 | 27.9 | 11.8 |
| HCM Lane LOS | E | D | B |
| HCM 95th-tile Q | 10.9 | 7.3 | 1 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1920 | 145 | 275 | 1235 | 120 | 310 |
| Future Volume (veh/h) | 1920 | 145 | 275 | 1235 | 120 | 310 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1781 | 1796 | 1767 | 1707 | 1737 | 1693 |
| Adj Flow Rate, veh/h | 2000 | 151 | 286 | 1286 | 125 | 323 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, % | 8 | 7 | 9 | 13 | 11 | 14 |
| Cap, veh/h | 1898 | 854 | 314 | 2432 | 276 | 239 |
| Arrive On Green | 0.56 | 0.56 | 0.15 | 0.75 | 0.17 | 0.17 |
| Sat Flow, veh/h | 3474 | 1522 | 1682 | 3329 | 1654 | 1434 |
| Grp Volume(v), veh/h | 2000 | 151 | 286 | 1286 | 125 | 323 |
| Grp Sat Flow(s),veh/h/ln | 1692 | 1522 | 1682 | 1622 | 1654 | 1434 |
| Q Serve(g_s), s | 60.5 | 5.2 | 13.7 | 17.7 | 7.3 | 18.0 |
| Cycle Q Clear(g_c), s | 60.5 | 5.2 | 13.7 | 17.7 | 7.3 | 18.0 |
| Prop In Lane | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1898 | 854 | 314 | 2432 | 276 | 239 |
| V/C Ratio(X) | 1.05 | 0.18 | 0.91 | 0.53 | 0.45 | 1.35 |
| Avail Cap(c_a), veh/h | 1898 | 854 | 347 | 2496 | 276 | 239 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 23.7 | 11.5 | 36.6 | 5.6 | 40.5 | 44.9 |
| Incr Delay (d2), s/veh | 36.5 | 0.1 | 25.6 | 0.2 | 5.3 | 182.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(95%),veh/ln | 39.9 | 2.8 | 14.2 | 6.8 | 6.1 | 28.5 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 60.1 | 11.6 | 62.2 | 5.8 | 45.8 | 227.3 |
| LnGrp LOS | F | B | E | A | D | F |
| Approach Vol, veh/h | 2151 | | | 1572 | 448 | |
| Approach Delay, s/veh | 56.7 | | | 16.1 | 176.7 | |
| Approach LOS | E | | | B | F | |

| Timer - Assigned Phs | | 2 | 3 | 4 | | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 22.5 | 20.4 | 65.0 | | 85.4 |
| Change Period (Y+Rc), s | | 4.5 | 4.5 | 4.5 | | 4.5 |
| Max Green Setting (Gmax), s | | 18.0 | 18.0 | 60.5 | | 83.0 |
| Max Q Clear Time (g_c+I1), s | | 20.0 | 15.7 | 62.5 | | 19.7 |
| Green Ext Time (p_c), s | | 0.0 | 0.2 | 0.0 | | 11.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 54.3 |
| HCM 6th LOS | D |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 28 |
| Intersection LOS | D |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 390 | 30 | 115 | 395 | 35 | 85 |
| Future Vol, veh/h | 390 | 30 | 115 | 395 | 35 | 85 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Heavy Vehicles, % | 11 | 13 | 2 | 6 | 18 | 2 |
| Mvmt Flow | 438 | 34 | 129 | 444 | 39 | 96 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|---|---|---|---|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left | NB | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right | SB | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay | 30.2 | 29.9 | 12.2 |
| HCM LOS | D | D | B |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|
| Vol Left, % | 0% | 93% | 29% |
| Vol Thru, % | 23% | 0% | 71% |
| Vol Right, % | 77% | 7% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 510 | 420 | 120 |
| LT Vol | 0 | 390 | 35 |
| Through Vol | 115 | 0 | 85 |
| RT Vol | 395 | 30 | 0 |
| Lane Flow Rate | 573 | 472 | 135 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.839 | 0.807 | 0.257 |
| Departure Headway (Hd) | 5.272 | 6.16 | 6.853 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 682 | 585 | 527 |
| Service Time | 3.355 | 4.229 | 4.853 |
| HCM Lane V/C Ratio | 0.84 | 0.807 | 0.256 |
| HCM Control Delay | 29.9 | 30.2 | 12.2 |
| HCM Lane LOS | D | D | B |
| HCM 95th-tile Q | 9.3 | 8 | 1 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1655 | 140 | 390 | 2235 | 180 | 345 |
| Future Volume (veh/h) | 1655 | 140 | 390 | 2235 | 180 | 345 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1737 | 1737 | 1796 | 1811 | 1841 | 1811 |
| Adj Flow Rate, veh/h | 1724 | 146 | 406 | 2328 | 188 | 359 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, % | 11 | 11 | 7 | 6 | 4 | 6 |
| Cap, veh/h | 1601 | 714 | 395 | 2474 | 335 | 293 |
| Arrive On Green | 0.49 | 0.49 | 0.19 | 0.72 | 0.19 | 0.19 |
| Sat Flow, veh/h | 3387 | 1472 | 1711 | 3532 | 1753 | 1535 |
| Grp Volume(v), veh/h | 1724 | 146 | 406 | 2328 | 188 | 359 |
| Grp Sat Flow(s),veh/h/ln | 1650 | 1472 | 1711 | 1721 | 1753 | 1535 |
| Q Serve(g_s), s | 48.5 | 5.7 | 18.9 | 58.8 | 9.7 | 19.1 |
| Cycle Q Clear(g_c), s | 48.5 | 5.7 | 18.9 | 58.8 | 9.7 | 19.1 |
| Prop In Lane | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1601 | 714 | 395 | 2474 | 335 | 293 |
| V/C Ratio(X) | 1.08 | 0.20 | 1.03 | 0.94 | 0.56 | 1.22 |
| Avail Cap(c_a), veh/h | 1601 | 714 | 395 | 2474 | 335 | 293 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 25.7 | 14.7 | 33.3 | 12.2 | 36.7 | 40.4 |
| Incr Delay (d2), s/veh | 46.4 | 0.1 | 52.3 | 8.1 | 6.7 | 127.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(95%),veh/ln | 36.7 | 3.0 | 15.5 | 23.1 | 8.3 | 26.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 72.2 | 14.9 | 85.6 | 20.3 | 43.3 | 168.1 |
| LnGrp LOS | F | B | F | C | D | F |
| Approach Vol, veh/h | 1870 | | | 2734 | 547 | |
| Approach Delay, s/veh | 67.7 | | | 30.0 | 125.2 | |
| Approach LOS | E | | | C | F | |

| Timer - Assigned Phs | 2 | 3 | 4 | 8 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 23.6 | 23.4 | 53.0 | 76.4 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 19.1 | 18.9 | 48.5 | 71.9 |
| Max Q Clear Time (g_c+I1), s | 21.1 | 20.9 | 50.5 | 60.8 |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.0 | 9.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 53.8 |
| HCM 6th LOS | D |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 82.1 |
| Intersection LOS | F |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 495 | 35 | 175 | 490 | 35 | 130 |
| Future Vol, veh/h | 495 | 35 | 175 | 490 | 35 | 130 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Heavy Vehicles, % | 8 | 30 | 3 | 6 | 2 | 2 |
| Mvmt Flow | 527 | 37 | 186 | 521 | 37 | 138 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|---|---|---|---|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left | NB | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right | SB | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay | 69 | 109.4 | 14.3 |
| HCM LOS | F | F | B |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|
| Vol Left, % | 0% | 93% | 21% |
| Vol Thru, % | 26% | 0% | 79% |
| Vol Right, % | 74% | 7% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 665 | 530 | 165 |
| LT Vol | 0 | 495 | 35 |
| Through Vol | 175 | 0 | 130 |
| RT Vol | 490 | 35 | 0 |
| Lane Flow Rate | 707 | 564 | 176 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 1.155 | 1.014 | 0.345 |
| Departure Headway (Hd) | 5.876 | 6.847 | 7.441 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 615 | 536 | 486 |
| Service Time | 3.936 | 4.847 | 5.441 |
| HCM Lane V/C Ratio | 1.15 | 1.052 | 0.362 |
| HCM Control Delay | 109.4 | 69 | 14.3 |
| HCM Lane LOS | F | F | B |
| HCM 95th-tile Q | 23.1 | 14.6 | 1.5 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1570 | 120 | 215 | 1015 | 95 | 260 |
| Future Volume (veh/h) | 1570 | 120 | 215 | 1015 | 95 | 260 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1737 | 1693 | 1767 | 1707 | 1781 | 1796 |
| Adj Flow Rate, veh/h | 1635 | 125 | 224 | 1057 | 99 | 271 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, % | 11 | 14 | 9 | 13 | 8 | 7 |
| Cap, veh/h | 1666 | 724 | 267 | 2152 | 739 | 342 |
| Arrive On Green | 0.50 | 0.50 | 0.10 | 0.66 | 0.22 | 0.22 |
| Sat Flow, veh/h | 3387 | 1434 | 1682 | 3329 | 3291 | 1522 |
| Grp Volume(v), veh/h | 1635 | 125 | 224 | 1057 | 99 | 271 |
| Grp Sat Flow(s),veh/h/ln | 1650 | 1434 | 1682 | 1622 | 1646 | 1522 |
| Q Serve(g_s), s | 39.0 | 3.8 | 5.9 | 13.0 | 1.9 | 13.5 |
| Cycle Q Clear(g_c), s | 39.0 | 3.8 | 5.9 | 13.0 | 1.9 | 13.5 |
| Prop In Lane | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1666 | 724 | 267 | 2152 | 739 | 342 |
| V/C Ratio(X) | 0.98 | 0.17 | 0.84 | 0.49 | 0.13 | 0.79 |
| Avail Cap(c_a), veh/h | 1666 | 724 | 472 | 2548 | 739 | 342 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 19.5 | 10.8 | 21.2 | 6.7 | 24.9 | 29.4 |
| Incr Delay (d2), s/veh | 17.7 | 0.1 | 6.9 | 0.2 | 0.4 | 17.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(95%),veh/ln | 22.0 | 1.8 | 4.1 | 5.0 | 1.4 | 10.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 37.2 | 10.9 | 28.2 | 6.9 | 25.3 | 46.4 |
| LnGrp LOS | D | B | C | A | C | D |
| Approach Vol, veh/h | 1760 | | | 1281 | 370 | |
| Approach Delay, s/veh | 35.3 | | | 10.6 | 40.8 | |
| Approach LOS | D | | | B | D | |

| Timer - Assigned Phs | 2 | 3 | 4 | 8 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 22.5 | 12.7 | 45.0 | 57.7 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 18.0 | 18.0 | 40.5 | 63.0 |
| Max Q Clear Time (g_c+I1), s | 15.5 | 7.9 | 41.0 | 15.0 |
| Green Ext Time (p_c), s | 0.4 | 0.4 | 0.0 | 8.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 26.6 |
| HCM 6th LOS | C |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.5 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 95 | 325 | 310 | 25 | 30 | 70 |
| Future Vol, veh/h | 95 | 325 | 310 | 25 | 30 | 70 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 250 | - | - | - | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 89 | 89 | 89 | 89 | 89 | 89 |
| Heavy Vehicles, % | 2 | 6 | 11 | 13 | 18 | 2 |
| Mvmt Flow | 107 | 365 | 348 | 28 | 34 | 79 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 376 | 0 | - | 0 | 759 | 188 |
| Stage 1 | - | - | - | - | 362 | - |
| Stage 2 | - | - | - | - | 397 | - |
| Critical Hdwy | 4.14 | - | - | - | 7.16 | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | 6.16 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 6.16 | - |
| Follow-up Hdwy | 2.22 | - | - | - | 3.68 | 3.32 |
| Pot Cap-1 Maneuver | 1179 | - | - | - | 311 | 822 |
| Stage 1 | - | - | - | - | 630 | - |
| Stage 2 | - | - | - | - | 603 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1179 | - | - | - | 283 | 822 |
| Mov Cap-2 Maneuver | - | - | - | - | 283 | - |
| Stage 1 | - | - | - | - | 573 | - |
| Stage 2 | - | - | - | - | 603 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 1.9 | 0 | 13.8 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1179 | - | - | - | 523 |
| HCM Lane V/C Ratio | 0.091 | - | - | - | 0.215 |
| HCM Control Delay (s) | 8.4 | - | - | - | 13.8 |
| HCM Lane LOS | A | - | - | - | B |
| HCM 95th %tile Q(veh) | 0.3 | - | - | - | 0.8 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1360 | 115 | 310 | 1835 | 150 | 305 |
| Future Volume (veh/h) | 1360 | 115 | 310 | 1835 | 150 | 305 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1737 | 1737 | 1796 | 1811 | 1841 | 1811 |
| Adj Flow Rate, veh/h | 1417 | 120 | 323 | 1911 | 156 | 318 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, % | 11 | 11 | 7 | 6 | 4 | 6 |
| Cap, veh/h | 1383 | 617 | 369 | 2198 | 819 | 370 |
| Arrive On Green | 0.42 | 0.42 | 0.16 | 0.64 | 0.24 | 0.24 |
| Sat Flow, veh/h | 3387 | 1472 | 1711 | 3532 | 3401 | 1535 |
| Grp Volume(v), veh/h | 1417 | 120 | 323 | 1911 | 156 | 318 |
| Grp Sat Flow(s),veh/h/ln | 1650 | 1472 | 1711 | 1721 | 1700 | 1535 |
| Q Serve(g_s), s | 31.3 | 3.9 | 9.4 | 33.7 | 2.7 | 14.8 |
| Cycle Q Clear(g_c), s | 31.3 | 3.9 | 9.4 | 33.7 | 2.7 | 14.8 |
| Prop In Lane | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1383 | 617 | 369 | 2198 | 819 | 370 |
| V/C Ratio(X) | 1.02 | 0.19 | 0.87 | 0.87 | 0.19 | 0.86 |
| Avail Cap(c_a), veh/h | 1383 | 617 | 508 | 2440 | 819 | 370 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 21.7 | 13.7 | 20.2 | 11.0 | 22.6 | 27.2 |
| Incr Delay (d2), s/veh | 30.7 | 0.2 | 12.0 | 3.4 | 0.5 | 22.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(95%),veh/ln | 22.3 | 1.9 | 7.4 | 13.3 | 2.0 | 11.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 52.5 | 13.9 | 32.1 | 14.4 | 23.1 | 49.4 |
| LnGrp LOS | F | B | C | B | C | D |
| Approach Vol, veh/h | 1537 | | | 2234 | 474 | |
| Approach Delay, s/veh | 49.5 | | | 16.9 | 40.7 | |
| Approach LOS | D | | | B | D | |

| Timer - Assigned Phs | 2 | 3 | 4 | 8 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 22.5 | 16.4 | 35.8 | 52.2 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 18.0 | 18.0 | 30.5 | 53.0 |
| Max Q Clear Time (g_c+I1), s | 16.8 | 11.4 | 33.3 | 35.7 |
| Green Ext Time (p_c), s | 0.2 | 0.5 | 0.0 | 12.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 31.4 |
| HCM 6th LOS | C |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.9 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 145 | 425 | 400 | 25 | 30 | 105 |
| Future Vol, veh/h | 145 | 425 | 400 | 25 | 30 | 105 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 250 | - | - | - | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 94 | 94 | 94 | 94 | 94 | 94 |
| Heavy Vehicles, % | 3 | 6 | 8 | 30 | 2 | 2 |
| Mvmt Flow | 154 | 452 | 426 | 27 | 32 | 112 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 453 | 0 | - | 0 | 974 | 227 |
| Stage 1 | - | - | - | - | 440 | - |
| Stage 2 | - | - | - | - | 534 | - |
| Critical Hdwy | 4.16 | - | - | - | 6.84 | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.84 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.84 | - |
| Follow-up Hdwy | 2.23 | - | - | - | 3.52 | 3.32 |
| Pot Cap-1 Maneuver | 1097 | - | - | - | 249 | 776 |
| Stage 1 | - | - | - | - | 616 | - |
| Stage 2 | - | - | - | - | 552 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1097 | - | - | - | 214 | 776 |
| Mov Cap-2 Maneuver | - | - | - | - | 214 | - |
| Stage 1 | - | - | - | - | 530 | - |
| Stage 2 | - | - | - | - | 552 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 2.2 | 0 | 15.4 |
| HCM LOS | | | C |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1097 | - | - | - | 490 |
| HCM Lane V/C Ratio | 0.141 | - | - | - | 0.293 |
| HCM Control Delay (s) | 8.8 | - | - | - | 15.4 |
| HCM Lane LOS | A | - | - | - | C |
| HCM 95th %tile Q(veh) | 0.5 | - | - | - | 1.2 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1920 | 145 | 275 | 1235 | 120 | 310 |
| Future Volume (veh/h) | 1920 | 145 | 275 | 1235 | 120 | 310 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1781 | 1796 | 1767 | 1707 | 1737 | 1693 |
| Adj Flow Rate, veh/h | 2000 | 151 | 286 | 1286 | 125 | 323 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, % | 8 | 7 | 9 | 13 | 11 | 14 |
| Cap, veh/h | 1898 | 854 | 314 | 2432 | 535 | 239 |
| Arrive On Green | 0.56 | 0.56 | 0.15 | 0.75 | 0.17 | 0.17 |
| Sat Flow, veh/h | 3474 | 1522 | 1682 | 3329 | 3209 | 1434 |
| Grp Volume(v), veh/h | 2000 | 151 | 286 | 1286 | 125 | 323 |
| Grp Sat Flow(s),veh/h/ln | 1692 | 1522 | 1682 | 1622 | 1605 | 1434 |
| Q Serve(g_s), s | 60.5 | 5.2 | 13.7 | 17.7 | 3.6 | 18.0 |
| Cycle Q Clear(g_c), s | 60.5 | 5.2 | 13.7 | 17.7 | 3.6 | 18.0 |
| Prop In Lane | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1898 | 854 | 314 | 2432 | 535 | 239 |
| V/C Ratio(X) | 1.05 | 0.18 | 0.91 | 0.53 | 0.23 | 1.35 |
| Avail Cap(c_a), veh/h | 1898 | 854 | 347 | 2496 | 535 | 239 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 23.7 | 11.5 | 36.6 | 5.6 | 39.0 | 44.9 |
| Incr Delay (d2), s/veh | 36.5 | 0.1 | 25.6 | 0.2 | 1.0 | 182.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(95%),veh/ln | 39.9 | 2.8 | 14.2 | 6.8 | 2.7 | 28.5 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 60.1 | 11.6 | 62.2 | 5.8 | 40.0 | 227.3 |
| LnGrp LOS | F | B | E | A | D | F |
| Approach Vol, veh/h | 2151 | | | 1572 | 448 | |
| Approach Delay, s/veh | 56.7 | | | 16.1 | 175.0 | |
| Approach LOS | E | | | B | F | |

| Timer - Assigned Phs | 2 | 3 | 4 | 8 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 22.5 | 20.4 | 65.0 | 85.4 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 18.0 | 18.0 | 60.5 | 83.0 |
| Max Q Clear Time (g_c+I1), s | 20.0 | 15.7 | 62.5 | 19.7 |
| Green Ext Time (p_c), s | 0.0 | 0.2 | 0.0 | 11.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 54.1 |
| HCM 6th LOS | D |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.9 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 115 | 395 | 390 | 30 | 35 | 85 |
| Future Vol, veh/h | 115 | 395 | 390 | 30 | 35 | 85 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 250 | - | - | - | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 89 | 89 | 89 | 89 | 89 | 89 |
| Heavy Vehicles, % | 2 | 6 | 11 | 13 | 18 | 2 |
| Mvmt Flow | 129 | 444 | 438 | 34 | 39 | 96 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 472 | 0 | - | 0 | 935 | 236 |
| Stage 1 | - | - | - | - | 455 | - |
| Stage 2 | - | - | - | - | 480 | - |
| Critical Hdwy | 4.14 | - | - | - | 7.16 | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | 6.16 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 6.16 | - |
| Follow-up Hdwy | 2.22 | - | - | - | 3.68 | 3.32 |
| Pot Cap-1 Maneuver | 1086 | - | - | - | 237 | 766 |
| Stage 1 | - | - | - | - | 562 | - |
| Stage 2 | - | - | - | - | 544 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1086 | - | - | - | 209 | 766 |
| Mov Cap-2 Maneuver | - | - | - | - | 209 | - |
| Stage 1 | - | - | - | - | 495 | - |
| Stage 2 | - | - | - | - | 544 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 2 | 0 | 17.1 |
| HCM LOS | | | C |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1086 | - | - | - | 431 |
| HCM Lane V/C Ratio | 0.119 | - | - | - | 0.313 |
| HCM Control Delay (s) | 8.8 | - | - | - | 17.1 |
| HCM Lane LOS | A | - | - | - | C |
| HCM 95th %tile Q(veh) | 0.4 | - | - | - | 1.3 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1655 | 140 | 390 | 2235 | 180 | 345 |
| Future Volume (veh/h) | 1655 | 140 | 390 | 2235 | 180 | 345 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1737 | 1737 | 1796 | 1811 | 1841 | 1811 |
| Adj Flow Rate, veh/h | 1724 | 146 | 406 | 2328 | 188 | 359 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, % | 11 | 11 | 7 | 6 | 4 | 6 |
| Cap, veh/h | 1601 | 714 | 395 | 2474 | 650 | 293 |
| Arrive On Green | 0.49 | 0.49 | 0.19 | 0.72 | 0.19 | 0.19 |
| Sat Flow, veh/h | 3387 | 1472 | 1711 | 3532 | 3401 | 1535 |
| Grp Volume(v), veh/h | 1724 | 146 | 406 | 2328 | 188 | 359 |
| Grp Sat Flow(s),veh/h/ln | 1650 | 1472 | 1711 | 1721 | 1700 | 1535 |
| Q Serve(g_s), s | 48.5 | 5.7 | 18.9 | 58.8 | 4.7 | 19.1 |
| Cycle Q Clear(g_c), s | 48.5 | 5.7 | 18.9 | 58.8 | 4.7 | 19.1 |
| Prop In Lane | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1601 | 714 | 395 | 2474 | 650 | 293 |
| V/C Ratio(X) | 1.08 | 0.20 | 1.03 | 0.94 | 0.29 | 1.22 |
| Avail Cap(c_a), veh/h | 1601 | 714 | 395 | 2474 | 650 | 293 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 25.7 | 14.7 | 33.3 | 12.2 | 34.6 | 40.4 |
| Incr Delay (d2), s/veh | 46.4 | 0.1 | 52.3 | 8.1 | 1.1 | 127.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(95%),veh/ln | 36.7 | 3.0 | 15.5 | 23.1 | 3.7 | 26.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 72.2 | 14.9 | 85.6 | 20.3 | 35.8 | 168.1 |
| LnGrp LOS | F | B | F | C | D | F |
| Approach Vol, veh/h | 1870 | | | 2734 | 547 | |
| Approach Delay, s/veh | 67.7 | | | 30.0 | 122.6 | |
| Approach LOS | E | | | C | F | |

| Timer - Assigned Phs | 2 | 3 | 4 | 8 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 23.6 | 23.4 | 53.0 | 76.4 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 19.1 | 18.9 | 48.5 | 71.9 |
| Max Q Clear Time (g_c+I1), s | 21.1 | 20.9 | 50.5 | 60.8 |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.0 | 9.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 53.5 |
| HCM 6th LOS | D |

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.8 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 175 | 490 | 495 | 35 | 35 | 130 |
| Future Vol, veh/h | 175 | 490 | 495 | 35 | 35 | 130 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 250 | - | - | - | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 94 | 94 | 94 | 94 | 94 | 94 |
| Heavy Vehicles, % | 3 | 6 | 8 | 30 | 2 | 2 |
| Mvmt Flow | 186 | 521 | 527 | 37 | 37 | 138 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 564 | 0 | - | 0 | 1179 | 282 |
| Stage 1 | - | - | - | - | 546 | - |
| Stage 2 | - | - | - | - | 633 | - |
| Critical Hdwy | 4.16 | - | - | - | 6.84 | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.84 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.84 | - |
| Follow-up Hdwy | 2.23 | - | - | - | 3.52 | 3.32 |
| Pot Cap-1 Maneuver | 997 | - | - | - | 183 | 715 |
| Stage 1 | - | - | - | - | 544 | - |
| Stage 2 | - | - | - | - | 491 | - |
| Platoon blocked, % | | | - | - | - | |
| Mov Cap-1 Maneuver | 997 | - | - | - | 149 | 715 |
| Mov Cap-2 Maneuver | - | - | - | - | 149 | - |
| Stage 1 | - | - | - | - | 442 | - |
| Stage 2 | - | - | - | - | 491 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 2.5 | 0 | 21.1 |
| HCM LOS | | | C |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 997 | - | - | - | 396 |
| HCM Lane V/C Ratio | 0.187 | - | - | - | 0.443 |
| HCM Control Delay (s) | 9.4 | - | - | - | 21.1 |
| HCM Lane LOS | A | - | - | - | C |
| HCM 95th %tile Q(veh) | 0.7 | - | - | - | 2.2 |

# APPENDIX C:

## *Historical Crash Data*

# Camp Creek Parkway (SR 6) at Welcome All Connector

| Accident No | Date | Route | Intersecting Route | Injuries | Fatalities | Manner Of Collision | Light | Surface | Veh Type 1 | Veh Type 2 | U1 Factors |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4721547 | 1/28/2014 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Sports Utility Vehicle (SUV) | Following too Close |
| 4728254 | 2/6/2014 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Rear End | Daylight | Dry | Bus | Passenger Car | No Contributing Factors |
| 4747323 | 2/28/2014 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | | Sports Utility Vehicle (SUV) | Following too Close |
| 4749279 | 3/3/2014 | CAMP CREEK PKWY | WELCOME ALL CONN | 3 | 0 | Rear End | Dark Not Lighted | Dry | Passenger Car | Passenger Car | Following too Close |
| 4753870 | 3/6/2014 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 4759911 | 3/7/2014 | WELCOME ALL CONN | CAMP CREEK PKWY | 2 | 0 | Head On | Daylight | Dry | Passenger Car | Passenger Car | |
| 4760004 | 3/12/2014 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 4760722 | 3/7/2014 | CAMP CREEK PKWY | WELCOME ALL CONN | 1 | 0 | Rear End | Dark Not Lighted | Dry | Passenger Car | Passenger Car | Following too Close |
| 4794536 | 4/15/2014 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Rear End | Daylight | Wet | Pickup Truck | Passenger Car | Following too Close |
| 4955172 | 8/26/2014 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 4967779 | 8/29/2014 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 4967829 | 8/30/2014 | WELCOME ALL CONN | CAMP CREEK PKWY | 1 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 4971454 | 9/5/2014 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 4981417 | 9/12/2014 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 4984327 | 9/17/2014 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 5018968 | 10/10/2014 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Pickup Truck | Following too Close |
| 5034601 | 10/29/2014 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 5043196 | 10/31/2014 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | | | | Passenger Car | Pickup Truck | Following too Close |
| 5044768 | 11/7/2014 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 5081831 | 12/3/2014 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Not A Collision with Motor Vehicle | Dark Not Lighted | Dry | Passenger Car | N/A | No Contributing Factors |
| 5123414 | 1/2/2015 | CAMP CREEK PKWY | WELCOME ALL CONN | 1 | 0 | Rear End | Daylight | Wet | Passenger Car | Passenger Car | Following too Close |
| 5123840 | 12/26/2014 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 5132631 | 12/30/2014 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Pickup Truck | Following too Close |
| 5137145 | 1/11/2015 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Angle | Dark Lighted | Wet | Passenger Car | Passenger Car | Failed to Yield |
| 5179478 | 1/22/2015 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Sideswipe-Same Direction | Daylight | Dry | Passenger Car | Pickup Truck | Changed Lanes Improperly |
| 5180470 | 2/4/2015 | CAMP CREEK PKWY | WELCOME ALL CONN | 1 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 5228145 | 3/15/2015 | CAMP CREEK PKWY | WELCOME ALL CONN | 1 | 0 | Sideswipe-Same Direction | Daylight | Dry | Single Unit Truck | Passenger Car | Following too Close |
| 5235036 | 3/25/2015 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | N/A | Other |
| 5236064 | 3/24/2015 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | | | | Passenger Car | Tractor/Trailer | Improper Turn |
| 5239377 | 3/31/2015 | CAMP CREEK PKWY | WELCOME ALL CONN | 1 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 5239463 | 3/31/2015 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Other |
| 5246912 | 4/6/2015 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 5268817 | 4/27/2015 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Sideswipe-Same Direction | Daylight | Dry | Tractor/Trailer | Vehicle With Trailer | Changed Lanes Improperly |
| 5273536 | 5/1/2015 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 5283919 | 5/3/2015 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Van | Passenger Car | Following too Close |
| 5283985 | 5/4/2015 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 5330333 | 6/19/2015 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Van | Van | Following too Close |
| 5366282 | 7/21/2015 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 5426450 | 9/14/2015 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Sports Utility Vehicle (SUV) | Following too Close |
| 5431207 | 9/17/2015 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 5503075 | 11/4/2015 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Sideswipe-Same Direction | Daylight | Dry | Passenger Car | Passenger Car | Changed Lanes Improperly |
| 5551808 | 12/14/2015 | CAMP CREEK PKWY | WELCOME ALL CONN | 1 | 0 | Rear End | Daylight | Wet | Passenger Car | Van | Too Fast For Conditions |
| 5595191 | 1/10/2016 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 5613903 | 1/8/2016 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | | Wet | Passenger Car | Passenger Car | |
| 5614546 | 1/21/2016 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Wet | Passenger Car | Passenger Car | Following too Close |
| 5630241 | 2/5/2016 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Head On | Dark Lighted | Dry | | Pickup Truck | Disregard Stop Sign/Signal |
| 5646329 | 2/22/2016 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Wet | Passenger Car | Sports Utility Vehicle (SUV) | Following too Close |
| 5646569 | 2/23/2016 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Wet | Passenger Car | Passenger Car | Following too Close |
| 5646858 | 2/23/2016 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Rear End | Daylight | Wet | Logging Tractor/Trailer | Passenger Car | Following too Close |
| 5694920 | 3/20/2016 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 5710451 | 4/6/2016 | CAMP CREEK PKWY | WELCOME ALL CONN | 2 | 0 | Rear End | Daylight | Dry | Passenger Car | Sports Utility Vehicle (SUV) | Following too Close |
| 5738304 | 4/24/2016 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 5753841 | 5/11/2016 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Dark Lighted | Dry | | Passenger Car | Following too Close |
| 5756911 | 5/10/2016 | CAMP CREEK PKWY | WELCOME ALL CONN | 1 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 5758034 | 5/12/2016 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Dark Not Lighted | Wet | Passenger Car | Tractor/Trailer | Too Fast For Conditions |
| 5761296 | 5/17/2016 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 5764524 | 5/11/2016 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 5764544 | 5/15/2016 | CAMP CREEK PKWY | WELCOME ALL CONN | 1 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 5788797 | 6/9/2016 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Rear End | Daylight | Dry | | Passenger Car | Following too Close, Failed to Yield, Distracted, Inattentive or Other Distracti |
| 5815853 | 6/22/2016 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 5845109 | 7/19/2016 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | N/A | Following too Close |
| 5867412 | 8/4/2016 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Sideswipe-Same Direction | Daylight | Dry | Passenger Car | Passenger Car | Changed Lanes Improperly |
| 5895872 | 8/25/2016 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Sideswipe-Same Direction | Daylight | Dry | Passenger Car | Passenger Car | Other |
| 5925522 | 9/17/2016 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Rear End | Dark Lighted | Dry | Passenger Car | Passenger Car | Following too Close |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5941913 | 9/29/2016 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 5942394 | 9/30/2016 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Angle | Dark Not Lighted | Dry | Passenger Car | Passenger Car | Failed to Yield |
| 5997800 | 11/10/2016 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Angle | Dark Not Lighted | Dry | Passenger Car | Passenger Car | Other |
| 5997877 | 11/10/2016 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Dark Lighted | Dry | Passenger Car | Pickup Truck | Following too Close |
| 6000182 | 11/10/2016 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Angle | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 6010771 | 11/22/2016 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 6010772 | 11/22/2016 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Angle | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 6011933 | 11/22/2016 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | |
| 6026210 | 12/2/2016 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Pickup Truck | Passenger Car | Following too Close |
| 6046633 | 12/16/2016 | CAMP CREEK PKWY | WELCOME ALL CONN | 1 | 0 | Rear End | Dark Not Lighted | Dry | Passenger Car | Passenger Car | Following too Close |
| 6046636 | 12/17/2016 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Dark Not Lighted | Dry | Passenger Car | Passenger Car | Following too Close |
| 6047929 | 12/9/2016 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 6048803 | 12/6/2016 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Rear End | Daylight | Wet | Passenger Car | Passenger Car | Following too Close |
| 6193635 | 4/6/2017 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Angle | Daylight | Dry | Sports Utility Vehicle (SUV) | Pickup Truck | Disregard Stop Sign/Signal |
| 6204666 | 4/15/2017 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 6213534 | 4/28/2017 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 6251359 | 5/17/2017 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Rear End | Daylight | Dry | Van | Passenger Car | Following too Close |
| 6252520 | 5/24/2017 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Sideswipe-Same Direction | Daylight | Dry | Tractor/Trailer | Passenger Car | Other |
| 6259557 | 5/28/2017 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Angle | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 6264393 | 6/5/2017 | CAMP CREEK PKWY | WELCOME ALL CONN | 1 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 6270968 | 6/9/2017 | CAMP CREEK PKWY | WELCOME ALL CONN | 2 | 0 | Head On | Daylight | Dry | | Passenger Car | Improper Turn |
| 6286194 | 6/22/2017 | CAMP CREEK PKWY | WELCOME ALL CONN | 1 | 0 | Rear End | Daylight | Wet | Passenger Car | Passenger Car | Following too Close |
| 6292946 | 6/13/2017 | CAMP CREEK PKWY | WELCOME ALL CONN | 2 | 0 | Rear End | Daylight | Dry | | Passenger Car | |
| 6292950 | 6/16/2017 | CAMP CREEK PKWY | WELCOME ALL CONN | 2 | 0 | Sideswipe-Same Direction | Daylight | Dry | Passenger Car | Sports Utility Vehicle (SUV) | Changed Lanes Improperly |
| 6308753 | 7/8/2017 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Wet | Pickup Truck | Passenger Car | Following too Close |
| 6321535 | 7/18/2017 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 6321563 | 7/19/2017 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 6325358 | 7/17/2017 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Dark Lighted | Dry | Passenger Car | Passenger Car | Following too Close |
| 6326542 | 7/26/2017 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 6371368 | 8/21/2017 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 6380038 | 8/23/2017 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Angle | Daylight | Dry | Passenger Car | Passenger Car | Failed to Yield |
| 6415642 | 10/2/2017 | CAMP CREEK PKWY | WELCOME ALL CONN | 1 | 0 | Angle | Daylight | Dry | Passenger Car | Passenger Car | Failed to Yield |
| 6421811 | 10/2/2017 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 6425462 | 10/8/2017 | CAMP CREEK PKWY | WELCOME ALL CONN | 2 | 0 | Sideswipe-Opposite Direction | Dark Not Lighted | Wet | | N/A | |
| 6448636 | 10/27/2017 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Sports Utility Vehicle (SUV) | Passenger Car | No Contributing Factors |
| 6519893 | 12/15/2017 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Dark Lighted | Dry | Passenger Car | Passenger Car | Following too Close |
| 6525137 | 12/17/2017 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Rear End | Daylight | Wet | Passenger Car | Passenger Car | Following too Close |
| 6528783 | 12/24/2017 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 6639819 | 2/13/2018 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Wet | Passenger Car | Passenger Car | |
| 6640167 | 3/16/2018 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Tractor/Trailer | Tractor/Trailer | |
| 6751344 | 3/23/2018 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | |
| 6752014 | 3/22/2018 | CAMP CREEK PKWY | WELCOME ALL CONN | 1 | 0 | Sideswipe-Same Direction | Daylight | Dry | Passenger Car | Single Unit Truck | |
| 6752459 | 4/6/2018 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Tractor/Trailer | |
| 6753697 | 4/13/2018 | CAMP CREEK PKWY | WELCOME ALL CONN | 1 | 0 | Not A Collision with Motor Vehicle | Dark Not Lighted | Dry | Motorcycle | N/A | |
| 6755415 | 5/12/2018 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Sideswipe-Same Direction | Daylight | Dry | Passenger Car | Passenger Car | |
| 6755551 | 5/10/2018 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Dark Lighted | Wet | Passenger Car | Passenger Car | |
| 6755985 | 4/13/2018 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Sideswipe-Same Direction | Daylight | Dry | Passenger Car | Sports Utility Vehicle (SUV) | |
| 6757105 | 5/25/2018 | WELCOME ALL CONN | CAMP CREEK PKWY | 1 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | |
| 6757750 | 5/20/2018 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | |
| 6757822 | 6/2/2018 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | |
| 6758295 | 5/29/2018 | CAMP CREEK PKWY | WELCOME ALL CONN | 1 | 0 | Angle | Daylight | Wet | Passenger Car | Tractor/Trailer | |
| 6772618 | 6/20/2018 | CAMP CREEK PKWY | WELCOME ALL CONN | 1 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 6773006 | 6/22/2018 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Wet | Passenger Car | Passenger Car | Following too Close |
| 6773114 | 6/8/2018 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | | | | Passenger Car | Other | Following too Close |
| 6773207 | 6/26/2018 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 6774262 | 6/22/2018 | CAMP CREEK PKWY | WELCOME ALL CONN | 1 | 0 | Sideswipe-Opposite Direction | Dark Not Lighted | Dry | Passenger Car | Passenger Car | Other |
| 6779551 | 7/2/2018 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 6809046 | 7/23/2018 | CAMP CREEK PKWY | WELCOME ALL CONN | 2 | 0 | Angle | Daylight | Dry | Passenger Car | Passenger Car | Failed to Yield |
| 6809139 | 7/23/2018 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Rear End | Dark Not Lighted | Wet | Passenger Car | Passenger Car | Following too Close |
| 6844379 | 7/7/2018 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Angle | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 6848597 | 8/21/2018 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Sideswipe-Opposite Direction | Daylight | Dry | Tractor/Trailer | Tractor/Trailer | Misjudged Clearance |
| 6905147 | 10/6/2018 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Other |
| 6909735 | 10/8/2018 | CAMP CREEK PKWY | WELCOME ALL CONN | 3 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 6914700 | 10/5/2018 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Sports Utility Vehicle (SUV) | Sports Utility Vehicle (SUV) | Following too Close |
| 6919340 | 10/17/2018 | CAMP CREEK PKWY | WELCOME ALL CONN | 1 | 0 | Angle | Daylight | Dry | Passenger Car | Passenger Car | Disregard Other Traffic Contro |
| 6923925 | 10/19/2018 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 6935489 | 10/14/2018 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Dry | Passenger Car | Passenger Car | Following too Close |
| 6960733 | 11/12/2018 | CAMP CREEK PKWY | WELCOME ALL CONN | 1 | 0 | Rear End | Dark Lighted | Wet | Passenger Car | Passenger Car | Following too Close |
| 6964124 | 11/15/2018 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Head On | Dark Lighted | Wet | Passenger Car | N/A | Driver Lost Control, Too Fast For Conditions, Other |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6968471 | 11/11/2018 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Sideswipe-Same Direction | Dark Lighted | Dry | | Passenger Car | Misjudged Clearance |
| 6987660 | 11/28/2018 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Rear End | Dark Lighted | Dry | Passenger Car | Sports Utility Vehicle (SUV) | Following too Close |
| 7000649 | 12/9/2018 | CAMP CREEK PKWY | WELCOME ALL CONN | 0 | 0 | Rear End | Daylight | Wet | Passenger Car | Passenger Car | Following too Close |
| 7010040 | 11/15/2018 | CAMP CREEK PKWY | WELCOME ALL CONN | 2 | 0 | Rear End | Dark Lighted | Dry | Passenger Car | Passenger Car | Following too Close |
| 7035945 | 12/11/2018 | WELCOME ALL CONN | CAMP CREEK PKWY | 0 | 0 | Sideswipe-Same Direction | Daylight | Dry | Vehicle With Trailer | Sports Utility Vehicle (SUV) | Improper Turn |

# Welcome All Road at Welcome All Connector

| Accident No | Date | Route | Intersecting Route | Injuries | Fatalities | Light | Surface | Veh Type 1 | Veh Type 2 | UI Factors | Manner Of Collision |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5260552 | 4/13/2015 | WELCOME ALL RD | WELCOME ALL CONN | 0 | 0 | Daylight | Dry | Tractor/Trailer | Passenger Car | Improper Backing | |
| 5512823 | 11/15/2015 | WELCOME ALL RD | WELCOME ALL CO | 1 | 0 | DarkNot Lighted | Dry | Passenger Car | N/A | Driver Lost Control | Not A Collision with Motor Vehicle |
| 5766113 | 5/9/2016 | CAMP CREEK PKWY SW WELCOME ALL RD SW | WELCOME ALL RD SW | 0 | 0 | Daylight | Dry | Passenger Car | Passenger Car | Following too Close,Other | Rear End |
| 6286195 | 6/22/2017 | WELCOME ALL CONN SW | CAMP CREEK PKWY SW | 0 | 0 | Daylight | Wet | Tractor/Trailer | Passenger Car | Improper Turn | Sideswipe-Opposite Direction |
| 6381781 | 8/26/2017 | WELCOME ALL ROAD SW | CAMP CREEK PARKWAY SW | 0 | 0 | Daylight | Dry | Passenger Car | Passenger Car | Improper Backing | Angle |
| 6853095 | 8/27/2018 | CAMP CREEK PKWY SW WELCOME ALL CONN SW | WELCOME ALL CONN SW | 1 | 0 | Daylight | Dry | Passenger Car | Passenger Car | Following too Close | Rear End |

# APPENDIX D:

## *Growth Rate Calculations*

## Appendix E

**GDOT Count Stations**

| | Camp Creek Parkway (SR 6) w/o Old Fairburn Road | | | | Camp Creek Parkway (SR 6) e/o Princeton Lakes Parkway | | | | Welcome All Road s/o Old Fairburn Road | | | | Welcome All Road s/o Dept of Revenue N Dwy | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | Count Station #1210976 | K-Factor | D-Factor | Truck % | Count Station #1215716 | K-Factor | D-Factor | Truck % | Count Station #1215723 | K-Factor | D-Factor | Truck % | Count Station #1215722 | K-Factor | D-Factor | Truck % |
| 2007 | | | | | | | | | | | | | | | | |
| 2008 | 36,860 | | | | 29,270 | | | | 1,620 | | | | 4,310 | | | |
| 2009 | 36,270 | | | | 28,800 | | | | 1,570 | | | | 4,190 | | | |
| 2010 | **35,000** | | | | **42,720** | | | | 1,570 | | | | **4,750** | | | |
| 2011 | 35,330 | | | | 44,200 | | | | **1,520** | | | | 4,740 | | | |
| 2012 | **36,420** | | | 10.22 | 44,960 | | | | 1,510 | | | | 4,710 | | | |
| 2013 | 36,530 | | | 10.22 | **49,060** | 0.070 | 0.600 | 7.00 | 1,520 | | | | 4,730 | | | |
| 2014 | **40,400** | 0.081 | 0.600 | 9.35 | 49,100 | 0.070 | 0.600 | 7.00 | 1,520 | | | | **6,680** | 0.094 | 0.600 | |
| 2015 | 41,800 | 0.081 | 0.600 | 9.03 | **50,100** | 0.076 | 0.600 | 7.52 | **2,230** | 0.091 | 0.500 | | 7,190 | 0.094 | 0.600 | |
| 2016 | **45,000** | 0.072 | 0.600 | 11.29 | 41,700 | 0.076 | 0.600 | 9.32 | 2,300 | 0.091 | 0.500 | | 7,430 | 0.094 | 0.600 | |
| 2017 | 47,600 | | | | **48,200** | 0.079 | 0.601 | 9.14 | 2,430 | | | | 7,870 | | | |
| Annual Growth Rate | ***5.4%*** | (2013-2017) | *Short Term* | | ***-0.4%*** | (2013-2017) | *Short Term* | | ***12.4%*** | (2013-2017) | *Short Term* | | ***13.6%*** | (2013-2017) | *Short Term* | |
| (years growth rate calculations were based on) | ***4.3%*** | (2008-2017) | *Long Term* | | ***5.7%*** | (2008-2017) | *Long Term* | | ***4.6%*** | (2008-2017) | *Long Term* | | ***6.9%*** | (2008-2017) | *Long Term* | |

**Exponential Growth Trend (Uses ACTUAL count data GDOT GeoCount Stations, not estimates)**

| Creek Parkway (SR 6) w/o Old Fairburr | | | |
|---|---|---|---|
| Year-2000 | Count | | |
| 10 | **35,000** | | |
| 12 | **36,420** | | |
| 14 | **40,400** | | |
| 16 | **45,000** | | |
| | | | |
| | | | |
| | | | |
| Start Year | 2010 | | |
| +4 Years | 2014 | 4 | 23563 |
| +6 Years | 2016 | 6 | 26246 |
| | | **2-year** | **5.54%** |
| Start Year | 2010 | 0 | 22343 |
| +6 Years | 2016 | 6 | 28899 |
| | | **6-year** | **4.38%** |

| Creek Parkway (SR 6) e/o Princeton Lakes P | | |
|---|---|---|
| Year-2000 | Count | |
| 10 | **42,720** | |
| 13 | **49,060** | |
| 15 | **50,100** | |
| 17 | **48,200** | |
| | | |
| | | |
| | | |
| Start Year | 2010 | |
| +5 Years | 2015 | 5 60784 |
| +7 Years | 2017 | 7 58479 |
| | | **2-year** **-1.91%** |
| Start Year | 2010 | 0 36915 |
| +7 Years | 2017 | 7 41939 |
| | | **7-year** **1.84%** |

| Welcome All Road s/o Old Fairburn Roac | | |
|---|---|---|
| Year-2000 | Count | |
| 11 | **1,520** | |
| 15 | **2,230** | |
| | | |
| | | |
| | | |
| | | |
| | | |
| Start Year | 2011 | |
| +0 Years | 2011 | 0 530 |
| +4 Years | 2015 | 4 777 |
| | | **4-year** **10.04%** |

| Welcome All Road s/o Dept of Revenue N Dv | | |
|---|---|---|
| Year-2000 | Count | |
| 10 | **4,750** | |
| 14 | **6,680** | |
| | | |
| | | |
| | | |
| | | |
| | | |
| Start Year | 2010 | |
| +0 Years | 2010 | 0 2025 |
| +4 Years | 2014 | 4 2848 |
| | | **4-year** **8.90%** |

| **Average Growth Rate** | | |
|---|---|---|
| | **2-year** | **1.55%** |
| | **6-year** | **3.00%** |

| **Average Growth Rate** | | |
|---|---|---|
| | **4-year** | **9.47%** |

**Population Projections**

| *Population* | Year *2010* | Year *2015* | *Rate* | ***Average*** |
|---|---|---|---|---|
| City of Atlanta | 420,003 | 462,970 | *2.0%* | **1.8%** |
| Fulton County | 920,581 | 1,007,803 | *1.8%* | |
| Governor's Office of Planning and Budget (Fulton County) | 925,797 | 1,008,841 | *1.7%* | |

**Population Projections (ARC)**

| *Population* | Year *2015* | Year *2040* | *Rate* | ***Average*** |
|---|---|---|---|---|
| City of Atlanta | | | | **1.1%** |
| Fulton County | 970,290 | 1,264,376 | *1.1%* | |
| State of Georgia | | | | |

http://atlantaregionsplan.org/population-employment-forecasts/

**ARCABM Forecasting Model**

| | Existing 2015 | Forecasted 2024 | Growth Rate (%) |
|---|---|---|---|
| | 148,690 | 161,067 | ***0.89%*** |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| **Average (2015 to 2024):** | | | **0.89%** |

| | Forecasted 2024 | Forecasted 2040 | Growth Rate (%) |
|---|---|---|---|
| | 161,067 | 193,415 | ***1.15%*** |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| **Average (2024 to 2040):** | | | **1.15%** |

**Chosen Growth Rates:**

| | | | No Build | Build |
|---|---|---|---|---|
| **Existing Year** | **2019** | **Existing 2019 to Base 2025:** | ***1.50%*** | ***1.50%*** |
| **Base Year** | **2025** | **Base Year +2:** | ***1.50%*** | ***1.50%*** |
| **Design Year** | **2045** | **Base 2025 to Design 2045:** | ***1.00%*** | ***1.00%*** |
| | | **Design Year +2:** | ***1.00%*** | ***1.00%*** |

# APPENDIX E:

## *Intersection Control Evaluation (ICE)*

# GDOT INTERSECTION CONTROL EVALUATION (ICE) TOOL

ICE Version 2.15 | Revised 07/01/2019

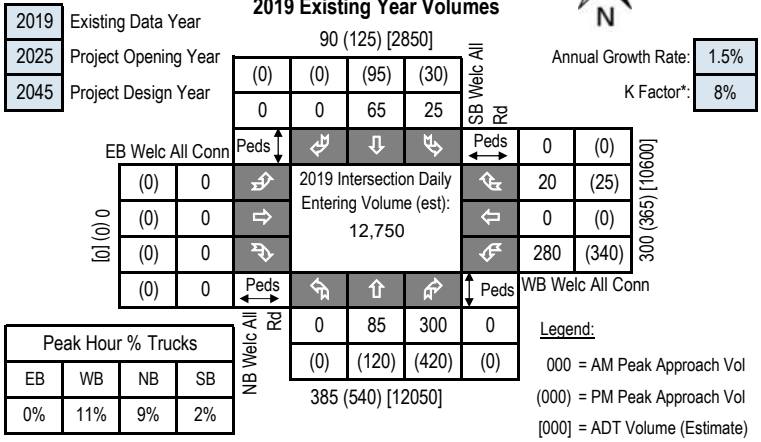
| | | | |
|---|---|---|---|
| GDOT PI # (or N/A): | 0016063 | Request By: | District Engineer |
| County: | Fulton | GDOT District: | 7 - Metro Atlanta |
| Major (State) Road: | Welc All Rd | Speed Limit: | 35 mph |
| Minor (Crossing) ST: | Welc All Conn | Speed Limit: | 35 mph |
| Major ST Direction: | North/South | Area Type: | Suburb/Transition |
| Intersection Control: | Conventional (All-Way Stop) | | |
| Prepared By: | Kimley-Horn | Analyst: | MVF |
| Date: | 9/2/2020 | Project ID: | 017256011 |
| Project Purpose: | Realign Wel All Conn with Wel All Rd | | |

| | |
|---|---|
| 2019 | Existing Data Year |
| 2025 | Project Opening Year |
| 2045 | Project Design Year |

Annual Growth Rate: 1.5%

K Factor*: 8%

## 2019 Existing Year Volumes




| Peak Hour % Trucks | | | |
|---|---|---|---|
| EB | WB | NB | SB |
| 0% | 11% | 9% | 2% |

Legend:

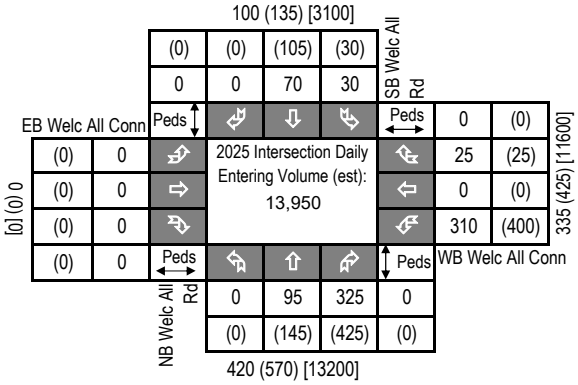
000 = AM Peak Approach Vol

(000) = PM Peak Approach Vol

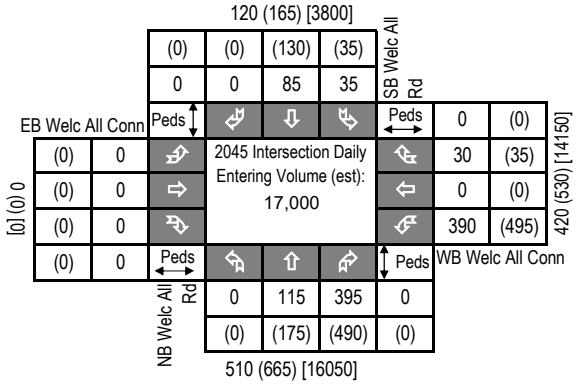
[000] = ADT Volume (Estimate)

Approach Splits: Welc All Rd - 0.58 / Welc All Conn - 0.42

## 2025 Opening Year Volumes




## 2045 Design Year Volumes




**Introduction:** In 2005, SAFETEA-LU established the Highway Safety Improvement Program (HSIP) and mandated that each state prepare a Strategic Highway Safety Plan (SHSP) to prioritize safety funding investments. Intersections quickly became a common component of most states' SHSP emphasis areas and HSIP project lists, including Georgia's SHSP. Intersection Control Evaluation (ICE) policies and procedures represent a traceable and transparent procedure to streamline the evaluation of intersection control alternatives, and further leverage safety advancements for intersection improvements beyond just the safety program. Approximately one-third of all traffic fatalities and roughly seventy five percent of all traffic crashes in Georgia occur at or adjacent to intersections. Accordingly, the Georgia SHSP includes an emphasis on enhancing intersection safety to advance the *Toward Zero Deaths* vision embraced by the Georgia Governor's Office of Highway Safety (GOHS). This ICE tool was developed to support the ICE policy, developed and adopted to help ensure that intersection investments across the entire Georgia highway system are selected, prioritized and implemented with defensible benefits for safety towards those ends.

**Tool Goal:** The goal of this ICE tool is to provide a simplified and consistent way of importing traffic, safety, cost, environmental impact and stakeholder posture data to assess and quantify intersection control improvement benefits. The tool supports the ICE policy and procedures to provide traceability, transparency, consistency and accountability when identifying and selecting an intersection control solution that both meets project purpose and reflects overall best value in terms of specific performance-based criteria.

**Requirements:** An ICE is required for any intersection improvement (e.g. new or modified intersection, widening/reconstruction or corridor project, or work accomplished through a driveway or encroachment permit that affects an intersection) where: **1)** the intersection includes at least one roadway designated as a State Route (State Highway System) or as part of the National Highway System; or **2)** the intersection will be designed or constructed using State or Federal funding. In certain circumstances where an ICE would otherwise be required, the requirement may be waived based on appropriate evidence presented with a written request. (See the "**Waiver**" tab to review criteria that may make a project waiver eligible and for instructions to submit a waiver request to the Department). An ICE is not required when the proposed work does not include any changes to the intersection design, involves only routine traffic signal timing and equipment maintenance, or for driveway permits where the driveway is not a new leg to an already existing intersection on either 1) a divided, multi-lane highway with a closed median and only right-in/right-out access or 2) an undivided roadway where the development is not required to construct left and/or right turn lanes (as per the Driveway Manual and District Traffic Engineer).

**Two-Stage Process:** A complete ICE process consists of two (2) distinct stages, and it is expected that the respective level of effort for completing both stages of ICE will correspond to the magnitude and complexity of the intersection. Prior to starting an ICE, the District Traffic Engineer and/or State Traffic Engineer should be consulted for advice on an appropriate level of effort. The Stage 1 and Stage 2 ICE forms are designed minimize required data inputs using drop-down menu choices and limiting text entry. All fields shaded grey include drop down menu choices and all fields shaded blue require data entry. All other cells in the worksheet are locked.

**Stage 1: Screening Decision Record** Stage 1 should be conducted early in the project development process and is intended to inform which alternatives are worthy of further evaluation in Stage 2. Stage 1 serves as a screening effort meant to *eliminate* non-competitive options and identify which alternatives merit further considerations based on their practical feasibility. Users should use good engineering judgement in responding to the seven policy questions by selecting "Yes" or "No" in the drop-down boxes. Alternatives should not be summarily eliminated without due consideration, and reasons for eliminating or advancing an alternative should be documented in the "Screening Decision Justification" column.

**Stage 2: Alternative Selection Decision Record** Stage 2 involves a more detailed and familiar evaluation of the alternatives identified in Stage 1 in order to support the selection of a preferred alternative that may be advanced to detailed design. Stage 2 data entry may require the use of external analysis tools to determine costs, operations and/or safety data that, combined with environmental and stakeholder posture data, form the basis of the ICE evaluation. A separate "CostEst" worksheet tab helps users develop pre-planning-level cost estimates for each Stage 2 alternative evaluated, and a separate Users Guide has been prepared to give guidance on Stage 1 and Stage 2 data entry. Once all data is entered, each alternative is scored and ranked, with the results reported at the bottom of the Stage 2 worksheet to inform on the best of the intersection controls evaluated for project recommendation.

**Documentation:** A complete ICE document consists of the combination of the outputs from either a completed and signed waiver form or both Stage 1 and Stage 2 worksheets (along with supporting costing and/or environmental documentation), to be included in the approved project Concept Report (or equivalent) or as a stand-alone document.

# GDOT ICE STAGE 1: SCREENING DECISION RECORD

ICE Version 2.15 | Revised 07/01/2019

| | |
|---|---|
| GDOT PI # | 0016063 |
| Project Location: | Welc All Rd @ Welc All Conn |
| Existing Control: | Conventional (All-Way Stop) |
| Prepared by: | Kimley-Horn |
| Date: | 9/2/2020 |

*Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record; enter justification in the rightmost column*

**Note:** Up to 5 alternatives may be selected and evaluated; Use this ICE Stage 1 to screen 5 or fewer alternatives to evaluate in Stage 2

| | **Intersection Alternative** (see "Intersections" tab for detailed description of intersection/interchange type) | 1. Does alternative address the project need in a balanced manner and in scale with the project? | 2. Does alternative improve safety performance in terms of reducing severe crashes? | 3. Does alternative incorporate safety, convenience and accessibility for pedestrians and/or bicyclists? | 4. Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)? | 5. Does alternative appear feasible given the site characteristics, constrains & location context? | 6. Does alternative appear feasible with respect to other project factors? | 7. Overall feasible alternative (select alternative for further evaluation in Stage 2)? | **Screening Decision Justification:** |
|---|---|---|---|---|---|---|---|---|---|
| Unsignalized Intersections | Conventional (Minor Stop) | **Yes** | **No** | **No** | **Yes** | **Yes** | **Yes** | **Yes** | Proposed future realigned condition. |
| | Conventional (All-Way Stop) | No | **Yes** | No | No | **Yes** | **Yes** | No | Realignment serves primary movements; AWS not needed. |
| | Mini Roundabout | No | **Yes** | No | No | No | No | No | Realigned mainline (NB+WB) nearly 90% split; stream buffer concern. |
| | Single Lane Roundabout | No | **Yes** | No | No | No | No | No | Realigned mainline (NB+WB) nearly 90% split; stream buffer concern. |
| | Multilane Roundabout | No | **Yes** | No | No | No | No | No | Realigned mainline (NB+WB) nearly 90% split; stream buffer concern. |
| | RCUT (stop control) | **No** | **Yes** | **No** | **No** | **No** | **Yes** | **Yes** | Potential alternative. Some concern for feasibility with stream buffer. |
| | RIRO w/down stream U-Turn | **No** | **Yes** | **No** | **No** | **No** | **Yes** | **Yes** | Limited segment length for deferred U-turn downstream toward SR 6. |
| | High-T (unsignalized) | No | No | No | **Yes** | No | No | No | Concern for weave/safety w/ SR6 closely spaced intersection. |
| | Offset-T Intersections | No | No | No | No | No | No | No | N/A |
| | Diamond Interch (Stop Control) | No | No | No | No | No | No | No | N/A |
| | Diamond Interch (RAB Control) | No | No | No | No | No | No | No | N/A |
| | No LT Lane Improvements<br>No RT Lane Improvements | No | No | No | No | No | No | No | N/A |
| | Other unsignalized (provide description): | No | No | No | No | No | No | No | N/A |
| Signalized Intersections | Traffic Signal | No | No | No | No | No | No | No | Traffic signal not warranted. |
| | Median U-Turn (Indirect Left) | No | No | No | No | No | No | No | N/A |
| | RCUT (signalized) | No | No | No | No | No | No | No | N/A |
| | Displaced Left Turn (CFI) | No | No | No | No | No | No | No | N/A |
| | Continuous Green-T | No | No | No | No | No | No | No | N/A |
| | Jughandle | No | No | No | No | No | No | No | N/A |
| | Quadrant Roadway | No | No | No | No | No | No | No | N/A |
| | Diamond Interch (Signal Control) | No | No | No | No | No | No | No | N/A |
| | Diverging Diamond | No | No | No | No | No | No | No | N/A |
| | Single Point Interchange | No | No | No | No | No | No | No | N/A |
| | No LT Lane Improvements<br>No RT Lane Improvements | No | No | No | No | No | No | No | N/A |
| | Other Signalized (provide description): | No | No | No | No | No | No | No | N/A |

= Intersection type selected for more detailed analysis in Stage 2 Alternative Selection Decision Record

# GDOT ICE STAGE 2: ALTERNATIVE SELECTION DECISION RECORD

ICE Version 2.15 | Revised 07/01/2019

GDOT PI # (or N/A): 0016063 | GDOT District: 7 - Metro Atlanta | Date: 9/2/2020
County: Fulton | Area Type: Suburb/Transition | Agency/Firm: Kimley-Horn
Project Location: Welc All Rd @ Welc All Conn | Analyst: MVF
Existing Intersection Control: Conventional (All-Way Stop) | Type of Analysis: Conventional Non-Safety Funded Project

## Opening / Design Year Traffic Operations

| | | |
|---|---|---|
| Intersection meets signal/AWS warrants? | Meets AWS only | |
| Traffic Analysis Measure of Effectiveness | Intersection Delay | |
| Traffic Analysis Software Used | Synchro 10 | |
| Analysis Time Period | AM Peak Hr | PM Peak Hr |
| 2025 Opening Yr No-Build Peak Hr Intersection Delay | 17.0 sec | 27.9 sec |
| 2025 Opening Yr No-Build Peak Hr Intersection V/C | 0.59 | 0.78 |
| 2045 Design Yr No-Build Peak Hr Intersection Delay | 30.2 sec | 69.0 sec |
| 2045 Design Yr No-Build Peak Hr Intersection V/C ratio | 0.80 | 1.15 |

Complete Streets Warrants Met?
- ☐ PEDESTRIANS
- ☐ BICYCLES
- ☐ TRANSIT

| Crash Type: Crash Data: Enter most recent 5 years of crash data | Crash Severity: PDO | Injury Crash* | Fatal Crash* | |
|---|---|---|---|---|
| Angle | 1 | 0 | 0 | 13% |
| Head-On | 0 | 0 | 0 | 0% |
| Rear End | 2 | 1 | 0 | 38% |
| Sideswipe - same | 0 | 0 | 0 | 0% |
| Sideswipe - opposite | 1 | 0 | 0 | 13% |
| Not Collision w/Motor Veh | 2 | 1 | 0 | 38% |
| TOTALS: | 6 | 2 | 0 | 8 |

* Number of crashes resulting in injuries / fatalities, not number of persons

## Alternatives Analysis:

| | Alternative 1 | Alternative 2 | Alternative 3 | Alternative 4 | Alternative 5 |
|---|---|---|---|---|---|
| Proposed Control Type/Improvement: | Conventional (Minor Stop) | RCUT (stop control) | RIRO w/down stream U-Turn | N/A | N/A |
| **Project Cost: (From CostEst Worksheet)** | *Additional description here* | *Additional description here* | *Additional description here* | | |
| Construction Cost | $4,586,000 | $5,356,000 | $4,803,000 | | |
| ROW Cost | $77,000 | $92,000 | $85,000 | | |
| Environmental Cost | $0 | $0 | $0 | | |
| Reimbursable Utility Cost | $200,000 | $240,000 | $240,000 | | |
| Design & Contingency Cost | $1,147,000 | $1,339,000 | $1,201,000 | | |
| Cost Adjustment (justification req'd) | 0% | 0% | 0% | | |
| Total Cost | $6,010,000 | $7,027,000 | $6,329,000 | | |
| **Traffic Operations:** | *User Cost Override* | *User Cost Override* | *User Cost Override* | | |
| Traffic Analysis Software Used | Synchro 10 | Synchro 10 | Synchro 10 | | |
| Analysis Period | AM Peak Hr / PM Peak Hr | AM Peak Hr / PM Peak Hr | AM Peak Hr / PM Peak Hr | | |
| 2045 Design Yr Build Intersection Delay | 17.1 sec / 21.1 sec | 77.0 sec / 64.5 sec | 162.0 sec / 156.0 sec | | |
| 2045 Design Yr Build Intersection V/C | 0.31 / 0.44 | 0.63 / 0.25 | 0.63 / 0.25 | | |
| **Safety Analysis:** | | | | | |
| Predefined CRF: PDO | 0% | #N/A | 20% | | |
| Predefined CRF: Fatal/Inj | 0% | #N/A | 36% | | |
| Predefined CRF Source: | N/A | #N/A | FHWA Clearinghouse #s 351 / 353 | | |
| User Defined CRF: PDO | | 35% | | | |
| User Defined CRF: Fatal/Inj | | 35% | | | |
| User Defined CRF Source (write in if applicable): | | FHWA Clearinghouse #s 5555 | | | |
| **Environmental Impacts:**[1] | | | | | |
| Historic District/Property | None | None | None | | |
| Archaeology Resources | None | None | None | | |
| Graveyard | None | None | None | | |
| Stream | None | None | None | | |
| Underground Tank/Hazmat | None | None | None | | |
| Park Land | None | None | None | | |
| EJ Community | None | None | None | | |
| Wooded Area | None | None | None | | |
| Wetland | None | None | None | | |
| **Stakeholder Posture:** | *Note: If environmental impact is significant (**RED**), provide justification impact won't jeopardize project delivery using "Env" worksheet* | | | | |
| | *[1] Environmental impacts are only preliminary estimates; detailed environmental impact documentation will be included with project concept report* | | | | |
| Local Community Support | Neutral | Neutral | Neutral | | |
| GDOT Support | Neutral | Neutral | Neutral | | |
| **Final ICE Stage 2 Score:** | 5.2 | 5.2 | 4.2 | | |
| Rank of Control Type Alternatives: | 1 | 2 | 3 | | |

**Note:** Stage 2 score is not given (shown as "-") if signal or AWS is selected as control type but respective warrants are not met

Provide additional comments and/or explain any unique analysis inputs, or results (as necessary): Based on scoring system above and engineering judgement, the chosen alternative implemented after the realignment of Welcome All Road and Welcome All Connector will be a conventional minor stop as shown on the concept graphic for PI #0016063. Costing based on preliminary concept evaluation for full realigned system (see attached) - RCUT would require addt'l bridge width, both RCUT & RiRO require addt'l ROW.

*Revised page September 2020: updated costs based on preliminary OPCC for project.*

Realign T Bridge Intersection - Welcome All Road @ Welcome All Connector - **TWSC**
Opinion of Probable Construction Cost
Prepared by: Kimley-Horn and Associates, Inc.
29-Apr-19

| ITEM | ITEM DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| | **GRADING COMPLETE** | | | | |
| 210-0100 | Grading Complete | LUMP | LS | $1,500,000.00 | $1,500,000.00 |
| | | | | **Subtotal** | $1,500,000.00 |
| | **ROADWAY ITEMS** | | | | |
| 150-1000 | Traffic Control | LUMP | LS | $85,000.00 | $85,000.00 |
| 310-1101 | Gr Aggr Base Crs, Incl Matl | 656 | TN | $34.00 | $22,304.00 |
| 402-4510 | Recycled Asph. Conc. 12.5 MM Superpave, GP 2 Only, Incl Polymer-Modified Bitum Matl & H | 1400 | TN | $96.00 | $134,377.02 |
| 402-3190 | Recycled Asph. Conc. 19 MM Superpave, GP 1 or 2, Incl Bitum | 459 | TN | $100.00 | $45,897.71 |
| 402-3121 | Recycled Asph. Conc. 25 MM Superpave, GP 1 or 2, Incl Bitum | 1377 | TN | $93.00 | $128,054.60 |
| 413-0750 | Tack Coat | 12048 | GL | $3.00 | $36,145.24 |
| 432-0206 | Mill Asph Conc Pvmt, 1.50" In Depth | 11631 | SY | $7.00 | $81,418.13 |
| 441-0748 | Concrete Median, 6 in | 235 | SY | $82.00 | $19,270.00 |
| 441-6012 | Concrete Curb and Gutter, 6 in x 24 in, Tp 2 | 2330 | LF | $47.00 | $109,510.00 |
| 446-1100 | Pvmt Reinf Fabric Strips, Tp 2, 18 Inch Width | 1223 | LF | $7.00 | $8,561.00 |
| 609-1000 | Remove Roadway Slab | 2105 | SY | $89.00 | $187,382.58 |
| 610-0714 | Remove Concrete Median | 50 | SY | $40.00 | $2,000.00 |
| 540-1101 | Removal of Existing Bridge | LUMP | LS | $280,000.00 | $280,000.00 |
| | Proposed Bridge | 11605 | SF | $150.00 | $1,740,750.00 |
| | | | | **Subtotal** | $2,880,670.28 |
| | **SIGNING/MARKING/SIGNALS** | | | | |
| | Signing/Marking | LUMP | LS | $7,000.00 | $7,000.00 |
| | | | | **Subtotal** | $7,000.00 |
| | **DRAINAGE** | | | | |
| 550-1240 | Storm Drain Pipe, 24 in, H 1-10 | 1900 | LF | $65.00 | $123,500.00 |
| 668-1100 | Catch Basin | 25 | EA | $3,000.00 | $75,000.00 |
| | | | | **Subtotal** | $198,500.00 |
| | **ROW** | | | | |
| | ROW | LUMP | LS | $77,000.00 | $77,000.00 |
| | | | | **Subtotal** | $77,000.00 |

| | | |
|---|---|---|
| **Construction Total** | | $4,586,000.00 |
| **ROW Total** | | $77,000.00 |
| **Contingency** | 25% | $1,147,000.00 |
| **Total** | | $5,733,000.00 |

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*Revised page September 2020: updated costs based on preliminary OPCC for project.*

Realign T Bridge Intersection - Welcome All Road @ Welcome All Connector - **RCUT**
Opinion of Probable Construction Cost
Prepared by: Kimley-Horn and Associates, Inc.
2-Sep-20 (based on 29-Apr-19 TWSC estimate)

| ITEM | ITEM DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| | **GRADING COMPLETE** | | | | |
| 210-0100 | Grading Complete | LUMP | LS | $1,500,000.00 | $1,500,000.00 |
| | | | | **Subtotal** | $1,500,000.00 |
| | **ROADWAY ITEMS** | | | | |
| 150-1000 | Traffic Control | LUMP | LS | $150,000.00 | $150,000.00 |
| 310-1101 | Gr Aggr Base Crs, Incl Matl | 787.2 | TN | $34.00 | $26,764.80 |
| 402-4510 | Recycled Asph. Conc. 12.5 MM Superpave, GP 2 Only, Incl Polymer-Modified Bitum Matl & H | 1820 | TN | $96.00 | $174,690.13 |
| 402-3190 | Recycled Asph. Conc. 19 MM Superpave, GP 1 or 2, Incl Bitum | 597 | TN | $100.00 | $59,667.02 |
| 402-3121 | Recycled Asph. Conc. 25 MM Superpave, GP 1 or 2, Incl Bitum | 1790 | TN | $93.00 | $166,470.98 |
| 413-0750 | Tack Coat | 14458 | GL | $3.00 | $43,374.29 |
| 432-0206 | Mill Asph Conc Pvmt, 1.50" In Depth | 13957 | SY | $7.00 | $97,701.75 |
| 441-0748 | Concrete Median, 6 in | 705 | SY | $82.00 | $57,810.00 |
| 441-6012 | Concrete Curb and Gutter, 6 in x 24 in, Tp 2 | 2796 | LF | $47.00 | $131,412.00 |
| 446-1100 | Pvmt Reinf Fabric Strips, Tp 2, 18 Inch Width | 1467.6 | LF | $7.00 | $10,273.20 |
| 609-1000 | Remove Roadway Slab | 2105 | SY | $89.00 | $187,382.58 |
| 610-0714 | Remove Concrete Median | 50 | SY | $40.00 | $2,000.00 |
| 540-1101 | Removal of Existing Bridge | LUMP | LS | $280,000.00 | $280,000.00 |
| | Proposed Bridge | 15086.5 | SF | $150.00 | $2,262,975.00 |
| | | | | **Subtotal** | $3,650,521.75 |
| | **SIGNING/MARKING/SIGNALS** | | | | |
| | Signing/Marking | LUMP | LS | $7,000.00 | $7,000.00 |
| | | | | **Subtotal** | $7,000.00 |
| | **DRAINAGE** | | | | |
| 550-1240 | Storm Drain Pipe, 24 in, H 1-10 | 1900 | LF | $65.00 | $123,500.00 |
| 668-1100 | Catch Basin | 25 | EA | $3,000.00 | $75,000.00 |
| | | | | **Subtotal** | $198,500.00 |
| | **ROW** | | | | |
| | ROW | LUMP | LS | $92,000.00 | $92,000.00 |
| | | | | **Subtotal** | $92,000.00 |

| | | |
|---|---|---|
| **Construction Total** | | $5,356,000.00 |
| **ROW Total** | | $92,000.00 |
| **Contingency** | 25% | $1,339,000.00 |
| **Total** | | $6,695,000.00 |

*The Consultant has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Consultant at this time and represent only the Consultant's judgment as a design professional familiar with the construction industry. The Consultant cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.*

Realign T Bridge Intersection - Welcome All Road @ Welcome All Connector - **RIRO w/down stream U-Turn**
Opinion of Probable Construction Cost
Prepared by: Kimley-Horn and Associates, Inc.
2-Sep-20 (based on 29-Apr-19 TWSC estimate)

| ITEM | ITEM DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| | **GRADING COMPLETE** | | | | |
| 210-0100 | Grading Complete | LUMP | LS | $1,500,000.00 | $1,500,000.00 |
| | | | | **Subtotal** | $1,500,000.00 |
| | **ROADWAY ITEMS** | | | | |
| 150-1000 | Traffic Control | LUMP | LS | $150,000.00 | $150,000.00 |
| 310-1101 | Gr Aggr Base Crs, Incl Matl | 787.2 | TN | $34.00 | $26,764.80 |
| 402-4510 | Recycled Asph. Conc. 12.5 MM Superpave, GP 2 Only, Incl Polymer-Modified Bitum Matl & H | 1680 | TN | $96.00 | $161,252.43 |
| 402-3190 | Recycled Asph. Conc. 19 MM Superpave, GP 1 or 2, Incl Bitum | 551 | TN | $100.00 | $55,077.25 |
| 402-3121 | Recycled Asph. Conc. 25 MM Superpave, GP 1 or 2, Incl Bitum | 1652 | TN | $93.00 | $153,665.52 |
| 413-0750 | Tack Coat | 14458 | GL | $3.00 | $43,374.29 |
| 432-0206 | Mill Asph Conc Pvmt, 1.50" In Depth | 13957 | SY | $7.00 | $97,701.75 |
| 441-0748 | Concrete Median, 6 in | 705 | SY | $82.00 | $57,810.00 |
| 441-6012 | Concrete Curb and Gutter, 6 in x 24 in, Tp 2 | 2796 | LF | $47.00 | $131,412.00 |
| 446-1100 | Pvmt Reinf Fabric Strips, Tp 2, 18 Inch Width | 1467.6 | LF | $7.00 | $10,273.20 |
| 609-1000 | Remove Roadway Slab | 2105 | SY | $89.00 | $187,382.58 |
| 610-0714 | Remove Concrete Median | 50 | SY | $40.00 | $2,000.00 |
| 540-1101 | Removal of Existing Bridge | LUMP | LS | $280,000.00 | $280,000.00 |
| | Proposed Bridge | 11605 | SF | $150.00 | $1,740,750.00 |
| | | | | **Subtotal** | $3,097,463.82 |
| | **SIGNING/MARKING/SIGNALS** | | | | |
| | Signing/Marking | LUMP | LS | $7,000.00 | $7,000.00 |
| | | | | **Subtotal** | $7,000.00 |
| | **DRAINAGE** | | | | |
| 550-1240 | Storm Drain Pipe, 24 in, H 1-10 | 1900 | LF | $65.00 | $123,500.00 |
| 668-1100 | Catch Basin | 25 | EA | $3,000.00 | $75,000.00 |
| | | | | **Subtotal** | $198,500.00 |
| | **ROW** | | | | |
| | ROW | LUMP | LS | $85,000.00 | $85,000.00 |
| | | | | **Subtotal** | $85,000.00 |

| | | |
|---|---|---|
| **Construction Total** | | $4,803,000.00 |
| **ROW Total** | | $85,000.00 |
| **Contingency** | 25% | $1,201,000.00 |
| **Total** | | $6,004,000.00 |

*The Consultant has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Consultant at this time and represent only the Consultant's judgment as a design professional familiar with the construction industry. The Consultant cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.*

*Revised page September 2020: preliminary OPCC for project used with ICE*

# GDOT INTERSECTION CONTROL EVALUATION (ICE) TOOL

ICE Version 2.15 | Revised 07/01/2019

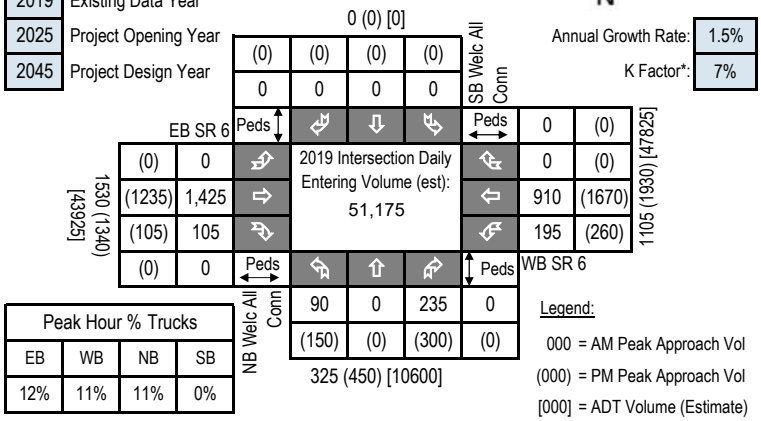
| | | | |
|---|---|---|---|
| GDOT PI # (or N/A): | 0016063 | Request By: | District Engineer |
| County: | Fulton | GDOT District: | 7 - Metro Atlanta |
| Major (State) Road: | SR 6 | Speed Limit: | 55 mph |
| Minor (Crossing) ST: | Welc All Conn | Speed Limit: | 35 mph |
| Major ST Direction: | East/West | Area Type: | Suburb/Transition |
| Intersection Control: | Signal (turn lanes on mainline) | | |
| Prepared By: | Kimley-Horn | Analyst: | MVF |
| Date: | 8/21/2019 | Project ID: | 017256011 |
| Project Purpose: | Realignment of Welcome All Rd and Welcome All Connector | | |

| | |
|---|---|
| 2019 | Existing Data Year |
| 2025 | Project Opening Year |
| 2045 | Project Design Year |

Annual Growth Rate: 1.5%

K Factor*: 7%

## 2019 Existing Year Volumes




| Peak Hour % Trucks | | | |
|---|---|---|---|
| EB | WB | NB | SB |
| 12% | 11% | 11% | 0% |

Legend:

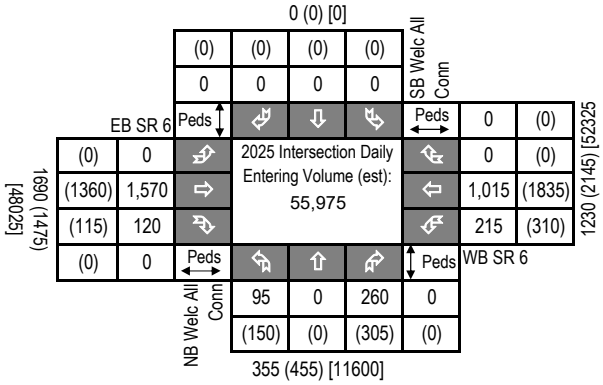
000 = AM Peak Approach Vol

(000) = PM Peak Approach Vol

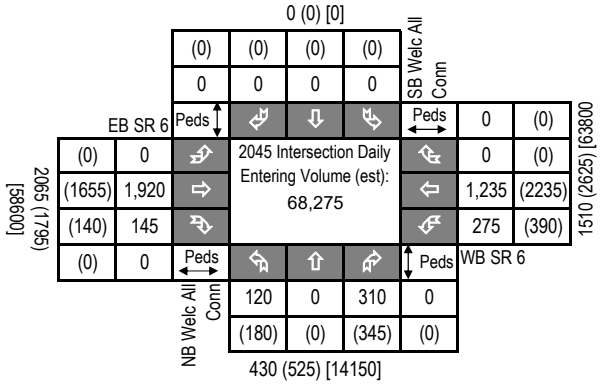
[000] = ADT Volume (Estimate)

Approach Splits: SR 6 - 0.89 / Welc All Conn - 0.11

## 2025 Opening Year Volumes




## 2045 Design Year Volumes




**Introduction:** In 2005, SAFETEA-LU established the Highway Safety Improvement Program (HSIP) and mandated that each state prepare a Strategic Highway Safety Plan (SHSP) to prioritize safety funding investments. Intersections quickly became a common component of most states' SHSP emphasis areas and HSIP project lists, including Georgia's SHSP. Intersection Control Evaluation (ICE) policies and procedures represent a traceable and transparent procedure to streamline the evaluation of intersection control alternatives, and further leverage safety advancements for intersection improvements beyond just the safety program. Approximately one-third of all traffic fatalities and roughly seventy five percent of all traffic crashes in Georgia occur at or adjacent to intersections. Accordingly, the Georgia SHSP includes an emphasis on enhancing intersection safety to advance the *Toward Zero Deaths* vision embraced by the Georgia Governor's Office of Highway Safety (GOHS). This ICE tool was developed to support the ICE policy, developed and adopted to help ensure that intersection investments across the entire Georgia highway system are selected, prioritized and implemented with defensible benefits for safety towards those ends.

**Tool Goal:** The goal of this ICE tool is to provide a simplified and consistent way of importing traffic, safety, cost, environmental impact and stakeholder posture data to assess and quantify intersection control improvement benefits. The tool supports the ICE policy and procedures to provide traceability, transparency, consistency and accountability when identifying and selecting an intersection control solution that both meets project purpose and reflects overall best value in terms of specific performance-based criteria.

**Requirements:** An ICE is required for any intersection improvement (e.g. new or modified intersection, widening/reconstruction or corridor project, or work accomplished through a driveway or encroachment permit that affects an intersection) where: **1)** the intersection includes at least one roadway designated as a State Route (State Highway System) or as part of the National Highway System; or **2)** the intersection will be designed or constructed using State or Federal funding. In certain circumstances where an ICE would otherwise be required, the requirement may be waived based on appropriate evidence presented with a written request. (See the "**Waiver**" tab to review criteria that may make a project waiver eligible and for instructions to submit a waiver request to the Department). An ICE is not required when the proposed work does not include any changes to the intersection design, involves only routine traffic signal timing and equipment maintenance, or for driveway permits where the driveway is not a new leg to an already existing intersection on either 1) a divided, multi-lane highway with a closed median and only right-in/right-out access or 2) an undivided roadway where the development is not required to construct left and/or right turn lanes (as per the Driveway Manual and District Traffic Engineer).

**Two-Stage Process:** A complete ICE process consists of two (2) distinct stages, and it is expected that the respective level of effort for completing both stages of ICE will correspond to the magnitude and complexity of the intersection. Prior to starting an ICE, the District Traffic Engineer and/or State Traffic Engineer should be consulted for advice on an appropriate level of effort. The Stage 1 and Stage 2 ICE forms are designed minimize required data inputs using drop-down menu choices and limiting text entry. All fields shaded grey include drop down menu choices and all fields shaded blue require data entry. All other cells in the worksheet are locked.

**Stage 1: Screening Decision Record** Stage 1 should be conducted early in the project development process and is intended to inform which alternatives are worthy of further evaluation in Stage 2. Stage 1 serves as a screening effort meant to *eliminate* non-competitive options and identify which alternatives merit further considerations based on their practical feasibility. Users should use good engineering judgement in responding to the seven policy questions by selecting "Yes" or "No" in the drop-down boxes. Alternatives should not be summarily eliminated without due consideration, and reasons for eliminating or advancing an alternative should be documented in the "Screening Decision Justification" column.

**Stage 2: Alternative Selection Decision Record** Stage 2 involves a more detailed and familiar evaluation of the alternatives identified in Stage 1 in order to support the selection of a preferred alternative that may be advanced to detailed design. Stage 2 data entry may require the use of external analysis tools to determine costs, operations and/or safety data that, combined with environmental and stakeholder posture data, form the basis of the ICE evaluation. A separate "CostEst" worksheet tab helps users develop pre-planning-level cost estimates for each Stage 2 alternative evaluated, and a separate Users Guide has been prepared to give guidance on Stage 1 and Stage 2 data entry. Once all data is entered, each alternative is scored and ranked, with the results reported at the bottom of the Stage 2 worksheet to inform on the best of the intersection controls evaluated for project recommendation.

**Documentation:** A complete ICE document consists of the combination of the outputs from either a completed and signed waiver form or both Stage 1 and Stage 2 worksheets (along with supporting costing and/or environmental documentation), to be included in the approved project Concept Report (or equivalent) or as a stand-alone document.

# GDOT ICE STAGE 1: SCREENING DECISION RECORD

ICE Version 2.15 | Revised 07/01/2019

| | |
|---|---|
| GDOT PI # | 0016063 |
| Project Location: | SR 6 @ Welc All Conn |
| Existing Control: | Signal (turn lanes on mainline) |
| Prepared by: | Kimley-Horn |
| Date: | 8/21/2019 |

*Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record; enter justification in the rightmost column*

**Note:** Up to 5 alternatives may be selected and evaluated; Use this ICE Stage 1 to screen 5 or fewer alternatives to evaluate in Stage 2

| | **Intersection Alternative** (see "Intersections" tab for detailed description of intersection/interchange type) | 1. Does alternative address the project need in a balanced manner and in scale with the project? | 2. Does alternative improve safety performance in terms of reducing severe crashes? | 3. Does alternative incorporate safety, convenience and accessibility for pedestrians and/or bicyclists? | 4. Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)? | 5. Does alternative appear feasible given the site characteristics, constrains & location context? | 6. Does alternative appear feasible with respect to other project factors? | 7. Overall feasible alternative (select alternative for further evaluation in Stage 2)? | **Screening Decision Justification:** |
|---|---|---|---|---|---|---|---|---|---|
| Unsignalized Intersections | Conventional (Minor Stop) | No | No | No | No | No | No | No | Already a signalized intersection. |
| | Conventional (All-Way Stop) | No | No | No | No | No | No | No | Already a signalized intersection. |
| | Mini Roundabout | No | No | No | No | No | No | No | Already a signalized intersection. |
| | Single Lane Roundabout | No | No | No | No | No | No | No | Already a signalized intersection. |
| | Multilane Roundabout | No | No | No | No | No | No | No | Already a signalized intersection. |
| | RCUT (stop control) | No | No | No | No | No | No | No | Already a signalized intersection. |
| | RIRO w/down stream U-Turn | No | No | No | No | No | No | No | Already a signalized intersection. |
| | High-T (unsignalized) | No | No | No | No | No | No | No | Already a signalized intersection. |
| | Offset-T Intersections | No | No | No | No | No | No | No | Already a signalized intersection. |
| | Diamond Interch (Stop Control) | No | No | No | No | No | No | No | Already a signalized intersection. |
| | Diamond Interch (RAB Control) | No | No | No | No | No | No | No | Already a signalized intersection. |
| | No LT Lane Improvements<br>No RT Lane Improvements | No | No | No | No | No | No | No | Already a signalized intersection. |
| | Other unsignalized (provide description): | No | No | No | No | No | No | No | Already a signalized intersection. |
| Signalized Intersections | Traffic Signal | **Yes** | No | No | **Yes** | **Yes** | **Yes** | No | Existing Condition. |
| | Median U-Turn (Indirect Left) | No | No | No | No | No | No | No | Existing T-intersection w/ existing LT; little benefit from Median U-Turn |
| | RCUT (signalized) | No | **Yes** | No | No | No | No | No | Existing T-intersection receives little benefit from RCUT. |
| | Displaced Left Turn (CFI) | No | No | No | No | No | No | No | Limited ROW to execute this alternative with limited potential benefit. |
| | Continuous Green-T | No | No | No | No | No | No | No | Outside scope - Welcome All Connector primary concern. |
| | Jughandle | No | No | No | No | No | No | No | Limited ROW to execute this alternative with limited potential benefit. |
| | Quadrant Roadway | No | No | No | No | No | No | No | Limited ROW to execute this alternative with limited potential benefit. |
| | Diamond Interch (Signal Control) | No | No | No | No | No | No | No | Not an interchange. |
| | Diverging Diamond | No | No | No | No | No | No | No | Not an interchange. |
| | Single Point Interchange | No | No | No | No | No | No | No | Not an interchange. |
| | Add LT Lanes on Welc All Conn<br>No RT Lane Improvements | **Yes** | **No** | **No** | **Yes** | **Yes** | **Yes** | **Yes** | Additional LT lane (dual LT lanes) proposed with restriping of existing approach |
| | Other Signalized (provide description): | No | No | No | No | No | No | No | |

= Intersection type selected for more detailed analysis in Stage 2 Alternative Selection Decision Record

# GDOT INTERSECTION CONTROL EVALUATION (ICE) WAIVER FORM

ICE Version 2.15 | Revised 07/01/2019

**Waiver Request - Level 1**

In certain circumstances where an ICE would otherwise be required, an ICE may be waived based on appropriate evidence presented with a written request. Scenarios in which an ICE waiver request may be considered include:

1. Proposed improvements do not substantially alter the character of the intersection, and are considered minor in nature, such as extending existing turn lane(s) or modifying signal phasing at an existing traffic signal
2. The intersection consists of a public roadway intersecting a divided, multilane roadway where the access will be limited to a closed median with only right-in/right-out access that will operate acceptably; or
3. The intersection is along an undivided, two-lane roadway that will not be widened and meets the following criteria:
   - Low risk in terms of exposure (total intersection entering volume less than 1,000 vehicles /day)
   - Latest 5 years of crash history is not indicative of a crash problem (no discernible crash patterns coupled with low crash frequency and severity)
   - Layout has no unusual or undesirable geometric features (such as restricted sight distance)
   - The proposed changes are not expected to adversely affect safety

If only one alternative is determined to be feasible from the ICE Stage 1, then a waiver may be submitted in lieu of completing ICE Stage 2. The waiver must clearly explain why there is no other feasible alternative. A Waiver Form should also be submitted to document an agreed upon decision to select a preferred alternative other than the highest scoring alternative in Stage 2.

ICE waiver forms with supporting documentation should be submitted for approval to the Office of Traffic Operations or District Engineer (depending on Waiver level). Questions regarding the waiver process should be routed to the State Traffic Engineer.

**Project Information:**

Location: SR 6 @ Welc All Conn
County: Fulton
GDOT District: 7 - Metro Atlanta
Area Type: Suburb/Transition
Existing Intersection Control: Signal (turn lanes on mainline)

GDOT PI # (or N/A): 0016063
Requested By: District Engineer
Prepared By: Kimley-Horn
Analyst: MVF
Date: 9/23/2019
Waiver Request Type: GDOT PDP Project

**Traffic and Operations Data:**[1]

| | | |
|---|---|---|
| Intersection meets signal/AWS warrants? | Meets Signal Warrants | |
| Traffic Analysis Type: | Intersection Delay | |
| Existing Avg Daily Traffic (Major Street): | 45,875 | |
| Existing Avg Daily Traffic (Minor Street): | 10,600 | |
| Analysis Period: | AM Peak | PM Peak |
| 2025 Opening Yr Peak Hour Intersection Delay: | 26.6 sec | 31.4 sec |
| 2025 Opening Yr Peak Hour Intersection V/C: | 0.72 | 0.84 |
| 2045 Design Yr Peak Hour Intersection Delay: | 54.1 sec | 53.5 sec |
| 2045 Design Yr Peak Hour Intersection V/C: | 0.81 | 0.93 |

[1]Crash data required for all existing intersections. ADT's required if available (from data collected or nearest GDOT count station site). Capacity data is optional unless needed to justify basis of the waiver request.

**Crash Data (Required):**[1]

| Crash Type | Crash Data: Enter most recent 5 years of crash data | Crash Severity | | |
|---|---|---|---|---|
| | | PDO | Injury Crash* | Fatal Crash* |
| | Angle | 13 | 4 | 0 |
| | Head-On | 4 | 2 | 0 |
| | Rear End | 100 | 19 | 0 |
| | Sideswipe - same | 13 | 3 | 0 |
| | Sideswipe - opposite | 3 | 2 | 0 |
| | Not Collision w/Motor Veh | 5 | 1 | 0 |
| | **TOTALS:** | **138** | **31** | **0** |

<-

* Number of crashes resulting in injuries / fatalities, not number of persons

**Description of Work / Justification for Waiver (Required):** The project proposes to realign the intersection of Welcome All Road at Welcome All Connector. The intersection of Camp Creek Parkway (SR 6) at Welcome All Connector will be impacted minimally by the design and construction of the project. The south leg of the intersection is expected to be altered only by the restriping to include a 2nd NBL turn lane & as needed for a seamless transition to the adjacent intersection.

Proposed Intersection Control: Traffic Signal

**REQUESTED BY:** Ana Eisenman Date: 9/23/2019

Title: Traffic Engineer

**APPROVED BY:** [signature] Date: 10/3/19

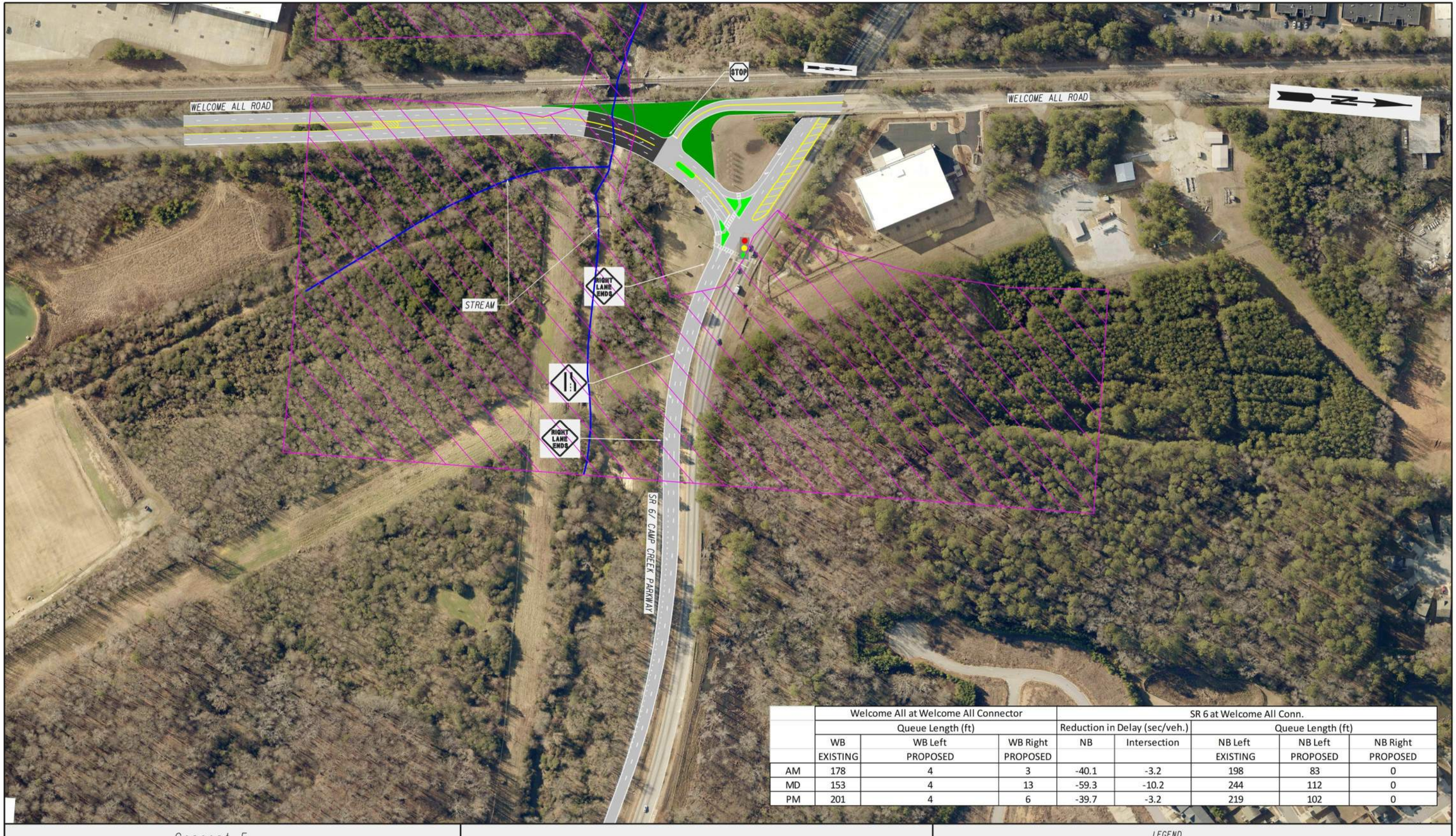
Name: Andrew Heath / State Traffic Engineer

Chief Engineer or (Approved Delegate)

*Revised page September 2020: copy of signed waiver included.*

# APPENDIX F:

## *Concept Layout*




| | Welcome All at Welcome All Connector | | | SR 6 at Welcome All Conn. | | | | |
|---|---|---|---|---|---|---|---|---|
| | Queue Length (ft) | | | Reduction in Delay (sec/veh.) | | Queue Length (ft) | | |
| | WB | WB Left | WB Right | NB | Intersection | NB Left | NB Left | NB Right |
| | EXISTING | PROPOSED | PROPOSED | | | EXISTING | PROPOSED | PROPOSED |
| AM | 178 | 4 | 3 | -40.1 | -3.2 | 198 | 83 | 0 |
| MD | 153 | 4 | 13 | -59.3 | -10.2 | 244 | 112 | 0 |
| PM | 201 | 4 | 6 | -39.7 | -3.2 | 219 | 102 | 0 |

Concept 5
Realigned Bridge T Intersection of
Camp Creek Parkway at
Welcome All Road
Opinion of Probable Cost: $5.1M

Kimley»Horn

Engineering, Planning, and Environmental Consultants
Suite 601, 817 West Peachtree Street, NW
Atlanta, GA 30308

SCALE IN FEET
0 100 200 400

LEGEND

- PROPOSED ROADWAY MARKINGS
- PROPOSED TRAFFIC SIGNAL
- PROPOSED STOP SIGN
- PROPOSED RESURFACE
- EXISTING TRAFFIC SIGNAL
- FLOODPLAIN AREA

**Georgia Department of Transportation**

# MS4 Concept Report Summary for

# SR 6 at Welcome All Road Intersection Improvement

PI No. 0016063

Fulton County

August 23, 2019

Prepared By:

Kimley-Horn and Associates, Inc.
817 West Peachtree St. NW
Suite 601
Atlanta, GA 30308

# MS4 CONCEPT REPORT SUMMARY

| | | | |
|---|---|---|---|
| GDOT PI Number: | 0016063 | Submittal Date: | 8/23/2019 |
| Project Name: | SR 6 at Welcome All Road Intersection Improvement | Project Let Date: | N/A |
| Coordinates: | 33.6560 -84.5210 | Agency/Company: | Kimley-Horn |
| County: | Fulton County, GA | Contact Person: | Mike Lobdell |
| GDOT District: | District 7 | Contact Phone: | (404) 998-8673 |

HSGs: ☑ A ☑ B ☐ C ☑ D

Notes:

Milestone Submittal: ☑ Concept ☐ PFPR ☐ FFPR ☐ Addendum

MS4 Post-Construction Exclusions

Is there a Project Level Exclusion (PLE) that applies to this project? ☐ Yes ☑ No

If yes, please indicate which of the following exclusions apply:

- ☐ PLE 1: Roadway not owned or operated by GDOT
- ☐ PLE 2: Project location not within a designated MS4 area
- ☐ PLE 3: Maintenance and safety project (multiple unconnected sites disturbing < 1 ac)
- ☐ PLE 4: Project with environmental documents approved or R/W plans submitted on or before 1/30/2012
- ☐ PLE 5: Road project disturbing < 1 ac or for site development project adding < 5,000 $ft^2$ of impervious area
- ☐ PLE 6: Projects in MS4 areas added to the 2017 MS4 permit with concept approval before 1/3/2018

*Note: At a minimum, this MS4 Concept Report Summary must be submitted with the Concept Report. If the project does not have a PLE, it is recommended that this Tool be used to estimate sizing of potential post-construction stormwater BMPs. It is understood, however, that the level of detail known about the project can vary at this stage of design and the information will likely be approximate. Therefore, the delineation of basins and estimation of sizing of post-construction stormwater BMPs is to be completed at the discretion of the Project Engineer. If basins are delineated and sizing of post-construction stormwater BMPs are completed, submit a drainage basin map(s) and a summary table of the proposed post-construction stormwater BMPs (Attachment B).Outfall level exclusions and infeasibilities are not applied at this time unless the designer is 100% certain they will apply in final design.*

Discharge Information

| Y | N | |
|---|---|---|
| ☐ | ☑ | Does the project discharge to a trout stream? |

☐ ☐

*Disclaimer: This tool provided for information only and is intended to assist the designer in filling out Georgia Department of Transportation's MS4 Post-Construction Stormwater Report. This tool is being provided without warranty or liability of any kind to the Department. All liability resides with the user of the tool. The Department's Manual on Drainage Design for Highways shall be used in design of post-construction structures.*

# Georgia Department of Transportation
# Bridge Inventory Data Listing

**Processed Date:Jul-26-2019 14:36 PM**

**Parameters: Bridge Serial Number**

**Bridge Serial Number:** 121-0362-0 **County: Fulton** **SUFF. RATING: 72.4**

**Location & Geography**

| | |
|---|---|
| **Structure ID:** | 121-0362-0 |
| 200 Bridge Information: | 06 |
| *6 Feature Intersected: | CAMP CREEK |
| *7A Route Number Carried: | CR01388 |
| *7B Facility Carried: | WELCOME ALL ROAD |
| 9 Location: | IN SOUTH WEST ATLANTA |
| 2 GDOT District: | 4841700000 - D7 District Seven Chamblee |
| *91 Inspection Frequency: | 24 Date: Aug-14-2018 |
| 92A Fracture Critical Insp. Freq: | 0 Date: Feb-01-1901 |
| 92B Underwater Insp Freq: | 0 Date: Feb-01-1901 |
| 92C Other Spc. Insp Freq: | 0 Date: Feb-01-1901 |
| * 4 Place Code: | 25720 |
| *5A Inventory Route(O/U): | 1 |
| 5B Route Type: | 4 - County |
| 5C Service Designation: | 1- Mainline |
| 5D Route Number: | 09074 |
| 5E Directional Suffix: | 0. Not applicable |
| *16 Latitude: | 33 - 39.3524 |
| *17 Longtitude: | 84 - 31.2989 |
| 98A Border Bridge: | 0 98B: GA% 00 |
| 99 ID Number: | 000000000000000 |
| *100 STRAHNET: | 0- The Feature is not a STRAHNET route. |
| 12 Base Highway Network: | Yes |
| 13A LRS Inventory Route: | 1213826503 |
| 13B Sub Inventory Route: | 0 |
| 101 Parallel Structure: | N. No parallel structure exists |
| *102 Direction of Traffic: | 2- Two Way |
| *264 Road Inventory Mile Post: | 3.52 |
| *208 Inspection Area: | Area 12 |
| *104 Highway System: | 0- Inventory Route is not on the NHS |
| *26 Functional Classification: | 16- Urban - Minor Arterial |
| *204A Federal Route Type: | M - Urban. |
| *204B Federal Route Number: | 09074 |
| 105 Federal Lands Highway: | 0. Not applicable |
| *110 Truck Route: | 0- The Feature is not part of the National Network for Trucks |
| 217 Benchmark Elevation: | 0000.00 |
| * Location ID No: | 121-09074M-003.37N |

| | |
|---|---|
| 218 Datum: | 0- Not Applicable |
| *19 Bypass Length: | 2 |
| *20 Toll: | 3- On a Free Road or Non-Highway |
| *21 Maintenance Responsibility: | 04-City or Municipal Highway Agency. |
| *22 Owner: | 04-City or Municipal Highway Agency. |
| *31 Design Load: | 6- HS 20 + Mod (2-24,000# Axles @ 4ft Ctrs., when they govern) |
| 37 Historical Significance: | 5- Not eligible for the National Register of Historic Places |
| 205 Congressional District: | 005 |
| 27 Year Constructed: | 1976 |
| 106 Year Reconstructed: | 0 |
| 33 Bridge Median: | 0-None |
| 34 Skew: | 0 |
| 35 Structure Flared: | No |
| 38 Navigation Control: | 0- Navigation is not controlled by an Agency |
| 213 Special Steel Design: | 0- Not applicable or other |
| 267A Type Paint Super Structure: | 0- Not Applicable. Year : 0000 |
| 267B Type Paint Sub Structure: | 3- Epoxy Mastic Year : 1976 |
| *42A Type of Service On: | 5-Highway-Pedestrian |
| *42B Type of Service Under: | 5-Waterway |
| 214A Movable Bridge: | 0 |
| 214B Operator on Duty: | 0 |
| 203 Type Bridge: | E - Steel pile. N. Steel-Concrete O. Concrete O. Concrete |
| 259 Pile Encasement: | 2 |
| *43A Structure Type Main material: | 1-Concrete |
| *43B Structure Type Main Type: | 4-Tee Beam |
| 45 Number of Main Spans: | 4 |
| 44 Structure Type Approach: | A:0- Other B: 0- Other |
| 46 Number of Approach Spans: | 0 |
| 226 Bridge Curve: | A: Vertical: YesB: Horizontal: No |
| 111 Pier Protection: | N - Navigation Control item coded 0, or Feature not a waterway |
| 107 Deck Structure Type: | 1 - C-I-P Portland Cement Concrete - Epoxy Coated Rebars |
| 108A Wearing Surface Type: | 1. Concrete |
| 108B Membrane Type: | 0. None |
| 108C Deck Protection: | 8. Unknown |
| 265 Underwater Inspection Area: | 0 |

**Signs & Attachments**

| | |
|---|---|
| 225 Expansion Joint Type: | 02- Open or sealed concrete joint (silicone sealant). |
| 242 Deck Drains: | 1- Open Scuppers. |
| 243A Parapet Location: | 3- Both sides. |
| 243B Parapet Height: | 1.50 |
| 243C Parapet Width: | 1.10 |
| 238A Curb Height: | 0.5 |
| 238B Curb Material: | 1- Concrete. |
| 239A Handrail Left: | 7- Aluminum. |
| 239B Handrail Right: | 7- Aluminum. |
| *240 Median Barrier Rail: | 0- None. |
| 241A Bridge Median Height: | 0 |
| 241B Bridge Median Width: | 0 |
| *230A Guardrail Location Direction Rear: | 3- Both sides. |
| *230B Guardrail Location Direction Fwrd: | 3- Both sides. |
| *230C Guardrail Location Opposing Rear: | 0- None. |
| *230D Guardrail Location Opposing Fwrd: | 0- None. |
| 244 Approach Slab: | 3- Forward and Rear. |
| 224 Retaining Wall: | 0- None. |
| 233 Posted Speed Limit: | 25 |
| 236 Warning Sign: | No |
| 234 Delineator: | No |
| 235 Hazard Boards: | No |
| 237A Gas: | 00- Not Applicable |
| 237B Water: | 22- Bottom Right. |
| 237C Electric: | 00- Not Applicable |
| 237D Telephone: | 22- Bottom Right. |
| 237E Sewer: | 00- Not Applicable |
| 247A Lighting: Street: | No |
| 247B Navigation: | No |
| 247C Aerial: | No |
| *248 County Continuity No.: | 00 |
| 36A Bridge Railings: | 2- Inspected feature meets acceptable construction date standards. |
| 36B Transition: | 2- Inspected feature meets acceptable construction date standards. |
| 36C Approach Guardrail: | 1- Meets current standards |
| 36D Approach Guardrail Ends: | 2- Inspected feature meets acceptable construction date standards. |

# Georgia Department of Transportation
# Bridge Inventory Data Listing

**Processed Date:Jul-26-2019 14:36:50 PM**

**Bridge Serial Number:** 121-0362-0 **County: Fulton** **SUFF. RATING: 72.4**

**Programming Data**

| | |
|---|---|
| 201 Project Number: | GOU 2-3822-A (1) |
| 202 Plans Available: | 1- Plans at General Office. |
| 249 Proposed Project Number: | 000000000000000000000000 |
| 250A Reconstruction Approval Status: | No |
| 250B Route Approval Status: | No |
| 250C Approval Status Definition: | 0 |
| 250D Approval Status Federal: | 0 |
| 251Project Identification Number: | 0000000 |
| 252 Contract Date: | Feb-01-1901 |
| 260 Seismic Number: | 00000 |
| 75A Type Work Proposed: | 0- Not Applicable |
| 75B Work Done by: | 0- Initial Inventory |
| 94 Bridge Improvement Cost:(X$1,000) | $531 |
| 95 Roadway Improvement Cost: (X$1,000) | $53 |
| 96 Total Improvement Cost: (X$1,000) | $797 |
| 76 Improvement Length: | 0' |
| 97 Year Improvement Cost Based On: | 2013 |
| 114 Future AADT: | 19320 |
| 115 Future AADT Year: | 2031 |

**Hydraulic Data**

| | |
|---|---|
| 113 Scour Critical: | U. No Load Rating; no scour critical data entered. |
| 216A Water Depth: | 4 |
| 216B Bridge Height: | 22.8 |
| 222 Slope Protection: | 1 |
| 221A Spur Dike Rear: | |
| 221B Spur Dike Fwd: | |
| 219 Fender System: | 0- None. |
| 220 Dolphin: | |
| 223A Culvert Cover: | 000 |
| 223B Culvert Type: | 0- Not Applicable |
| 223C Number of Barrels: | 0 |
| 223D Barrel Width: | 0 |
| 223E Barrel Height: | 0 |
| 223F Culvert Length: | 0 |
| 223G Culvert Apron: | 0 |
| 39 Navigation Vertical Clearance: | 0' |
| 40 Navigation Horizontal Clearance: | 0 |
| 116 Navigation Vertical Clear Closed: | 0 |

**Measurements:**

| | |
|---|---|
| *29 AADT: | 12880 |
| *30 AADT Year: | 2011 |
| 109 % Truck Traffic: | 1 |
| * 28A Lanes On: | 2 |
| *28B Lanes Under: | 0 |
| 210A Tracks On: | 00 |
| 210B Tracks Under: | 0 |
| * 48 Maximum Span Length: | 34 |
| * 49 Structure Length: | 136 |
| 51 Bridge Roadway Width: | 28' |
| 52 Deck Width: | 38.6' |
| * 47 Total Horizontal Clearance: | 28' |
| 50A Curb / Sidewalk Width Left: | 4 |
| 50B Curb / Sidewalk Width Right: | 4 |
| 32 Approach Rdwy. Width: | 28' |

***229 Approach Roadway**

| | | | |
|---|---|---|---|
| *Rear Shoulder Left: Width:* | 2 | *Right Width:*2 | Type: 1 - Concrete. |
| *Fwd Shoulder: Left Width:* | 2 | *Right Width:*2 | Type: 1 - Concrete. |
| *Rear Pavement: Width:* | 24 | *Type:*2- Asphalt. | |
| *Forward Pavement: Width:* | 36 | *Type:*2- Asphalt. | |
| *Intersection Rear:* | 0 | *Forward:*1 | |

| | |
|---|---|
| 53 Minimum Vertical Clearance Over Rd: | 99' 99" |
| 54A Under Reference Feature: | N- Feature not a highway or railroad. |
| 54B Minimum Clearance Under: | 0' 0" |

***228 Minimum Vertical Clearance**

| | |
|---|---|
| *228A Actual Odometer Direction:* | 99'99" |
| *228B Actual Opposing Direction:* | 99'99" |
| *228C Posted Odometer Direction:* | 00'00" |
| *228D Posted Opposing Direction:* | 00'00" |

| | |
|---|---|
| 55A Lateral Underclearance Reference: | N- Feature not a highway or railroad. |
| 55B Lateral Underclearance on Right: | 0 |
| 56 Lateral Underclearance on Left: | 0 |
| 10A Direction of Travel for Max Min: | 0 |
| 10B Max Min Vertical Clearance: | 99'99" |
| 245A Deck Thickness Main: | 8.0 |
| 245B Deck Thickness Approach: | 0 |
| 246 Overlay Thickness: | 0 |

**Ratings and Posting**

| | |
|---|---|
| 65 Inventory Rating Method: | 1-Load Factor (LF) |
| 63 Operating Rating Method: | 1-Load Factor (LF) |
| 66A Inventory Type: | 2 - HS loading. |
| 66B Inventory Rating: | 30 |
| 64A Operating Type: | 2 - HS loading. |
| 64B Operating Rating: | 50 |

| **231Calculated Loads** | | **Posting Required** |
|---|---|---|
| *231A H-Modified:* | 21 | No |
| *231B Type3/Tandem:* | 27 | No |
| *231C Timber:* | 37 | No |
| *231D HS-Modified:* | 30 | No |
| *231E Type 3S2:* | 40 | No |
| *231F Piggyback:* | 00 | No |

| | |
|---|---|
| 261 H Inventory Rating: | 21 |
| 262 H Operating Rating: | 35 |
| 67 Structural Evaluation: | 6 |
| 58 Deck Condition: | 7 - Good Condition |
| 59 Superstructure Condition: | 7 - Good Condition |
| * 227 Collision Damage: | |
| 60A Substructure Condition: | 7 - Good Condition |
| 60B Scour Condition: | 8 - Very Good Condition |
| 60C Underwater Condition: | N - Not Applicable |
| 71 Waterway Adequacy: | 9-Superior to present desirable criteria. |
| 61 Channel Protection Cond.: | 8-Equal to present desirable criteria. |
| 68 Deck Geometry: | 2 |
| 69 UnderClr. Horz/Vert: | N |
| 72 Approach Alignment: | 8-No reduction of vehicle operating speed required. |
| 62 Culvert: | N - Not Applicable |
| 70 Bridge Posting Required: | 5. Equal to or above legal loads |
| 41 Struct Open, Posted, CL: | A. Open, no restriction |
| * 103 Temporary Structure: | No |

**232 Posted Loads**

| | |
|---|---|
| *232A H-Modified:* | 00 |
| *232B Type3/Tandem:* | 00 |
| *232C Timber:* | 00 |
| *232D HS-Modified:* | 00 |
| *232E Type 3s2:* | 00 |
| *232F Piggyback:* | 00 |
| 253 Notification Date: | Feb-01-1901 |
| 258 Federal Notify Date: | Feb-01-1901 |

# Georgia Department of Transportation
# Bridge Inventory Data Listing

**Processed Date:Sep-02-2020 12:36 PM**

**Parameters: Bridge Serial Number**

**Bridge Serial Number:** 121-0363-0 **County: Fulton** **SUFF. RATING: 96.4**

**Location & Geography**

| | |
|---|---|
| **Structure ID:** | 121-0363-0 |
| 200 Bridge Information: | 06 |
| *6 Feature Intersected: | SR 6 CAMP CREEK PKWY. |
| *7A Route Number Carried: | CR01388 |
| *7B Facility Carried: | WELCOME ALL ROAD |
| 9 Location: | 4.2 MI W OF COLLEGE PARK |
| 2 GDOT District: | 4841700000 - District Seven- Chamblee |
| *91 Inspection Frequency: | 24 Date: Jul-22-2020 |
| 92A Fracture Critical Insp. Freq: | 0 Date: Feb-01-1901 |
| 92B Underwater Insp Freq: | 0 Date: Feb-01-1901 |
| 92C Other Spc. Insp Freq: | 0 Date: Feb-01-1901 |
| * 4 Place Code: | 25720 |
| *5A Inventory Route(O/U): | 1 |
| 5B Route Type: | 5 - City Street |
| 5C Service Designation: | 1- Mainline |
| 5D Route Number: | 09074 |
| 5E Directional Suffix: | 0. Not applicable |
| *16 Latitude: | 33 - 39.4259 |
| *17 Longtitude: | 84 - 31.3067 |
| 98A Border Bridge: | 98B: GA% 00 |
| 99 ID Number: | |
| *100 STRAHNET: | 0- The Feature is not a STRAHNET route. |
| 12 Base Highway Network: | Yes |
| 13A LRS Inventory Route: | 1213826503 |
| 13B Sub Inventory Route: | 0 |
| 101 Parallel Structure: | N. No parallel structure exists |
| *102 Direction of Traffic: | 2- Two Way |
| *264 Road Inventory Mile Post: | 3.58 |
| *208 Inspection Area: | Area 12 |
| *104 Highway System: | 0- Inventory Route is not on the NHS |
| *26 Functional Classification: | 16- Urban - Minor Arterial |
| *204A Federal Route Type: | M - Urban. |
| *204B Federal Route Number: | 09074 |
| 105 Federal Lands Highway: | 0. Not applicable |
| *110 Truck Route: | 0- The Feature is not part of the National Network for Trucks |
| 217 Benchmark Elevation: | 0000.00 |
| * Location ID No: | 121-09074M-003.46N |

| | |
|---|---|
| 218 Datum: | 0- Not Applicable |
| *19 Bypass Length: | 5 |
| *20 Toll: | 3- On a Free Road or Non-Highway |
| *21 Maintenance Responsibility: | 01-State Highway Agency. |
| *22 Owner: | 01-State Highway Agency. |
| *31 Design Load: | 6- HS 20 + Mod (2-24,000# Axles @ 4ft Ctrs., when they govern) |
| 37 Historical Significance: | 5- Not eligible for the National Register of Historic Places |
| 205 Congressional District: | 005 |
| 27 Year Constructed: | 1977 |
| 106 Year Reconstructed: | 0 |
| 33 Bridge Median: | 0-None |
| 34 Skew: | 40 |
| 35 Structure Flared: | No |
| 38 Navigation Control: | N- Bridge is not over water |
| 213 Special Steel Design: | 0- Not applicable or other |
| 267A Type Paint Super Structure: | 5- Waterborne System (Type VI or VII) Year : 2003 |
| 267B Type Paint Sub Structure: | 0- Not Applicable Year : 0000 |
| *42A Type of Service On: | 5-Highway-Pedestrian |
| *42B Type of Service Under: | 1-Highway (with or without pedestrians) |
| 214A Movable Bridge: | 0 |
| 214B Operator on Duty: | 0 |
| 203 Type Bridge: | Z - Unknown. O. Concrete M. Steel O. Concrete |
| 259 Pile Encasement: | 3 |
| *43A Structure Type Main material: | 3-Steel |
| *43B Structure Type Main Type: | 2-Stringer/Multi-Beam or Girder |
| 45 Number of Main Spans: | 2 |
| 44 Structure Type Approach: | A:0- Other B: 0- Other |
| 46 Number of Approach Spans: | 0 |
| 226 Bridge Curve: | A: Vertical: NoB: Horizontal: No |
| 111 Pier Protection: | N - Navigation Control item coded 0, or Feature not a waterway |
| 107 Deck Structure Type: | 1 - C-I-P Portland Cement Concrete - Epoxy Coated Rebars |
| 108A Wearing Surface Type: | 1. Concrete |
| 108B Membrane Type: | 0. None |
| 108C Deck Protection: | 8. Unknown |
| 265 Underwater Inspection Area: | 0 |

**Signs & Attachments**

| | |
|---|---|
| 225 Expansion Joint Type: | 09- Modular. |
| 242 Deck Drains: | 0- None. |
| 243A Parapet Location: | 3- Both sides. |
| 243B Parapet Height: | 1.40 |
| 243C Parapet Width: | 1.10 |
| 238A Curb Height: | 0.5 |
| 238B Curb Material: | 1- Concrete. |
| 239A Handrail Left: | 7- Aluminum. |
| 239B Handrail Right: | 7- Aluminum. |
| *240 Median Barrier Rail: | 0- None. |
| 241A Bridge Median Height: | 0 |
| 241B Bridge Median Width: | 0 |
| *230A Guardrail Location Direction Rear: | 3- Both sides. |
| *230B Guardrail Location Direction Fwrd: | 3- Both sides. |
| *230C Guardrail Location Opposing Rear: | 0- None. |
| *230D Guardrail Location Opposing Fwrd: | 0- None. |
| 244 Approach Slab: | 3- Forward and Rear. |
| 224 Retaining Wall: | 1- Cast-in-Place Concrete. |
| 233 Posted Speed Limit: | 35 |
| 236 Warning Sign: | No |
| 234 Delineator: | No |
| 235 Hazard Boards: | No |
| 237A Gas: | 22- Bottom Right. |
| 237B Water: | 00- Not Applicable |
| 237C Electric: | 00- Not Applicable |
| 237D Telephone: | 22- Bottom Right. |
| 237E Sewer: | 21- Bottom Left. |
| 247A Lighting: Street: | No |
| 247B Navigation: | No |
| 247C Aerial: | No |
| *248 County Continuity No.: | 00 |
| 36A Bridge Railings: | 2- Inspected feature meets acceptable construction date standards. |
| 36B Transition: | 2- Inspected feature meets acceptable construction date standards. |
| 36C Approach Guardrail: | 1- Meets current standards |
| 36D Approach Guardrail Ends: | 1- Meets current standards |

# Georgia Department of Transportation
# Bridge Inventory Data Listing

**Processed Date:Sep-02-2020 12:36:51 PM**

**Bridge Serial Number:** 121-0363-0 **County: Fulton** **SUFF. RATING: 96.4**

**Programming Data**

| | |
|---|---|
| 201 Project Number: | UNKNOWN |
| 202 Plans Available: | 0- No Plans Available. |
| 249 Proposed Project Number: | 000000000000000000000000 |
| 250A Reconstruction Approval Status: | No |
| 250B Route Approval Status: | No |
| 250C Approval Status Definition: | 0 |
| 250D Approval Status Federal: | 0 |
| 251Project Identification Number: | 0000000 |
| 252 Contract Date: | Feb-01-1901 |
| 260 Seismic Number: | 00000 |
| 75A Type Work Proposed: | 0- Not Applicable |
| 75B Work Done by: | 0- Initial Inventory |
| 94 Bridge Improvement Cost:(X$1,000) | $422 |
| 95 Roadway Improvement Cost: (X$1,000) | $42 |
| 96 Total Improvement Cost: (X$1,000) | $633 |
| 76 Improvement Length: | 0' |
| 97 Year Improvement Cost Based On: | 2013 |
| 114 Future AADT: | 2265 |
| 115 Future AADT Year: | 2032 |

**Hydraulic Data**

| | |
|---|---|
| 113 Scour Critical: | N. Bridge not over waterway. |
| 216A Water Depth: | 00.0 |
| 216B Bridge Height: | 00.0 |
| 222 Slope Protection: | 0 |
| 221A Spur Dike Rear: | |
| 221B Spur Dike Fwd: | |
| 219 Fender System: | 0- None. |
| 220 Dolphin: | |
| 223A Culvert Cover: | 000 |
| 223B Culvert Type: | 0- Not Applicable |
| 223C Number of Barrels: | 0 |
| 223D Barrel Width: | 0 |
| 223E Barrel Height: | 0 |
| 223F Culvert Length: | 0 |
| 223G Culvert Apron: | 0 |
| 39 Navigation Vertical Clearance: | 0' |
| 40 Navigation Horizontal Clearance: | 0 |
| 116 Navigation Vertical Clear Closed: | 0 |

**Measurements:**

| | |
|---|---|
| *29 AADT: | 1510 |
| *30 AADT Year: | 2012 |
| 109 % Truck Traffic: | 1 |
| * 28A Lanes On: | 2 |
| *28B Lanes Under: | 4 |
| 210A Tracks On: | 00 |
| 210B Tracks Under: | 0 |
| * 48 Maximum Span Length: | 54 |
| * 49 Structure Length: | 108 |
| 51 Bridge Roadway Width: | 40' |
| 52 Deck Width: | 50.4' |
| * 47 Total Horizontal Clearance: | 40' |
| 50A Curb / Sidewalk Width Left: | 4 |
| 50B Curb / Sidewalk Width Right: | 4 |
| 32 Approach Rdwy. Width: | 40' |

***229 Approach Roadway**

| | | | |
|---|---|---|---|
| *Rear Shoulder Left: Width:* | 2 | *Right Width:*2 | Type: 1 - Concrete. |
| *Fwd Shoulder: Left Width:* | 2 | *Right Width:*2 | Type: 1 - Concrete. |
| *Rear Pavement: Width:* | 36 | *Type:*2- Asphalt. | |
| *Forward Pavement: Width:* | 36 | *Type:*2- Asphalt. | |
| *Intersection Rear:* | 1 | *Forward:*0 | |

| | |
|---|---|
| 53 Minimum Vertical Clearance Over Rd: | 99' 99" |
| 54A Under Reference Feature: | H- Highway beneath structure. |
| 54B Minimum Clearance Under: | 17' 8" |

***228 Minimum Vertical Clearance**

| | |
|---|---|
| *228A Actual Odometer Direction:* | 99'99" |
| *228B Actual Opposing Direction:* | 99'99" |
| *228C Posted Odometer Direction:* | 00'00" |
| *228D Posted Opposing Direction:* | 00'00" |

| | |
|---|---|
| 55A Lateral Underclearance Reference: | H- Highway beneath structure. |
| 55B Lateral Underclearance on Right: | 6.5 |
| 56 Lateral Underclearance on Left: | 8 |
| 10A Direction of Travel for Max Min: | 0 |
| 10B Max Min Vertical Clearance: | 99'99" |
| 245A Deck Thickness Main: | 7.5 |
| 245B Deck Thickness Approach: | 0 |
| 246 Overlay Thickness: | 0 |

**Ratings and Posting**

| | |
|---|---|
| 65 Inventory Rating Method: | 1-Load Factor (LF) |
| 63 Operating Rating Method: | 1-Load Factor (LF) |
| 66A Inventory Type: | 2 - HS loading. |
| 66B Inventory Rating: | 41 |
| 64A Operating Type: | 2 - HS loading. |
| 64B Operating Rating: | 69 |

| **231Calculated Loads** | | **Posting Required** |
|---|---|---|
| *231A H-Modified:* | 21 | No |
| *231B Type3/Tandem:* | 33 | No |
| *231C Timber:* | 37 | No |
| *231D HS-Modified:* | 30 | No |
| *231E Type 3S2:* | 40 | No |
| *231F Piggyback:* | 00 | No |

| | |
|---|---|
| 261 H Inventory Rating: | 37 |
| 262 H Operating Rating: | 62 |
| 67 Structural Evaluation: | 7 |
| 58 Deck Condition: | 7 - Good Condition |
| 59 Superstructure Condition: | 7 - Good Condition |
| * 227 Collision Damage: | |
| 60A Substructure Condition: | 7 - Good Condition |
| 60B Scour Condition: | N - Not Applicable |
| 60C Underwater Condition: | N - Not Applicable |
| 71 Waterway Adequacy: | Not Applicable. |
| 61 Channel Protection Cond.: | Not Applicable. |
| 68 Deck Geometry: | 7 |
| 69 UnderClr. Horz/Vert: | 4 |
| 72 Approach Alignment: | 8-No reduction of vehicle operating speed required. |
| 62 Culvert: | N - Not Applicable |
| 70 Bridge Posting Required: | 5. Equal to or above legal loads |
| 41 Struct Open, Posted, CL: | A. Open, no restriction |
| * 103 Temporary Structure: | No |

**232 Posted Loads**

| | |
|---|---|
| *232A H-Modified:* | 00 |
| *232B Type3/Tandem:* | 00 |
| *232C Timber:* | 00 |
| *232D HS-Modified:* | 00 |
| *232E Type 3s2:* | 00 |
| *232F Piggyback:* | 00 |
| 253 Notification Date: | Feb-01-1901 |
| 258 Federal Notify Date: | Feb-01-1901 |

PI# 0016063 Welcome All Road & Welcome All Road Conn – Study

Fulton County
Project Status Update
September 13, 2019

1. Introductions
2. Project Area
    a. Justification
        i. GDOT office of Planning needs to approve Project Justification Statement
        ii. Project was first identified in a 2013 Road Safety Audit by GDOT
        iii. Intersection of Welcome All Rd at Welcome All Connector experiences frequent congestion that queues to SR 6/Camp Creek Pkwy
        iv. The crash patterns are consistent with congested operations
        v. Welcome All Rd south of SR 6/Camp Creek Pkwy has significant and growing warehouse development that generates much freight traffic, additionally truck traffic is prohibited north of Welcome All Connector
    b. Description
        i. Start realignment of Welcome All Rd where current four lane divided section ends
        ii. Construct new four lane bridge over creek
        iii. Welcome All Rd south of the Welcome All Connector would directly intersect with SR 6/Camp Creek Pkwy at existing signalized intersection
        iv. Welcome All Road north of the Welcome All Connector would be reconstructed as a side street stop-controlled intersection.
3. Discussion of Schedule
    a. AACID and East Point are working together to apply for funding during the current TIP call for projects.
    b. The concept is tracking well ahead of the current baseline schedule. Once project is in the TIP, schedule should be revisited to reflect the ARC timeline
4. Environmental Resources-Project should be anticipated as a Categorical Exclusion not Programmatic Categorical Exclusion
    a. Ecology
        i. Mussels are not located in Camp Creek
        ii. Seasonal study for the Bay Star vine is required
        iii. Add potential for migratory bird survey under ecology
    b. History-no resources identified
    c. Archeology
        i. Desktop survey showed some resources near project, but not within project limits
        ii. Phase 1 study will be required during preliminary design
    d. Air -Carbon Monoxide hot spot analysis will be required during preliminary design
    e. Noise
        i. Type 1 noise analysis will be required during preliminary design
        ii. Type 1 noise study precludes a programmatic Categorical Exclusion
5. Traffic Analysis
    a. Volumes
        i. Traffic counts showed that most southbound traffic on Welcome All Rd comes from the SR 6/Camp Creek Pkwy via Welcome All Connector
        ii. Most northbound traffic on Welcome All Rd turns right on to Welcome All Connector to go to SR 6/Camp Creek Pkwy

iii. The all way stop-controlled intersection of Welcome All Rd and Welcome All Connector causes frequent queues back to SR 6/Camp Creek Pkwy

b. Crashes
    i. Intersection of Welcome All Connector and SR 6/Camp Creek Pkwy was identified for improvements during a 2013 GDOT Road Safety Audit

6. Build Alternatives
    a. Signalize Welcome All Rd and Welcome All Connector
    b. Roundabout at Welcome All Rd and Welcome All Connector
    c. High T intersection at Welcome All Rd and Welcome All Connector
    d. Realign Welcome All Rd starting north of the bridge over the creek without widening Welcome All Rd
    e. Realign and widen Welcome All Rd
7. Public Involvement
    a. AACID expects to have PIOH in October-November of 2019
    b. AACID will host PIOH
    c. Jessica Kern offered to help with a PIOH dry run and review materials. She said AACID can go ahead and schedule date
8. Utilities
    a. AGL has three high pressured lines crossing under SR 6. AGL representative warned that relocation would be expensive and time consuming
        i. AGL noted there are pipes labeled AGL under bridge that were placed for future gas line expansion/ not connected currently and never used previously.
    b. Zayo has facilities within the project limits
    c. Water line connected to bridge
    d. Recommended that SUE be considered for the project to minimize risk of utility conflicts
    e. Concept Utility Report should be submitted to Shun at District 7
    f. CSX Railroad
        i. Existing right of way plans show Welcome All Rd not on CSX right of way
        ii. The right of way line will have to be verified during survey
        iii. AACID plans to engage CSX during preliminary design
        iv. If right of way plans are incorrect, an agreement will need to be reached with CSX
9. Project Risks
    a. Project encroaches on CSX right of way requiring additional coordination and utility reimbursement
    b. Phase 1 Archeological Study reveals eligible resources
10. Comments/Questions
    a. Make sure concept report is in the current format before submitting
    b. Layout needs to show the right of way line thicker and add it to the legend
    c. Label soccer field on layout
    d. Page 4 of Concept Report – Under major structures table in existing it says that 121-0363-0 is over SR 6/ Camp Creek Parkway. It should be Camp Creek.
    e. Need to do early coordination with MARTA for bus routes during construction
    f. Need to do early coordination with first responders and schools
    g. ARC asks that AACID and East Point coordinate with other affected jurisdictions.
11. Adjourn