

D.O.T. 66

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE P. I. No. 0007920, Cobb County **OFFICE** Preconstruction
CSMSL-0007-00(920)
Blairs Bridge Road Park and Ride Lot **DATE** June 21, 2007

FROM *C. Rice* Genetha Rice-Singleton, Assistant Director of Preconstruction

TO *GRS* SEE DISTRIBUTION

SUBJECT APPROVED PROJECT CONCEPT REPORT

Attached for your files is the approval for subject project.

GRS/cj

Attachment

DISTRIBUTION:

Brian Summers
Harvey Keeper
Ken Thompson
Jamie Simpson
Michael Henry
Keith Golden
Angela Alexander (file copy)
Babs Abubakari
Byant Poole
BOARD MEMBER

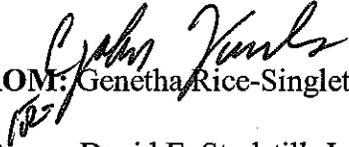
**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENTAL CORRESPONDENCE

FILE: P.I. No. 0007920, Cobb County
CSMSL-0007-00(920)
Blairs Bridge Road Park and Ride Lot

OFFICE: Preconstruction

DATE: June 13, 2007


FROM: Genetha Rice-Singleton, Assistant Director of Preconstruction

TO: David E. Studstill, Jr., P.E., Chief Engineer

SUBJECT: PROJECT CONCEPT REPORT

This project consists of constructing a park and ride lot facility on an 18.94 acre site located in Cobb County. The parcel is bordered by Interstate 20 to the south, Blairs Bridge Road to the north, and a residential subdivision along Bridgeport Court to the east. The park and ride facility infrastructure will consist of approximately 492 parking spaces, three bus pavilions, a Fare Systems Shelter for ticket vending, and access to the site from various locations. The proposed park and ride lot will be constructed on the northern side of the proposed HOV interchange near Thornton Road. Commuter vehicles will enter and exit the lot via the full access driveway on Blairs Bridge Road. Initially, buses will enter the lot via a separate driveway off Blairs Bridge Road. This access will remain in place during the HOV interchange construction, so that operation of the bus service will not be interrupted. When the construction of the HOV interchange is completed, buses will then enter the lot directly off the new access road. Buses will exit the lot onto Blairs Bridge Road during both current and future conditions.

From 1990 to 2000, the region added more than 1 million residents for a total of 3.7 million. Despite significant investments in freeways and transit systems, radial and suburban cross-town corridors alike are congested. By 2025, the number of daily trips in the region will rise to 14.6 million, a 37% increase. Until recently an overall transit plan had not been developed for the region which would address the current and future transit needs. The plan, identified as the Regional Transit Action Plan (RTAP), has been developed over a two year time frame and has provided an integrated public transportation network for the region. The plan lays out a new direction in extending transit services into congested corridors through the implementation of a regional express bus program and the regional bus rapid transit system. As part of the development of such a system, locations throughout the region for supporting infrastructure are being identified. Such supporting infrastructure would include but not be limited to, park and ride lots, new construction and existing sites, and maintenance facilities.

P.I. No. 0007920, Cobb County
June 13, 2007

Environmental concerns include requiring a Categorical Exclusion be prepared; a Public Information Open House will be held; Time saving procedures are appropriate.

The estimated costs for this project are:

	<u>PROPOSED</u>	<u>APPROVED</u>	<u>FUNDING</u>	<u>PROG DATE</u>
Construction (includes E&C And inflation)	\$ 3,205,000	\$ 3,500,000	RRB	2008
Right-of-way	\$ 2,200,000	\$ 2,000,000	RRB	2007

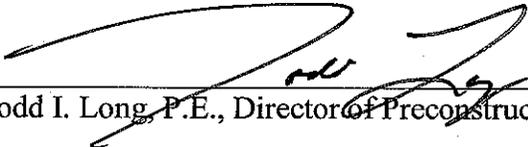
Utilities

I recommend this project concept be approved.

GRS: JDQ

Attachment

CONCUR



Todd I. Long, P.E., Director of Preconstruction

APPROVED



David E. Studstill, Jr. P.E., Chief Engineer

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENTAL CORRESPONDENCE

FILE: CSMSL-0007-00(920) Cobb County **OFFICE:** Engineering Services
P.I. No. 0007920
Blairs Bridge Road Park and Ride Lot

DATE: May 21, 2007

FROM:  Brian K. Summers, P.E., Project Review Engineer

TO: Genetha Rice-Singleton Assistant Director of Preconstruction

SUBJECT: CONCEPT REPORT

We have reviewed the Concept Report received May 18, 2007 from Marlo Clowers, and have the following comments.

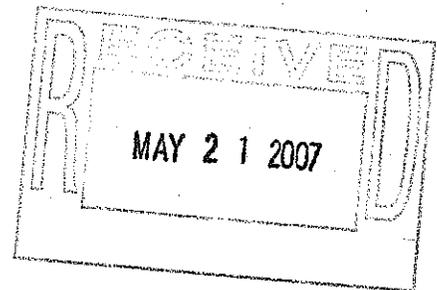
The cost for Pay Item 763-0110, Bus Pavilions, appears to be extremely low and should be revised to \$300,000.

The costs for this project are:

Construction	\$ 2,912,766
E & C	\$ 291,277
Reimbursable Utilities	\$ 0
Right of Way	\$ 2,200,000

BKS

c: Ben Buchan, Attn.: Marlo Clowers



DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
Office of Urban Design

PROJECT CONCEPT REPORT

Blairs Bridge Road Park and Ride Lot
Cobb County

Project Number: CSMSL-0007-00(920)
PI No. 0007920

FEDERAL ROUTE NO: I-20
STATE ROUTE NO: SR 6, SR 402
COUNTY ROUTE NO: CR 11, CR 71 Douglas/CR 2621 Cobb

Recommendation for Approval:

DATE 5/16/07

Mark S. Cowens
Project Manager

DATE 5/17/07

James B. Bush
State Urban Design Engineer

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Plan (RTP) and/or the State Transportation Improvement Program (STIP).

5/24/07
DATE

Angela L. Alexander
State Transportation Planning Administrator

DATE

Financial Management Administrator

DATE

State Environmental / Location Engineer

DATE

Project Review Engineer

DATE

State Traffic Safety and Design Engineer

DATE

State Bridge & Structural Design Engineer

DATE

District Engineer

5-18-07
WEB

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
Office of Urban Design

PROJECT CONCEPT REPORT

Blairs Bridge Road Park and Ride Lot
Cobb County

Project Number: CSMSL-0007-00(920)
PI No. 0007920

FEDERAL ROUTE NO: I-20
STATE ROUTE NO: SR 6, SR 402
COUNTY ROUTE NO: CR 11, CR 71 Douglas/CR 2621 Cobb

Recommendation for Approval:

DATE 5/16/07

Mark S. Cowens
Project Manager

DATE 5/17/07

James B. Bush
State Urban Design Engineer

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Plan (RTP) and/or the State Transportation Improvement Program (STIP).

DATE
5-14-07
DATE

State Transportation Planning Administrator
James T. Simpson
Financial Management Administrator

DATE

State Environmental / Location Engineer

DATE

Project Review Engineer

DATE

State Traffic Safety and Design Engineer

DATE

State Bridge & Structural Design Engineer

DATE

District Engineer

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
Office of Urban Design

PROJECT CONCEPT REPORT

Blairs Bridge Road Park and Ride Lot
Cobb County

Project Number: CSMSL-0007-00(920)
PI No. 0007920

FEDERAL ROUTE NO: I-20
STATE ROUTE NO: SR 6, SR 402
COUNTY ROUTE NO: CR 11, CR 71 Douglas/CR 2621 Cobb

Recommendation for Approval:

DATE 5/16/07

Mario S. Cowens
Project Manager

DATE 5/17/07

Jamie B. Bush
State Urban Design Engineer

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Plan (RTP) and/or the State Transportation Improvement Program (STIP).

DATE _____	State Transportation Planning Administrator
DATE _____	Financial Management Administrator
DATE _____	State Environmental / Location Engineer
<u>5/21/07</u> DATE _____	<u>[Signature]</u> Project Review Engineer
DATE _____	State Traffic Safety and Design Engineer
DATE _____	State Bridge & Structural Design Engineer
DATE _____	District Engineer

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
Office of Urban Design

PROJECT CONCEPT REPORT

Blairs Bridge Road Park and Ride Lot
Cobb County

Project Number: CSMSL-0007-00(920)
PI No. 0007920

FEDERAL ROUTE NO: I-20
STATE ROUTE NO: SR 6, SR 402
COUNTY ROUTE NO: CR 11, CR 71 Douglas/CR 2621 Cobb

Recommendation for Approval:

DATE 5/16/07

Mark S. Cowens
Project Manager

DATE 5/17/07

James B. Bush
State Urban Design Engineer

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Plan (RTP) and/or the State Transportation Improvement Program (STIP).

DATE _____	State Transportation Planning Administrator
DATE _____	Financial Management Administrator
DATE _____	State Environmental / Location Engineer
DATE _____	Project Review Engineer
DATE _____	State Traffic Safety and Design Engineer
<u>6/00/07</u> DATE _____	<u>Paul V. Tiller Jr.</u> State Bridge & Structural Design Engineer
DATE _____	District Engineer

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
Office of Urban Design

PROJECT CONCEPT REPORT

Blairs Bridge Road Park and Ride Lot
Cobb County

Project Number: CSMSL-0007-00(920)
PI No. 0007920

FEDERAL ROUTE NO: I-20
STATE ROUTE NO: SR 6, SR 402
COUNTY ROUTE NO: CR 11, CR 71 Douglas/CR 2621 Cobb

Recommendation for Approval:

DATE 5/16/07

Mark S. Cowens
Project Manager

DATE 5/17/07

James B. Bush
State Urban Design Engineer

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Plan (RTP) and/or the State Transportation Improvement Program (STIP).

DATE	State Transportation Planning Administrator
DATE	Financial Management Administrator
DATE	State Environmental / Location Engineer
DATE	Project Review Engineer
<u>5-21-07</u> DATE	<u>David Bell</u> State Traffic Safety and Design Engineer
DATE	State Bridge & Structural Design Engineer
DATE	District Engineer

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE: P.I. No. 0007920

OFFICE: Environment/Location

DATE: June 8, 2007



FROM: Harvey D. Keeper, State Environmental/Location Engineer

TO: Genetha Rice-Singleton, Assistant Director of Preconstruction

**SUBJECT: PROJECT CONCEPT REPORT
CSMSL-0007-00(920) / Cobb County
Blairs Bridge Road Park and Ride Lot**

The above subject concept report has been reviewed. The statement on page 6 under Environmental concerns is not correct about CE approved as part of early Acquisition. We submitted CE to FHWA on 4/19/07. FHWA requested PIOH because site is adjacent to subdivision. PIOH is scheduled for mid-July. The C.E. is not yet approved.

If you have any questions, please contact me at (404) 699-4401.

HDK/lc

Attachment

cc: Brian Summers
Keith Golden
Ben Buchan
Angela Alexander
Jamie Simpson

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
Office of Urban Design

PROJECT CONCEPT REPORT

Blairs Bridge Road Park and Ride Lot
Cobb County

Project Number: CSMSL-0007-00(920)
PI No. 0007920

FEDERAL ROUTE NO: I-28
STATE ROUTE NO: SR 6, SR 402
COUNTY ROUTE NO: CR 11, CR 71 Douglas/CR 2621 Cobb

Recommendation for Approval:

DATE 5/14/07

Mark S. Clowers
Project Manager

DATE 5/17/07

James B. Bush
State Urban Design Engineer

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Plan (RTP) and/or the State Transportation Improvement Program (STIP).

DATE	State Transportation Planning Administrator
DATE <u>6/7/07</u>	Financial Management Administrator <u>Thomas S. Ryan</u> State Environmental Location Engineer
DATE	Project Review Engineer
DATE	State Traffic Safety and Design Engineer
DATE	State Bridge & Structural Design Engineer
DATE	District Engineer

5-18-07
WCB

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
Office of Urban Design

PROJECT CONCEPT REPORT

Blairs Bridge Road Park and Ride Lot
Cobb County

Project Number: CSMS1-0007-00(920)
PI No. 0007920

FEDERAL ROUTE NO: I-20
STATE ROUTE NO: SR 6, SR 402
COUNTY ROUTE NO: CR 11, CR 71 Douglas/CR 2621 Cobb

Recommendation for Approval:

DATE 5/16/07

Maria S. Cowens
Project Manager

DATE 5/17/07

James B. Bush
State Urban Design Engineer

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Plan (RTP) and/or the State Transportation Improvement Program (STIP).

DATE
5-14-07
DATE

State Transportation Planning Administrator
James T. Simpson
Financial Management Administrator

DATE

State Environmental / Location Engineer

DATE

Project Review Engineer

DATE

State Traffic Safety and Design Engineer

DATE

State Bridge & Structural Design Engineer

DATE

District Engineer

SCORING RESULTS AS PER MOG 2440-2

Project Number: CSMSL-0007-00(920)		County: Cobb		PI No.: 0007920	
Report Date: Mat 17, 2007		Concept By: DOT Office: Urban Design			
<input checked="" type="checkbox"/> Concept Stage					
Project Type: Choose One From Each Column		<input type="checkbox"/> Major <input checked="" type="checkbox"/> Minor	<input checked="" type="checkbox"/> Urban <input type="checkbox"/> Rural	<input type="checkbox"/> ATMS <input type="checkbox"/> Bridge Replacement <input type="checkbox"/> Building <input type="checkbox"/> Interchange Reconstruction <input type="checkbox"/> Intersection Improvement <input type="checkbox"/> Interstate <input type="checkbox"/> New Location <input type="checkbox"/> Widening & Reconstruction <input checked="" type="checkbox"/> Miscellaneous	
FOCUS AREAS	SCORE	RESULTS			
Presentation	100				
Judgement	100				
Environmental	100				
Right of Way	100				
Utility	100				
Constructability	100				
Schedule	100				

NOTICE OF LOCATION AND DESIGN APPROVAL

**BLAIRS BRIDGE ROAD PARK AND RIDE LOT
COBB COUNTY**

**Project Number CSMSL-0007-00(920) Cobb County
P. I. No. 0007920**

Notice is hereby given in compliance with Georgia Code 22-2-109 that the Georgia Department of Transportation has approved the Location and Design of the above project.

Date of Location and Design Approval: JUNE 21, 2007

The proposed project consists of constructing a park and ride lot facility on an 18.94-acre parcel located in Cobb County, Georgia. The parcel is bordered by Interstate 20 to the south, Blairs Bridge Road to the north, and a residential development along Bridgeport Court to the east. The project lies entirely within Cobb County, and within Land District 18, Land Lots 517, 518 and 583.

Drawings of maps or plats of the proposed project as approved are on file and are available for inspection at the Georgia Department of Transportation.

**Ernay Robinson, District Seven/Area Three
Department Of Transportation
Hapeville Office
940 Virginia Avenue
Atlanta, GA 30354
(770) 528-3238**

Any interested party may obtain a copy of the drawings or maps or plats or portions thereof by paying a nominal fee and requesting in writing to:

**James B. Buchan, PE, State Urban Design Engineer
Department Of Transportation
No. 2 Capitol Square
Atlanta, Georgia 30334
(404) 656-5436
Ben.Buchan@dot.state.ga.us**

Any written request of communication in reference to this project or notice SHOULD include the Project and P.I. Numbers as noted at the top of this notice.

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
Office of Urban Design

PROJECT CONCEPT REPORT

Blairs Bridge Road Park and Ride Lot
Cobb County

Project Number: CSMSL-0007-00(920)
PI No. 0007920

FEDERAL ROUTE NO: I-20
STATE ROUTE NO: SR 6, SR 402
COUNTY ROUTE NO: CR 11, CR 71 Douglas/CR 2621 Cobb

Recommendation for Approval:

DATE 5/16/07

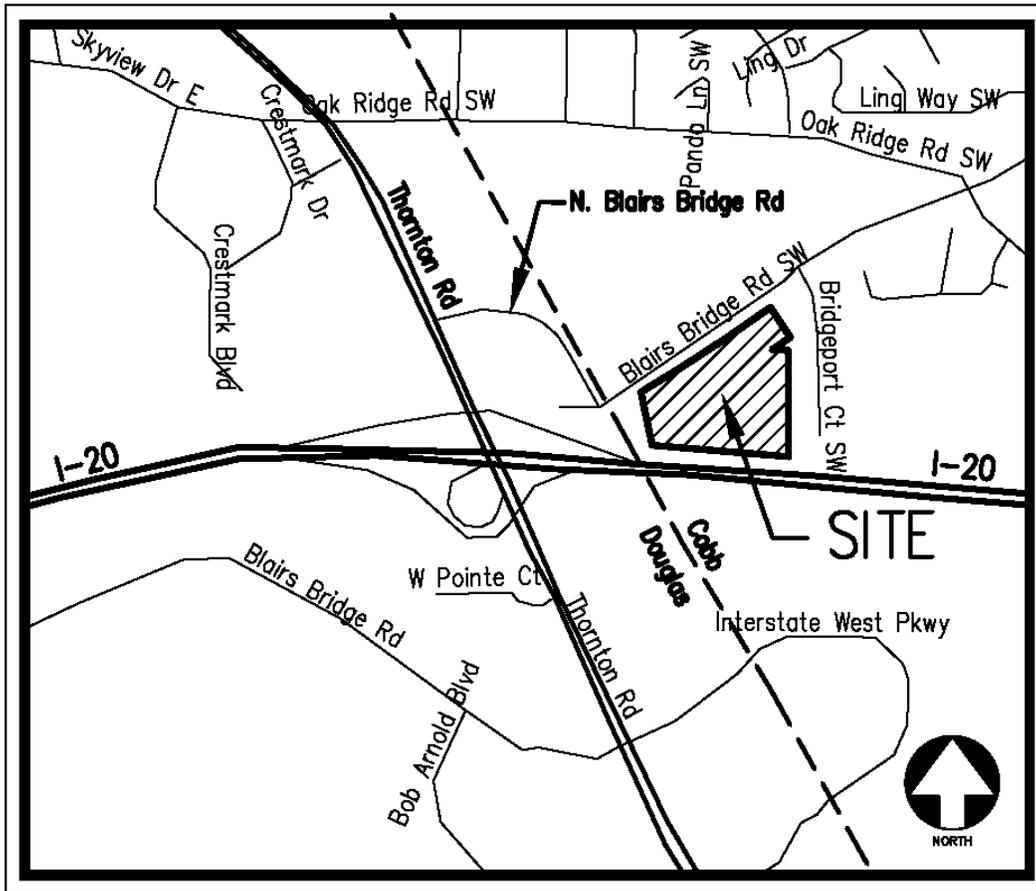
Mark S. Cowens
Project Manager

DATE 5/17/07

James B. Bush
State Urban Design Engineer

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Plan (RTP) and/or the State Transportation Improvement Program (STIP).

DATE _____	State Transportation Planning Administrator
DATE _____	Financial Management Administrator
DATE _____	State Environmental / Location Engineer
DATE _____	Project Review Engineer
DATE _____	State Traffic Safety and Design Engineer
DATE _____	State Bridge & Structural Design Engineer
DATE _____	District Engineer



Location Map

Project: CSMSL-0007-00(920) Cobb County **PI No.:** 0007920

Description: Blairs Bridge Road Park and Ride Lot

Need and Purpose: Traffic congestion is the most stubborn barrier to continued economic growth in Georgia and the metropolitan Atlanta region. From 1990 to 2000, the Atlanta region added more than 1.0 million residents to total 3.7 million – almost half of the population of Georgia.

Atlanta’s development pattern has increasingly dispersed employment and has generated scattered residential suburbs throughout the region. The dispersed pattern has created suburb-to-suburb transportation needs and has decreased the percentage of the region’s jobs located in one central location, downtown Atlanta (from 25% of the jobs in downtown Atlanta to 6%).

The region’s road network and trip-making patterns have created corridors with high levels of traffic congestion on a daily basis. Despite significant investments in freeways and transit systems, radial and suburban cross-town corridors alike are congested. By 2025, the number of daily person trips in the region will rise to 14.6 million, a 37% increase. There are 44 congested corridors within the 13-county region, as identified by the Atlanta Regional Commission (ARC).

In recent years, the Atlanta metropolitan region has taken major steps in meeting the transportation challenges for its residents and visitors. Until recently, an overall transit plan had not been developed for the region which would address the current and future transit needs. The plan, identified as the Regional Transit Action Plan (RTAP), has been developed over a two year time frame and has provided an integrated public transportation network for the Atlanta region. The RTAP and associated projects are included in the 2025 Amended RTP and the 2003-2005 TIP as Projects AR-367B, AR-367C, AR-392, and AR-393. The RTAP will be an integral transit component of the 2030 Regional Transportation Plan (RTP) being currently developed by the ARC.

The RTAP concept plan is the regional blueprint which would define the future public transportation network for the Atlanta region. The plan lays out a new direction in extending transit services into congested corridors through the implementation of a regional transit network consisting of 1) the Regional Express Bus Program and 2) the Regional Bus Rapid Transit System. The plan also calls for:

- Preservation and maintenance of existing transit services and infrastructure;
- Expanded local bus service throughout the 13-county region;
- A seamless, integrated fare policy for the region’
- An investment in Intelligent Transportation Systems technologies, and
- Support tools that will enable more people to perceive transit as a viable option for their travel needs;
- Land use plans and regulations should be modified to encourage transit-oriented developments;
- comprehensive plans should take a strong position on the role of transit in the community.

The RTAP has identified a regional express bus system, supporting circulator systems, arterial Bus Rapid Transit (BRT) corridors, and high speed BRT corridors. The identified system will provide competitive choices to the region’s residents, will enhance the customer experience, will invest wisely and optimize value of such a system, and will develop an integrated system.

As part of the development of such a system, locations throughout the region for supporting infrastructure are being identified. Such supporting infrastructure would include, but not be limited to, park and ride lots, new construction and existing sites, and maintenance facilities. One identified facility is the proposed Blairs Bridge Road Park and Ride Lot near I-20 @ Thornton Road.

Description of the proposed project:

Location and Proposed Improvements

The proposed project consists of constructing a park and ride lot facility on an 18.94-acre site located in Cobb County, Georgia. The parcel is bordered by Interstate 20 to the south, Blairs Bridge Road to the north, and a residential subdivision along Bridgeport Court to the east. The proposed park and ride facility infrastructure would consist of approximately 492 parking spaces, three bus pavilions, a Fare Systems Shelter building for ticket vending, and access to the site from various locations.

Existing Conditions

The previous owner of the parcel was in the process of building a residential development of town homes. However, the GDOT design for the new HOV interchange at I-20 @ Thornton Road crosses the site. Therefore, the construction of the residential development was halted. The existing conditions on the site include the infrastructure for that development, including curb and gutter and asphalt roads, complete storm and sanitary sewer, underground water and power, graded building pads, several retaining walls and a stormwater detention pond.

Disturbed Area

The 18.94-acre parcel is divided by the future HOV Interchange alignment, leaving two separate parcels. The park and ride lot will be constructed on the northern side of the HOV Interchange in an area of approximately 10.7 acres. There is a 50-foot non-disturbed buffer along the eastern property line, and there is also a 50-foot stream buffer near the southeastern corner of the site. The proposed park and ride lot will not encroach into these buffers, therefore the approximate disturbed area for the project is 7 acres.

Access

Commuter vehicles will enter and exit the lot via the full access driveway on Blairs Bridge Road. Initially, buses will enter the lot via a separate driveway off of Blairs Bridge Road. This access driveway will remain in place during the HOV Interchange construction, so that operation of the bus service will not be interrupted. When the construction of the HOV Interchange is complete, buses will then enter the lot directly off of the new access road. Buses will exit the lot onto Blairs Bridge Road during both current and future conditions. Refer to the attached Traffic Report for further detail related to access to the site.

Stormwater Detention

The Concept Plan indicates the location of the existing stormwater detention facility, which will remain in place. The design criteria used for the pond design will be studied to confirm that there is adequate storage for the park and ride lot.

Is the project located in a Non-attainment area? Yes No

PDP Classification: Major , or Minor

Federal Oversight: Full Oversight , Exempt , State Funded , or Other

Functional Classification: I-20 – Urban Interstate Principal Arterial
Thornton Road – Urban Principal Arterial
North Blairs Bridge Road – Urban Local Street
Blairs Bridge Road – Urban Local Street
Six Flags Drive - Urban Local Street

U.S. Route Number(s): I-20
State Route Number(s): Thornton Road (SR 6), I-20 (SR 402)
County Route Number(s): North Blairs Bridge Road (Douglas CR 11)
Blairs Bridge Road (Douglas CR 71, Cobb CR 2621)

Traffic (2007 AADT): Thornton Road – 75,000 vehicles
North Blairs Bridge Road – 4,100 vehicles
Blairs Bridge Road – 3,570 vehicles
Six Flags Drive – 7,900

Existing design features:

- Typical Sections: Thornton Road has four lanes in each direction, is median divided, and has an urban section. North Blairs Bridge Road has one travel lane in each direction, with grassed shoulders and an open drainage system. Blairs Bridge Road is a two lane rural section. Six Flags Drive has one travel lane in each direction that includes a two-way center left-turn lane, with grassed shoulders, and an open drainage system.
- Posted speed: Thornton Road – 45 mph
North Blairs Bridge Road - 45 mph
Blairs Bridge Road – 35 mph
Six Flags Drive - 40 mph
- Minimum radius for curve: N/A
- Maximum superelevation rate for curve: N/A
- Maximum degree of curvature: N/A
- Maximum grade: N/A
- Width of right of way: project site is 18.94 acres
Blairs Bridge Road, R/W to be determined
- Major structures: existing modular block retaining walls on the project site
- Major interchanges or intersections: North Blairs Bridge Road at Thornton Road (signalized intersection)
Thornton Road at I-20 (signalized interchange)
- Existing length of roadway segment: 0 miles in length

Proposed Design Features:

- Proposed typical section(s): The proposed park and ride lot will include a deceleration lane on Blairs Bridge Road at the entrance driveway. No other improvements to Blairs Bridge Road are included with this project.
- Proposed Maximum grade Side Street: N/A
- Maximum grade allowable Side Street: N/A
- Proposed Maximum grade driveway: N/A
- Proposed Minimum radius of curve: N/A
- Minimum Radius allowable: N/A

- Proposed Superelevation rate for curves: N/A
- Right of way
 - Width: The parcel under consideration is 18.94 acres in size. However, the portion north of the future HOV interchange will be required for the proposed park and ride lot. That area is approximately 10.7 acres. GDOT has purchased the entire parcel as part of an advanced acquisition procedure for the I-20 HOV Interchange project..
 - Easements: Temporary , Permanent , Utility , Other .
 - Type of access control: Full , Partial , By Permit , Other .
 - Number of parcels: 1 Number of displacements:
 - Business: 0
 - Residences: 0
 - Mobile homes: 0
 - Other: 0
- Structures:
 - Bridges: None
 - Retaining walls: There are several modular block retaining walls on the project site. The walls along the perimeter of the site (six total) will either be maintained or modified to meet proposed grades, so that the buffers along the perimeter will not be encroached upon. The walls on the interior of the site will be removed. The Concept Plan does not include any proposed retaining walls, but there may be a need to add one during design when detailed grading of the site is determined.
- Major intersections: None
- Traffic control during construction: Minimal traffic control is anticipated on Blairs Bridge Road for the construction of the driveways into the parking areas. All work will be constructed under traffic.
- Design Exceptions to controlling criteria anticipated:

	<u>UNDETERMINED</u>	<u>YES</u>	<u>NO</u>
HORIZONTAL ALIGNMENT:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ROADWAY WIDTH:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SHOULDER WIDTH:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
VERTICAL GRADES:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
CROSS SLOPES:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
STOPPING SIGHT DISTANCE:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SUPERELEVATION RATES:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
HORIZONTAL CLEARANCE:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SPEED DESIGN:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
VERTICAL CLEARANCE:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
BRIDGE WIDTH:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
BRIDGE STRUCTURAL CAPACITY:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- Design Variances: None expected
- Environmental concerns: None. Document Approved 2/23/07 as part of advanced acquisition.
- Level of environmental analysis:
 - Are Time Savings Procedures appropriate? Yes , No ,
 - Categorical exclusion , approved 2/23/07

- Environmental Assessment/Finding of No Significant Impact (FONSI) , or
- Environmental Impact Statement (EIS) .

- Utility involvements: Existing utility information has not been researched during Concept Development. It is anticipated that there are existing utilities on the site which will be removed. Also, minor adjustments to the facilities within the right-of-way areas are expected. All utility costs will be reimbursable.

Project responsibilities:

- Design, Consultants for GRTA
- Right of Way Acquisition, GDOT. Note: GDOT purchased the entire parcel as part of the advanced acquisition for the I-20 HOV Interchange project.
- Relocation of Utilities, GDOT
- Letting to contract, GDOT
- Supervision of construction, GDOT
- Providing material pits, Contractor

Coordination

- Concept meeting date and brief summary: *Concept meeting was held on April 12, 2007. Meeting minutes are included as an attachment to this report.*
- P. A. R. meetings, dates and results: *Not required*
- FEMA, USCG, and/or TVA: *None*
- Public involvement: *Not required*
- Local government comments: *None*
- Other projects in the area:
PI No. 0001760: I-20 from SR 6/Douglas thru Cobb to SR 280/Fulton – HOV Lanes
PI No. 0003165: I-20 Westside from SR 5/Bill ARP to SR 6 for HOV Lanes
PI No. 0006402: ATMS/ I-20 Ramp Meters – HAR from Thornton Rd. to Evans Mill Rd.
Cobb County DOT project of intersection improvements at Blairs Bridge Road at Six Flags Drive
- Other coordination to date: *None*
- Railroad Coordination: *Not required*

Scheduling – Responsible Parties’ Estimate

- Time to complete the environmental process: Complete
- Time to complete preliminary construction plans: 4 Months
- Time to complete right of way plans: Complete
- Time to complete the Section 404 Permit: 0 Months
- Time to complete final construction plans: 1 Month
- Time to purchase right of way: Complete
- List other major items that will affect the project schedule: None anticipated

Alternates considered:

One alternate location was considered for this lot. It was located at the intersection of North Blairs Bridge Road and Blairs Bridge Road, and bordered by I-20 to the south. That location was considered due to the proximity to the exit ramp for I-20 to Thornton Road. The alternate concept included a bus

Project Concept Report - Blairs Bridge Road Park and Ride Lot
Project Number: CSMSL-0007-00(920) Cobb County
P.I. Number:0007920

ramp from the off ramp, which would allow buses to have direct access from I-20 westbound to the park and ride lot. However, the location required the acquisition of several parcels, none of which are currently for sale. Also, one parcel currently has an operating electrical supply store on it, which would have been displaced by the project. The existing grades on the site required significant retaining walls.

A Concept Report for the alternate location was prepared and submitted on November 10, 2005 for review. FHWA was not in favor of the bus ramp, which was the main reason for selecting that location. As a result, GRTA has chosen to construct this lot adjacent to the future HOV interchange, which will provide direct access to and from I-20 to the lot when the interchange is complete.

Comments:

None at this time.

Attachments:

1. Preliminary Cost Estimate
2. Concept Meeting Minutes
3. Notice of Location and Design Approval
4. Traffic Report
5. Concept Plan

Project Concept Report – Blairs Bridge Road Park and Ride Lot
 Project Number CSMSL-0007-00(920) Cobb County
 P.I. Number: 0007920

SCORING RESULTS AS PER TOPPS 2440-2

Project Number: CSMSL-0007-00(920)		County: Cobb		PI No.: 0007920	
Report Date: May 17, 2007		Concept By: DOT Office: Urban Design			
<input checked="" type="checkbox"/> CONCEPT		Consultant: Debbie Cotrell, URS			
Project Type: Choose One From Each Column		<input type="checkbox"/> Major <input checked="" type="checkbox"/> Minor	<input checked="" type="checkbox"/> Urban <input type="checkbox"/> Rural	<input type="checkbox"/> ATMS <input type="checkbox"/> Bridge <input type="checkbox"/> Building <input type="checkbox"/> Interchange <input type="checkbox"/> Intersection <input type="checkbox"/> Interstate <input type="checkbox"/> New Location <input type="checkbox"/> Widening & Reconstruction <input checked="" type="checkbox"/> Miscellaneous	
FOCUS AREAS	SCORE	RESULTS			
Presentation					
Judgement					
Environmental					
Right-of-Way					
Utility					
Constructability					
Schedule					

Estimate Report for file "GRTA Blairs Bridge Rd P&R Lot CSMSL-0007-00 (920)"

Section LANDSCAPE					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
XXX-XXXX	7	AC	16320.00	LANDSCAPE	114240.00
Section Sub Total:					\$114,240.00

Section Pavement Items					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
310-1101	9270	TN	19.92	GR AGGR BASE CRS, INCL MATL	184658.40
402-3121	1210	TN	73.34	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	88741.40
402-3131	1390	TN	81.72	RECYCLED ASPH CONC 9.5 MM SUPERPAVE, GP 2 ONLY, INCL BITUM MATL & H LIME	113590.80
402-3190	2270	TN	75.19	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	170681.30
413-1000	1235	GL	2.83	BITUM TACK COAT	3495.05
Section Sub Total:					\$561,166.95

Section STRIPING ITEMS					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
652-0095	10	EA	42.03	PAVEMENT MARKING, HANDICAP SYMBOL	420.30
652-0110	5	EA	48.61	PAVEMENT MARKING, ARROW, TP 1	243.05
652-0210	2	EA	67.25	PAVEMENT MARKING, WORD, TP 1	134.50
652-0260	2	EA	69.07	PAVEMENT MARKING, WORD, TP 6	138.14
652-5451	7910	LF	0.28	SOLID TRAFFIC STRIPE, 5 IN, WHITE	2214.80
652-5701	140	LF	1.91	SOLID TRAF STRIPE, 24 IN, WHITE	267.40
652-5801	130	LF	0.92	SOLID TRAF STRIPE, 8 IN, WHITE	119.60
652-9001	140	SY	2.11	TRAFFIC STRIPE, WHITE	295.40
Section Sub Total:					\$3,833.19

Section HARDSCAPE/BUILDING ITEMS					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
441-9000	14	EA	143.06	PRECAST BUMPER BLOCK	2002.84
763-0100	1	LS	275515.00	FARE SYSTEM SHELTER BUILDING	275515.00
763-0110	1	LS	302.03	BUS PAVILIONS (three buildings included)	302.03
900-0526	9	EA	651.69	BOLLARDS	5865.21
Section Sub Total:					\$283,685.08

Section ROADWAY ITEMS					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
150-1000	1	LS	25000.00	TRAFFIC CONTROL - P.I. NO.	25000.00
210-0100	1	LS	1167964.00	GRADING COMPLETE -	1167964.00
318-3000	100	TN	20.39	AGGR SURF CRS	2039.00
441-3340	1500	SY	37.47	CONC SIDEWALK, 4 IN	56205.00
441-6216	8120	LF	15.66	CONC CURB & GUTTER, 8 IN X 24 IN, TP 2	127159.20
Section Sub Total:					\$1,378,367.20

Section UTILITY - LIGHTING AND COMMUNICATION CONDUITS					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
XXX-XXXX	7	AC	28107.00	LIGHTING, POWER AND COMMUNICATION CONDUIT	196749.00
Section Sub Total:					\$196,749.00

Section UTILITY - WATER ITEMS					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
670-5620	330	LF	21.78	WATER SERVICE LINE, 3/4 IN	7187.40
670-8430	1	EA	2699.24	DBL STRAP SADDLE, 16 IN X 3/4 IN	2699.24
670-9732	1	EA	3009.15	INSTALL BACKFLOW PREVENTION ASSEMBLY FOR 3/4 IN SERVICE LINE, WITH VAULT	3009.15
Section Sub Total:					\$12,895.79

Section SIGNS					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
636-1033	100	SF	21.44	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 9	2144.00

636-2070	500	LF	9.58	GALV STEEL POSTS, TP 7	4790.00
Section Sub Total:					\$6,934.00

Section GUARDRAIL AND FENCE

Item Number	Quantity	Units	Unit Price	Item Description	Cost
641-1200	1000	LF	19.94	GUARDRAIL, TP W	19940.00
641-5001	4	EA	708.76	GUARDRAIL ANCHORAGE, TP 1	2835.04
643-1152	600	LF	15.07	CH LK FENCE, ZC COAT, 6 FT, 9 GA	9042.00
643-8010	2	EA	871.34	GATE, CHAIN LINK ZC COAT -	1742.68
Section Sub Total:					\$33,559.72

Section STORM DRAINAGE

Item Number	Quantity	Units	Unit Price	Item Description	Cost
XXX-XXXX	7	AC	29300.00	STORM DRAINAGE	205100.00
Section Sub Total:					\$205,100.00

Section EROSION CONTROL AND GRASSING

Item Number	Quantity	Units	Unit Price	Item Description	Cost
XXX-XXXX	7	AC	16605.00	EROSION CONTROL AND GRASSING	116235.00
Section Sub Total:					\$116,235.00

Total Estimated Cost: \$2,912,765.93

Subtotal Construction Cost \$2,912,765.93

E&C Rate 10.0 % \$291,276.59

Inflation Rate 0.0 % @ 0.0 Years \$0.00

Total Construction Cost \$3,204,042.52

Right Of Way \$2,200,000.00

ReImb. Utilities \$0.00

Grand Total Project Cost \$5,404,042.52



MEMORANDUM

400 Northpark Town Center
1000 Abernathy Road, Suite 900
Atlanta, GA 30328
Phone: (678) 808-8800
Fax: (678) 808-8400

To: Attendees of Concept Team Meeting (see attached list) **File:** 15284010

From: Jennifer Harper, PE **Copy:** URS
Date: April 12, 2007 File

Subject: CONCEPT MEETING MINUTES – 0007920 (Blairs Bridge Road Park and Ride Lot)

Purpose: The purpose of this memo is to document the Project Concept Meeting held with Georgia DOT and GRTA on Thursday, April 12, 2007 starting at 1:30 PM the GDOT Central Office. The meeting was held to discuss the Concept Report for the proposed Park and Ride Lot on Blairs Bridge Road, near I-20 and Thornton Road.

Discussion:

1. URS provided an overview of the project. They provided history on why this property was chosen for this park and ride lot, and how buses and commuter vehicles will access the site.
2. The impact of the future HOV interchange at this location was discussed. URS has coordinated with Earth Tech on the I-20 HOV Project, and the alignment of the interchange is shown on the concept plan. When the interchange is constructed, buses will access the park and ride lot directly from the interchange.
3. Jan Hilliard (GDOT Project Manager for the I-20 HOV project) requested a full-size copy of the Concept Plans from URS for the Urban Design office.
4. GDOT confirmed that the CE has also been approved, and it is for the entire parcel (18.94 acres). The CE required that noise protection be installed along the western boundary of the site, in order to protect the adjacent residential development. The options of installing noise walls and/or a landscape buffer were discussed. It was noted that there is an existing 50-foot non-disturbed buffer along the property line, which will remain in place.
5. GDOT also confirmed that the entire parcel has been acquired as part of the advanced acquisition process for the I-20 HOV project.
6. URS provided a brief summary of the traffic report for the project. The report concluded that the proposed park and ride lot will result in minor impacts to the surrounding intersections, but they will still operate at acceptable levels. No changes or upgrades to the surrounding roadway network are required. The traffic report does recommend that the speed limit on North Blairs Bridge Road be reduced from 45 MPH to 35 MPH, because that is a more realistic speed limit for the existing road.
7. GDOT questioned the existing condition of both North Blairs Bridge Road and Blairs Bridge Road. These roads will be used by heavy equipment during construction of the lot, which may result in necessary roadway improvements. These two roads are owned and maintained by Cobb County and Douglas County. GRTA agreed that improvements to these facilities may be necessary, and it will be discussed further with the County DOTs during design.
8. No utility issues have arisen on the project.
9. The five-leg intersection within the park and ride lot was an initial cause for concern. However, since the bus traffic will not significantly conflict with passenger vehicles, and the buses are driven by professional drivers, there should be little issue with the operation of the intersection.
10. GDOT will determine what construction area office covers this project and provide URS and GRTA with appropriate contact information.

Should you have any questions or comments regarding the above information, please do not hesitate to contact Jennifer Harper or Debbie Cottrell via phone at 678-808-8800. Thank you for your time.

Sign In Sheet

Name	Organization	Phone No.	Email
✓ Marlo Clowers	GDOT	404-463-0945	Marlo.clowers@dot.stat.ga.us
✓ Greg Wiggins	GDOT	404-463-0523	Greg.wiggins@dot.state.ga.us
✓ Shaun Green	GRTA	404-463-2437	sgreen@grta.org
✓ Jennifer Harper	URS	678-808-8978	Jennifer_Harper@URSCorp.com
✓ Debbie Cottrell	URS	678-808-8860	Debbie_Cottrell@URSCorp.com
KEN WERHO	GDOT	404-635-8144	KEN.WERHO@
JAN C. HILLIARD	GDOT-URBAN DESIGN	4-656-5441	Jan.Hilliard@dot.state.ga.us
TERRY McColister	Representing R/W-Jerry Milligan	7-986-1541	Terry.milligan@dot.state.ga.us
Dan Dobry	URS	678/808-8848	Dan_Dobry@urscorp.com
Marvin Woodward	GRTA		
Dan			
CLYDE CUNNINGHAM	GDOT	7986-1122	CLYDE.CUNNINGHAM@DOT.STATE.GA.US

**BLAIRS BRIDGE ROAD
PARK AND RIDE LOT
COBB COUNTY, GEORGIA**

TRAFFIC REPORT

Prepared for:
Georgia Regional Transportation Authority
Marquis One Tower
245 Peachtree Center Avenue, NE
Suite 900
Atlanta, Georgia 30303-1223

Prepared by:
URS Corporation
1000 Abernathy Road
400 Northpark Town Center, Suite 900
Atlanta, Georgia 30328

May 11, 2007

INTRODUCTION

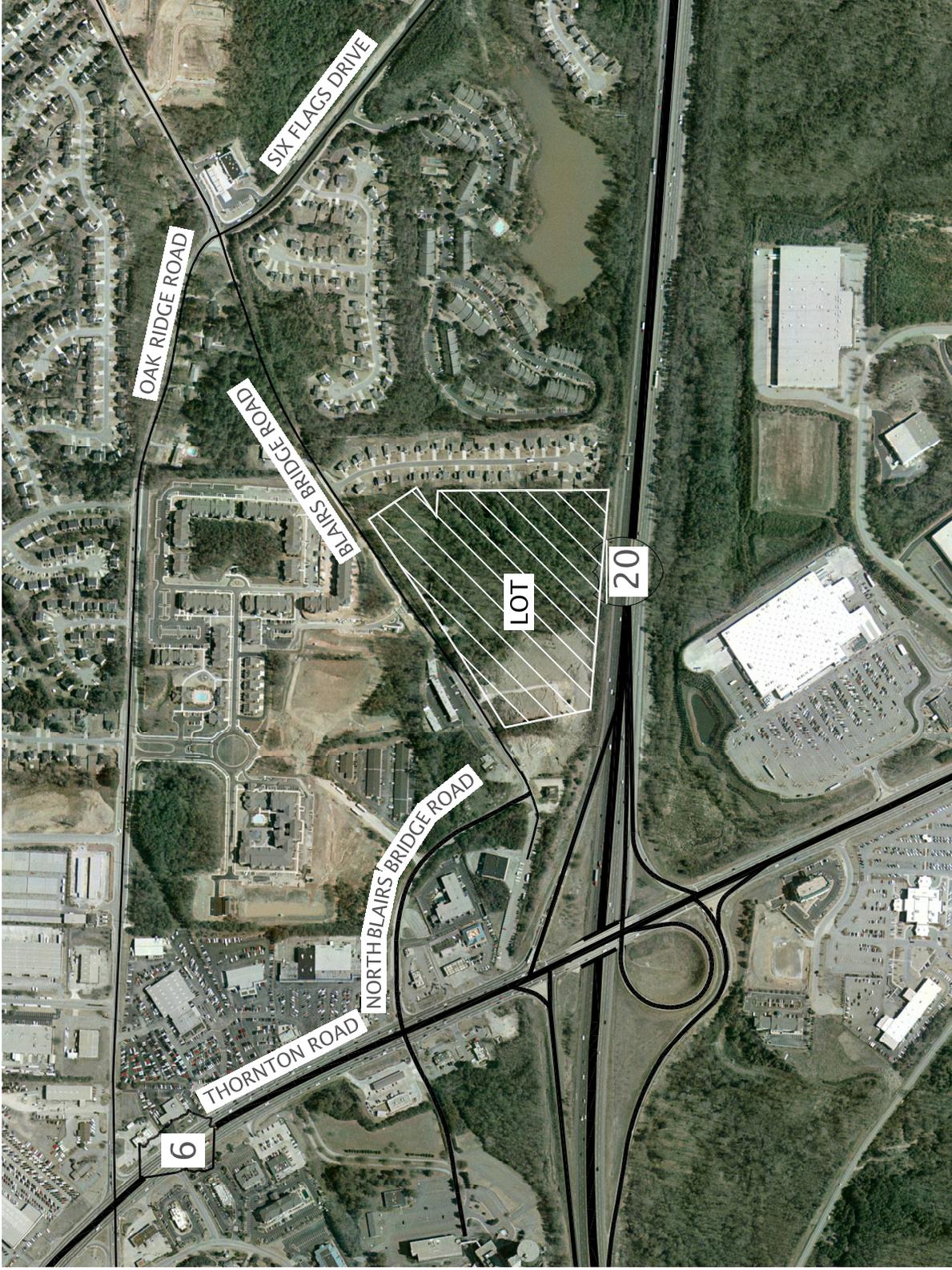
The Georgia Regional Transportation Authority (GRTA) Xpress Bus park and ride lot to be located in the Lithia Springs area is currently proposed to be constructed along the south side of Blairs Bridge Road east of Thornton Road (State Route 6, SR 6) and North Blairs Bridge Road plus its southern boundary abuts the I-20 right-of-way; see Figure 1. This facility would replace the existing Ride Share park and ride lot that is accessed via the west leg of the North Blairs Bridge Road and Blairs Bridge Road intersection.

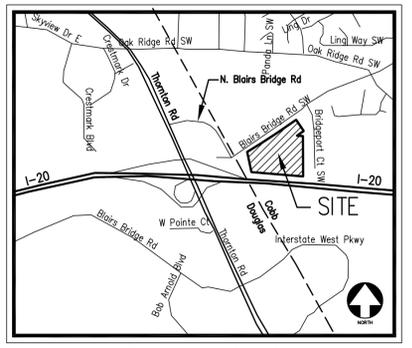
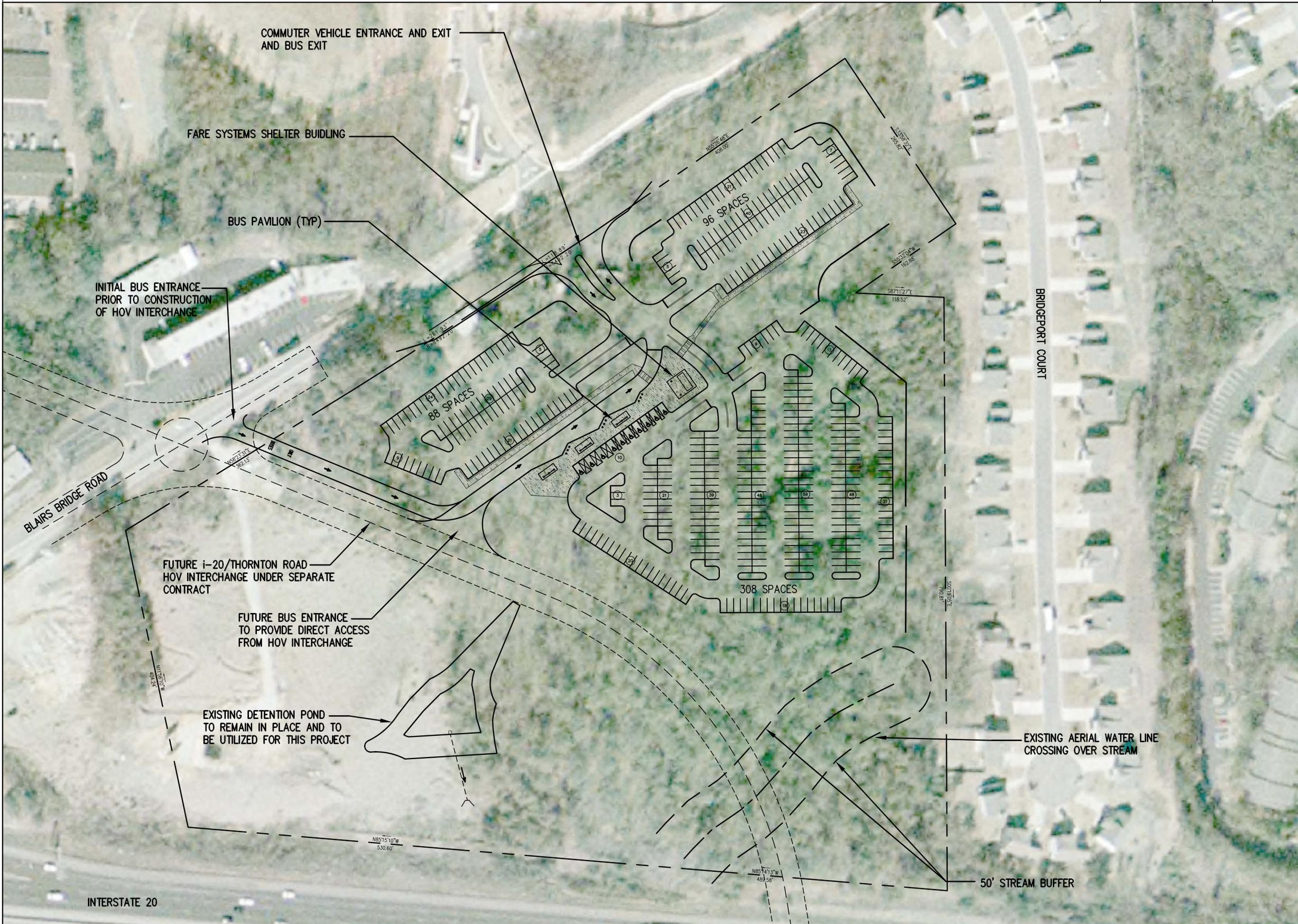
Under its proposed layout, the park and ride lot would have a separate bus-only entrance at the western boundary of the property. There would also be a full access driveway for other vehicles at the approximate center of the frontage along Blairs Bridge Road. This driveway would also be used by the buses to exit the park and ride lot. The facility is currently designed to provide a total of 492 parking spaces, 10 of which will be designated for handicapped drivers. The stop area with benches and shelters is located in the approximate center of the park and ride lot. The site layout is shown in Figure 2.

This study was undertaken to quantify the impact to traffic operations once the park and ride lot is functional and the additional traffic generated by the facility would be present. This report will supersede the previous study performed by URS in April 2005 for a different nearby site.

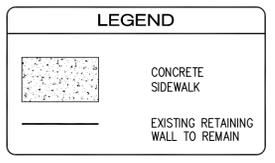
SERVICE

Information used in the previous study to estimate the transit service to this park and ride lot was based on the September 2003 “Regional Express Service Bus Plan”. At that time Xpress service had not yet been initiated. Today there are two routes in service that are in proximity to the new park and ride site. The first is the Route #460 which has one terminus in Douglas County and the other in downtown Atlanta. This route passes the site as it runs along I-20. The second is Route #470 which has one terminus in Hiram with a stop at the Silver Comet Trailhead in Powder Springs and the other in downtown Atlanta. This route runs along Thornton Road (SR 6) and I-20 as it passes this site.





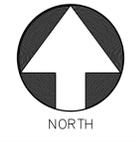
- CONCEPT DESIGN BACKGROUND DATA SOURCES**
- TOPO:
- USGS QUAD MAP (date: UNKNOWN)
 - COUNTY GIS MAP (date)
 - FIELD RUN TOPO
- BOUNDARY:
- ESTIMATED
 - GIS/TAX PARCEL
 - BOUNDARY SURVEY
- EXISTING SITE FEATURES:
- COUNTY GIS/AERIAL PHOTO
 - FIELD RUN SURVEY



ESTIMATED PARKING SUMMARY

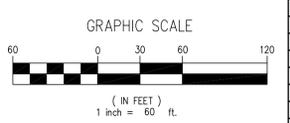
STANDARD (9' x 19'):	482 SPACES
HANDICAP (9' x 19'):	10 SPACES
PARKING PROVIDED:	492 SPACES

SITE PLAN NOTES:
 1. THE AERIAL PHOTO SHOWN IN THE BACKGROUND OF THIS PLAN IS NOT REFLECTIVE OF THE CURRENT CONDITIONS ON THIS SITE. THE SITE HAS BEEN DEVELOPED SINCE THE PHOTOGRAPH WAS TAKEN. HOWEVER, THIS AERIAL IS REPRESENTATIVE OF THE CONDITION OF THE ADJACENT PARCELS.



5/15/2007

URS
 400 Northpark Town Center
 1000 Abernathy Road N.E., Suite 900
 Atlanta, Georgia 30328
 Tel: (678) 808-8800, Fax: (678) 808-8400



REVISIONS		

STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE OF URBAN DESIGN
CONCEPT SITE PLAN

BLAIRS BRIDGE ROAD
 PARK AND RIDE LOT

CP 1
 DRAWING No.

In discussions with GRTA representatives regarding the planned service to the park and ride lot, no final determination has been made to specific routings and time schedule. However, the current plan would include three routes providing service to the park and ride lot. Two of the routes would have 30 minute headways staggered by 15 minutes. The third route would have 60 minute headways. To present a conservative estimate of the number of buses traveling during the peak hour of adjacent street traffic, the first minute and the 60th minute of the service hour are included in the analysis resulting in seven additional buses being added to the traffic stream. Table 1 represents the bus activity during the peak hour.

Table 1: Projected Transit Service			
Time/Minute	Route #1	Route #2	Route #3
:00	Bus		Bus
:15		Bus	
:30	Bus		
:45		Bus	
:60	Bus		Bus

This service schedule would be essentially the same for both the morning and evening peak hours with the only difference being the orientation of all of the trips are inbound in the morning and outbound in the evening. Although this schedule does not include the potential for reverse commute trips, if that type of service were implemented, it would only account for an additional bus or two. This table is also an oversimplification of actual service which would have layover time for the bus to sit at the stop and shelters waiting for patrons to board. However, these aspects do not affect the evaluation of the impact to the operations of adjacent street traffic where the number of buses is utilized.

ROUTING

As final decisions have not been made as to the actual transit service that would be scheduled at the park and ride lot, the route that the buses would follow has not been defined. However, due to the commuting nature of the Xpress service, the main line of travel would be along I-20. Consequently, there are a limited number of streets that the buses can travel to get to and from the park and ride lot to I-20. Even if ultimately the service originates at the park and ride lot, a bus deadheading to the facility would still travel the same streets.

Identified below are the routes that would be traveled by the buses providing service to the new park and ride lot. These roadways and their intersections are then analyzed for the impact to their operations given the introduction of the buses and the associated vehicles of the transit service patrons accessing the park and ride lot.

Inbound Buses

For this report, inbound service starts in the western portion of the metropolitan region and ends in the center of the City of Atlanta. For an inbound service that would originate from Douglas County, the bus would exit from I-20 eastbound using the right of two left-turn lanes on the off-ramp at Thornton Road (SR 6) turning into the far right/outside through lane and proceed north towards North Blairs Bridge Road. After traversing the I-20 westbound exit ramp intersection, the bus would be required to weave across two lanes of free flowing traffic, exiting at a high rate of speed from the I-20 westbound ramp, in under 400 feet before turning right onto North Blairs Bridge Road. At the all-way stop with Blairs Bridge Road, the bus would then turn left and proceed to the bus-only entrance and turn right into the facility.

For service originating from the Hiram/Powder Springs area, buses are expected to access the park and ride lot from southbound Thornton Road (SR 6) to North Blairs Bridge Road where they would turn left. The bus would then follow the same route as the Douglas buses to the exclusive bus entrance driveway on Blairs Bridge Road.

If the Xpress service originates at the park and ride lot, the bus would be deadheading from the bus barn. The route to be followed would be predicated on the location of that facility. The route could be one of those followed by an originating service as described above or from westbound I-20. Under this scenario, the bus would exit at the westbound Thornton Road (SR 6) ramp and proceed a short distance to North Blairs Bridge Road where it would turn right and follow the route of the other inbound buses.

After the patrons have boarded the bus, it could continue its inbound trip by turning left onto Blairs Bridge Road; turn right onto North Blairs Bridge Road after stopping at the all-way stop; turn left at the signalized intersection with Thornton Road (SR 6); travel through the signal at Thornton Road (SR 6) and the I-20 westbound exit; and then turn right at the free flow entrance ramp to I-20 before proceeding eastbound to downtown.

In discussions with GRTA representatives, an alternate route for buses to access I-20 eastbound is being considered. The basis for considering this routing is that Thornton Road (SR 6) at the I-20 interchange can become congested and the buses could experience additional delay to the service. Along those lines, I-20 eastbound in the morning can be congested and if this interstate is entered further east, some of the delay experienced would be decreased. Given this background, the other inbound route being considered for the buses leaving the park and ride lot is to turn right onto Blairs Bridge Road and proceed to the all-way stop with Six Flags Drive; turn right and proceed east on Six Flags Drive to the Riverside Parkway interchange with I-20 and enter the interstate at this point to then proceed downtown. This alternate inbound route to access I-20 is the one used in the analysis for the impact on traffic operations caused by the park and ride lot generated buses.

Outbound Buses

For this report, outbound service starts in the center of the City of Atlanta and ends in the western portion of the metropolitan region. Outbound buses on I-20 westbound would exit at the ramp to Thornton Road (SR 6) and turn right onto North Blairs Bridge Road to proceed to Blairs Bridge Road, turn left, and then turn right into the park and ride lot. If the facility is the end point of the service, the bus would either return to Atlanta via the inbound routing to do another outbound run or it would return to the bus barn. If this park and ride lot is only an intermediate stop, the bus would exit and continue to its other destinations.

For the continued outbound trip independent of its continued destination, after unboarding passengers the bus would turn left out of the park and ride lot onto Blairs Bridge Road, right onto North Blairs Bridge Road, and proceed to the signalized intersection with Thornton Road (SR 6). Buses destined for Douglas County would turn left into the far right lane and enter the westbound on-ramp to I-20. Buses destined for Hiram/Powder Springs would turn right and continue north on Thornton Road (SR 6).

Commuter Vehicles

Patrons driving their vehicles to and from the park and ride lot have different routes they could travel to access the facility's driveway on Blairs Bridge Road. These routes are based on the area from which the patron starts. Patrons originating from north, west, and south of the site are expected to travel on Thornton Road (SR 6) to North Blairs Bridge Road where they will travel to Blairs Bridge Road and then make a right-turn to enter the park and ride lot. These patrons are expected to follow the reverse path upon exiting and continuing to their destination of origin.

Patrons accessing the site from points east are expected to traverse either Blairs Bridge Road or Six Flags Drive before traveling along Blairs Bridge Road to make a left-turn to enter the park and ride lot. Upon exiting they are expected to follow the reverse path from which they entered.

ROADWAY NETWORK

Thornton Road (SR 6)

Thornton Road (SR 6) is classified as an urban principal arterial according to the Georgia Department of Transportation's (GDOT) Road Classification (RC) index. Information from the RC index indicates that approximately 10% of the vehicles on the roadway are trucks. This regionally significant multi-lane median divided roadway is oriented north-south in the vicinity of the park and ride lot with a posted 45 mile per hour (mph) speed limit. From recently collected traffic counts Thornton Road (SR 6) in the vicinity of North Blairs Bridge Road has an Average Daily Traffic (ADT) of 75,000 vehicles. The traffic data sheets for this and the subsequent roadways are in the Traffic Volume Data section of the Appendix.

At the intersection with North Blairs Bridge Road, Thornton Road (SR 6) is signalized with protected only left-turn phasing for the northbound and southbound maneuvers. Thornton Road (SR 6) and the I-20 westbound and eastbound ramps are also signalized.

North Blairs Bridge Road

North Blairs Bridge Road is classified as an urban local street according to the GDOT RC index, posted with a speed limit of 45 mph, and connects Thornton Road (SR 6) with Blairs Bridge Road. North Blairs Bridge Road, which is approximately 1,300' long, provides access to several businesses along its length. The RC Index did not identify the percentage of trucks on North Blairs Bridge Road; however, due to the nature of the businesses along this roadway it is expected that trucks would comprise approximately 2% of the vehicles. Currently, one travel lane in each direction exists along North Blairs Bridge Road with widening to add a left-turn lane and shared through/right-turn lane for westbound traffic at the intersection with Thornton Road (SR 6). The "T" intersection with Blairs Bridge Road is stop controlled in all directions. From recently collected traffic counts, North Blairs Bridge Road between Thornton Road (SR 6) and Blairs Bridge Road has an ADT of 4,100 vehicles.

The street/driveway opposite North Blairs Bridge Road provides access to commercial businesses on the west side of Thornton Road (SR 6). A Home Depot Center was recently constructed and as part of their approval, roadway improvements were required. These recent improvements were to add a separate southbound right-turn lane on Thornton Road (SR 6) and to widen the western approach to three lanes providing separate right-turn, through, and left-turn lanes.

Blairs Bridge Road

Blairs Bridge Road is classified as an urban local street according to the GDOT RC index, posted with a speed limit of 35 mph, and connects North Blairs Bridge Road with Six Flags Drive. There is one travel lane in each direction, with both its intersection North Blairs Bridge Road and Six Flags Drive being stop controlled in all directions. The RC Index did not identify the percentage of trucks on Blairs Bridge Road; however, due to the residential nature of the development along this roadway it is expected that trucks would comprise approximately 1% of the vehicles. The driveways providing access to the park and ride lot are on the south side of

Blairs Bridge Road. From recently collected traffic counts, Blairs Bridge Road between North Blairs Bridge Road and Six Flags Drive has an ADT of 3,570 vehicles.

Six Flags Drive

Six Flags Drive is classified as an urban local street according to the GDOT RC index, posted with a speed limit of 40 mph, and connects Blairs Bridge Road with Riverside Parkway. Six Flags Drive has one travel lane in each direction separated by a continuous two-way left-turn lane, which becomes a separate left-turn lane at its all-way stop controlled intersection with Blairs Bridge Road. The street name of the leg of the intersection opposite Six Flags Drive is called Oak Ridge Road. From a count performed by Cobb County in August 2004, the reported ADT on Six Flags Drive is 7,900 vehicles.

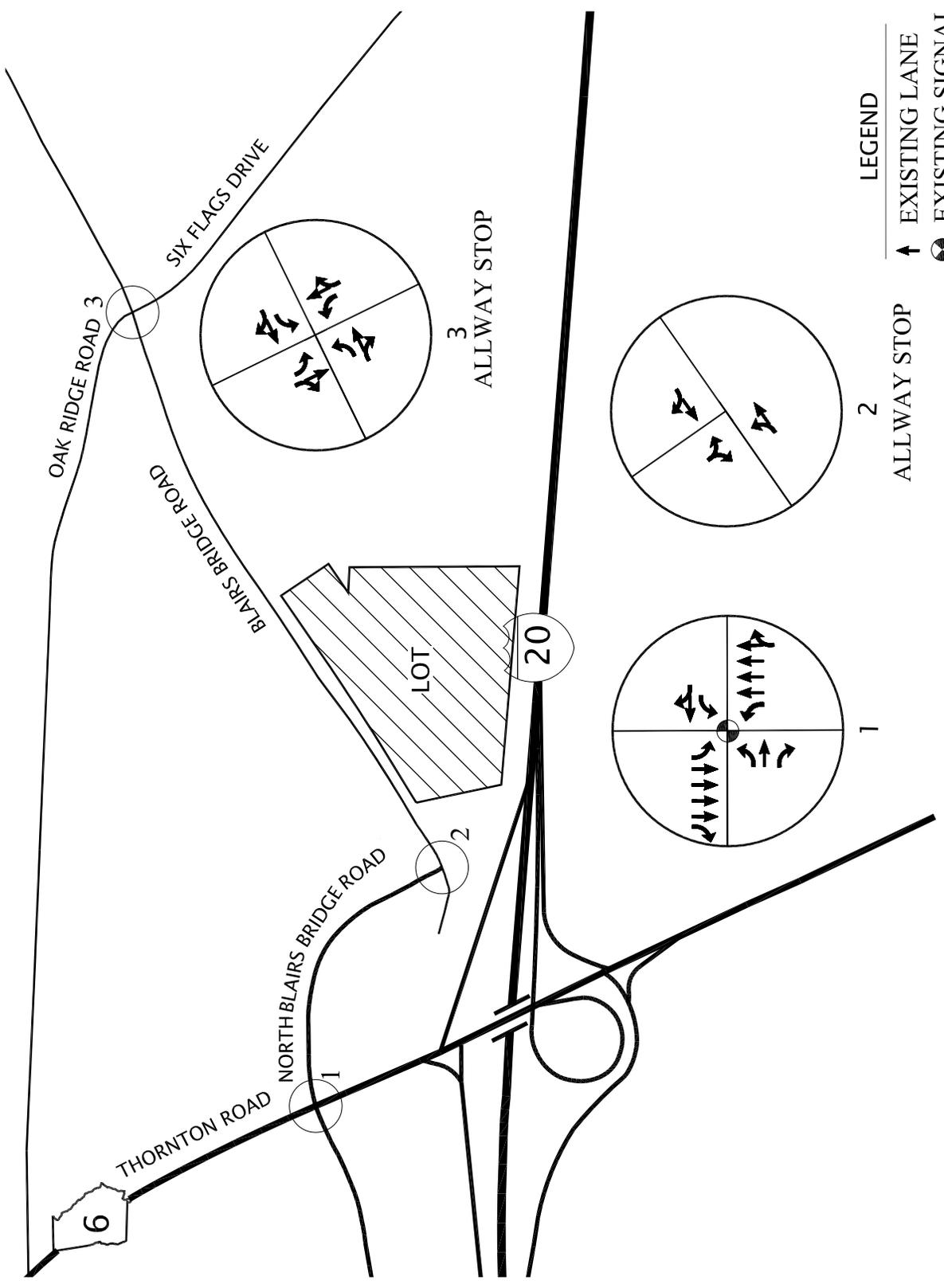
At Six Flags Drive and Blairs Bridge Road, the all-way stop signage is supplemented with an overhead flashing red beacon. Also there is a separate left-turn lane on each approach to the intersection. Three of the four legs also have right-turn channelization. This channelization, however, occurs within the intersection proper where two vehicles waiting at the stop block access to the right-turn. Consequently, the capacity analyses for this intersection did not include separate right-turn lanes.

Figure 3 illustrates the existing lane configuration for the intersections in the immediate vicinity of the park and ride lot.

ANALYSIS

To quantify traffic operations in the area and evaluate the impact the park and ride lot and Xpress service may cause, morning and evening peak period turning movement counts were performed in January 2007 at three intersections in the immediate vicinity of the park and ride lot; the count sheets are in the Traffic Volume Data section of the Appendix. Turning movement counts were performed at the signalized intersection of Thornton Road (SR 6) and North Blairs Bridge Road, at the unsignalized intersection of North Blairs Bridge Road and Blairs Bridge Road, and at the unsignalized intersection of Blairs Bridge Road and Six Flags Drive. These existing peak hour volumes are shown on Figure 4.

Under the current site configuration, the park and ride lot will be constructed with 492 spaces, 10 of which will be designated for handicapped drivers. To determine the anticipated amount of traffic created by this facility, trip generation rates were developed using the Institute of Transportation Engineer's (ITE) reference Trip Generation, 7th Edition. For Land Use Code # 090, Park-and-Ride Lot with Bus Service, it is expected that this lot when fully operational would generate 1,495 trips on an average weekday. The adjacent street network would experience 379 generated trips during the morning peak hour with 80% of the vehicles entering the park and ride lot and 20% exiting. During the evening peak hours the facility would generate 303 trips with 77% exiting the lot and 23% entering.

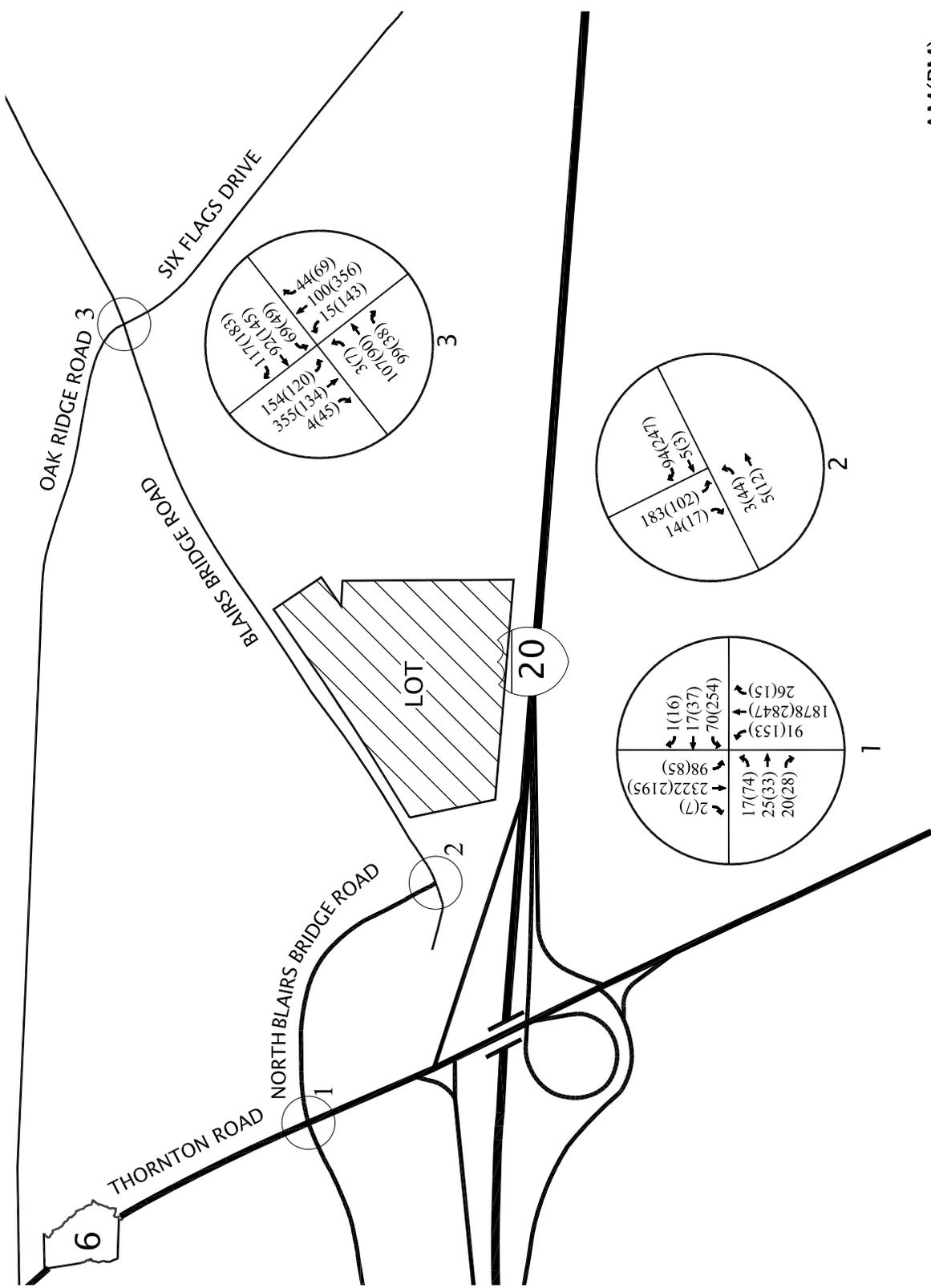


- LEGEND**
- ↑ EXISTING LANE
 - EXISTING SIGNAL

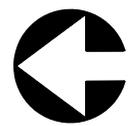


NORTH
FIGURE 3
 URS Corporation

EXISTING LANE CONFIGURATION



AM(PM)



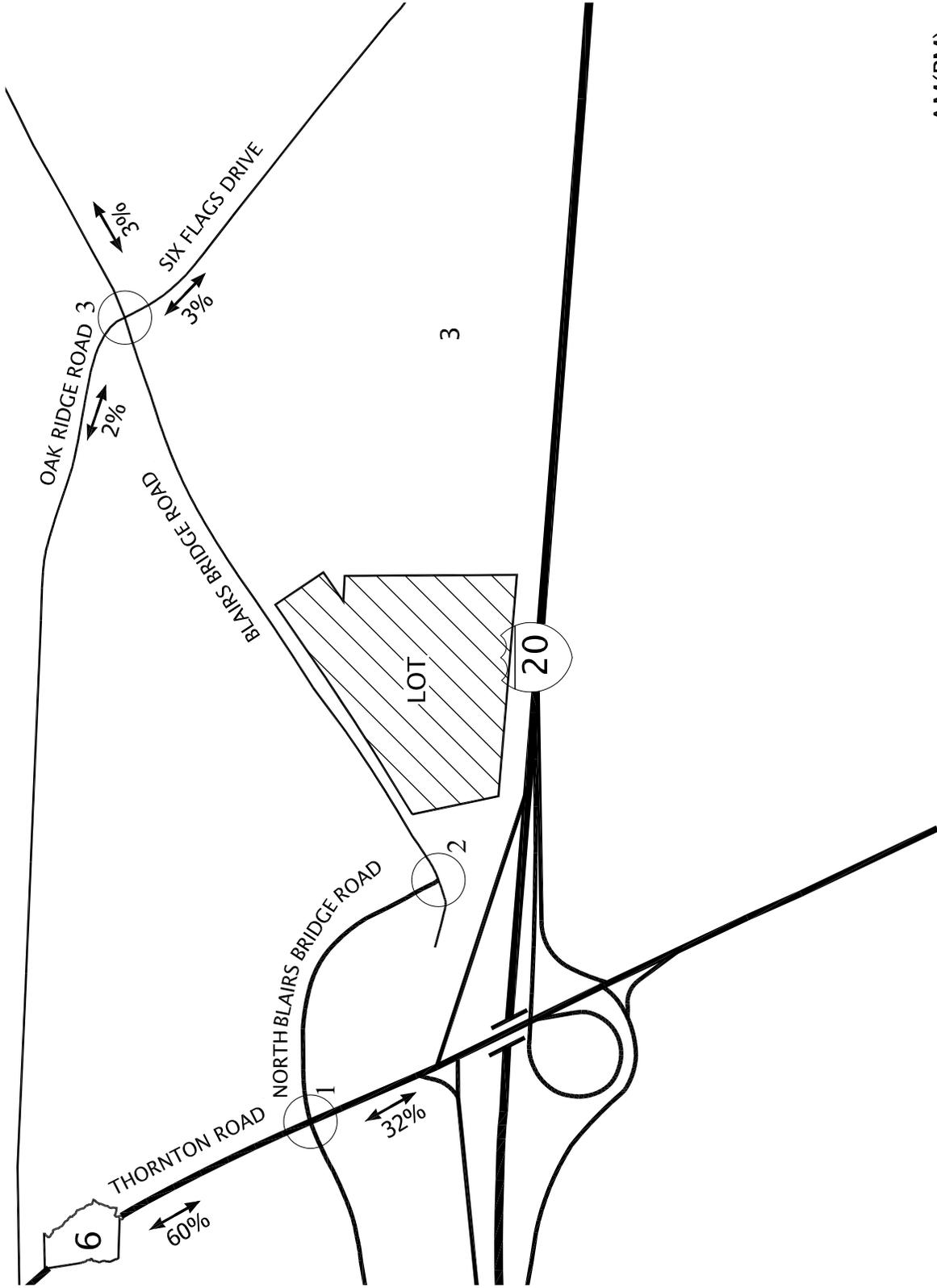
For comparison purposes, another technique was evaluated for estimating trip generation rates. The technique used the number of buses operating at the park and ride lot during the peak hour in conjunction with anticipated ridership. The typical Xpress bus seats 45 customers. With a load factor of 80%, there would be 36 passengers per bus. Assuming each patron drivers their own car and there are seven buses utilizing the park and ride lot in the peak hour, that would result in 252 trips. This value is less than rates given using Trip Generation. One reason for this is that park and ride lots are also used by van pools and carpools; using strictly mass transit activities can under represent the actual usage of the facility. Consequently, the rates reported by ITE are used in the impact analysis to estimate the number of generated trips by the park and ride lot.

To estimate the distribution of the park and ride lot generated trips, an evaluation was performed that incorporated traffic volumes, connectivity of the adjacent road network, and orientation of trip attractors and generators. The site-generated traffic was distributed to the area per the percentages shown in Figure 5 and assigned, per the existing turning percentages, to the intersections as shown in Figure 6.

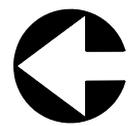
The currently anticipated opening date of the facility is in late 2008. In the event there is a delay, the park and ride lot would be constructed and functional in early 2009. To estimate the traffic volumes that would be present on the roadways prior to the opening of the park and ride lot, existing volumes were projected for two years. To calculate a growth rate to estimate these background volumes, AADT counts collected by GDOT on Thornton Road (SR 6) between Oak Ridge Drive and I-20 westbound ramp from 1999 to 2005 were evaluated. These reported volumes indicated growth rates fluctuated; however, over this time period volumes remained relatively flat. Based upon more regionally oriented data, the existing traffic volumes were grown at a rate of 3%. This growth rate was applied to the existing peak hour volumes. The background volumes are shown in Figure 7. The park and ride lot generated volumes were then added to the background volumes to determine the anticipated future volumes when the facility is operational. These volumes are shown in Figure 8.

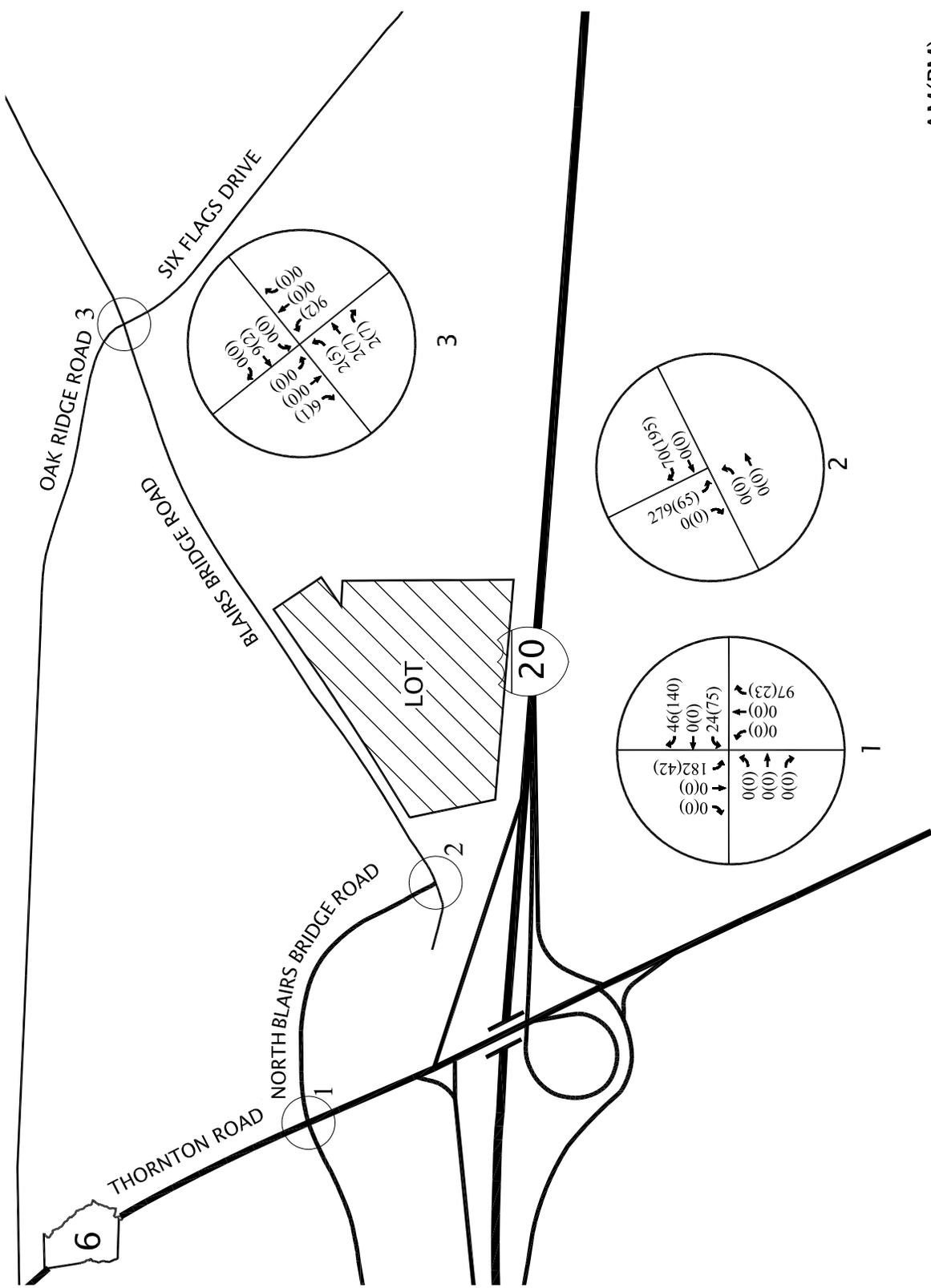
To analyze the impact to traffic operations by the generated trips from the park and ride lot, existing roadway geometry, signal timing data, and the collected traffic data were used. This data was input into the capacity analyses to determine the background and future Level of Service (LOS). The results of these analyses are presented in Table 2 and the worksheets are in the Capacity Analysis section of the Appendix.

Intersection	Future		Future with Park and Ride Traffic	
	A.M. Peak Hour	P.M. Peak Hour	A.M. Peak Hour	P.M. Peak Hour
	LOS	LOS	LOS	LOS
Thornton Rd (SR 6) at North Blairs Bridge Rd	B	C	C	D
North Blairs Bridge Rd at Blairs Bridge Rd	A	A	B	B
Blairs Bridge Rd at Six Flags Dr	C	D	C	D

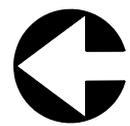


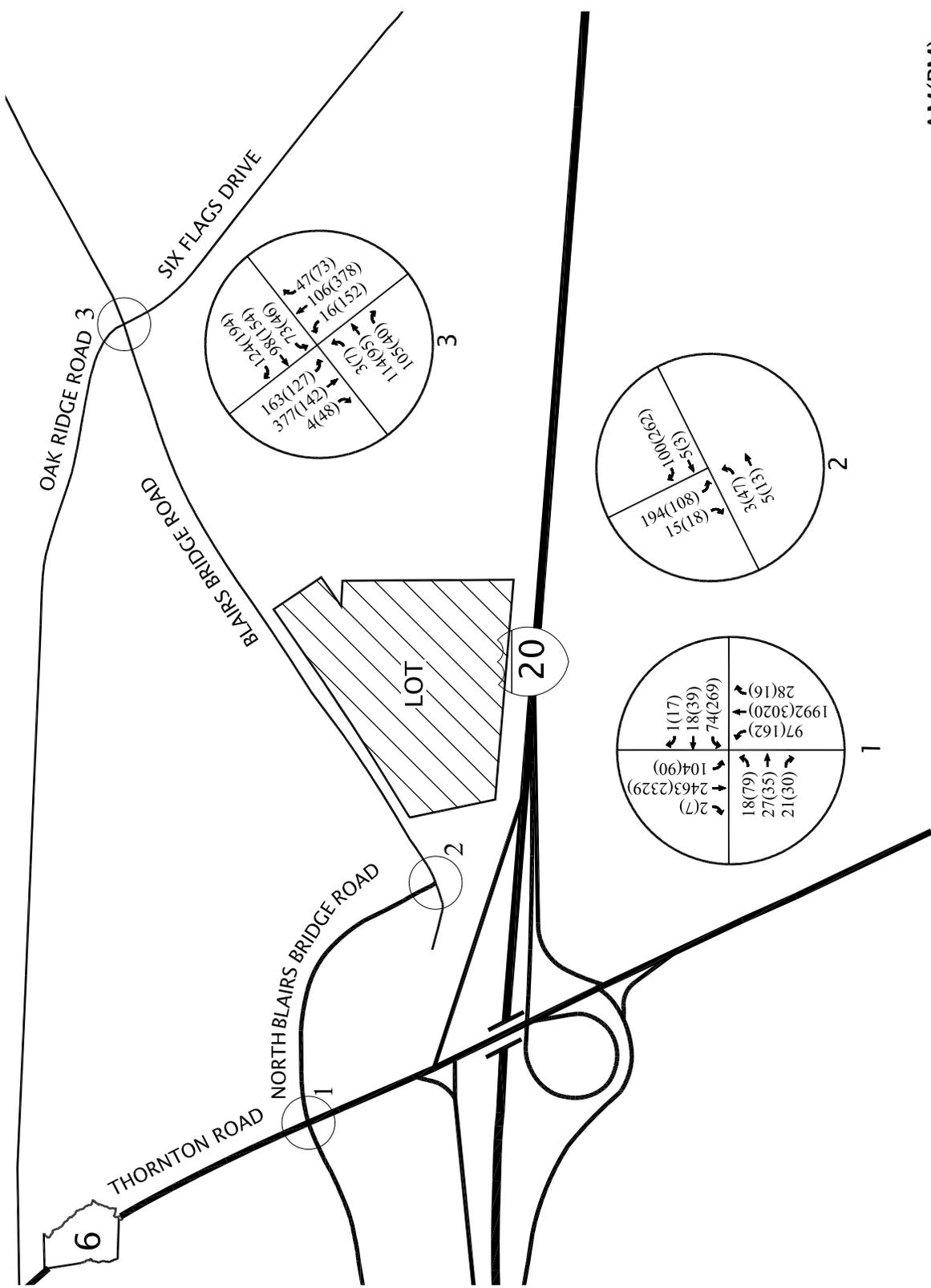
AM(PM)



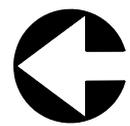


AM(PM)





AM(PM)

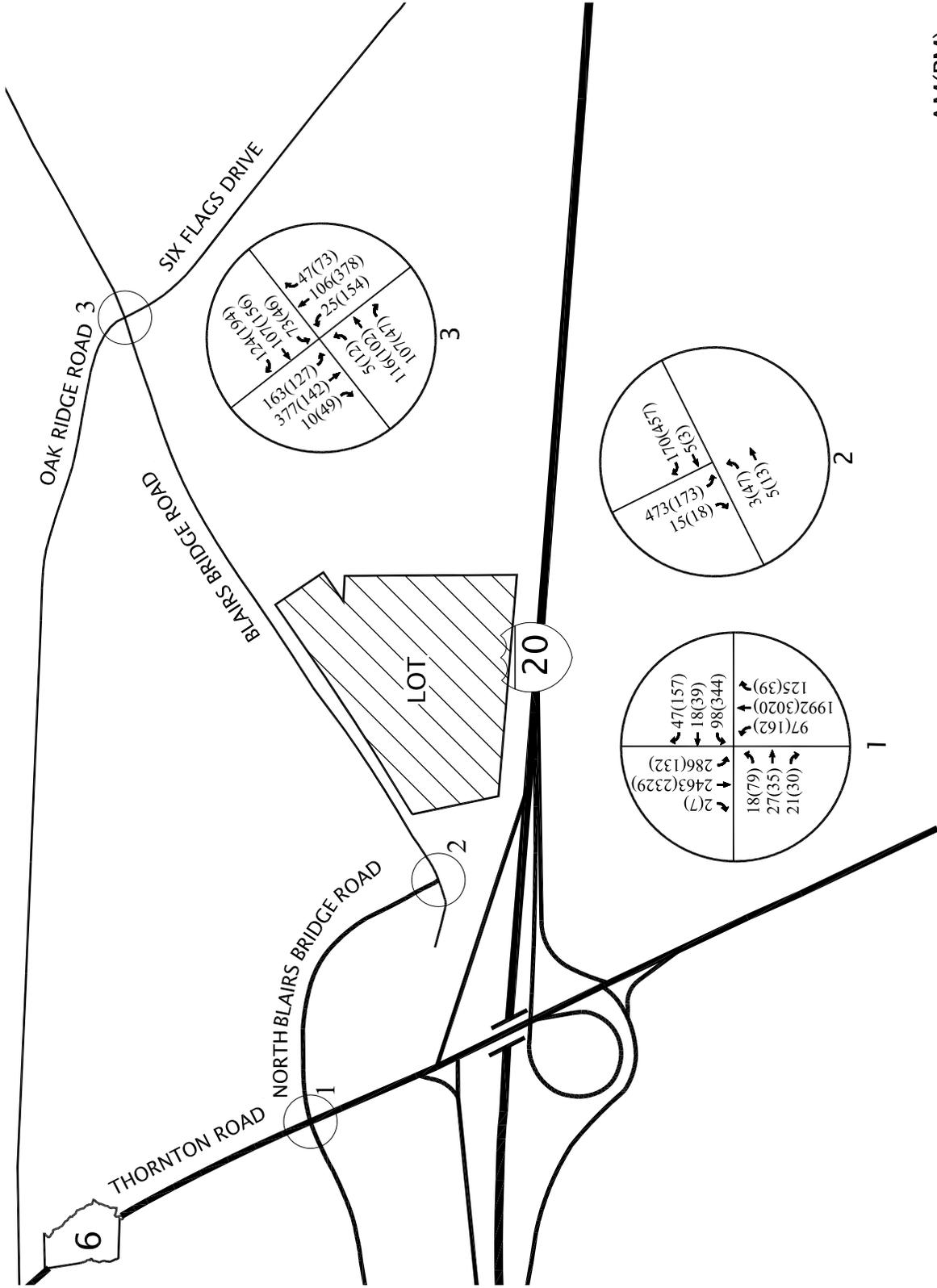


NORTH

FIGURE 7

URS Corporation

BACKGROUND WEEKDAY PEAK HOUR VOLUMES



AM(PM)



For the future conditions, the intersections are projected to operate at acceptable LOS. During the evening peak hour, the Blairs Bridge Road and Six Flags Drive intersection would operate at LOS D.

Under the future conditions with the park and ride lot generated traffic present, the LOS at the all-way stop controlled intersection of Blairs Bridge Road and Six Flags Drive, would remain the same although there would be a slight increase in the average delay per vehicle. At the all-way stop controlled intersection of North Blairs Bridge Road and Blairs Bridge Road, the operations decreased from LOS A to LOS B during both the morning and evening peak hour. These are still very acceptable Levels of Service. At the signalized intersection of Thornton Road (SR 6) at North Blairs Bridge Road, where additional northbound right turning traffic increased overall control delay in the morning and evening by 9.8 and 14.1 seconds respectively, the Level of Service would decrease from LOS B to LOS C during the morning peak hour and would decrease from LOS C to LOS D during the evening peak hour. Consequently, the introduction of the park and ride lot generated traffic to the adjacent street network will have an impact to area traffic operations; however, the resultant Levels of Service will continue to be in the acceptable range.

OPERATIONAL AND INFRASTRUCTURE CONSIDERATIONS

This analysis was focused primarily on the impacts to traffic operations in the vicinity of the new park and ride lot once the facility is constructed and operational. Identified below are additional operational and infrastructure considerations for the adjacent transportation network.

One operational consideration is the currently posted speed limit of 45 mph on North Blairs Bridge Road. This roadway in its short length does have vertical and horizontal curvature. When the park and ride lot is operational, this street would experience the largest increase in new volumes. Consequently, to enhance the safety, consideration should be given by the local jurisdiction to decrease the speed limit to at least 35 mph.

Another operational consideration is the intersection control for the internal driveways of the park and ride lot. The exclusive bus entrance driveway intersects the full access driveway at the intersection of driveways for separate parking areas. To minimize the delay for buses to access the main facility driveway to exit, this intersections should be considered to be controlled with an all-way stop.

There are roadway improvements that are planned in the area of the park and ride lot. One of those projects entails geometric improvements and installation of a stop and go traffic signal at the intersection of Blairs Bridge Road and Six Flags Drive. The work would be funded under Cobb County's SPLOST program. It is expected though that this work would not be programmed until 2010 at the earliest. Consequently, the improved intersection was not included in this analysis.

As part of the plan for expanding the HOV system in the Atlanta metropolitan region, a future I-20 HOV ramp is proposed to be located across the western portion of the parcel on which the

park and ride lot would be constructed. The ultimate plan calls for direct bus access to the park and ride lot from this HOV ramp. As this major Interstate construction would not occur for a number of years, this HOV ramp and its affect on bus and vehicular circulation and operations was not included in this analysis.

CONCLUSION AND RECOMMENDATIONS

The Lithia Springs Xpress park and ride lot will introduce additional traffic through the intersections of Thornton Road (SR 6) and North Blairs Bridge Road; North Blairs Bridge Road and Blairs Bridge Road; and Blairs Bridge Road and Six Flags Drive. Although no final determination has been made as to which routes would provide service at this park and ride lot, the current plan anticipates this lot would be served by three different Xpress routes. To perform as conservative an analysis as possible by maximizing the amount of transit trips utilizing the facility, it was assumed that seven buses would operate at the park and ride lot during the peak hours. With existing traffic volumes projected for two years and the park and ride lot site-generated traffic added, the capacity analysis indicated that the additional volumes would have an impact on the intersection operations by increasing delay; however, the intersections will continue to function at acceptable Levels of Service.

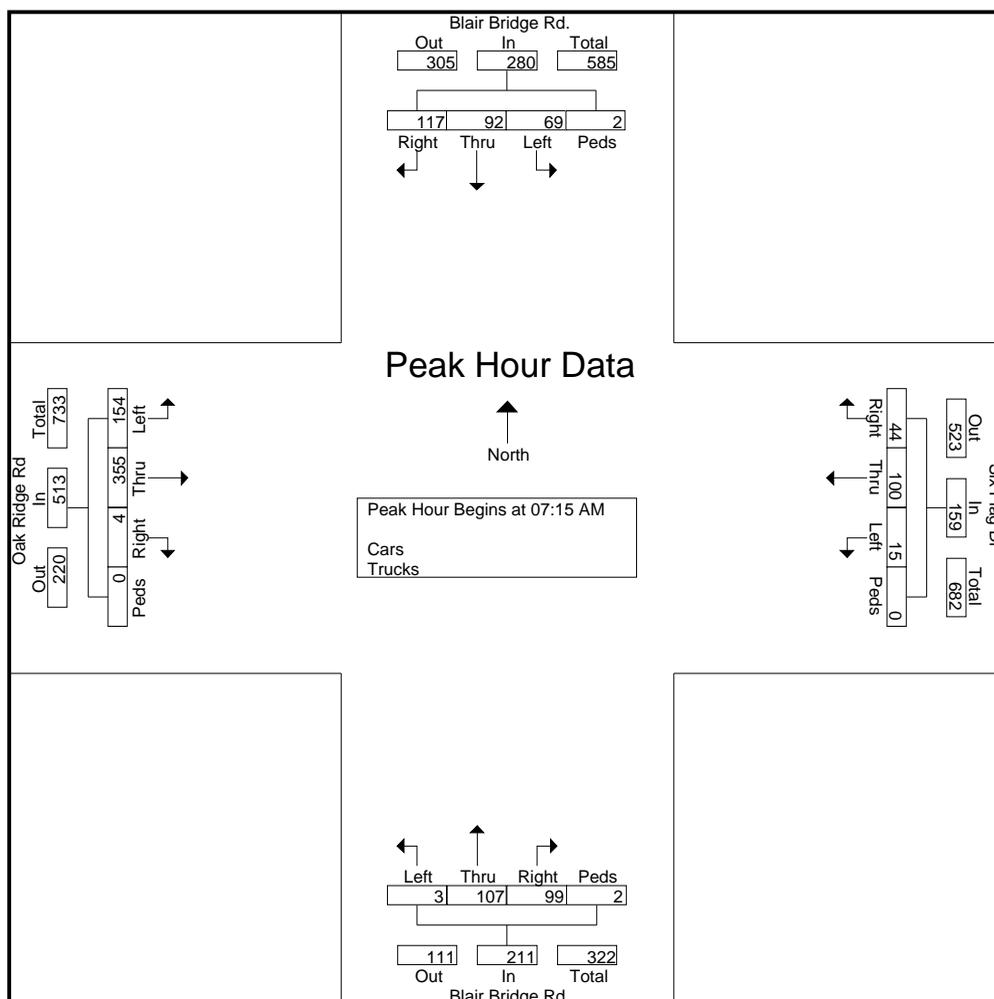
APPENDIX

Traffic Volume Data

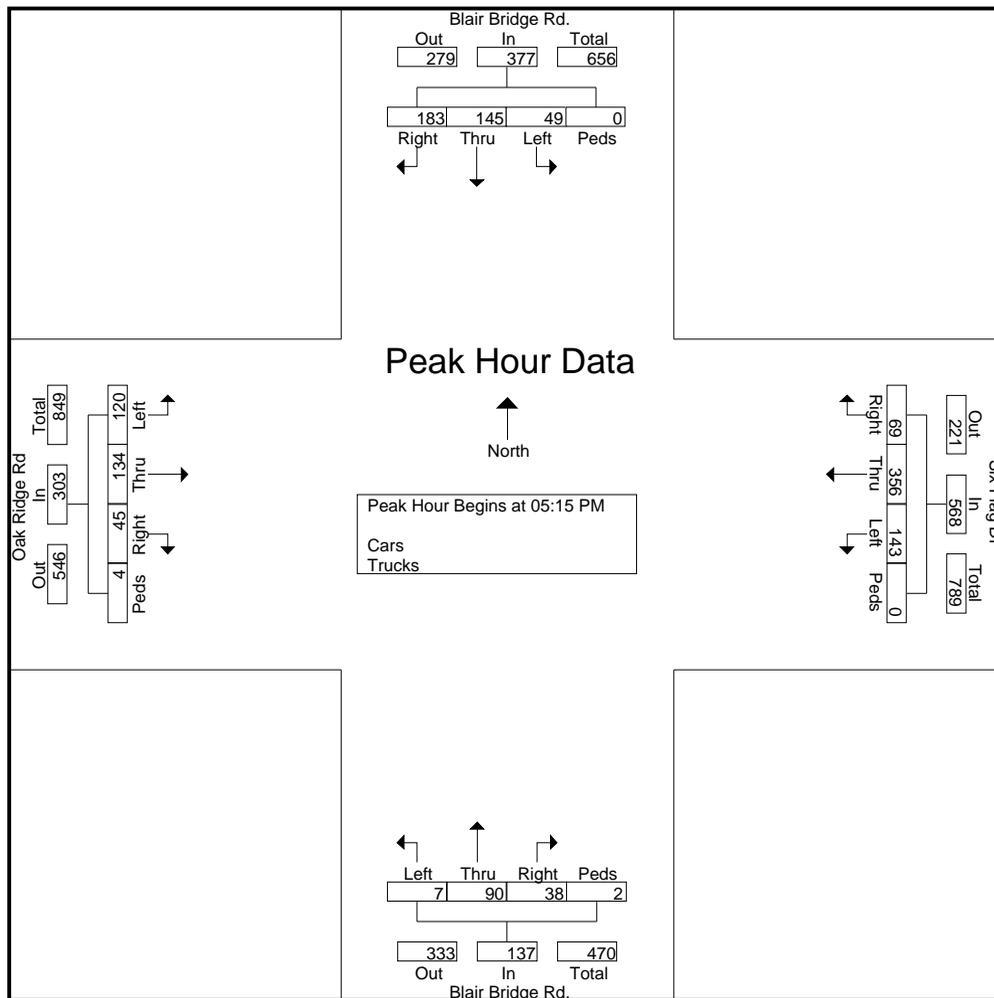
Groups Printed- Cars - Trucks

Start Time	Blair Bridge Rd. Southbound					Six Flag Dr Westbound					Blair Bridge Rd. Northbound					Oak Ridge Rd Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:30 AM	15	29	16	0	60	5	26	4	0	35	12	18	0	0	30	2	64	23	0	89	214
06:45 AM	20	4	13	0	37	4	35	4	0	43	16	25	1	0	42	0	69	42	0	111	233
Total	35	33	29	0	97	9	61	8	0	78	28	43	1	0	72	2	133	65	0	200	447
07:00 AM	27	12	19	0	58	7	27	3	0	37	22	28	2	0	52	1	85	55	0	141	288
07:15 AM	23	23	21	0	67	13	23	3	0	39	20	31	0	0	51	3	78	35	0	116	273
07:30 AM	32	19	14	1	66	9	24	2	0	35	23	30	0	2	55	0	113	33	0	146	302
07:45 AM	45	28	12	1	86	11	31	3	0	45	34	17	1	0	52	0	80	32	0	112	295
Total	127	82	66	2	277	40	105	11	0	156	99	106	3	2	210	4	356	155	0	515	1158
08:00 AM	17	22	22	0	61	11	22	7	0	40	22	29	2	0	53	1	84	54	0	139	293
08:15 AM	30	14	11	0	55	8	27	5	0	40	18	16	0	2	36	0	74	25	0	99	230
Total	47	36	33	0	116	19	49	12	0	80	40	45	2	2	89	1	158	79	0	238	523
04:30 PM	53	27	12	0	92	11	50	13	0	74	12	19	2	1	34	2	40	32	1	75	275
04:45 PM	35	26	12	0	73	12	52	9	0	73	7	16	0	0	23	1	20	22	0	43	212
Total	88	53	24	0	165	23	102	22	0	147	19	35	2	1	57	3	60	54	1	118	487
05:00 PM	44	40	7	0	91	14	75	32	0	121	5	18	4	0	27	6	23	27	0	56	295
05:15 PM	45	39	7	0	91	17	103	28	0	148	12	23	3	2	40	10	30	29	0	69	348
05:30 PM	36	43	15	0	94	22	96	42	0	160	8	23	1	0	32	19	34	35	4	92	378
05:45 PM	54	36	10	0	100	18	85	33	0	136	8	25	3	0	36	12	34	33	0	79	351
Total	179	158	39	0	376	71	359	135	0	565	33	89	11	2	135	47	121	124	4	296	1372
06:00 PM	48	27	17	0	92	12	72	40	0	124	10	19	0	0	29	4	36	23	0	63	308
06:15 PM	54	25	9	0	88	13	75	17	0	105	10	14	0	0	24	6	30	20	0	56	273
Grand Total	578	414	217	2	1211	187	823	245	0	1255	239	351	19	7	616	67	894	520	5	1486	4568
Apprch %	47.7	34.2	17.9	0.2		14.9	65.6	19.5	0		38.8	57	3.1	1.1		4.5	60.2	35	0.3		
Total %	12.7	9.1	4.8	0	26.5	4.1	18	5.4	0	27.5	5.2	7.7	0.4	0.2	13.5	1.5	19.6	11.4	0.1	32.5	
Cars	561	407	195	2	1165	173	787	240	0	1200	231	346	19	7	603	64	860	497	5	1426	4394
% Cars	97.1	98.3	89.9	100	96.2	92.5	95.6	98	0	95.6	96.7	98.6	100	100	97.9	95.5	96.2	95.6	100	96	96.2
Trucks	17	7	22	0	46	14	36	5	0	55	8	5	0	0	13	3	34	23	0	60	174
% Trucks	2.9	1.7	10.1	0	3.8	7.5	4.4	2	0	4.4	3.3	1.4	0	0	2.1	4.5	3.8	4.4	0	4	3.8

Start Time	Blair Bridge Rd. Southbound					Six Flag Dr Westbound					Blair Bridge Rd. Northbound					Oak Ridge Rd Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 06:30 AM to 12:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	23	23	21	0	67	13	23	3	0	39	20	31	0	0	51	3	78	35	0	116	273
07:30 AM	32	19	14	1	66	9	24	2	0	35	23	30	0	2	55	0	113	33	0	146	302
07:45 AM	45	28	12	1	86	11	31	3	0	45	34	17	1	0	52	0	80	32	0	112	295
08:00 AM	17	22	22	0	61	11	22	7	0	40	22	29	2	0	53	1	84	54	0	139	293
Total Volume	117	92	69	2	280	44	100	15	0	159	99	107	3	2	211	4	355	154	0	513	1163
% App. Total	41.8	32.9	24.6	0.7		27.7	62.9	9.4	0		46.9	50.7	1.4	0.9		0.8	69.2	30	0		
PHF	.650	.821	.784	.500	.814	.846	.806	.536	.000	.883	.728	.863	.375	.250	.959	.333	.785	.713	.000	.878	.963



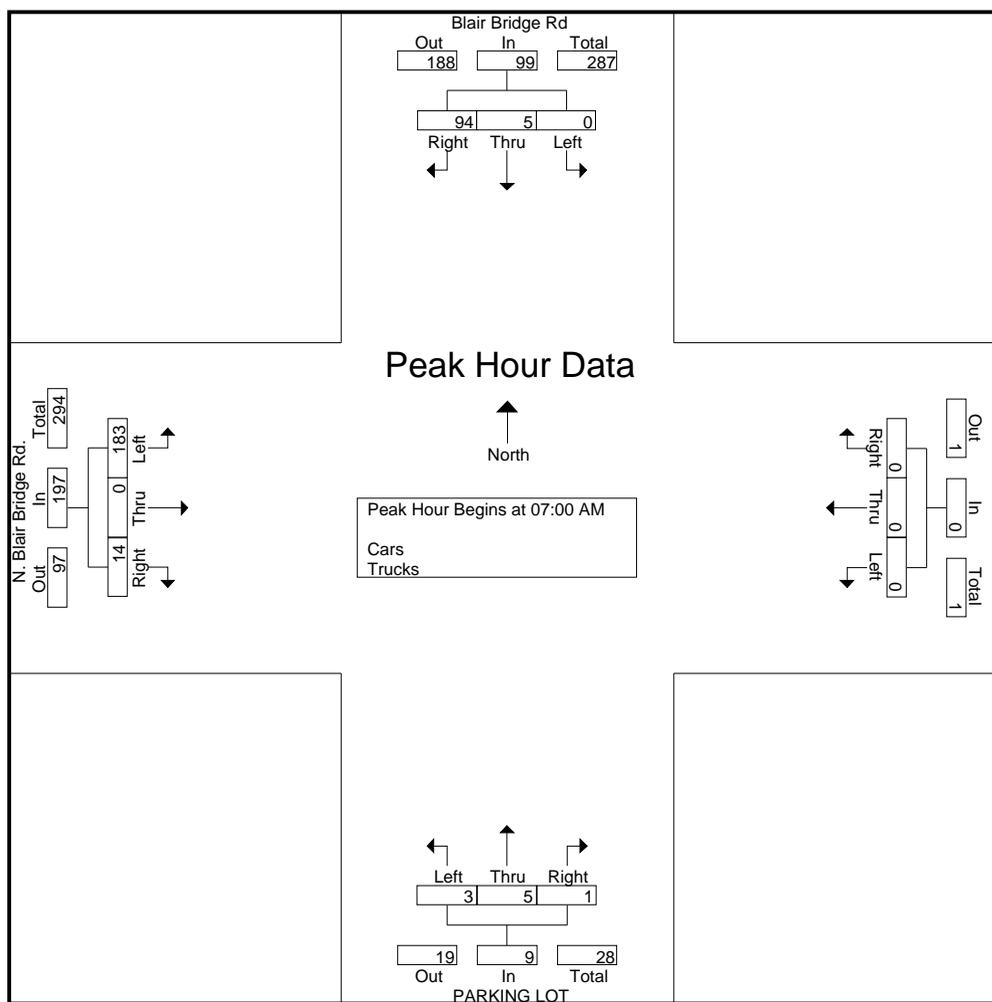
Start Time	Blair Bridge Rd. Southbound					Six Flag Dr Westbound					Blair Bridge Rd. Northbound					Oak Ridge Rd Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 12:45 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:15 PM																					
05:15 PM	45	39	7	0	91	17	103	28	0	148	12	23	3	2	40	10	30	29	0	69	348
05:30 PM	36	43	15	0	94	22	96	42	0	160	8	23	1	0	32	19	34	35	4	92	378
05:45 PM	54	36	10	0	100	18	85	33	0	136	8	25	3	0	36	12	34	33	0	79	351
06:00 PM	48	27	17	0	92	12	72	40	0	124	10	19	0	0	29	4	36	23	0	63	308
Total Volume	183	145	49	0	377	69	356	143	0	568	38	90	7	2	137	45	134	120	4	303	1385
% App. Total	48.5	38.5	13	0		12.1	62.7	25.2	0		27.7	65.7	5.1	1.5		14.9	44.2	39.6	1.3		
PHF	.847	.843	.721	.000	.943	.784	.864	.851	.000	.888	.792	.900	.583	.250	.856	.592	.931	.857	.250	.823	.916



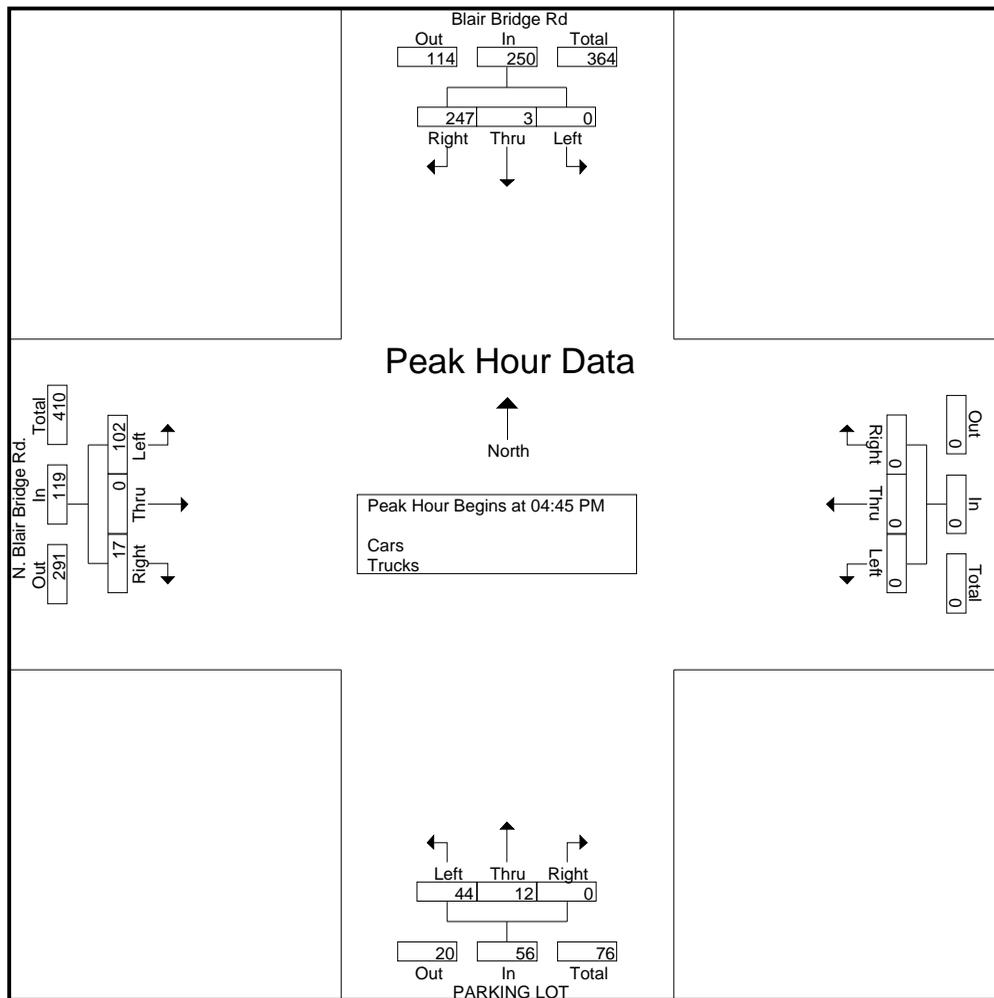
BLAIRS BRIDGE RD BTW SIX FLAGS PKWY/OAK
RIDGE RD & NORTH BLAIRBIDGE RD
URS011501T

Start Time	17-Jan-07 Wed	NB		Hour Totals		SB		Hour Totals	
		AM	PM	AM	PM	AM	PM	AM	PM
12:00		12	24			5	33		
12:15		6	17			3	25		
12:30		2	19			3	22		
12:45		0	18	20	78	4	17	15	97
01:00		3	24			1	17		
01:15		2	26			0	13		
01:30		4	17			1	29		
01:45		0	17	9	84	2	30	4	89
02:00		1	23			1	37		
02:15		0	15			1	27		
02:30		1	30			0	29		
02:45		0	16	2	84	0	21	2	114
03:00		0	29			0	23		
03:15		1	23			1	29		
03:30		1	17			4	30		
03:45		2	32	4	101	2	45	7	127
04:00		1	33			0	36		
04:15		4	41			2	39		
04:30		1	30			7	66		
04:45		4	26	10	130	5	81	14	222
05:00		3	20			3	92		
05:15		3	29			2	84		
05:30		4	40			16	93		
05:45		9	28	19	117	7	78	28	347
06:00		8	26			13	68		
06:15		17	38			13	40		
06:30		26	28			17	37		
06:45		35	23	86	115	13	29	56	174
07:00		28	23			25	28		
07:15		39	17			19	23		
07:30		42	22			36	24		
07:45		43	22	152	84	24	19	104	94
08:00		49	27			20	14		
08:15		44	11			16	17		
08:30		32	19			23	18		
08:45		22	14	147	71	17	12	76	61
09:00		18	8			15	20		
09:15		15	9			19	11		
09:30		19	13			17	11		
09:45		15	11	67	41	13	8	64	50
10:00		12	5			17	11		
10:15		15	19			23	11		
10:30		18	8			15	7		
10:45		17	10	62	42	20	9	75	38
11:00		7	7			17	7		
11:15		15	8			16	3		
11:30		15	8			27	7		
11:45		16	5	53	28	24	5	84	22
Peak		07:30	03:45			07:00	04:45		
Vol.		178	136			104	350		
P.H.F.		0.908	0.829			0.722	0.941		
Lane Total		1606				1964			

Start Time	Blair Bridge Rd Southbound				Westbound				PARKING LOT Northbound				N. Blair Bridge Rd. Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 06:30 AM to 12:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	12	0	0	12	0	0	0	0	0	3	0	3	5	0	48	53	68
07:15 AM	20	1	0	21	0	0	0	0	0	0	0	0	1	0	46	47	68
07:30 AM	27	3	0	30	0	0	0	0	0	2	1	3	2	0	43	45	78
07:45 AM	35	1	0	36	0	0	0	0	1	0	2	3	6	0	46	52	91
Total Volume	94	5	0	99	0	0	0	0	1	5	3	9	14	0	183	197	305
% App. Total	94.9	5.1	0		0	0	0		11.1	55.6	33.3		7.1	0	92.9		
PHF	.671	.417	.000	.688	.000	.000	.000	.000	.250	.417	.375	.750	.583	.000	.953	.929	.838



Start Time	Blair Bridge Rd Southbound				Westbound				PARKING LOT Northbound				N. Blair Bridge Rd. Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 12:45 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	60	0	0	60	0	0	0	0	0	2	21	23	4	0	27	31	114
05:00 PM	71	1	0	72	0	0	0	0	0	2	4	6	4	0	26	30	108
05:15 PM	59	1	0	60	0	0	0	0	0	6	14	20	5	0	22	27	107
05:30 PM	57	1	0	58	0	0	0	0	0	2	5	7	4	0	27	31	96
Total Volume	247	3	0	250	0	0	0	0	0	12	44	56	17	0	102	119	425
% App. Total	98.8	1.2	0		0	0	0		0	21.4	78.6		14.3	0	85.7		
PHF	.870	.750	.000	.868	.000	.000	.000	.000	.000	.500	.524	.609	.850	.000	.944	.960	.932



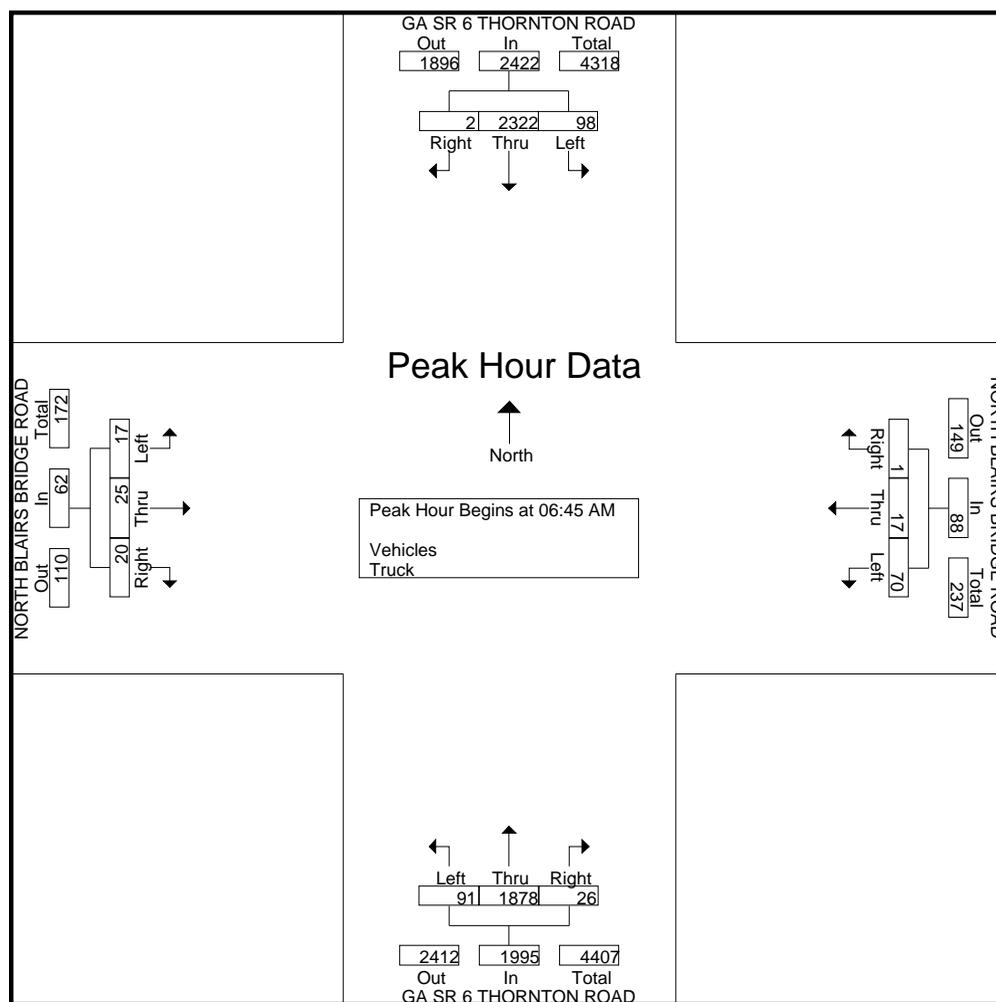
NORTH BLAIRS BRIDGE RD BTW THORNTON RD &
BLAIRS BRIDGE RD
URS011502T

Start Time	17-Jan-07		EB		Hour Totals		WB		Hour Totals	
	Wed		AM	PM	AM	PM	AM	PM	AM	PM
12:00			14	30			3	37		
12:15			4	18			7	30		
12:30			7	22			2	31		
12:45			3	26	28	96	7	22	19	120
01:00			2	32			1	25		
01:15			2	31			1	16		
01:30			1	22			1	27		
01:45			3	23	8	108	2	39	5	107
02:00			1	21			2	35		
02:15			0	25			1	33		
02:30			2	24			1	31		
02:45			1	25	4	95	2	33	6	132
03:00			1	25			1	18		
03:15			1	31			2	33		
03:30			4	19			6	42		
03:45			2	30	8	105	1	48	10	141
04:00			2	36			1	36		
04:15			1	48			0	45		
04:30			4	36			5	70		
04:45			15	35	22	155	7	84	13	235
05:00			9	19			10	92		
05:15			7	28			4	95		
05:30			12	37			12	101		
05:45			9	40	37	124	11	77	37	365
06:00			18	27			10	80		
06:15			18	36			16	59		
06:30			28	40			16	36		
06:45			33	22	97	125	11	34	53	209
07:00			35	30			20	34		
07:15			33	15			23	26		
07:30			50	25			31	20		
07:45			40	25	158	95	28	27	102	107
08:00			43	21			29	15		
08:15			59	19			10	21		
08:30			39	24			29	18		
08:45			26	14	167	78	19	25	87	79
09:00			30	15			23	19		
09:15			15	12			18	16		
09:30			21	10			22	6		
09:45			18	14	84	51	18	12	81	53
10:00			19	7			16	12		
10:15			17	21			28	12		
10:30			20	11			18	10		
10:45			20	10	76	49	17	9	79	43
11:00			21	6			35	8		
11:15			17	8			21	4		
11:30			20	12			30	5		
11:45			19	4	77	30	30	6	116	23
Peak			07:30	04:00			11:00	04:45		
Vol.			192	155			116	372		
P.H.F.			0.814	0.807			0.829	0.921		
Lane Total			1877				2222			

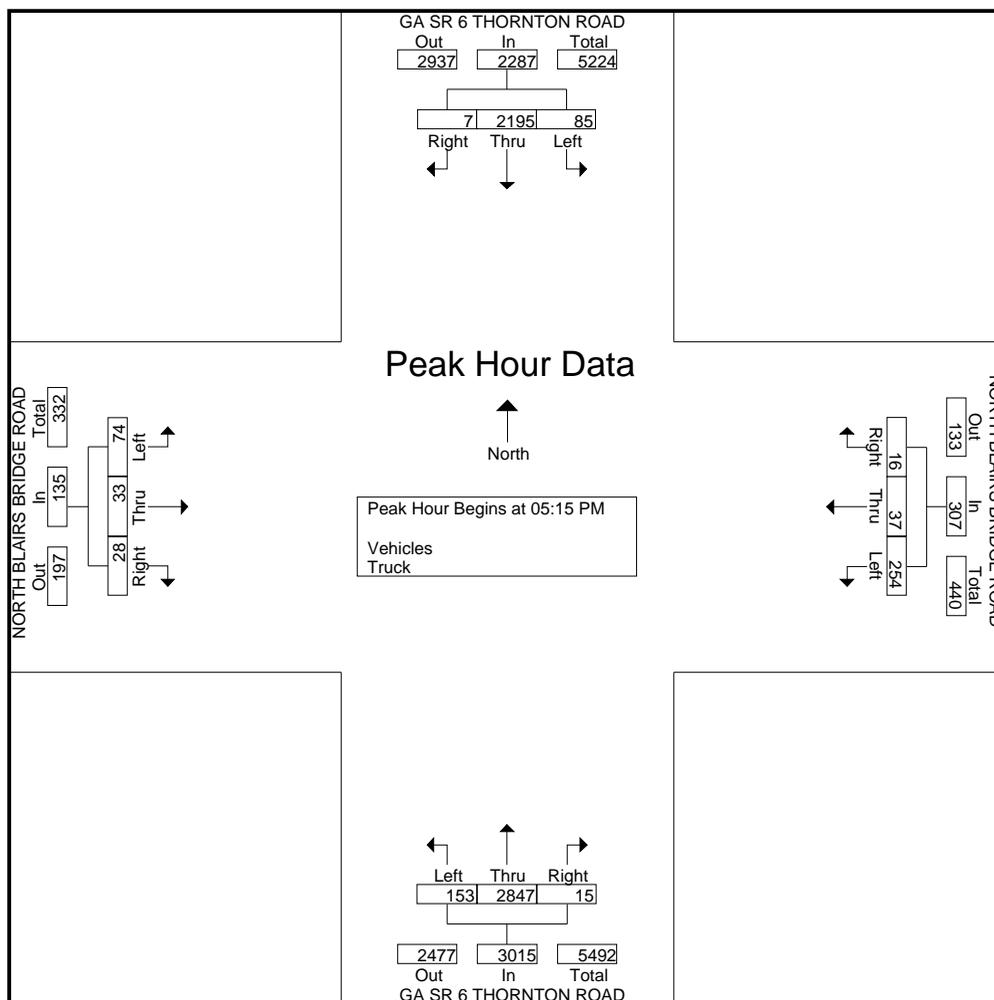
Groups Printed- Vehicles - Truck

Start Time	GA SR 6 THORNTON ROAD Southbound				NORTH BLAIRS BRIDGE ROAD Westbound				GA SR 6 THORNTON ROAD Northbound				NORTH BLAIRS BRIDGE ROAD Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
06:30 AM	1	562	12	575	4	7	21	32	17	427	8	452	13	1	2	16	1075
06:45 AM	0	591	23	614	1	1	13	15	5	434	18	457	5	3	1	9	1095
Total	1	1153	35	1189	5	8	34	47	22	861	26	909	18	4	3	25	2170
07:00 AM	0	595	14	609	0	5	15	20	10	442	16	468	9	9	5	23	1120
07:15 AM	2	555	13	570	0	2	17	19	9	475	23	507	2	4	2	8	1104
07:30 AM	0	581	48	629	0	9	25	34	2	527	34	563	4	9	9	22	1248
07:45 AM	1	518	15	534	1	6	22	29	4	459	21	484	5	4	4	13	1060
Total	3	2249	90	2342	1	22	79	102	25	1903	94	2022	20	26	20	66	4532
08:00 AM	0	498	18	516	0	7	6	13	3	402	20	425	9	10	2	21	975
08:15 AM	0	473	30	503	1	0	6	7	13	383	34	430	1	3	11	15	955
Total	0	971	48	1019	1	7	12	20	16	785	54	855	10	13	13	36	1930
04:30 PM	4	557	19	580	8	7	69	84	0	644	18	662	10	4	27	41	1367
04:45 PM	1	516	23	540	10	8	53	71	7	661	33	701	3	3	22	28	1340
Total	5	1073	42	1120	18	15	122	155	7	1305	51	1363	13	7	49	69	2707
05:00 PM	2	591	20	613	10	5	54	69	1	702	43	746	15	5	17	37	1465
05:15 PM	3	536	23	562	7	13	71	91	6	724	37	767	5	3	18	26	1446
05:30 PM	2	535	21	558	3	6	66	75	0	695	25	720	2	2	15	19	1372
05:45 PM	1	543	18	562	2	7	58	67	0	732	30	762	9	9	18	36	1427
Total	8	2205	82	2295	22	31	249	302	7	2853	135	2995	31	19	68	118	5710
06:00 PM	1	581	23	605	4	11	59	74	9	696	61	766	12	19	23	54	1499
06:15 PM	2	506	40	548	6	13	56	75	0	622	76	698	15	18	17	50	1371
Grand Total	20	8738	360	9118	57	107	611	775	86	9025	497	9608	119	106	193	418	19919
Apprch %	0.2	95.8	3.9		7.4	13.8	78.8		0.9	93.9	5.2		28.5	25.4	46.2		
Total %	0.1	43.9	1.8	45.8	0.3	0.5	3.1	3.9	0.4	45.3	2.5	48.2	0.6	0.5	1	2.1	
Vehicles	20	8576	360	8956	57	107	611	775	86	8895	494	9475	118	106	192	416	19622
% Vehicles	100	98.1	100	98.2	100	100	100	100	100	98.6	99.4	98.6	99.2	100	99.5	99.5	98.5
Truck	0	162	0	162	0	0	0	0	0	130	3	133	1	0	1	2	297
% Truck	0	1.9	0	1.8	0	0	0	0	0	1.4	0.6	1.4	0.8	0	0.5	0.5	1.5

Start Time	GA SR 6 THORNTON ROAD Southbound				NORTH BLAIRS BRIDGE ROAD Westbound				GA SR 6 THORNTON ROAD Northbound				NORTH BLAIRS BRIDGE ROAD Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 06:30 AM to 12:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:45 AM																	
06:45 AM	0	591	23	614	1	1	13	15	5	434	18	457	5	3	1	9	1095
07:00 AM	0	595	14	609	0	5	15	20	10	442	16	468	9	9	5	23	1120
07:15 AM	2	555	13	570	0	2	17	19	9	475	23	507	2	4	2	8	1104
07:30 AM	0	581	48	629	0	9	25	34	2	527	34	563	4	9	9	22	1248
Total Volume	2	2322	98	2422	1	17	70	88	26	1878	91	1995	20	25	17	62	4567
% App. Total	0.1	95.9	4		1.1	19.3	79.5		1.3	94.1	4.6		32.3	40.3	27.4		
PHF	.250	.976	.510	.963	.250	.472	.700	.647	.650	.891	.669	.886	.556	.694	.472	.674	.915



Start Time	GA SR 6 THORNTON ROAD Southbound				NORTH BLAIRS BRIDGE ROAD Westbound				GA SR 6 THORNTON ROAD Northbound				NORTH BLAIRS BRIDGE ROAD Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 12:45 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
05:15 PM	3	536	23	562	7	13	71	91	6	724	37	767	5	3	18	26	1446
05:30 PM	2	535	21	558	3	6	66	75	0	695	25	720	2	2	15	19	1372
05:45 PM	1	543	18	562	2	7	58	67	0	732	30	762	9	9	18	36	1427
06:00 PM	1	581	23	605	4	11	59	74	9	696	61	766	12	19	23	54	1499
Total Volume	7	2195	85	2287	16	37	254	307	15	2847	153	3015	28	33	74	135	5744
% App. Total	0.3	96	3.7		5.2	12.1	82.7		0.5	94.4	5.1		20.7	24.4	54.8		
PHF	.583	.944	.924	.945	.571	.712	.894	.843	.417	.972	.627	.983	.583	.434	.804	.625	.958



THORNTON RD N OF NORTH BLAIRS BRIDGE RD

URS011503T

Start Time	17-Jan-07 Wed	NB		Hour Totals		SB		Hour Totals	
		AM	PM	AM	PM	AM	PM	AM	PM
12:00		133	577			109	577		
12:15		102	521			96	521		
12:30		107	468			113	468		
12:45		97	468	439	2034	92	468	410	2034
01:00		84	583			87	669		
01:15		68	590			64	680		
01:30		59	628			69	691		
01:45		87	560	298	2361	83	627	303	2667
02:00		56	573			56	647		
02:15		61	600			52	652		
02:30		62	667			57	653		
02:45		77	646	256	2486	70	582	235	2534
03:00		77	651			63	691		
03:15		62	648			67	678		
03:30		68	659			95	661		
03:45		64	639	271	2597	74	669	299	2699
04:00		102	663			120	662		
04:15		103	704			118	609		
04:30		111	675			156	603		
04:45		126	667	442	2709	158	550	552	2424
05:00		141	709			269	644		
05:15		159	737			320	610		
05:30		248	711			470	573		
05:45		277	733	825	2890	470	573	1529	2400
06:00		314	728			506	630		
06:15		388	638			576	594		
06:30		430	604			615	579		
06:45		455	552	1587	2522	640	566	2337	2369
07:00		450	524			633	521		
07:15		489	489			623	460		
07:30		533	441			639	422		
07:45		480	443	1952	1897	550	379	2445	1782
08:00		418	394			545	369		
08:15		392	400			522	338		
08:30		413	367			573	329		
08:45		406	367	1629	1528	460	352	2100	1388
09:00		374	385			374	319		
09:15		361	335			361	312		
09:30		384	284			384	273		
09:45		414	249	1533	1253	414	269	1533	1173
10:00		439	235			439	210		
10:15		386	237			386	250		
10:30		424	236			424	239		
10:45		432	195	1681	903	432	175	1681	874
11:00		405	231			405	198		
11:15		497	161			497	131		
11:30		462	157			462	146		
11:45		471	128	1835	677	471	117	1835	592
Peak		07:00	05:15			06:45	03:00		
Vol.		1952	2909			2535	2699		
P.H.F.		0.916	0.987			0.990	0.976		
Lane Total		36605				38195			

Capacity Analyses Worksheets

HCM Signalized Intersection Capacity Analysis
3: North Blairs Bridge Road & Thornton Road

2009 Background AM
2/5/2007



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗		↖	↑↑↑		↖	↑↑↑	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.86		1.00	0.86	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1849		1770	6395		1770	6408	1583
Flt Permitted	0.74	1.00	1.00	0.74	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1385	1863	1583	1375	1849		1770	6395		1770	6408	1583
Volume (vph)	18	27	21	74	18	1	97	1992	28	104	2463	2
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	29	23	80	20	1	105	2165	30	113	2677	2
Lane Group Flow (vph)	20	29	23	80	21	0	105	2195	0	113	2677	2
Turn Type	Perm		Perm	Perm			Prot			Prot		Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								6
Actuated Green, G (s)	15.5	15.5	15.5	15.5	15.5		15.6	128.7		16.4	129.5	129.5
Effective Green, g (s)	18.5	18.5	18.5	18.5	18.5		17.8	130.9		18.6	131.7	131.7
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.10		0.10	0.73		0.10	0.73	0.73
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0		6.2	6.2		6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	142	191	163	141	190		175	4651		183	4689	1158
v/s Ratio Prot		0.02			0.01		0.06	0.34		c0.06	c0.42	
v/s Ratio Perm	0.01		0.01	c0.06								0.00
v/c Ratio	0.14	0.15	0.14	0.57	0.11		0.60	0.47		0.62	0.57	0.00
Uniform Delay, d1	73.5	73.6	73.5	76.9	73.3		77.7	10.2		77.3	11.1	6.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.5	0.4	0.4	5.2	0.3		5.5	0.3		6.1	0.5	0.0
Delay (s)	74.0	74.0	73.9	82.1	73.5		83.1	10.5		83.4	11.6	6.5
Level of Service	E	E	E	F	E		F	B		F	B	A
Approach Delay (s)		74.0			80.3			13.9			14.5	
Approach LOS		E			F			B			B	

Intersection Summary

HCM Average Control Delay	16.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	65.8%	ICU Level of Service	B
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis
 5: Blairs Bridge Road & Oak Ridge Rd

2009 Background AM
 2/5/2007

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Stop			Stop		
Volume (veh/h)	3	114	105	73	98	124	16	106	47	163	377	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (veh/h)	3	124	114	79	107	135	17	115	51	177	410	4
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total (vph)	3	238	79	241	17	166	177	414				
Volume Left (vph)	3	0	79	0	17	0	177	0				
Volume Right (vph)	0	114	0	135	0	51	0	4				
Hadj (s)	0.2	-0.3	0.2	-0.3	0.2	-0.2	0.2	0.0				
Departure Headway (s)	7.5	7.0	7.4	6.9	7.5	7.1	6.8	6.6				
Degree Utilization, x	0.01	0.46	0.16	0.46	0.04	0.33	0.34	0.76				
Capacity (veh/h)	449	477	460	501	448	476	508	528				
Control Delay (s)	9.4	14.8	10.6	14.4	9.6	12.3	12.1	26.7				
Approach Delay (s)	14.7		13.4		12.1		22.3					
Approach LOS	B		B		B		C					
Intersection Summary												
Delay			17.4									
HCM Level of Service			C									
Intersection Capacity Utilization			56.4%		ICU Level of Service		A					

HCM Unsignalized Intersection Capacity Analysis
 9: Blairs Bridge Road & North Blairs Bridge Road

2009 Background AM
 2/5/2007



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↕	
Sign Control		Stop	Stop		Stop	
Volume (veh/h)	3	5	5	100	194	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (veh/h)	3	5	5	109	211	16
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total (vph)	9	114	227			
Volume Left (vph)	3	0	211			
Volume Right (vph)	0	109	16			
Hadj (s)	0.1	-0.5	0.2			
Departure Headway (s)	4.6	3.9	4.3			
Degree Utilization, x	0.01	0.12	0.27			
Capacity (veh/h)	738	883	810			
Control Delay (s)	7.7	7.4	8.9			
Approach Delay (s)	7.7	7.4	8.9			
Approach LOS	A	A	A			
Intersection Summary						
Delay			8.4			
HCM Level of Service			A			
Intersection Capacity Utilization	26.3%		ICU Level of Service	A		

HCM Signalized Intersection Capacity Analysis
3: North Blairs Bridge Road & Thornton Road

2009 Background PM
2/5/2007



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗		↖	↑↑↑		↖	↑↑↑	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.86		1.00	0.86	1.00
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1779		1770	6403		1770	6408	1583
Flt Permitted	0.69	1.00	1.00	0.73	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1288	1863	1583	1364	1779		1770	6403		1770	6408	1583
Volume (vph)	79	35	30	269	39	17	162	3020	16	90	2329	7
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	86	38	33	292	42	18	176	3283	17	98	2532	8
Lane Group Flow (vph)	86	38	33	292	60	0	176	3300	0	98	2532	8
Turn Type	Perm		Perm	Perm			Prot			Prot		Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								6
Actuated Green, G (s)	28.0	28.0	28.0	28.0	28.0		22.4	117.7		14.9	110.2	110.2
Effective Green, g (s)	31.0	31.0	31.0	31.0	31.0		24.6	119.9		17.1	112.4	112.4
Actuated g/C Ratio	0.17	0.17	0.17	0.17	0.17		0.14	0.67		0.10	0.62	0.62
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0		6.2	6.2		6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	222	321	273	235	306		242	4265		168	4001	988
v/s Ratio Prot		0.02			0.03		c0.10	c0.52		0.06	0.40	
v/s Ratio Perm	0.07		0.02	c0.21								0.01
v/c Ratio	0.39	0.12	0.12	1.24	0.20		0.73	0.77		0.58	0.63	0.01
Uniform Delay, d1	66.1	63.0	63.0	74.5	63.8		74.5	20.7		78.0	21.0	12.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.1	0.2	0.2	139.8	0.3		10.4	1.4		5.1	0.8	0.0
Delay (s)	67.2	63.1	63.2	214.3	64.1		84.9	22.1		83.1	21.8	12.8
Level of Service	E	E	E	F	E		F	C		F	C	B
Approach Delay (s)		65.4			188.7			25.3			24.0	
Approach LOS		E			F			C			C	

Intersection Summary

HCM Average Control Delay	34.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	86.1%	ICU Level of Service	D
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis
5: Blairs Bridge Road & Oak Ridge Rd

2009 Background PM
2/5/2007

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Stop			Stop		
Volume (veh/h)	7	95	40	46	154	194	152	378	73	127	142	48
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (veh/h)	8	103	43	50	167	211	165	411	79	138	154	52
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total (vph)	8	147	50	378	165	490	138	207				
Volume Left (vph)	8	0	50	0	165	0	138	0				
Volume Right (vph)	0	43	0	211	0	79	0	52				
Hadj (s)	0.2	-0.1	0.2	-0.3	0.2	-0.1	0.2	-0.1				
Departure Headway (s)	8.5	8.1	7.9	7.3	7.4	7.1	7.9	7.6				
Degree Utilization, x	0.02	0.33	0.11	0.77	0.34	0.97	0.30	0.43				
Capacity (veh/h)	399	421	440	476	473	490	436	458				
Control Delay (s)	10.5	13.9	10.6	29.8	13.0	58.5	13.2	15.1				
Approach Delay (s)	13.8		27.6		47.0		14.3					
Approach LOS	B		D		E		B					
Intersection Summary												
Delay			31.4									
HCM Level of Service			D									
Intersection Capacity Utilization			65.8%		ICU Level of Service		B					

HCM Unsignalized Intersection Capacity Analysis
 9: Blairs Bridge Road & North Blairs Bridge Road

2009 Background PM
 2/5/2007



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Sign Control		Stop	Stop		Stop	
Volume (veh/h)	47	13	3	262	108	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (veh/h)	51	14	3	285	117	20
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total (vph)	65	288	137			
Volume Left (vph)	51	0	117			
Volume Right (vph)	0	285	20			
Hadj (s)	0.2	-0.6	0.1			
Departure Headway (s)	4.7	3.7	4.7			
Degree Utilization, x	0.08	0.30	0.18			
Capacity (veh/h)	739	935	719			
Control Delay (s)	8.1	8.3	8.7			
Approach Delay (s)	8.1	8.3	8.7			
Approach LOS	A	A	A			
Intersection Summary						
Delay			8.4			
HCM Level of Service			A			
Intersection Capacity Utilization	32.2%		ICU Level of Service	A		

HCM Signalized Intersection Capacity Analysis
3: North Blairs Bridge Road & Thornton Road

2009 Future AM
2/5/2007



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗		↖	↑↑↑		↖	↑↑↑	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.86		1.00	0.86	1.00
Frt	1.00	1.00	0.85	1.00	0.89		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1662		1770	6351		1770	6408	1583
Flt Permitted	0.63	1.00	1.00	0.74	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1171	1863	1583	1375	1662		1770	6351		1770	6408	1583
Volume (vph)	18	27	21	98	18	47	97	1992	125	286	2463	2
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	29	23	107	20	51	105	2165	136	311	2677	2
Lane Group Flow (vph)	20	29	23	107	71	0	105	2301	0	311	2677	2
Turn Type	Perm		Perm	Perm			Prot			Prot		Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								6
Actuated Green, G (s)	18.7	18.7	18.7	18.7	18.7		15.6	113.1		28.8	126.3	126.3
Effective Green, g (s)	21.7	21.7	21.7	21.7	21.7		17.8	115.3		31.0	128.5	128.5
Actuated g/C Ratio	0.12	0.12	0.12	0.12	0.12		0.10	0.64		0.17	0.71	0.71
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0		6.2	6.2		6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	141	225	191	166	200		175	4068		305	4575	1130
v/s Ratio Prot		0.02			0.04		0.06	0.36		c0.18	c0.42	
v/s Ratio Perm	0.02		0.01	c0.08								0.00
v/c Ratio	0.14	0.13	0.12	0.64	0.35		0.60	0.57		1.02	0.59	0.00
Uniform Delay, d1	70.8	70.7	70.6	75.5	72.7		77.7	18.2		74.5	12.7	7.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.5	0.3	0.3	8.3	1.1		5.5	0.6		56.7	0.6	0.0
Delay (s)	71.3	71.0	70.9	83.8	73.8		83.1	18.8		131.2	13.2	7.4
Level of Service	E	E	E	F	E		F	B		F	B	A
Approach Delay (s)		71.0			79.8			21.6			25.5	
Approach LOS		E			E			C			C	

Intersection Summary

HCM Average Control Delay	26.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	73.4%	ICU Level of Service	C
c Critical Lane Group			

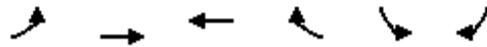
HCM Unsignalized Intersection Capacity Analysis
 5: Blairs Bridge Road & Oak Ridge Rd

2009 Future AM
 2/5/2007

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Stop			Stop		
Volume (veh/h)	5	116	107	73	107	124	25	106	47	163	377	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (veh/h)	5	126	116	79	116	135	27	115	51	177	410	11
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total (vph)	5	242	79	251	27	166	177	421				
Volume Left (vph)	5	0	79	0	27	0	177	0				
Volume Right (vph)	0	116	0	135	0	51	0	11				
Hadj (s)	0.2	-0.3	0.2	-0.3	0.2	-0.2	0.2	0.0				
Departure Headway (s)	7.6	7.1	7.5	7.0	7.6	7.2	6.9	6.7				
Degree Utilization, x	0.01	0.48	0.16	0.48	0.06	0.33	0.34	0.78				
Capacity (veh/h)	444	472	455	485	443	470	501	523				
Control Delay (s)	9.5	15.3	10.7	15.1	9.8	12.5	12.3	28.8				
Approach Delay (s)	15.2		14.1		12.2		23.9					
Approach LOS	C		B		B		C					
Intersection Summary												
Delay			18.3									
HCM Level of Service			C									
Intersection Capacity Utilization			57.0%		ICU Level of Service		A					

HCM Unsignalized Intersection Capacity Analysis
 9: Blairs Bridge Road & North Blairs Bridge Road

2009 Future AM
 2/5/2007



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↕	
Sign Control		Stop	Stop		Stop	
Volume (veh/h)	3	5	5	170	473	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (veh/h)	3	5	5	185	514	16
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total (vph)	9	190	530			
Volume Left (vph)	3	0	514			
Volume Right (vph)	0	185	16			
Hadj (s)	0.1	-0.5	0.2			
Departure Headway (s)	5.5	4.6	4.6			
Degree Utilization, x	0.01	0.24	0.67			
Capacity (veh/h)	589	716	765			
Control Delay (s)	8.6	9.1	16.5			
Approach Delay (s)	8.6	9.1	16.5			
Approach LOS	A	A	C			
Intersection Summary						
Delay			14.5			
HCM Level of Service			B			
Intersection Capacity Utilization	47.9%		ICU Level of Service	A		

HCM Signalized Intersection Capacity Analysis
3: North Blairs Bridge Road & Thornton Road

2009 Future PM
2/5/2007



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗		↖	↑↑↑		↖	↑↑↑	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.86		1.00	0.86	1.00
Frt	1.00	1.00	0.85	1.00	0.88		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1638		1770	6396		1770	6408	1583
Flt Permitted	0.30	1.00	1.00	0.73	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	563	1863	1583	1364	1638		1770	6396		1770	6408	1583
Volume (vph)	79	35	30	344	39	157	162	3020	39	132	2329	7
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	86	38	33	374	42	171	176	3283	42	143	2532	8
Lane Group Flow (vph)	86	38	33	374	213	0	176	3325	0	143	2532	8
Turn Type	Perm		Perm	Perm			Prot			Prot		Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								6
Actuated Green, G (s)	28.0	28.0	28.0	28.0	28.0		22.4	113.2		19.4	110.2	110.2
Effective Green, g (s)	31.0	31.0	31.0	31.0	31.0		24.6	115.4		21.6	112.4	112.4
Actuated g/C Ratio	0.17	0.17	0.17	0.17	0.17		0.14	0.64		0.12	0.62	0.62
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0		6.2	6.2		6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	97	321	273	235	282		242	4101		212	4001	988
v/s Ratio Prot		0.02			0.13		c0.10	c0.52		0.08	0.40	
v/s Ratio Perm	0.15		0.02	c0.27								0.01
v/c Ratio	0.89	0.12	0.12	1.59	0.76		0.73	0.81		0.67	0.63	0.01
Uniform Delay, d1	72.8	63.0	63.0	74.5	70.9		74.5	24.1		75.8	21.0	12.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	55.9	0.2	0.2	285.4	10.9		10.4	1.8		8.2	0.8	0.0
Delay (s)	128.7	63.1	63.2	359.9	81.8		84.9	26.0		84.0	21.8	12.8
Level of Service	F	E	E	F	F		F	C		F	C	B
Approach Delay (s)		99.1			259.0			28.9			25.1	
Approach LOS		F			F			C			C	

Intersection Summary

HCM Average Control Delay	48.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	96.9%	ICU Level of Service	E
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis
 5: Blairs Bridge Road & Oak Ridge Rd

2009 Future PM
 2/5/2007

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Stop			Stop		
Volume (veh/h)	12	102	47	46	156	194	154	378	73	127	142	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (veh/h)	13	111	51	50	170	211	167	411	79	138	154	53
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total (vph)	13	162	50	380	167	490	138	208				
Volume Left (vph)	13	0	50	0	167	0	138	0				
Volume Right (vph)	0	51	0	211	0	79	0	53				
Hadj (s)	0.2	-0.2	0.2	-0.3	0.2	-0.1	0.2	-0.1				
Departure Headway (s)	8.6	8.2	8.0	7.4	7.5	7.2	8.0	7.7				
Degree Utilization, x	0.03	0.37	0.11	0.79	0.35	0.98	0.31	0.44				
Capacity (veh/h)	398	421	436	472	467	490	431	452				
Control Delay (s)	10.6	14.7	10.8	31.5	13.3	62.4	13.4	15.5				
Approach Delay (s)	14.4		29.1		49.9		14.7					
Approach LOS	B		D		E		B					
Intersection Summary												
Delay			32.9									
HCM Level of Service			D									
Intersection Capacity Utilization			65.9%		ICU Level of Service				B			

HCM Unsignalized Intersection Capacity Analysis
 9: Blairs Bridge Road & North Blairs Bridge Road

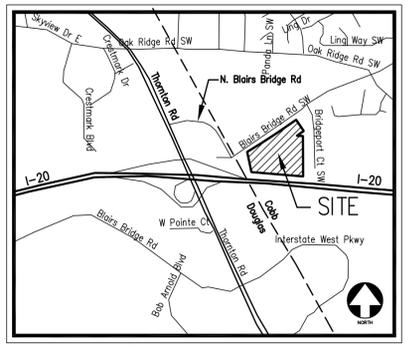
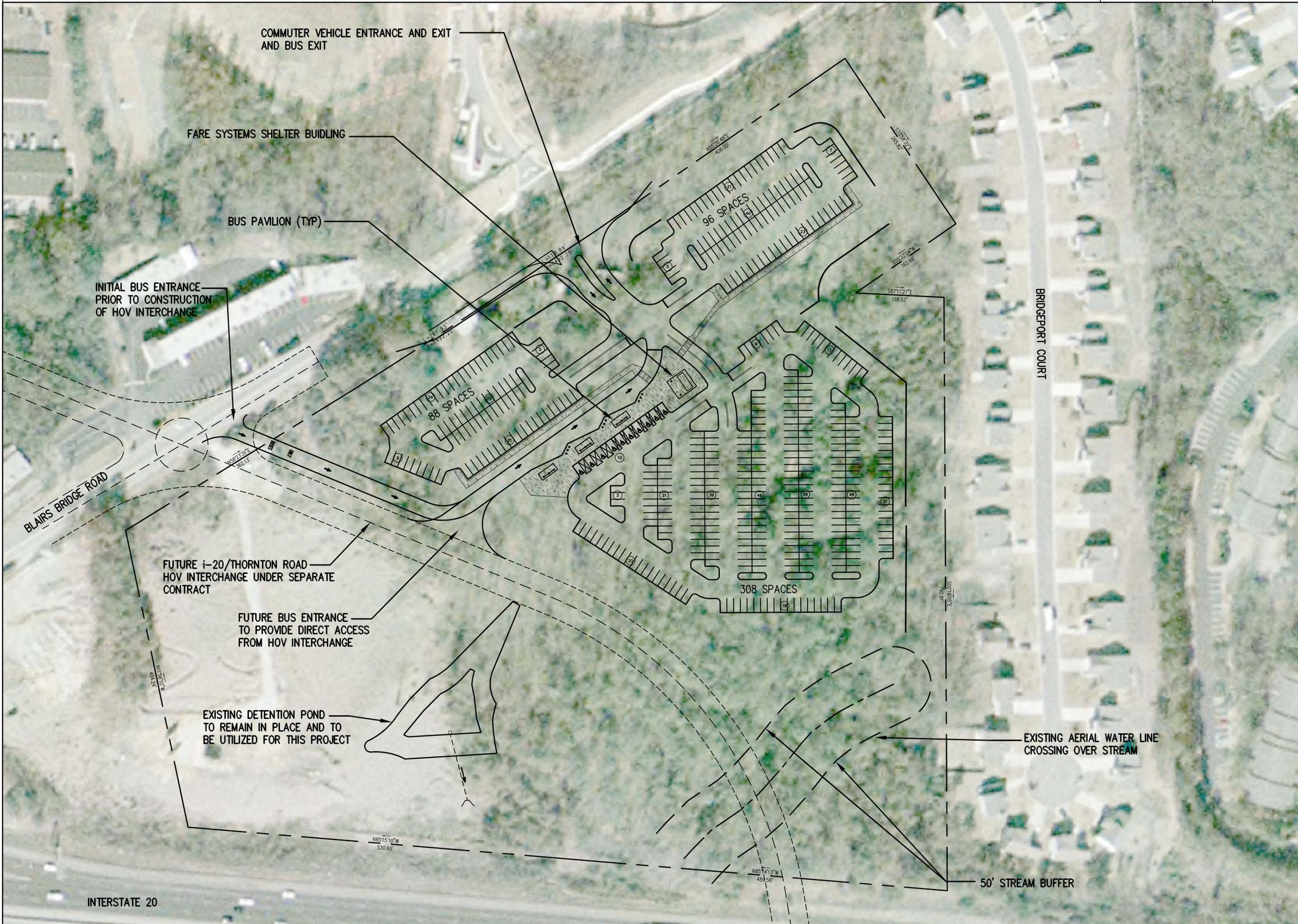
2009 Future PM
 2/5/2007



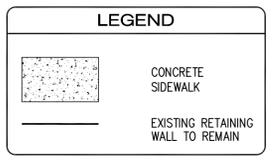
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Sign Control		Stop	Stop		Stop	
Volume (veh/h)	47	13	3	457	173	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (veh/h)	51	14	3	497	188	20

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total (vph)	65	500	208
Volume Left (vph)	51	0	188
Volume Right (vph)	0	497	20
Hadj (s)	0.2	-0.6	0.2
Departure Headway (s)	5.1	4.0	5.2
Degree Utilization, x	0.09	0.55	0.30
Capacity (veh/h)	655	876	645
Control Delay (s)	8.6	11.7	10.4
Approach Delay (s)	8.6	11.7	10.4
Approach LOS	A	B	B

Intersection Summary			
Delay		11.1	
HCM Level of Service		B	
Intersection Capacity Utilization	49.2%		ICU Level of Service A



- CONCEPT DESIGN BACKGROUND DATA SOURCES**
- TOPO:
- USGS QUAD MAP (date: UNKNOWN)
 - COUNTY GIS MAP (date)
 - FIELD RUN TOPO
- BOUNDARY:
- ESTIMATED
 - GIS/TAX PARCEL
 - BOUNDARY SURVEY
- EXISTING SITE FEATURES:
- COUNTY GIS/AERIAL PHOTO
 - FIELD RUN SURVEY



ESTIMATED PARKING SUMMARY

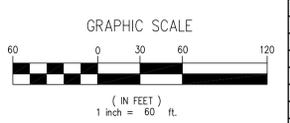
STANDARD (9' x 19'):	482 SPACES
HANDICAP (9' x 19'):	10 SPACES
PARKING PROVIDED:	492 SPACES

SITE PLAN NOTES:
 1. THE AERIAL PHOTO SHOWN IN THE BACKGROUND OF THIS PLAN IS NOT REFLECTIVE OF THE CURRENT CONDITIONS ON THIS SITE. THE SITE HAS BEEN DEVELOPED SINCE THE PHOTOGRAPH WAS TAKEN. HOWEVER, THIS AERIAL IS REPRESENTATIVE OF THE CONDITION OF THE ADJACENT PARCELS.



5/15/2007

URS
 400 Northpark Town Center
 1000 Abernathy Road N.E., Suite 900
 Atlanta, Georgia 30328
 Tel: (678) 808-8800, Fax: (678) 808-8400

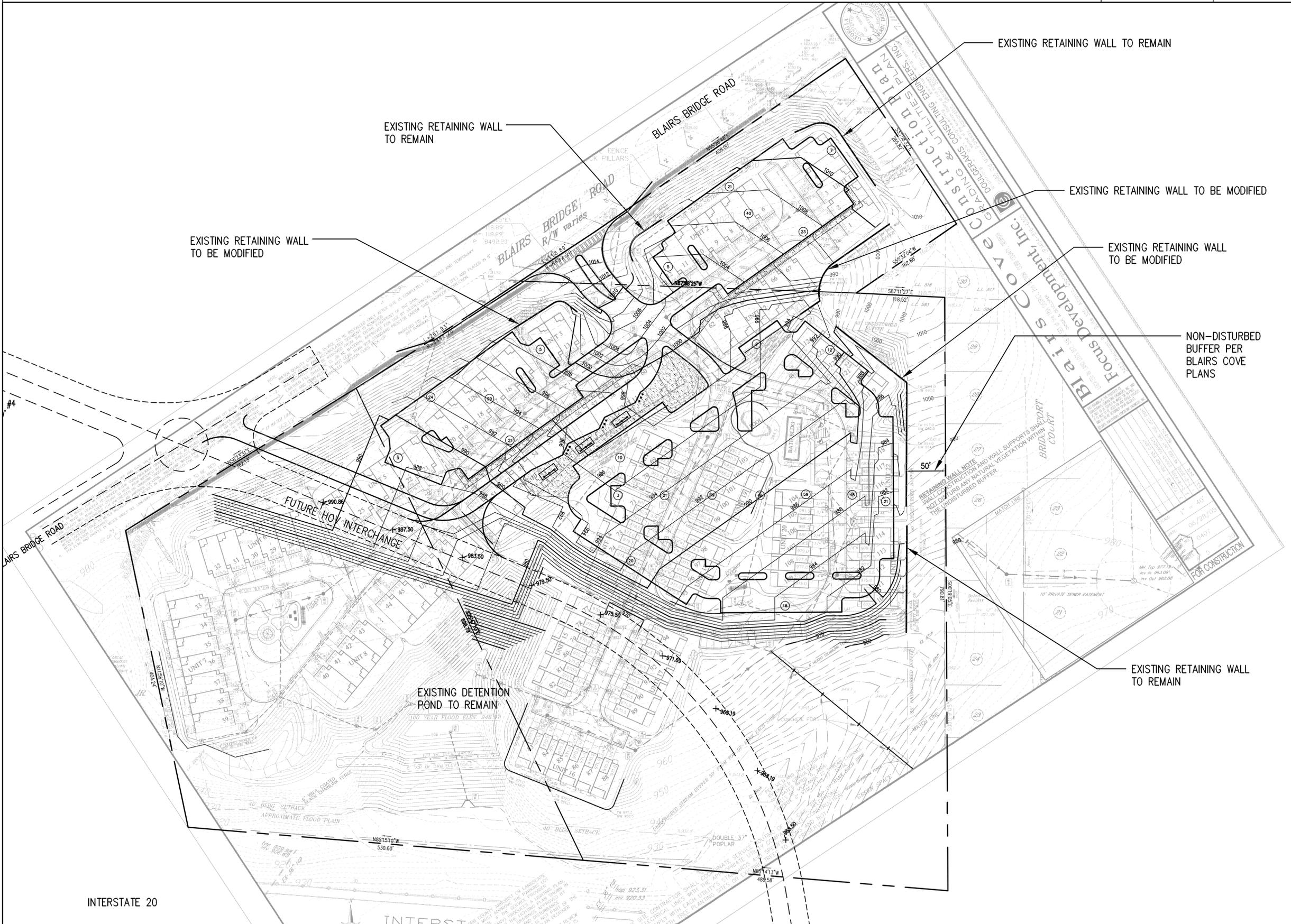


REVISIONS		

STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE OF URBAN DESIGN
CONCEPT SITE PLAN

BLAIRS BRIDGE ROAD
 PARK AND RIDE LOT

CP 1
 DRAWING No.



GRADING PLAN NOTES:

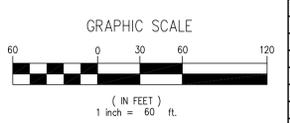
1. THE BACKGROUND OF THIS PLAN SHOWS THE DESIGNED GRADING PLAN FOR THE BLAIRS COVE DEVELOPMENT ON THIS SITE. THIS PLAN IS REPRESENTATIVE OF THE EXISTING CONDITIONS ON THE SITE. ALL OF THE RETAINING WALLS ON THE BLAIRS COVE PLAN HAVE BEEN INSTALLED, AS WELL AS THE CURB AND GUTTER, PAVEMENT AND STORM DRAINAGE.
2. THE RETAINING WALLS ON THE INTERIOR OF THE SITE WILL BE REMOVED. THE RETAINING WALLS ALONG THE BOUNDARY OF THE SITE WILL REMAIN IN PLACE OR WILL BE MODIFIED.
3. THE 50-FOOT NON-DISTURBED BUFFER SHOWN IS PER THE BLAIRS COVE DESIGN PLANS. IT IS ASSUMED THAT THIS BUFFER WILL REMAIN IN PLACE FOR THE PARK AND RIDE DEVELOPMENT.



INTERSTATE 20

5/15/2007

URS
 400 Northpark Town Center
 1000 Abernathy Road N.E., Suite 900
 Atlanta, Georgia 30328
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NO.	REVISIONS	DATE

STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE OF URBAN DESIGN
CONCEPT GRADING PLAN

BLAIRS BRIDGE ROAD
 PARK AND RIDE LOT

CP 2
 DRAWING No.