Gainesville - Hall
Metropolitan Planning Organization
GHMPO
Braselton - Flowery Branch - Gainesville - Oakwood - Hall County - Jackson County

CITIZENS ADVISORY COMMITTEE

Thursday, October 25, 2018, 3:00 PM
Gainesville Traffic Operations Center
2nd Floor, Gainesville Administration Building
300 Henry Ward Way, Gainesville, GA 30503

AGENDA

1. Tour of the Gainesville Traffic Operations Center – Matt Tarver, Gainesville Public Works Deputy Director

Thursday, October 25, 2018, 4:00 PM
Conference Room 114, GDOT District Office
1475 Jesse Jewell Pkwy NE, Suite 100, Gainesville, GA 30501

AGENDA

2. Welcome – Renee Gerrell, Chair

3. Election of Chair and Vice Chair

4. Approval of July 17, 2018 Meeting Minutes

5. Recommend Approval of the Draft Resolution Approving Amendment #2 to the 2018-2021 Transportation Improvement Program
   – Sam Baker, GHMPO

6. Gainesville Trail Study & South Hall Trail Study
   – Joseph Boyd, GHMPO & Britt Storck, Alta Planning+Design

7. Jurisdiction and Agency Reports
   – City of Flowery Branch
   – City of Gainesville
   – City of Oakwood
   – Town of Braselton
   – Georgia Department of Transportation
   – Georgia Mountains Regional Commission
   – Hall Area Transit
   – Hall County
   – Jackson County

8. Upcoming Meeting Date: February 28, 2019

9. Public Comment

10. Other
    – Gainesville-Hall Regional Transportation Plan: 2020 Update
    – Micro-Transit Feasibility Study
    – GHMPO Rebranding Initiative

11. Adjourn

GHMPO welcomes people with disabilities and their trained service animals. For questions about accessibility or to request reasonable accommodation to an event or facility, please contact Maria Tuck, Hall County Compliance Specialist at 770-531-6712 by 48 hours prior to the event or as soon as possible.

CITIZENS ADVISORY COMMITTEE

Thursday, July 26, 2018
4:00 PM
Hall County Government Center, 2nd Floor HR Training Room

Draft Minutes of July 26, 2018 Meeting

Voting Members Present:
Ken Stanley, Hall County, Vice-Chairperson
Ed Edwards, City of Flowery Branch
Tabitha Gooch, Jackson County
Brent Hoffman, Hall County
Mary Jardine, City of Gainesville
Pat Jones, City of Oakwood
Joe Kennedy, Hall County
Jennifer Kid-Harrison, Town of Braselton
Berlinda Lipscomb, City of Gainesville
Tony Millwood, City of Oakwood
Patrick O'Rouke, Hall County
Connie Propes, City of Gainesville
Heather Taylor, Hall County

Voting Members Absent:
Renee Gerrell, Hall County
Trey Bell, Hall County
Sammy Smith, City of Gainesville
Beth Weikel, Hall County

Others Present:
Sam Baker, GHMPO
Joseph Boyd, GHMPO
Denise Farr, Hall County
Sarah McQuade, Hall County
Bill Moats, Hall County
Madison Hickey, GHCC

DRAFT

1. **Welcome**

   Mr. Stanley called the meeting to order at 4:00 P.M.

2. **Approval of April 26, 2018 Meeting Minutes**

   MOTION: *Mr. Hoffman made a motion to approve the minutes of the April 26, 2018 Citizens Advisory Committee Meeting, with a second from Ms. Jardine, and the motion passed by a unanimous vote.*

3. **Recommend Approval of the Draft Resolution Supporting the State Targets for:**
    a. **Pavement and Bridge Condition**
    b. **Performance of National Highway System, Freight, and Congestion Mitigation & Air Quality**

Mr. Baker presented a draft resolution which states that GHMPO will elect to adopt and support the newly created Bridge and Pavement Performance Management Targets (also known as PM2) and the Performance of National Highway System, Freight, and Congestion Mitigation & Air Quality Performance Management Targets (also known as PM3), as established by the Georgia Department of Transportation. The current federal transportation legislation called the Fixing America's Surface Transportation Act (FAST Act) directs the U.S. Department of Transportation (USDOT), all state Departments of Transportation (DOTs), and all Metropolitan Planning Organizations (MPOs) to establish performance measures and performance targets for various aspects of transportation. GHMPO previously adopted the statewide safety targets in February 2018. Mr. Baker stated that staff recommends GHMPO adopt the statewide targets listed in the draft resolution.

Ms. Jardine asked if staff felt that the statewide targets were adequate to which Mr. Baker responded that yes, the targets were a good place to begin and that the results would be analyzed within one year.

MOTION: Mr. O'Rouke made a motion to recommend approval of the Draft Resolution supporting the State Targets for Pavement and Bridge Condition as well as Performance of National Highway System, Freight, and Congestion Mitigation & Air Quality, with a second from Ms. Lipscomb, and the motion passed by a unanimous vote.

4. **Recommend Approval of the Draft Resolution Requesting Additional PL Funds for the Gainesville-Hall Regional Transportation Plan: 2020 Update**

Mr. Boyd presented a draft resolution requesting additional PL (Planning) funding from the Georgia Department of Transportation (GDOT) in order to conduct the federally required five-year update to the Gainesville-Hall Regional Transportation Plan (RTP). GHMPO's current RTP was completed in June 2015 with an updated plan due by June of 2020.

The anticipated cost of the plan update is approximately $250,000 and will be paid with PL funds (80%) and in-kind match (20%). If the draft resolution is approved, GHMPO will submit this application to GDOT at the September PL Funds Review Committee meeting with the anticipation of issuing a Request For Proposals (RFP) in October and hiring a consultant in November.

Mr. Hoffman asked if it was possible to include a more detailed study of possible routing for a North Hall Parkway bypass to which Mr. Baker responded that staff felt that such a study would need a more focused and refined look than what the regional transportation plan could provide. Mr. Stanley then asked what the status was on applying for additional PL funding to conduct a North Hall Parkway Study to which Mr. Baker responded that Hall County had not committed to funding the local match. Without a local match, the application process cannot move forward at this time.

MOTION: Mr. Hoffman made a motion to recommend approval of the Draft Resolution requesting additional PL funds for the Gainesville-Hall Regional Transportation Plan: 2020 Update, with a second from Ms. Lipscomb, and the motion passed by a unanimous vote.

5. Jurisdiction and Agency Reports

-City of Flowery Branch
-City of Gainesville
-City of Oakwood
-Town of Braselton
-Georgia Department of Transportation
-Georgia Mountains Regional Commission
-Hall Area Transit
-Hall County
-Jackson County

6. Upcoming Meeting Date: October 25, 2018

The next CAC meeting will be on Thursday, October 25, 2018. The location will be determined shortly.

7. Public Comment

There were no public comments.

8. Other

Mr. Baker informed the group that the City of Gainesville would be happy to accommodate the previous request by Mr. Smith to tour the new Gainesville Traffic Operations Center on October 25, 2018 prior to the CAC meeting. The exact time of the tour and the location of the next CAC meeting will need to be determined. The staff has explored the options to hold the next meeting in the Gainesville Administration Building, Brenau University, and at the HR Training Room of Hall County Government Center following the tour. Mr. Stanley stated that he would check the availability of a room at the GDOT District Office and follow up with the committee.

Ms. Kid-Harrison and Ms. Gooch asked if MPO staff could gather more information on the proposed roundabouts at the intersections of SR 53/New Cut Road and SR 16/SR 124 in Jackson County. Mr. Boyd and Mr. Baker responded that they would reach out to the District 1 office at GDOT and promptly pass along any information received.

9. Adjourn

There being no other business, the meeting was adjourned at 4:41 P.M.

Renee Gerrell, Chairperson

Joseph Boyd, Secretary

MEMORANDUM

To: **Citizens Advisory Committee Members**

From: **Sam Baker, Transportation Planning Manager**

Date: **October 25, 2018**

Re: **Transportation Improvement Program Amendment #2**

The Georgia Department of Transportation has asked the Gainesville-Hall Metropolitan Planning Organization to amend its Transportation Improvement Program (TIP) for the following:

Change the limit of the I-85 widening project (GH-109/PI# 0013545) as follows:

PREVIOUS LIMIT
I-85 from north of SR 211/Old Winder Highway to north of US 129/SR 11/Lee Street

NEW LIMIT
I-85 from north of SR 53/Winder Highway to north of US 129/SR 11/Lee Street

Please see the attachments for more details.

RECOMMENDED ACTION: ***Recommend approval of the resolution amending the TIP (TIP Amendment #2)***

Attachments: Draft TIP Amendment #2
Draft Resolution

A Resolution by the Gainesville-Hall Metropolitan Planning Organization Policy Committee Adopting Amendment #2 to the 2018-2021 Transportation Improvement Program

WHEREAS, the Regional Transportation Plan (RTP) and the Transportation Improvement Program (TIP) meet the requirement of Title 23 of the U.S. Code; and

WHEREAS, the Policy Committee (PC) is the recognized decision making body for transportation planning with the Gainesville-Hall Metropolitan Planning Organization (GHMPO); and

WHEREAS, the 2018-2021 TIP has been amended, per Attachment 1, to change the limit of the I-85 widening project (GH-109/PI# 0013545) as follows:

PREVIOUS LIMIT
I-85 from north of SR 211/Old Winder Highway to north of US 129/SR 11/Lee Street

NEW LIMIT
I-85 from north of SR 53/Winder Highway to north of US 129/SR 11/Lee Street

WHEREAS, Hall County is in the Atlanta Maintenance Area for the 1997 ozone national ambient air quality standard (NAAQS), for which the Atlanta Regional Commission (ARC) performs the technical evaluation for conformity; and

WHEREAS, the South Coast Air Quality Management District vs. U.S. Environmental Protection Agency court decision of February 16, 2018 requires that Hall County demonstrate transportation conformity to the 1997 8-hour ozone standard; and

WHEREAS, through this technical evaluation, ARC has demonstrated conformity with the applicable State Implementation Plan (SIP) for air quality; and

WHEREAS, the GHMPO TIP Amendment went through the required 15-day minimum public comment period from August 19, 2018 through September 2, 2018.

NOW, THEREFORE, BE IT RESOLVED that the GHMPO PC adopts the attached Amendment #2 to the TIP.

A motion was made by PC member _____ and seconded by PC member _____ and approved this the 13th of November, 2018.

DRAFT

_____
Mayor Mike Miller, Chair
Policy Committee

Subscribed and sworn to me this the 13th of November, 2018.

_____
Notary Public

My commission expires _____

DRAFT

GHMPO 2018-2021 DRAFT TIP AMENDMENT #2 8/6/2018

GHMPO #	PI #	Year	Project Name	Improvement Type	Phase	Federal	State	Other	Total	FHWA Program Code/Local	Change Requested By	Purpose of Amendment	Network Year
GH-109	0013545	2018	**I-85 from North of SR 53 to North of US 129/SR 11/Lee Street**	Widening	PE		391,000.00	1,564,000.00	1,955,000.00	Z001	GDOT	Project Limit Change	2030

Proposed Adoption: November 13, 2018

Yellow areas denote most recent changes.

2018-2021 DRAFT TRANSPORTATION IMPROVEMENT PROGRAM

8/6/2018

GHMPO No.	GDOT No.	Segment Location	$ Thousands																			
			FY 2018					FY 2019					FY 2020					FY 2021				
			SCP	PE	ROW	CST	UTL	SCP	PE	ROW	CST	UTL	SCP	PE	ROW	CST	UTL	SCP	PE	ROW	CST	UTL
GH-016	0003626	Sardis Rd Connector from SR 60 to Sardis Rd Near Chestatee Rd													$22,874							
GH-020	122060	SR 11/US 129 from Limestone Pkwy to South of Nopone Rd								$3,703					$6,171					$2,468		
GH-023	0009679	Spout Springs Rd from I-985 to Union Circle - Phase I			$9,246						$31,759	$7,766										
GH-028	0013609	Bridge on SR 332 at Walnut Creek								$295						$2,637						
GH-038	132610	SR 60 from SR 136 to Yellow Creek Rd								$14,701												
GH-056	0007170	Bridge on SR 136/Price Rd at Chestatee River								$459											$6,099	$143
GH-057	122012	Bridge on SR 369 at Chattahoochee River/Lake Lanier				$27,993																
GH-069	0013322	SR 53 Connector/SR 60 at SR 60/SR 369			$1,230						$1,357											
GH-085	0010212	Bridge on SR 53 Westbound at Chattahoochee River								$216											$19,990	$113
GH-104		SR 53/Dawsonville Hwy at McEver Rd Operations							$116													
GH-109	0013545	**I-85 from North of SR 53 to North of SR 211/US 129**		$1,955																		
GH-113	0015752	Oak Tree Drive Operations		$423																$710		
GH-116	0013922	Bridge on I-985 at Elachee Dr								$250						$3,300						
GH-117	0014935	Railroad Crossing on Tumbling Creek Rd at Norfolk Southern Railroad				$3,521										$4,421						
GH-118	0013988	SR 211 from SR 124 to SR 347		$21											$105							
GH-119	0015551	Bridge on SR 60 at Chattahoochee River	$500											$1,000								
GH-120	0014130	I-985 from I-85 to SR 53		$1,060					$3,000													
GH-122	0015766	I-985 from I-85 to North of SR 53		$30		$1,700																
GH-123	110610	I-85 from I-985 to North of SR 53				$24,000										$38,100						
	0013978 0013979 0013980 0013981	Oversight Services for GHMPO CMAQ Projects		$70					$70					$70					$70			
		TOTAL	**$500**	**$3,559**	**$10,476**	**$57,214**	**$0**	**$0**	**$3,186**	**$19,624**	**$33,116**	**$7,766**	**$0**	**$1,070**	**$29,150**	**$48,458**	**$0**	**$0**	**$70**	**$3,179**	**$26,089**	**$256**

FY 18-21	$ Thousands
SCP	$500
PE	$7,886
ROW	$62,428
CST	$164,877
UTL	$8,021
TOTAL	**$243,713**

Yellow areas denote most recent changes.

CURRENT

Project Name	GHMPO No.	GDOT No.
I-85 from north of SR 211/Old Winder Hwy to north of US 129/SR11/Lee St		0013545
	County Jackson/Barrow	City Braselton
Local Rd. Name	GDOT District 1	Cong. District 9
US/State Rd. Name I-85/SR 403	Map ID 109	RC NEGRC

Project Description

Widen I-85 from north of SR 211/Old Winder Hwy to north of US 129/SR 11/Lee St. Project costs reflect only the GHMPO's portion (85%) of the total cost that lies within the MPO boundary.

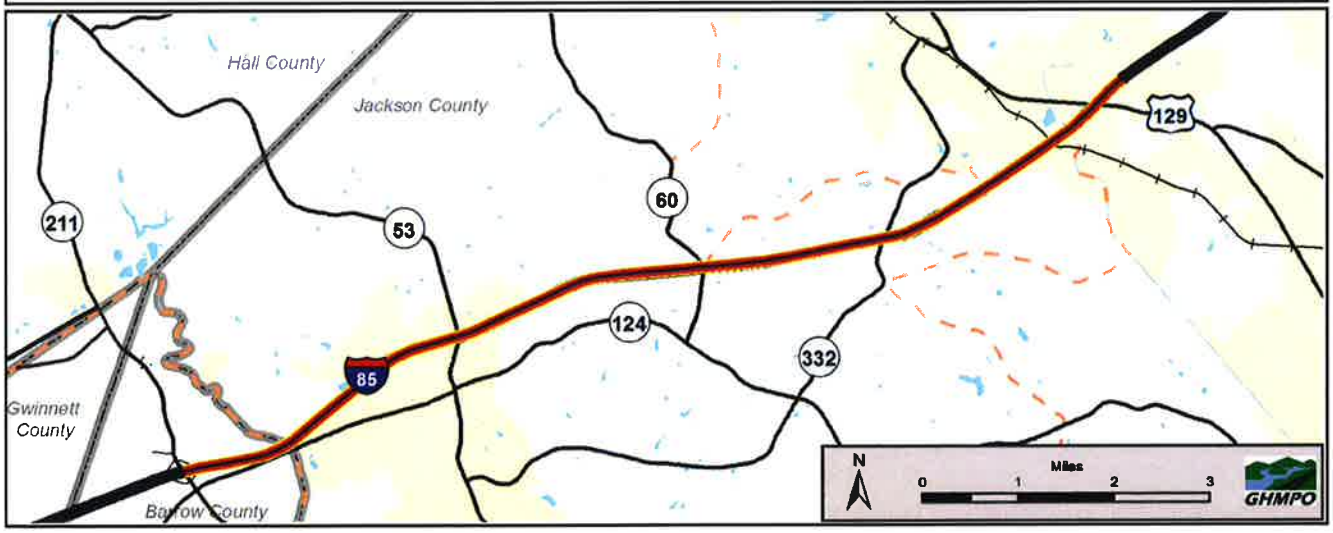
Improvement Type Widening **Regionally Significant** Yes **Capacity Adding** Yes **Funding Source** GDOT

Project Intent

This project addresses existing and anticipated traffic congestion. Please note that this project is of national and regional significance and required for congressional balancing and is assumed to be funded.

Project Termini From SR 211/Old Winder Hwy To US 129/SR 11/Lee St	**Length (miles)** 11.3	
	Exist. Lanes 4	**Future Lanes** 6
Bike / Ped.	**Exist. Vol.** 61,300 (2015)	**Design Vol.** 72,820 (2040)
Connectivity SR 211/Old Winder Hwy to US 129/SR 11/Lee St		
Network Year 2030	**LRTP Project Tier:** Short-Term (2015-2023)	**Open to Traffic Date** 2025

STATUS	PHASE	SOURCE	LOCAL	STATE	FEDERAL	OTHER	TOTAL
2018	Pre-Engineering	Z001	$1,564,000	$391,000	$0	$0	$1,955,000
LR	Construction	State/Federal	$0	$7,072,000	$28,288,000	$0	$35,360,000
N/A	Right-of-Way		$0	$0	$0	$0	$0
N/A	Utilities		$0	$0	$0	$0	$0
		TOTAL	$1,564,000	$7,463,000	$28,288,000	$0	$37,315,000



PROPOSED

GHMPO

2018-2021 Transportation Improvement Program

Project Name I-85 from north of SR 53 to north of US 129/SR11/Lee St	**GHMPO No.** GH-109	**GDOT No.** 0013545
	County Jackson	**City** Braselton
Local Rd. Name	**GDOT District** 1	**Cong. District** 9
US/State Rd. Name I-85/SR 53	**Map ID** 109	**RC** NEGRC

Project Description

Widen I-85 from north of SR 53 to north of US 129/SR 11/Lee St. Project costs reflect only the GHMPO's portion (85%) of the total cost that lies within the MPO boundary.

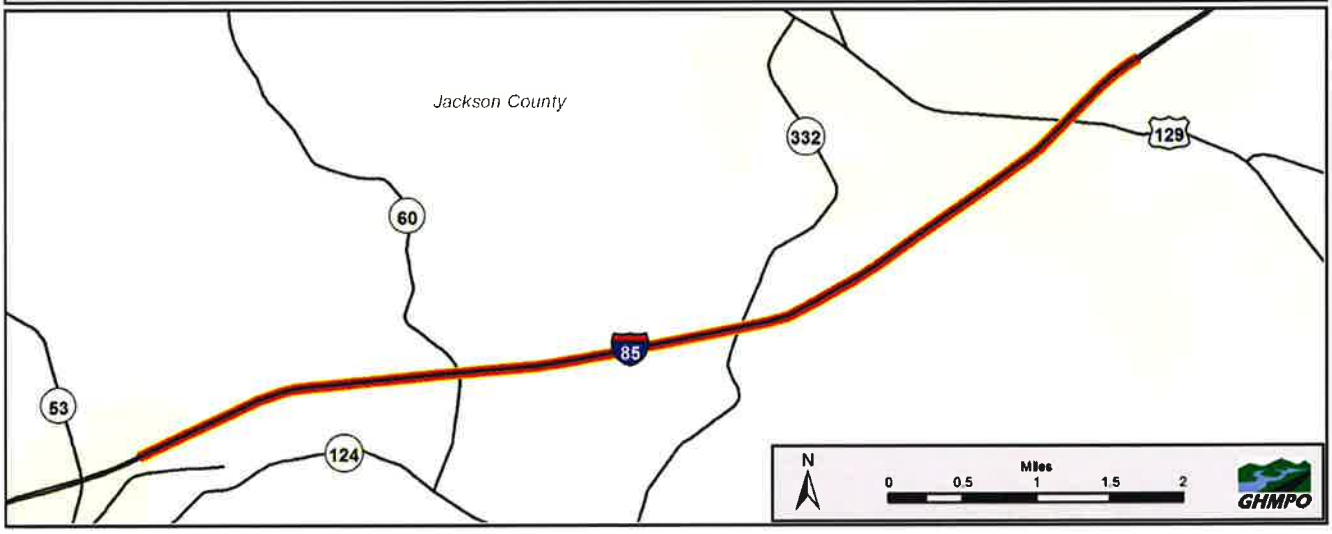
Improvement Type Widening **Regionally Significant** Yes **Capacity Adding** Yes **Funding Source** GDOT

Project Intent

This project addresses existing and anticipated traffic congestion. Please note that this project is of national and regional significance and required for congressional balancing and is assumed to be funded.

Project Termini **From** North of SR 53 **To** North of US 129/SR 11/Lee St	**Length (miles)** 8.77	
	Exist. Lanes 4	**Future Lanes** 6
Bike / Ped.	**Exist. Vol.** 55,400 (2016)	**Design Vol.** 72,820 (2040)
Connectivity SR 53 to US 129/SR 11/Lee St		
Network Year 2030 **LRTP Project Tier:** Short-Term (2015-2023)		**Open to Traffic Date** 2025

STATUS	PHASE	SOURCE	LOCAL	STATE	FEDERAL	OTHER	TOTAL
2018	Pre-Engineering	Z001	$1,564,000	$391,000	$0	$0	$1,955,000
LR	Construction	State/Federal	$0	$7,072,000	$28,288,000	$0	$35,360,000
N/A	Right-of-Way		$0	$0	$0	$0	$0
N/A	Utilities		$0	$0	$0	$0	$0
		TOTAL	$1,564,000	$7,463,000	$28,288,000	$0	$37,315,000



Conformity Determination Report – Short Form
Gainesville-Hall Metropolitan Transportation Planning Process

Regional Transportation Plan: ***GHMPO 2040 RTP: 2015 Update***

Transportation Improvement Program: ***FY 2018-2021***

Nature of Action:

- ☐ **Administrative Modification**
- ☒ **Amendment - Number *2***
  - ☒ **Planning Action Only**
  - ☐ **New Emissions Analysis Required**

This TIP Amendment is required to demonstrate transportation conformity to the 1997 8-hour ozone maintenance area due to the South Coast Air Quality Management District vs. USEPA court ruling of February 16, 2018. A full list of all proposed changes is attached to this form. Administrative Modifications and Planning Action Amendments do not impact financial constraint of the TIP or RTP, as any increase in federal funds will be drawn from existing program balances, as verified by the Georgia Department of Transportation. There are also no changes to the scope or schedule of any non-exempt status project, as defined in 40 Code of Federal Regulations Part 93, which would require updating the regional emissions analysis.

Date of Last Conforming Emissions Analysis:

May 2018

The above dated Conformity Determination Report was found by FHWA and EPA to meet the transportation requirements of the Clean Air Act set forth in 40 Code of Federal Regulations Part 93. The Atlanta Nonattainment Area meets all motor vehicle emissions budgets and conformity tests established through the State Implementation Plan and via Interagency Consultation for both the 1997 and the 2008 eight-hour ozone standards.

Proposed Approval Dates:

Short Form CDR Released to Interagency	***August 6, 2018***
Interagency Concurrence	***August 17, 2018***
Public Comment Period Opens	***August 19, 2018***
Public Comment Period Closes	***September 2, 2018***
GHMPO Transportation Coordinating Committee	***October 10, 2018***
GHMPO Citizens Advisory Committee	***October 25, 2018***
GHMPO Policy Committee	***November 13, 2018***

Report Preparation:

Prepared by:	***Sam Baker***
Title:	***Transportation Planning Manager***
Contact Email:	***sbaker@hallcounty.org***
Contact Phone:	***770-297-2604***
Date:	***August 6, 2018***

CONFORMITY DETERMINATION REPORT AMENDMENT #5

Atlanta 1997 & 2008
Ozone Maintenance Areas

In Support of:

The Atlanta Region's Plan

Bartow on the Move

Gainesville-Hall Regional Transportation Plan

The contents of this report reflect the views of the persons preparing the document and those individuals are responsible for the facts and the accuracy of the data presented herein. The contents of this report do not necessarily reflect the official views or policies of the Department of Transportation of the State of Georgia. This report does not constitute a standard, specification, or regulation.

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Attached:
Exhibit 1 – Planning & Modeling Assumptions
Exhibit 2 – Summary of Interagency Meetings

Introduction

This report serves as an addendum to the Conformity Determination Report (CDR) for the Atlanta Regional Commission's (ARC) 2016 Atlanta Region's Plan Transportation Element and associated FY 2018-2023 Transportation Improvement Program (TIP), along with the Cartersville-Bartow County MPO (CBMPO) transportation plan – Bartow on the Move – and the Gainesville-Hall County MPO (GHMPO) transportation plan. This document is being updated to reflect changes to emissions as a result of modifications to project timing and scope associated with the fifth amendment of the 2016 Atlanta Region's Plan.

Since the development of ARC's Amendment #3, which required a full emissions analysis in fall 2017, there has been a change to the requirements for conformity in the Atlanta region. In February 2018, a court ruling[1] vacated the revocation of conformity requirements for the 1997 ozone standard. As a result, a conformity determination is required for transportation projects and programs in the 20-county Atlanta 1997 ozone maintenance area concurrently with requirements for the 15-county 2008 ozone maintenance area. This ruling did not change the classification of the former Atlanta nonattainment area; the region remains in maintenance for the 1997 and 2008 ozone standards as well as the 1997 annual $PM_{2.5}$ standard.

Appropriate sections of this addendum have been updated to reflect the latest planning assumptions, transportation project information and emissions results for both the 1997 and 2008 ozone standards. For the full body of text, see the Atlanta Region's Plan documentation available on ARC's website at http://atlantaregional.org/wp-content/uploads/atlanta-region-s-plan-cdr-full-v3.pdf. The addendum associated with the 3rd amendment of the CDR can be found here: http://documents.atlantaregional.com/The-Atlanta-Region-s-Plan/rtp/Conformity-Determination-Report.pdf

[1] South Coast Air Quality Management District v USEPA et al., No. 15-1115 (D.C. Cir. Feb. 16, 2018)

The Region's Current Attainment Status

The following section describes changes to the region's attainment status since the documentation in the full Conformity Determination Report was released in February, 2016.

1997 Ozone Standard

Previously, transportation conformity for the 1997 eight-hour ozone standard was revoked effective April 6, 2015. As a result of a February 16, 2018 court ruling, conformity requirements for the 1997 ozone standard are reinstated. The Atlanta region's status under the 1997 ozone standard is unchanged, and the region is currently still a maintenance area.

2008 Ozone Standard

On May 3, 2016 the United States Environmental Protection Agency (USEPA) ruled on a clean data determination for the 2008 ozone standard effective on August 15, 2016. This determination indicated that the Atlanta region had met the 2008 ozone standard for the three summers from 2013-2015. One day later, on May 4, 2016 the region was reclassified from a marginal to a moderate nonattainment area for failure to meet the ozone standard before July 20, 2015.

On July 18, 2016, the Georgia Environmental Protection Division (GA EPD) submitted a Maintenance Plan to USEPA. This document shows the state's plan for continuing to attain the 2008 ozone standard into the future. Effective June 2, 2017, USEPA has approved the state's plan and the associated Motor Vehicle Emissions Budgets (MVEBs).[2] This action officially redesignated the Atlanta region as a maintenance area.

This window of attainment will likely be brief, as USEPA is moving ahead with the new 2015 ozone standard. Current monitored values indicate that some portion of the Atlanta region will be classified nonattainment for that standard in the future, likely sometime in 2018.

1997 $PM_{2.5}$ Standard

On February 24, 2016 USEPA approved the State's $PM_{2.5}$ Maintenance Plan for the 1997 annual standard. Since all counties in Georgia were classified as attaining the newer 2012 $PM_{2.5}$ standard on September 6, 2016 and a Maintenance Plan was in place for the older 1997 standard, all conformity requirements for the 1997 $PM_{2.5}$ standard were revoked effective October 24, 2016. Unlike the 1997 ozone standard, conformity requirements have not been reinstated for the revoked 1997 $PM_{2.5}$ standard.

[2] 82 FR 25523

Statement of Conformity

An updated transportation conformity analysis is required under the 1997 and 2008 eight-hour ozone standard for all three Metropolitan Planning Organization (MPO) Regional Transportation Plans (RTPs) and TIPs as a result of numerous changes to regionally significant projects. ARC is making changes to the timing and capacity of nonexempt regionally significant projects in this update. CBMPO and GHMPO are currently amending their TIPs, but the project changes do not impact regional emissions.

The purpose of this report is to document compliance with the relevant elements of the Clean Air Act (Subsections 176(c) (1) (2) and (3)), the Transportation Conformity Rule (40 CFR Parts 51 and 93) and Metropolitan Planning Regulations (23 CFR Part 450) by demonstrating that the Atlanta Region's Plan RTP (including the FY 2018-2023 TIP), Bartow on the Move and the GHMPO transportation plan conform to the purpose of the State Implementation Plan (SIP) for both eight-hour ozone standards. ARC has conducted the conformity determination for the entirety of both ozone maintenance areas, encompassing all three MPOs and part of the state outside the boundary of the MPOs.

The conclusion of the conformity analysis, documented below, indicates that the ARC, CBMPO, and GHMPO TIPs and RTPs support the broad intentions of the Clean Air Act for achieving and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone as outlined in the Atlanta area SIP.

Statement of Conformity – Eight-Hour Ozone Standard

Ozone is not emitted directly by any source; it is formed when Nitrogen Oxides (NO_x) and Volatile Organic Compounds (VOC) combine in the atmosphere in the presence of sunlight. Therefore, air pollution control strategies are aimed at controlling NO_x and VOC. Budgets are established for these two pollutants instead of ozone directly.

For both eight-hour ozone conformity analyses the MVEB test is required to demonstrate conformity. The latest approved MVEBs applicable to conformity under the 1997 eight-hour ozone standard were established by GA EPD as part of Georgia's Reasonable Further Progress (RFP) SIP for the 1997 Ozone NAAQS and the Ozone Maintenance Plan for the 1997 Ozone NAAQS. The latest approved MVEBs applicable to conformity under the 2008 eight-hour ozone standard were established by GA EPD as part of Georgia's Ozone Maintenance Plan for the 2008 Ozone NAAQS. These budgets differ from those used in the main body of the CDR and reflect the latest planning assumptions and approved SIPs. The transportation conformity analysis for both eight-hour ozone maintenance areas was performed using a MVEB test with the approved budgets outlined in Tables 1 and 2.

Table 1: 1997 Eight-Hour Ozone Standard Conformity Tests

Establishing SIP	Effective Date	Years	MVEBs
Georgia's RFP SIP for the 1997 Ozone Non-Attainment Area	December 4, 2013	All conformity years prior to 2024	NO_x – 272.67 tons/day VOC – 171.83 tons/day (2008)
Georgia's Ozone Maintenance Plan for the 1997 Ozone NAAQS	January 2, 2014	All conformity years 2024 and later	NO_x – 126 tons/day VOC – 92 tons/day (2024)

Table 2: 2008 Eight-Hour Ozone Standard Conformity Tests

Establishing SIP	Effective Date	Years	MVEBs
Georgia's Ozone Maintenance Plan for the 2008 Ozone NAAQS	June 2, 2017	All conformity years prior to 2030	NO_x – 170.15 tons/day VOC – 81.76 tons/day (2014)
Georgia's Ozone Maintenance Plan for the 2008 Ozone NAAQS	June 2, 2017	All conformity years 2030 and later	NO_x – 58 tons/day VOC – 52 tons/day (2030)

The results of the emissions analysis for the Atlanta Region's Plan RTP, the CBMPO RTP, and the GHMPO RTP demonstrate adherence to the established MVEBs. The conformity analysis for the 1997 ozone standard was performed for the years 2020, 2024, 2030 and 2040. The conformity analysis for the 2008 ozone standard was performed for the years 2020, 2030 and 2040. The analysis years meet the requirements for specific horizon years that the transportation plan must reflect as specified in 93.106(a)(1) of the Transportation Conformity Rule and specific analysis years that the regional emissions analysis must reflect per Section 93.118(b) and 93.118(d)(2).

Upon completion of the technical conformity analysis, ARC staff have determined that the Atlanta Region's Plan RTP, Bartow on the Move and the GHMPO RTP and associated TIPs together demonstrate compliance with the Clean Air Act as amended in 1990 in accordance with all conformity requirements as detailed in 40 CFR Parts 51 and 93 (the Transportation Conformity Rule) and 23 CFR Part 450 (the Metropolitan Planning Regulations as established in MAP-21).

Interagency Consultation

The draft Atlanta Region's Plan Amendment #5 documents were made available to ARC planning partners through the TCC and the TAQC committees in April 2018, to allow time for comment prior to formal adoption or publication, in accordance with 93.105(b)(2)(iii) of the Transportation Conformity Rule. Documentation was provided to the interagency consultation group via email ahead of the initiation of public comment for ARC on March 26, 2018. Final Atlanta Region's Plan RTP/FY 2018-2023 TIP Amendment #5 documents are anticipated to be provided on May 10, 2018, upon approval of the update, fulfilling the requirements of 40 CFR 93.105(c)(7).

Public Involvement

The official public comment period for the FY 2018-2023 TIP Amendment #5 was held between March 26 – April 24, 2018. GHMPO's public comment period was held between April 1 – April 15, 2018. CBMPO's public comment period was held between March 30 – April 30, 2018. ARC's public involvement process, as detailed in the Regional Community Engagement Plan for TIP amendments, includes specific outreach strategies to share project information with the public. Other MPO's processes can be found in their amendment documentation available on their websites[3,4].

- *30-Day Public Comment Period*: A public review and comment period ran from March 26, 2018 through midnight April 24, 2018. ARC must receive comments during this timeframe in order to be considered in the official record of comments. A summary of all comments received during the period and responses to the comments was presented to ARC's technical and policy committees and the ARC Board for their consideration before taking action on the amendment.
- *Project Summary:* A project summary was prepared to provide the public with a user-friendly explanation of the most important elements of the project and is accessible on the ARC website.
- ARC staff was available for questions, comments and speaking engagements by contacting 470-378-1563 or transportation@atlantaregional.org.
- *Public Comments:* Following completion of the public comment period, ARC prepared a Public Comment Report, which summarizes all stakeholder and public outreach and comments. Any comments received and corresponding responses were posted on the TIP Amendment #5 webpage.

[3] http://www.ghmpo.org/156/Gainesville-Hall-RTP-Update
[4] http://www.bartowga.org/departments/community_development/mpo/index.php

Fiscal Constraint

This amendment was undertaken to accomplish three key outcomes:

1. Program remaining non-exempt funding commitments from the 2017 ARC project solicitation under the Atlanta urbanized area sub-allocation of the Surface Transportation Block Grant (STBG) – Urban, Transportation Alternatives Program (TAP), and Congestion Mitigation & Air Quality Program (CMAQ).
2. Address project cost estimate and programmatic changes that are of a time sensitive nature or cannot be handled administratively.
3. Incorporate changes to the travel demand model coding

Federal, state and local revenue projections remain consistent with the previous version of the plan. The magnitude of changes to project costs/schedule and the allocation of funds to new projects requires a demonstration of fiscal constraint for the plan. The tables presented in this section reflect project changes made under this RTP/TIP amendment.

Table 3: FY 2018-2023 Yearly TIP Balances – Federal Highway Administration Funds ($YOE)

Demonstration of Fiscal Constraint (FHWA Funds) - May 2018

FHWA Program	2018	2019	2020	2021	2022 *See Note 2*	2023 *See Note 2*	LR 2024-2030	LR 2031-2040	Total
Congestion Mitigation & Air Quality Improvement (CMAQ)	$ 29,000,000	$ 29,000,000	$ 29,000,000	$ 29,000,000	$ 29,000,000	$ 29,000,000	$ -	$ -	**$ 174,000,000**
TAP - Urban (>200K) (ARC)	$ 7,000,000	$ 7,000,000	$ 7,000,000	$ 7,000,000	$ 7,000,000	$ 7,000,000	$ -	$ -	**$ 42,000,000**
TAP - Statewide (Recreational Trails Program)	$ 466,400	$ 466,400	$ 466,400	$ 466,400	$ 466,400	$ 466,400			
Highway Safety Improvement Program (HSIP)	$ 35,424,000	$ 37,288,000	$ 37,288,000	$ 37,288,000	$ 37,288,000	$ 37,288,000	$ -	$ -	**$ 221,864,000**
Railway Highway Hazard Elimination Setaside	$ 1,864,800	$ 1,864,800	$ 1,864,800	$ 1,864,800	$ 1,864,800	$ 1,864,800			
Railway Highway Protective Devices Setaside	$ 1,491,200	$ 1,491,200	$ 1,491,200	$ 1,491,200	$ 1,491,200	$ 1,491,200			
National Highway Freight Program (NHFP)	$ 38,511,177	$ 39,380,396	$ 40,323,538	$ 40,726,733	$ 18,359,670		$ -	$ -	**$ 177,301,514**
National Highway Performance Program (NHPP)	$ 341,476,665	$ 236,940,335	$ 266,911,326	$ 156,292,886	$ 264,906,666	$ 431,934,784	$ -	$ -	**$ 1,698,462,662**
STBG - Statewide Flexible (GDOT)	$ 107,937,331	$ 122,539,738	$ 101,712,613	$ 92,578,284	$ 95,485,696	$ 80,905,040	$ -	$ -	**$ 601,158,702**
Enhancements Setaside	$ 7,084,800	$ 7,084,800	$ 7,084,800	$ 7,084,800	$ 7,084,800	$ 7,084,800			
Off-System Bridge Setaside	$ 10,095,200	$ 14,291,278	$ 10,195,200	$ 9,895,200	$ 15,935,200	$ 11,183,200			
STBG - Urban (>200K) (ARC)	$ 79,114,934	$ 80,529,294	$ 82,295,555	$ 82,295,555	$ 82,295,555	$ 82,295,555	$ -	$ -	**$ 488,826,448**
General Federal Aid 2024-2040 (Non-MMIP Only)	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,207,858,916	$ 6,184,922,656	**$ 10,392,781,572**
Total Project Costs (Except Long Range MMIP)	**$ 659,466,507**	**$ 577,876,241**	**$ 585,633,432**	**$ 465,983,858**	**$ 561,177,987**	**$ 690,513,779**	**$ 4,183,650,116**	**$ 6,095,208,202**	**$ 13,796,394,898**
Year of Expenditure (YOE) Multiplier	**1.0000**	**1.0000**	**1.0000**	**1.0000**	**1.0000**	**1.0000**	**1.1773**	**1.4012**	
Total YOE Project Costs (Except Long Range	**$ 659,466,507**	**$ 577,876,241**	**$ 585,633,432**	**$ 465,983,858**	**$ 561,177,987**	**$ 690,513,779**	**$ 4,925,349,750**	**$ 8,540,384,622**	**$ 17,006,386,176**
YOE Long Range MMIP Project Costs *See Note 3*	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 2,746,812,000**	**$ 3,357,474,454**	**$ 6,104,286,454**
Running Total Cost (YOE)	**$ 659,466,507**	**$ 1,237,342,748**	**$ 1,822,976,180**	**$ 2,288,960,038**	**$ 2,850,138,025**	**$ 3,540,651,804**	**$ 11,212,813,554**	**$ 23,110,672,630**	**$ 23,110,672,630**
Estimated FHWA Revenue (YOE) *See Note 1*	**$ 722,089,681**	**$ 766,502,379**	**$ 787,663,544**	**$ 841,137,612**	**$ 894,974,430**	**$ 917,844,332**	**$ 6,886,134,630**	**$ 11,355,585,014**	
Running Total Revenue (YOE) *See Note 1*	**$ 722,089,681**	**$ 1,488,592,060**	**$ 2,276,255,603**	**$ 3,117,393,215**	**$ 4,012,367,645**	**$ 4,930,211,977**	**$ 11,816,346,607**	**$ 23,171,931,622**	**$ 23,171,931,622**
Running Total Balance (YOE)	**$ 62,623,174**	**$ 251,249,312**	**$ 453,279,423**	**$ 828,433,177**	**$ 1,162,229,620**	**$ 1,389,560,173**	**$ 603,533,053**	**$ 61,258,992**	**$ 61,258,992**

(1) Note that all revenue estimates are based on assumptions about the average share of statewide revenues which will be directed to programs and projects in the Atlanta region. Actual amounts in any given year will fluctuate from these averages, as evidenced by the cost of projects programmed within the TIP period. GDOT has reviewed all TIP project commitments and confirms that financial resources are available to ensure no shortfall actually occurs within any individual fiscal year. Over the four year federally required TIP period (FY 2018-2021), the program is balanced and is less than revenue estimates.

(2) Fiscal years 2022 and 2023 are not considered to be part of the federally required four year TIP. For financial constraint purposes, project costs and revenue estimates are presented for information purposes only.

(3) For purposes of developing financing packages for negotiations with private sector partners, GDOT assumes a 3% to 4% annual cost inflation factor for MMIP projects, which is higher than the 2.2% long range inflation rate used for other RTP projects. For MMIP projects only, the project list shows YOE costs rather than current year costs.

Table 4: FY 2018-2023 Yearly TIP Balances – Federal Transit Administration ($YOE)

Demonstration of Fiscal Constraint (FTA Funds) - May 2018

FTA Program	2018	2019	2020	2021	2022 *See Note 2*	2023 *See Note 2*	LR 2024-2030	LR 2031-2040	Total
Bus - New (80/20)	$ 1,550,000	$ 1,550,000	$ -	$ -	$ -	$ -	$ 10,850,000	$ 15,500,000	**$ 29,450,000**
Bus and Bus Facilities Program	$ 16,297,878	$ 8,124,104	$ 5,415,512	$ 4,541,343	$ 4,541,343	$ 4,541,343	$ 31,789,401	$ 54,160,000	**$ 286,564,447**
Clean Fuels Formula Program	$ 3,700,000	$ 3,700,000	$ -	$ -	$ -	$ -	$ 25,900,000	$ 37,000,000	**$ 70,300,000**
Enhanced Mobility of Seniors and Individuals with Disabilities	$ 1,220,796	$ 1,220,796	$ 1,200,000	$ 1,200,000	$ 1,200,000	$ 1,200,000	$ 8,400,000	$ 12,000,000	**$ 27,641,592**
New Starts	$ -	$ -	$ -	$ -	$ -	$ -	$ 163,188,000	$ 2,877,171,161	**$ 3,040,359,161**
State of Good Repair Grants	$ 53,011,055	$ 53,011,055	$ 48,591,797	$ 48,591,797	$ 48,591,797	$ 48,591,797	$ 340,142,579	$ 485,970,000	**$ 1,126,501,877**
Transit Nonurbanized Area Formula	$ 760,000	$ 760,000	$ 760,000	$ 760,000	$ 760,000	$ 760,000	$ 5,320,000	$ 7,600,000	**$ 17,480,000**
Transit Urbanized Area Formula Program	$ 69,051,943	$ 69,047,661	$ 62,686,800	$ 62,686,800	$ 62,686,800	$ 62,686,800	$ 438,807,600	$ 650,000,000	**$ 1,477,654,404**
Total Project Costs (CY)	**$ 145,591,672**	**$ 137,413,616**	**$ 118,654,109**	**$ 117,779,940**	**$ 117,779,940**	**$ 117,779,940**	**$ 1,024,397,580**	**$ 4,139,401,161**	**$ 6,075,951,481**
Year of Expenditure Multiplier (Formula Programs)	**1.0000**	**1.0140**	**1.0282**	**1.0426**	**1.0572**	**1.0720**	**1.1099**	**1.2405**	
Year of Expenditure Multiplier (New Starts Capital)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**1.1773**	**1.4012**	
Formula Program Costs (YOE)	**$ 145,591,672**	**$ 139,337,407**	**$ 121,999,680**	**$ 122,796,275**	**$ 124,515,423**	**$ 126,258,639**	**$ 955,858,298**	**$ 1,565,765,792**	**$ 3,302,123,186**
New Starts Capital Project Costs (YOE)	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 192,118,832**	**$ 4,031,387,858**	**$ 4,223,506,690**
Total Project Costs (YOE)	**$ 145,591,672**	**$ 139,337,407**	**$ 121,999,680**	**$ 122,796,275**	**$ 124,515,423**	**$ 126,258,639**	**$ 1,147,977,130**	**$ 5,597,153,650**	**$ 7,525,629,876**
Running Total Cost (YOE)	**$ 145,591,672**	**$ 284,929,079**	**$ 406,928,759**	**$ 529,725,034**	**$ 654,240,457**	**$ 780,499,096**	**$ 1,928,476,227**	**$ 7,525,629,876**	**$ 7,525,629,876**
Estimated FTA Revenue (YOE) *See Note 1*	**$ 131,681,004**	**$ 133,524,538**	**$ 135,393,882**	**$ 137,289,396**	**$ 139,211,447**	**$ 141,160,408**	**$ 1,237,153,362**	**$ 5,712,255,662**	
Running Total Revenue (YOE) *See Note 1*	**$ 131,681,004**	**$ 265,205,542**	**$ 400,599,423**	**$ 537,888,819**	**$ 677,100,267**	**$ 818,260,674**	**$ 2,055,414,037**	**$ 7,767,669,699**	**$ 7,767,669,699**
Running Total Balance (YOE) *See Note 1*	**$ (13,910,668)**	**$ (19,723,537)**	**$ (6,329,335)**	**$ 8,163,785**	**$ 22,859,809**	**$ 37,761,578**	**$ 126,937,810**	**$ 242,039,822**	**$ 242,039,822**

(1) All revenue forecasts are based on funding apportionments under the FAST Act and align with information shown in the previous table. Project and program expenditures by transit agency recipients are estimates based on historical spending levels and previously encumbered commitments and will be adjusted periodically via future amendment processes to match actual allocation amounts each year. Over the four year federally required TIP period (FY 2018-2021), the program is balanced.

(2) Fiscal years 2022 and 2023 are not considered to be part of the federally required four year TIP. For financial constraint purposes, project costs and revenue estimates are presented for information purposes only.

Latest Planning Assumptions

ARC updates planning assumptions including (but not limited to) population, employment, socioeconomic variables, and vehicle miles traveled (VMT) on a recurring basis. A detailed listing of the planning assumptions for this conformity analysis is outlined in Exhibit 1. These documents were submitted to the interagency consultation group in accordance with Section 93.105(c)(1)(i) of the Transportation Conformity Rule which requires interagency review of the model(s) and associated methods and assumptions used in the regional emissions analysis. Interagency approved planning assumptions for the 2008 ozone standard assumptions on February 1, 2018. After the determination was made to reestablish conformity for the 1997 ozone standard, ARC provided interagency with those assumptions, which were approved on March 14, 2018.

Tolls and Managed Lanes

There are no programmed changes to tolled or managed facilities as part of this amendment. A system of managed tolled lanes is programmed throughout the region by the year 2040.

Transit Operating Procedures

Since the adoption of the Atlanta Region's Plan Transportation Element in February 2016 there have been some changes to the anticipated service levels of transit in the region. Those changes are outlined below.

Fare Changes

No changes to transit fares in the region are incorporated into this amendment.

Service Level Changes

Since the adoption of the TIP Amendment #3 of The Atlanta Region's Plan in 2017, a few major service changes have occurred with metro Atlanta's local transit agencies. MARTA incorporated two significant service modifications in 2017 that included changes to over half the bus routes. Most of those involved routing changes and the addition of three new routes. Gwinnett County Transit (GCT) modified one route in 2017. SRTA's XPRESS bus program incorporated the rest of the Horizon 1 Express changes which included the addition of two new routes. Gainesville Express added an additional route for needs of the local senior citizen population. CATS in Cherokee County incorporated new routing to service a new hospital that opened in May 2017. CobbLinc and the Atlanta Streetcar did not significantly modify their service since TIP Amendment #3.

Future Regional Transit Service

In TIP Amendment #3, some of regional transit providers were awarded CMAQ funding for new transit service. From the More MARTA Initiative, five routes with 10 minutes peak and 12 minutes off peak arterial rapid transit (ART) frequencies and four routes of 15 minute all day frequencies were funded. Douglas County plans to shortly begin fixed route service with funding for three local circulator routes and one express route from the West Douglas park and ride, the Douglasville multimodal facility, and the Blairs Bridge area into the Hamilton E. Holmes MARTA Station. Gwinnett County Transit was funded to improve headways to 30 minutes during the day as well as expanding service to 1 AM for all local routes. Finally, new SRTA XPRESS routes were funded along the I-75/I-575 Northwest Express Lanes that will open in 2018. These routes will service a new park and ride at Hickory Grove Road and I-75, the current Big Shanty/Town Center park and ride as well at a new park and ride at Roswell Road in Marietta.

From a prior year CMAQ funding, CobbLinc plans to roll out the express route 10X in 2018 that connects universities along Cobb Parkway to Midtown. Also, Gwinnett will be beginning construction soon on a new park and ride at Harbins Road and GA-316 where the XPRESS 416 service would originate and terminate instead of at the Hebron Church in Dacula.

Quantitative Analysis

The regional emissions analysis used to demonstrate conformity for both the 1997 and 2008 eight-hour ozone standard relies on a methodology which utilizes ARC's 20-county regional activity-based travel demand model. The following sections outline the results of the emissions analyses for the required NAAQS.

1997 Eight-Hour Ozone Standard

For the 1997 eight-hour ozone standard, updated travel model networks were created for each analysis year (2020, 2024, 2030 and 2040) to reflect projects as listed in the Atlanta Region's Plan Amendment #5. The emissions were aggregated at a 20-county geography, coincident with the 1997 ozone maintenance area.

The results of the emissions analysis for the eight-hour ozone maintenance area demonstrate adherence to the level of emissions necessary to meet the MVEBs contained in Georgia's RFP SIP and the Ozone Maintenance Plan for the 1997 NAAQS. Table 5 and Figure 1 document the VOC and NO_x emissions for each analysis year, as compared to the applicable MVEBs.

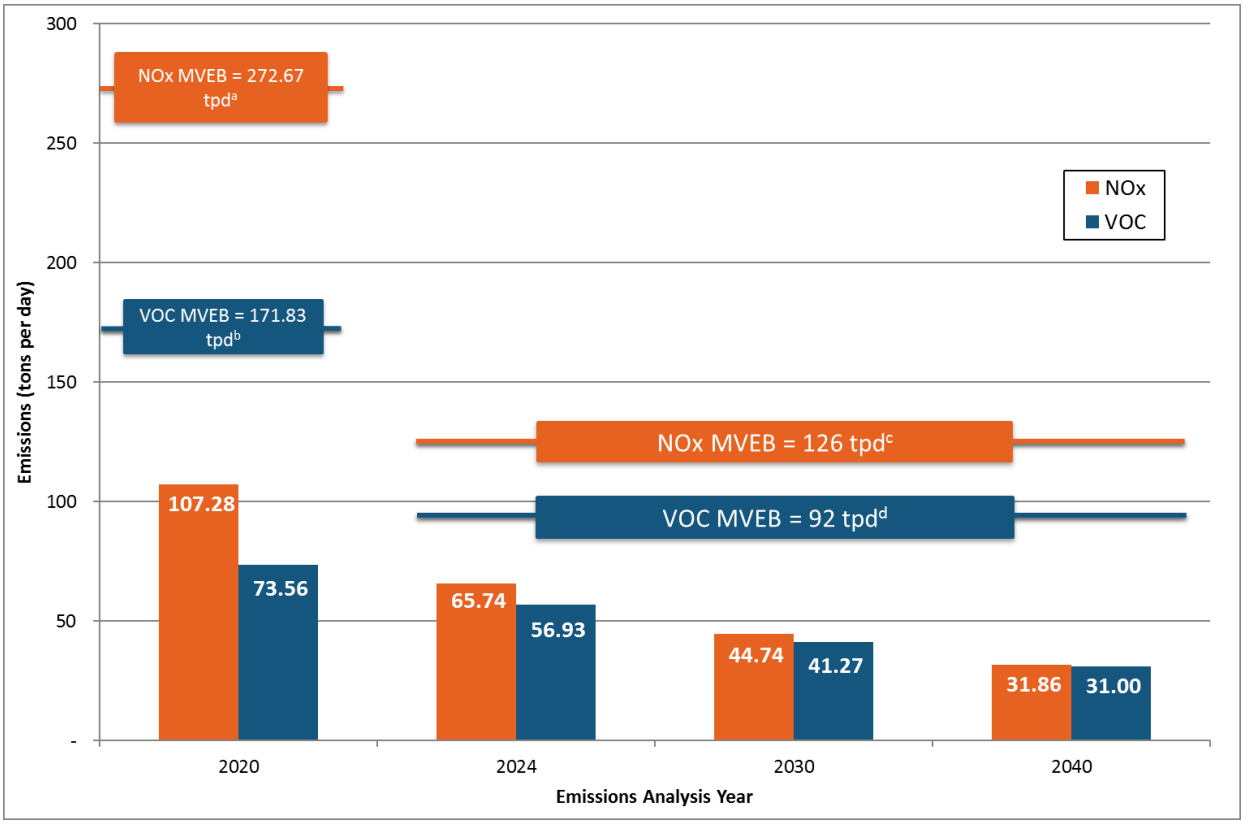
To maintain consistency between procedures used to estimate the motor vehicle emission budgets included in the ozone SIPs and the conformity analysis, ARC in consultation with GA EPD applies an off-model adjustment to emission results for the 13-county area to reflect an emissions debit resulting from a program to exempt senior citizens from the Inspection and Maintenance (I/M) program. This program was initiated by the Georgia General Assembly in 1996 (O.C.G.A Section 12-9). It exempts from emission testing vehicles ten years old or older driven fewer than 5,000 miles per year and owned by persons 65 years of age or older.

It was estimated that this senior I/M exemption increased VOC and NO_x emissions by 0.05 and 0.03 tons per day respectively. These amounts are reflected in Table 5. This off-model adjustment is conservatively high and was applied to the emission results for VOC and NO_x to produce final emission results for each analysis year in the 13-county area where the I/M program is in place. The same credit loss is assumed for each analysis year.

Table 5: 20-County Motor Vehicle Emissions Budget Test – 1997 Eight-Hour Ozone Standard

Conformity Year / MVEB Plan	NO_x (tons/day)	VOC (tons/day)
Georgia's RFP SIP	**272.67**	**171.83**
2020 Emissions Total	107.28	73.56
Georgia's Ozone Maintenance Plan	**126**	**92**
2024 Emissions Total	65.74	56.93
2030 Emissions Total	44.74	41.27
2040 Emissions Total	31.86	31.00

Figure 1: 20-County Motor Vehicle Emissions Budget Test – 1997 Eight-Hour Ozone Standard



a – Georgia's RFP SIP: 1997 Ozone Non-Attainment Area – NO_x budget for years before 2024
b – Georgia's RFP SIP: 1997 Ozone Non-Attainment Area – VOC budget for years before 2024
c – Georgia's Ozone Maintenance Plan for 1997 Ozone NAAQS – NO_x budget for years 2024 or later
d – Georgia's Ozone Maintenance Plan for 1997 Ozone NAAQS – VOC budget for years 2024 or later

2008 Eight-Hour Ozone Standard

For the 2008 eight-hour ozone standard, updated travel model networks were created for each analysis year (2020, 2030 and 2040) to reflect projects as listed in the Atlanta Region's Plan Amendment #5. The emissions were aggregated at a 15-county geography, coincident with the 2008 ozone maintenance area.

The results of the emissions analysis for the eight-hour ozone maintenance area demonstrate adherence to the level of emissions necessary to meet the MVEBs contained in Georgia's Ozone Maintenance Plan for the 2008 NAAQS. Table 6 and Figure 2 document the VOC and NO_x emissions for each analysis year, as compared to the applicable MVEBs.

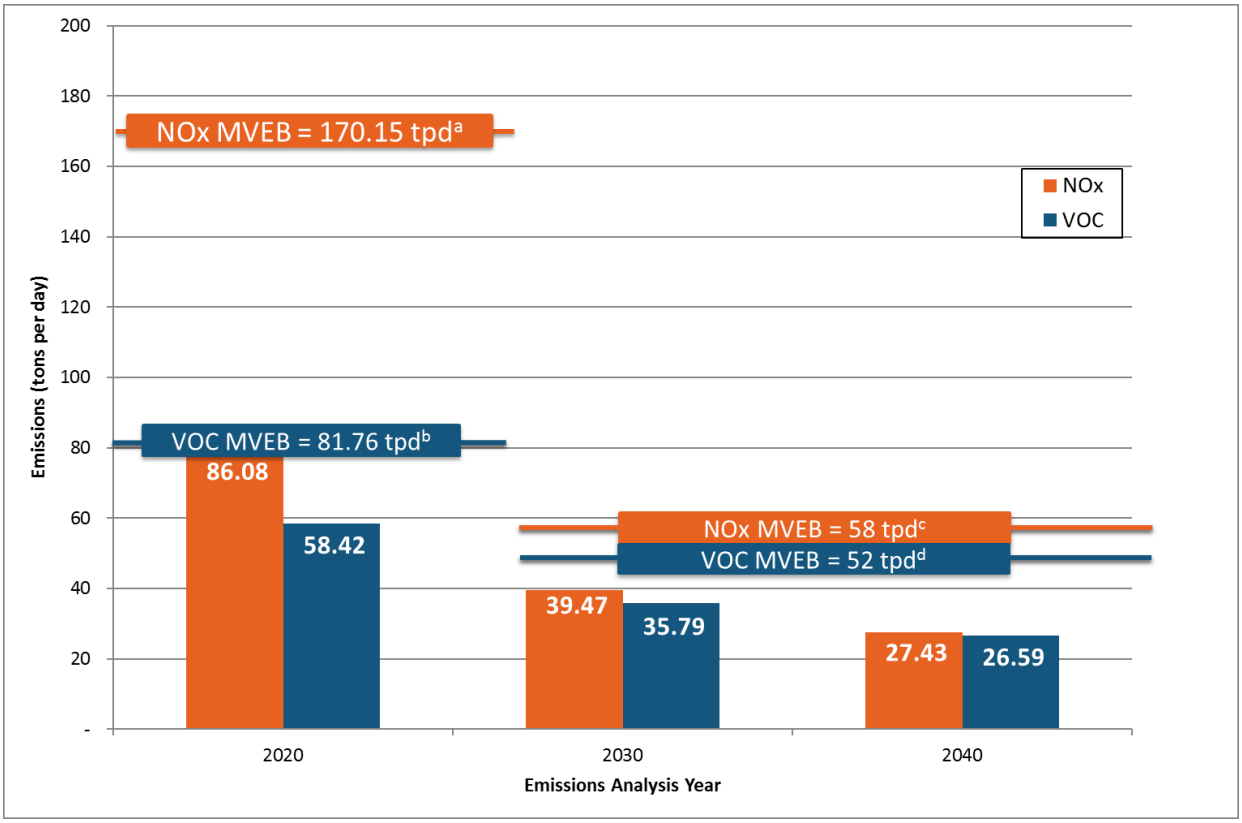
To maintain consistency between procedures used to estimate the motor vehicle emission budgets included in the ozone SIPs and the conformity analysis, ARC in consultation with GA EPD applies an off-model adjustment to emission results for the 13-county area to reflect an emissions debit resulting from a program to exempt senior citizens from the Inspection and Maintenance (I/M) program. This program was initiated by the Georgia General Assembly in 1996 (O.C.G.A Section 12-9). It exempts from emission testing vehicles ten years old or older driven fewer than 5,000 miles per year and owned by persons 65 years of age or older.

It was estimated that this senior I/M exemption increased VOC and NO_x emissions by 0.05 and 0.03 tons per day respectively. These amounts are reflected in Table 6. This off-model adjustment is conservatively high and was applied to the emission results for VOC and NO_x to produce final emission results for each analysis year in the 13-county area where the I/M program is in place. The same credit loss is assumed for each analysis year.

Table 6: 15-County Motor Vehicle Emissions Budget Test – 2008 Eight-Hour Ozone Standard

Conformity Year / MVEB Plan	NO_x (tons/day)	VOC (tons/day)
Georgia's Ozone Maintenance Plan for the 2008 NAAQS for years before 2030	**170.15**	**81.76**
2020 Emissions Total	86.08	58.42
Georgia's Ozone Maintenance Plan for the 2008 NAAQS for years 2030 or later	**58**	**52**
2030 Emissions Total	39.47	35.79
2040 Emissions Total	27.43	26.59

Figure 2: 15-County Motor Vehicle Emissions Budget Test – 2008 Eight-Hour Ozone Standard



a – Georgia's 2008 Ozone Maintenance Plan – NO_x budget for years before 2030
b – Georgia's 2008 Ozone Maintenance Plan – VOC budget for years before 2030
c – Georgia's 2008 Ozone Maintenance Plan – NO_x budget for years 2030 or later
d – Georgia's 2008 Ozone Maintenance Plan – VOC budget for years 2030 or later

2008 EIGHT-HOUR OZONE STANDARD PLANNING ASSUMPTIONS & MODELING INPUTS

General Methods and Assumptions

1) Modeling Methodology: Use the MOVES model in inventory mode to determine the total NO_x and VOC emissions in the 15-county maintenance area.
2) Analysis Years: 2020, 2030, 2040
3) Conformity Test
    a. Motor Vehicle Emission Budget (MVEB) Test[1]
        i. For years prior to 2030, 2014 MVEBs are used:
            1. NOx: 170.15 tpd
            2. VOC: 81.76 tpd
        ii. For years 2030 and later, 2030 MVEBs are used:
            1. NOx: 58 tpd
            2. VOC: 52 tpd
4) Modeling Start Date: February 2018. This start date is defined by the ARC as the initiation of the first model run for plan amendment/update.

Travel Demand Modeling Assumptions

1) Calibration Year: 2010 (with some 2015 interim validations and benchmarking thereafter)
    a. Model validated to the year 2010 using a comparison between estimated volumes and observed counts. See Appendix A for validation/calibration information.
2) Social/Economic Data: Same as used for the Atlanta Region's Plan update. See Appendix B.
3) ARC's Activity-Based Travel Model (ABM) is the basis for these runs. See Appendix C for an overview of ABM specifications.

Emissions Modeling Assumptions

1) Emissions Model: MOVES2014a – Database: movesdb20151028
    a. Emissions Process – use MOVES in inventory mode for a July weekday
        i. For the years 2020, 2030 and 2040 modeled travel data is used to calculate emissions
    b. Run separately for the 13-county and 2-county portions of the nonattainment area[2]
        i. 13-county area activity, vehicle population and other inputs area assigned to Fulton County while running MOVES
        ii. 2-county area activity, vehicle population and other inputs are assigned to Bartow County while running MOVES

[1] 2014 and 2030 MVEBs established as part of Georgia's 2008 Ozone Maintenance State Implementation Plan for the Atlanta 8-Hour Ozone Nonattainment Area, effective June 2, 2017

[2] For the eight-hour ozone standard there are two sets of MOVES input files, one for the 13 counties that make up the former one-hour ozone nonattainment area in which a specific set of emission control measures is in place, and one for the 2 remaining ring counties (out of the 7 historically used for 20-county conformity)

2) MOVES Inputs
    a. Road Type Distribution – Processed from the travel demand model, GDOT HPMS counts and MOVES defaults. Summarizes VMT fraction by road type and source type for the 13 and 2 counties separately.
    b. Source Type Population
        i. Started with 2014 R.L. Polk & Co. registration data for the Atlanta nonattainment counties, updated in fall 2017
        ii. Future analysis year data is grown from 2014 based on the ratio of MPO population estimates
        iii. Since the population of vehicle type 62 (combination long-haul trucks) can easily be underrepresented in areas with lots of through traffic, the vehicle population for MOVES source type 62 was revised using MOVES default VMT/VPOP ratios and VMT for HPMS type 60 data
    c. Vehicle Type VMT
        i. HPMS VTypeYear - Processed from the travel demand model, GDOT HPMS Counts, and an EPA daily to annual VMT converter. Assigns total annual VMT by HPMS vehicle type.
        ii. Month VMT Fraction: MOVES defaults
        iii. Day VMT Fraction: MOVES defaults
        iv. Hour VMT Fraction: Derived from the travel demand model by source and road type. The fractions are determined separately for the 13 and 2 county areas.
    d. I/M Programs– Applied to the 13-county area only (See Appendix D)
    e. Age Distribution – Age data was derived from 2014 R.L. Polk & Co. registration data for the 13 and 2 counties separately for all vehicle types, except HDV8b (Source type 62) where MOVES defaults were used, this data was updated in fall 2017
    f. Average Speed Distribution – Processed from the travel demand model with HPMS VMT Adjustment factors applied. Calculates VHT by hour by speed bin by source. The distribution is determined separately for the 13 and 2 county areas.
    g. Ramp Fraction – Processed from the travel demand model. Calculates VHT by freeway and ramps by area type. The fraction is determined separately for the 13 and 2 county areas.
    h. Fuel – MOVES2014 defaults after 2015 do not match local fuel due to the removal/modification of Georgia summer fuel in the 45 county Atlanta region effective Oct 1, 2015
        i. Tier 3 Low Sulfur fuel (10ppm, 80ppm refinery gate and 95ppm downstream cap) for all counties
        ii. Summer Fuel reclassification
            1. 13 counties –
                a. Low Federal RVP summer requirements (June 1-Sept 15) for “designated volatility nonattainment areas” (40 CFR 80.27(a)(2)(ii))

b. Fuel region ID 170000000 kept but fuel formulations reflect region 178000000 for any model years after 2015

2. 2 counties –
    a. Standard Federal RVP summer requirements (June 1-Sept 15) for "designated volatility attainment areas" (40 CFR 80.27(a)(2)(i))
    b. Fuel region ID 170000000 kept but fuel formulations reflect region 100000000 for any model years after 2015

iii. Ethanol – The current assumption is an increasing percentage of ethanol fuel
1. 2% in 2014, 28% in 2030 and 21% in 2040
2. The rest of the gasoline blends with a larger percent of E15 with time:
    a. 0.8% in 2014, 19% in 2030 and 23% in 2050
3. Remainder is E10

iv. Volatility waiver for E10 allows 1.0 psi RVP increase, but not in E15

i. Meteorology – July 2014 weather for Hartsfield-Jackson Atlanta International Airport was used for this analysis consistent with the 2008 Eight Hour Ozone Maintenance SIP

j. Starts – Processed from the travel model. Determines the number of trip starts in each of the 13 and 2 county areas. Applies only to the trips per day input. Defaults used for the rest of the start inputs.

k. Hotelling – MOVES defaults

3) VMT HPMS Adjustment Factors
    a. Calculated for the year 2010 (See Appendix E)
    b. HPMS adjustment in base year of calibration in accordance with Section 93.122(b)(3) of the Transportation Conformity Rule which recommends that HPMS adjustment factors be developed to reconcile travel model estimates of VMT in base year of validation to HPMS estimates for the same period
    c. Summer (seasonal) adjustment to convert from average annual VMT to summer-season VMT[3]
    d. Factors applied to VMT estimates generated by ARC travel demand model for 13-county portion and 2-county portion of 20-county modeling domain, separately
    a. Factors aggregated up to MOVES road types from base HPMS functional classifications

4) Off-Model Calculations
    a. Senior I/M Exemption (emissions debit)
        i. The Senior I/M Exemption calculated for year 2002 is conservatively high and will be added to the regional emission inventories for each analysis year

5) TCMs
    a. No additional credit is taken in the emissions modeling process for SIP TCMs

[3] *Procedures for Emission Inventory Preparation, Volume IV: Mobile Sources*, Section 3.4.2.6, EPA420-R-92-009, USEPA Office of Air and Radiation, Office of Mobile Sources, 1992.

1997 EIGHT-HOUR OZONE STANDARD PLANNING ASSUMPTIONS & MODELING INPUTS

General Methods and Assumptions

1) Modeling Methodology: Use the MOVES model in inventory mode to determine the total NO_x and VOC emissions in the entire former 20-county nonattainment area.
2) Analysis Years: 2020, 2024, 2030, 2040
3) Conformity Test
    a. Motor Vehicle Emission Budget (MVEB) Test
        i. For years prior to 2024[4]
            1. NOx: 272.67 tpd
            2. VOC: 171.83 tpd
        ii. For years 2024 and later[5]
            1. NOx: 126 tpd
            2. VOC: 92 tpd
4) Modeling Start Date: March 2015. This start date is defined by the ARC as the initiation of the first model run for plan amendment/update.

Travel Demand Modeling Assumptions

1) Calibration Year: 2010 (with some 2015 interim validations and benchmarking thereafter)
    a. Model validated to the year 2010 using a comparison between estimated volumes and observed counts (See Appendix A)
2) Social/Economic Data: Same as used for the Atlanta Region's Plan update. See Appendix B.
3) ARC's Activity-Based Travel Model (ABM) is the basis for these runs. See Appendix C for an overview of ABM specifications.

Emissions Modeling Assumptions

1) Emissions Model: MOVES2014a – Database: movesdb20151028
    a. Emissions Process – use MOVES in inventory mode for a July day
        i. For the years 2020, 2024, 2030 and 2040 modeled travel data is used to calculate emissions
    b. Run separately for the 13-county and 7-county portions of the nonattainment area[6]
        i. 13-county area activity, vehicle population and other inputs area assigned to Fulton County while running MOVES

[4] MVEB established as part of Georgia's 15% Reasonable Further Progress State Implementation Plan for the Atlanta 8-Hour Ozone Nonattainment Area, March 26, 2009
[5] MVEB established as part of the Georgia Redesignation Request and Maintenance Plan for the Atlanta Ozone Nonattainment Area for the 1997 8-Hour Ozone NAAQS, March 21, 2012
[6] For the eight-hour ozone standard there are two sets of MOVES input files, one for the 13 counties that make up the former one-hour ozone nonattainment area in which a specific set of emission control measures is in place, and one for the seven ring counties.

ii. 7-county area activity, vehicle population and other inputs are assigned to Bartow County while running MOVES

2) MOVES Inputs
   a. Road Type Distribution – Processed from the travel demand model, GDOT HPMS counts and MOVES defaults. Summarizes VMT fraction by road type and source type for the 13 and 7 counties separately.
   b. Source Type Population
      i. Started with 2014 R.L. Polk & Co. registration data for the Atlanta nonattainment counties, updated in fall 2017
      ii. Future analysis year data is grown from 2014 based on the ratio of MPO population estimates
      iii. Since the population of vehicle type 62 (combination long-haul trucks) can easily be underrepresented in areas with lots of through traffic, the vehicle population for MOVES source type 62 was revised using MOVES default VMT/VPOP ratios and VMT for HPMS type 60 data
   c. Vehicle Type VMT
      i. HPMS VTypeYear - Processed from the travel demand model, GDOT HPMS Counts, and an EPA daily to annual VMT converter. Assigns total annual VMT by HPMS vehicle type.
      ii. Month VMT Fraction: MOVES defaults
      iii. Day VMT Fraction: MOVES defaults
      iv. Hour VMT Fraction: Derived from the travel demand model by source and road type. The fractions are determined separately for the 13 and 7 county areas.
   d. I/M Programs– Applied to the 13-county area only (See Appendix D)
   e. Age Distribution – Age data was derived from 2014 R.L. Polk & Co. registration data for the 13 and 7 counties separately for all vehicle types, except HDV8b (Source type 62) where MOVES defaults were used, this data was updated in fall 2017
   f. Average Speed Distribution – Processed from the travel demand model with HPMS VMT Adjustment factors applied. Calculates VHT by hour by speed bin by source. The distribution is determined separately for the 13 and 7 county areas.
   g. Ramp Fraction – Processed from the travel demand model. Calculates VHT by freeway and ramps by area type. The fraction is determined separately for the 13 and 7 county areas.
   h. Fuel – MOVES2014 defaults after 2015 do not match local fuel due to the removal/modification of Georgia summer fuel in the 45 county Atlanta region effective Oct 1, 2015
      i. Tier 3 Low Sulfur fuel (10ppm, 80ppm refinery gate and 95ppm downstream cap) for all counties
      ii. Summer Fuel reclassification
         1. 13 counties –

a. Low Federal RVP summer requirements (June 1-Sept 15) for "designated volatility nonattainment areas" (40 CFR 80.27(a)(2)(ii))
b. Fuel region ID 170000000 kept but fuel formulations reflect region 178000000 for any model years after 2015

2. 7 counties –
   a. Standard Federal RVP summer requirements (June 1-Sept 15) for "designated volatility attainment areas" (40 CFR 80.27(a)(2)(i))
   b. Fuel region ID 170000000 kept but fuel formulations reflect region 100000000 for any model years after 2015

iii. Ethanol – The current assumption is an increasing percentage of ethanol fuel
1. 2% in 2014, 28% in 2030 and 21% in 2040
2. The rest of the gasoline blends with a larger percent of E15 with time:
   a. 0.8% in 2014, 19% in 2030 and 23% in 2050
3. Remainder is E10

iv. Volatility waiver for E10 allows 1.0 psi RVP increase, but not in E15

i. Meteorology – Meteorological data from the 2009 Reasonable Further Progress (RFP) SIP were used to represent the ozone season for all analyses before the year 2024. The RFP SIP meteorological input file was developed using 2000-2002 data. Meteorological conditions from the ten worst ozone days were averaged to produce the final input. For all analyses representing the year 2024 or later, 2008 summer meteorological data was used from the 2012 Ozone Maintenance Plan.

j. Starts – Processed from the travel model. Determines the number of trip starts in each of the 13 and 7 county areas. Applies only to the trips per day input. Defaults used for the rest of the start inputs.

k. Hotelling – MOVES defaults

3) VMT HPMS Adjustment Factors

e. Calculated for the year 2010 (See Appendix E)

f. HPMS adjustment in base year of calibration in accordance with Section 93.122(b)(3) of the Transportation Conformity Rule which recommends that HPMS adjustment factors be developed to reconcile travel model estimates of VMT in base year of validation to HPMS estimates for the same period

g. Summer (seasonal) adjustment to convert from average annual VMT to summer-season VMT[7]

h. Factors applied to VMT estimates generated by ARC travel demand model for 13-county portion and 7-county portion of 20-county modeling domain, separately

a. Factors aggregated up to MOVES road types from base HPMS functional classifications

4) Off-Model Calculations

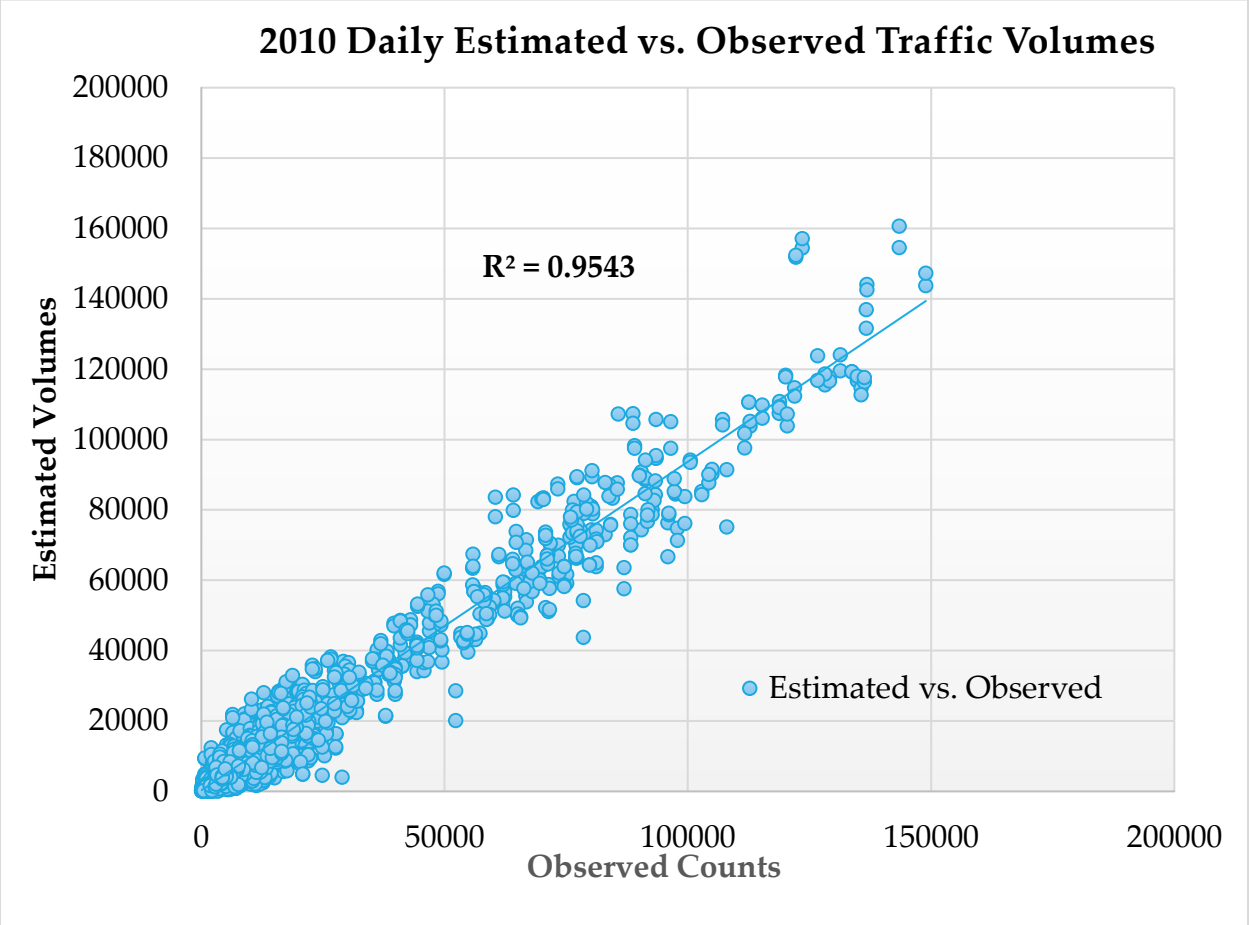
a. Senior I/M Exemption (emissions debit)

[7] *Procedures for Emission Inventory Preparation, Volume IV: Mobile Sources*, Section 3.4.2.6, EPA420-R-92-009, USEPA Office of Air and Radiation, Office of Mobile Sources, 1992.

i. The Senior I/M Exemption calculated for year 2002 is conservatively high and will be added to the regional emission inventories for each analysis year

5) TCMs
   a. No additional credit is taken in the emissions modeling process for SIP TCMs

APPENDIX A – Model Validation



APPENDIX B – Socioeconomic Data for the Travel Model

ARC periodically revises its population and employment forecasts based on best available current information. Each revision is a multi-step process. First, new region-level forecasts are produced, followed by county-level forecasts. These then become region-level controls for census tract and traffic analysis zone (TAZ) forecasts.

The most current region-level control forecasts will serve as a foundation for The Region's Plan, adopted in spring of 2016. The regional series, known as Series 15.0, was completed in late spring of 2015. The charts at the end of this section summarize the new updated population and employment controls for the 20-county study area.

Development of the most current draft regional forecast began in January of 2015. This forecast was developed from a calibration of a standard forecast for the 20-County Area by the Regional Econometric Models Inc. (REMI) econometric model, build 3.6.5R. This model was released by REMI in October 2014, and included 21 specific regions consisting of the 20 counties in ARC's MPO, plus the rest of the state of Georgia. Forecasts are produced for over 6,000 economic and demographic variables.

ARC staff was assisted in the development of these regional forecasts by a Technical Advisory Committee (TAC) of nationally known, local experts on the Atlanta Regional Economy. The committee met three times in late winter and early spring of 2015. TAC members advised staff on REMI model calibration, policy variable development, and related iterative revisions to model runs. The TAC then recommended the final regional forecasts for use in the Region's Plan forecasts.

In February of 2015 (in parallel to the TAC process), Research and Analytics division staff began a series of 23 meetings to meet with MPO member jurisdictions to collect "local expert" information that would be used in assessment of the draft regional forecasts and refinement of the county and subcounty forecasts of population and employment making up the entirety of series 15.0. These 'local outreach' meetings directly reviewed a previous series of forecasts (the 'Needs Assessment' or series 14.0) of households and total employment. These meetings also refined the region's Unified Growth Policy Map (UGPM), which is a key input to the generalized zoning that influences land development in the small area allocation model.

A subsequent step in The Region's Plan forecast process was development of county-level control totals. Regression analysis, third-party datasets, and input from the outreach meetings were core resources in arriving at these county control totals. The REMI model's regional forecast was then recalibrated to mirror/reflect the county control totals. The county level controls for series 15.0 were finalized in mid-summer, 2015.

The final step in the forecasting process uses mathematical models to disaggregate the region-level/county-level control population and employment forecasts to "small areas": the superdistrict, census tract and traffic analysis zone (TAZ) level. TAZs are nested within census tracts. Census tracts nest within superdistricts. The mathematical models underlying the region-level controls have evolved and become more complex, but ARC's basic approach is the same today as in 1975.

The Production, Exchange, Consumption, and Allocation System (PECAS) model is being used as part of The Region's Plan disaggregation of regional and county controls to small areas. This PECAS model runs annually and iteratively to produce not only a small-area allocation of population and households, but

labor dollars by industry, that serve as direct inputs to the travel model sets. Further, REMI model output at the county level provided detailed age distribution data that served as direct input to the travel model's population synthesizer. The process is integrated with the ARC travel demand model, as impedances (travel costs) from the travel model are a significant influence on small-area allocation of population and job growth.

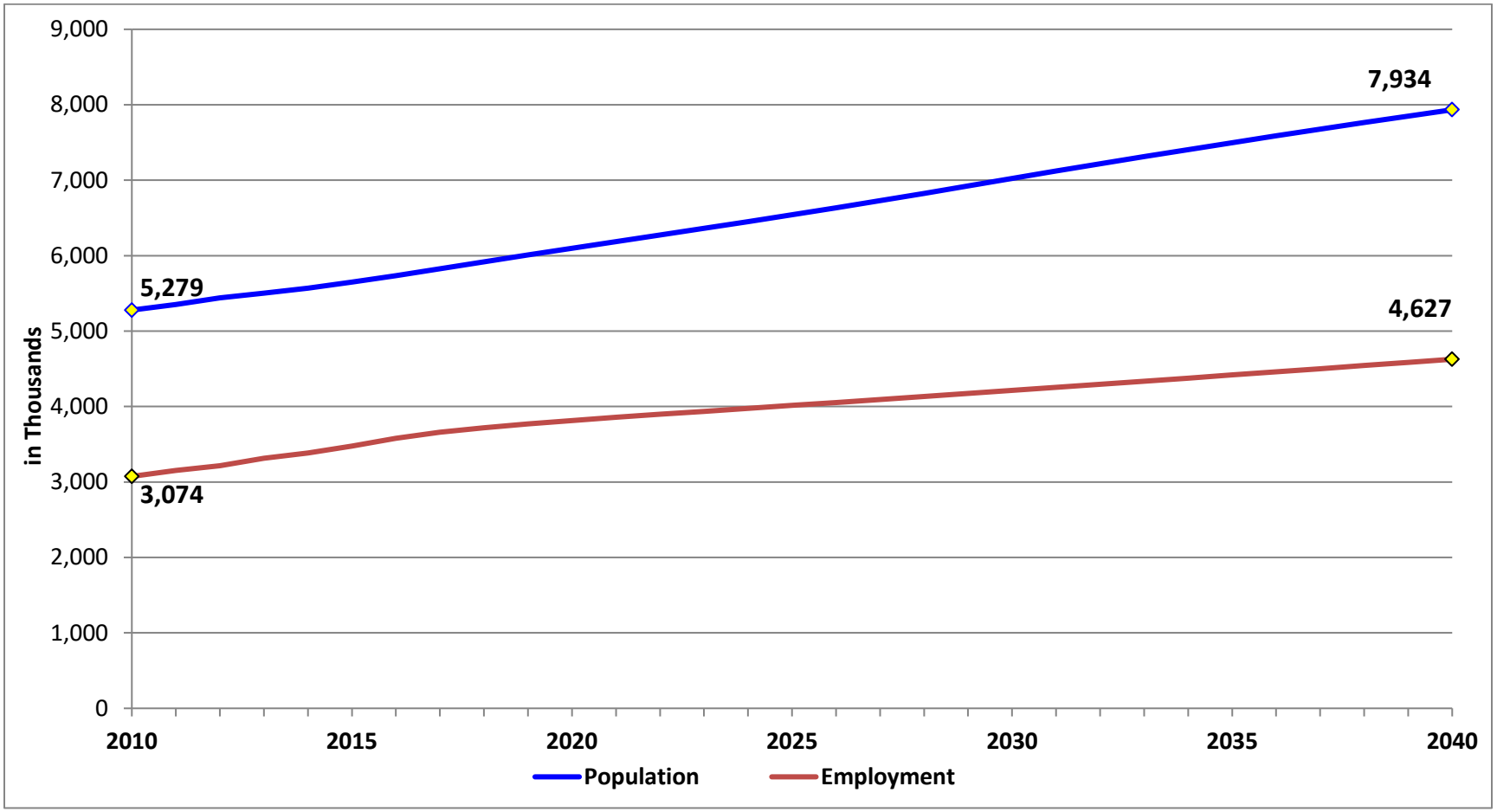
Population and job levels from each successive single-year forecast become the base for forecasts in the next model year. First, the Activity-Based Model (ABM) analyzes base year traffic patterns and produces accessibility measures (impedances or travel costs) within the 20-county forecasted area. Then, the PECAS model develops socioeconomic forecasts using the previous year's composite impedances from the TDM; the economic activity forecast by its Activity Allocation (AA) module, and resultant built space produced in response to that economic activity (and construction prices/ rents) by its Spatial Development (SD) module. The PECAS output is translated into household income by size and job by sector forecasts at the TAZ level, which then become the input used by the ABM to produce the impedance(s) measure that drives the next iteration of the integrated model run.

All these models are carefully calibrated based on the best and most current data available. Data used in the current small-area modeling effort include 2010 United States Census results, economic data from IMPLAN and REMI, parcel level datasets from local jurisdictions, joined assessor's data, third-party datasets on real estate development and construction costs, ARC annual major jurisdiction estimates of population (using a hybrid method involving building permit information, birth and death data, and American Community Survey data), and ARC semi- annual estimates of employment by industry for counties, superdistricts, tracts and TAZs/blockgroups from the state of Georgia unemployment insurance base file. National forecasts of employment and population were derived from the REMI TranSight model. The results of ARC travel surveys (including the 2011 Household Travel survey, the 2009-2010 Transit On-Board survey, the 2010 Hartsfield air passenger survey, travel time studies, speed studies, and others) shape travel model parameters. Highway projects and the schedule for their completion (primary inputs to the ABM model networks) are developed as part of an extensive discussion between ARC staff, local planners, Georgia Department of Transportation and various federal agencies. Likewise, ARC staff coordinates with local transit and shuttle providers (such as MARTA, GRTA, CCT, GCT, etc) to update and maintain transit networks and schedules.

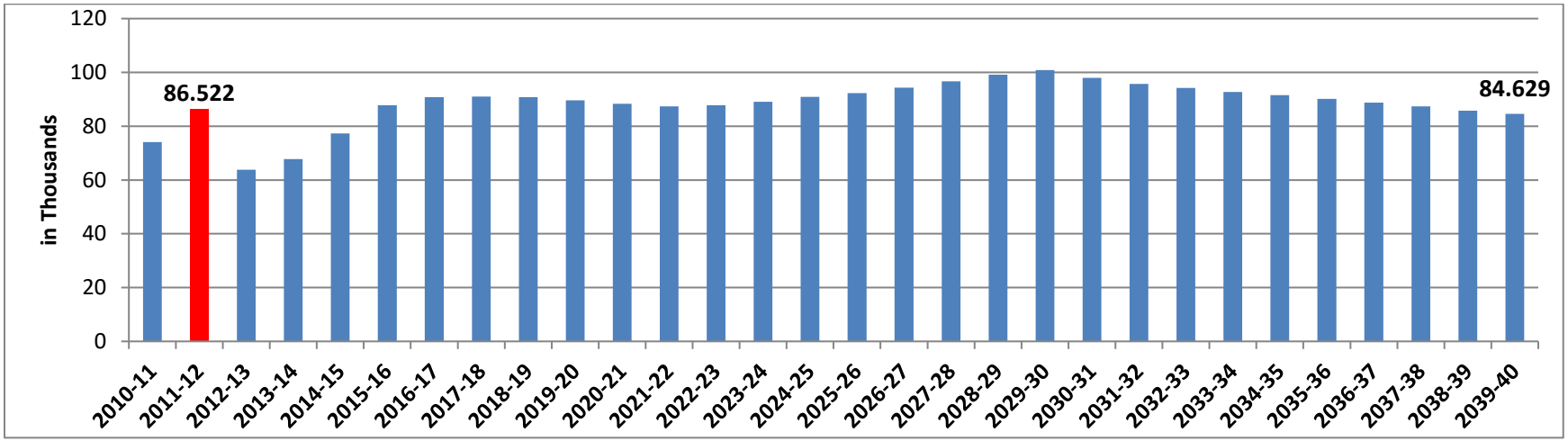
The area modeled by ARC for transportation/air quality purposes expanded from ten (10) to twenty (20) counties over the last 15 years. To meet current and future data needs, ARC produced employment estimates by county and census block group for the state of Georgia beginning in 2008, and continues to produce these estimates on a semi-annual basis. The county coverage by land-use data produced in the LandPro program expands as needed. Going forward, ARC's population forecast program area will be expanded as required from the current 20 counties, using the decennial and intercensal Census estimates, as well as other available information, as data baselines.

Post- processing adjustments are made to the ARC forecasts to account for expected large scale changes and policy priorities that would not be reflected in model output driven by historical data. Events such as expected construction of a new highway or policy input restricting development within the region are accounted for directly in the PECAS model with parameter changes to the AA module. Factors such as expected job and household growth from the completion of known major development projects (e.g. Atlantic Station) or transit-oriented development are incorporated as post processing adjustments to the model output or via specific site development changes to the parcel layers in the SD module.

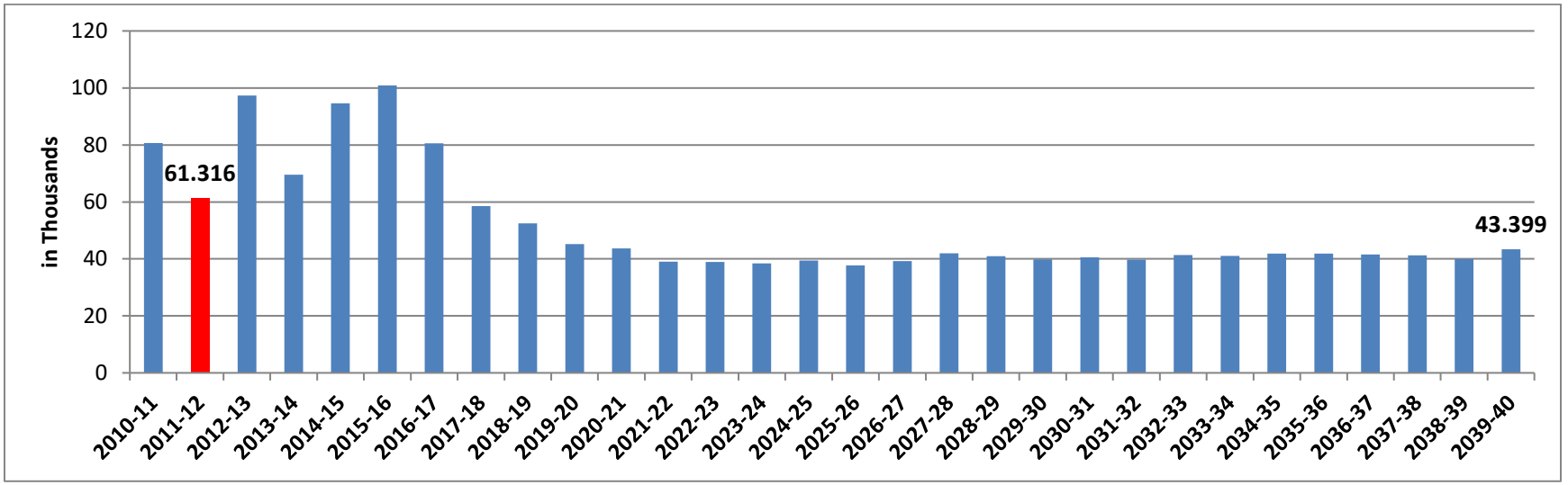
Projected Population and Employment Growth for the 20-County Area



Projected Annual Population Change for the 20-County Area



Projected Annual Employment Change for the 20-County Area



APPENDIX C – Model Inputs

In 2016, ARC switched from its 4-step trip-based aggregate regional travel demand model to its newly developed, and recently calibrated disaggregate activity-based model (ABM). The ABM now serves as the major travel forecasting tool in the ARC region. This model has been developed to ensure that the regional transportation planning process can rely on forecasting tools that will be adequate for new socioeconomic environments and emerging planning challenges. It is equally suitable for conventional highway projects, transit projects, and various policy studies such as highway pricing and HOV / HOT analysis. The ARC ABM is based on the CT-RAMP (Coordinated Travel Regional Activity-Based Modeling Platform) family of Activity-Based Models. This model system is an advanced, but operational, AB model that fits the needs and planning processes of ARC.

The ABM has been tailored specifically to meet ARC planning needs, considering current and future projects and policies and also taking into account the special market segments that exist in the Atlanta region. The model system addresses requirements of the metropolitan planning process, relevant federal requirements, and provides support to ARC member agencies and other stakeholders.

1) Calibration Year: 2010 (with some 2015 interim validations and benchmarking thereafter)
2) Project Listing: Project listings will be provided in electronic format to Interagency Consultation Group for review in March 2017 and include:
    a. Regionally Significant and Federally Funded
    b. Regionally Significant and Non-Federally Funded
3) Demographic Data: Provided as separate attachment
4) Speed Data: Free-flow Speed by Area Type and Facility Type[8]

FACTYPE	ABM Area Type							
	CBD	Urban Commercial	Urban Residential	Suburban Commercial	Suburban Residential	Exurban	Rural	Facility Type
1	62	63	63	63	64	65	66	interstate/freeway
2	43	46	49	52	55	58	61	expressway
3	43	46	49	52	55	58	61	parkway
4	64	65	65	65	66	67	68	freeway HOV (concurrent)
5	64	65	65	65	66	67	68	freeway HOV (barrier)
6	62	63	63	63	64	65	66	freeway truck only
7	50	50	50	55	55	55	55	system to system

[8] Within the ARC travel demand and emission modeling process, free flow speeds are adjusted to reflect the increase in delay and travel time on a roadway segment as traffic volumes build and congestion levels increase. Link-level congested flow speeds are used to estimate NOx and VOC emissions as required by Sections 93.122(b)(i)-(iv) and 93.122(b)(2) of the Transportation Conformity Rule.

FACTYPE	ABM Area Type							
	CBD	Urban Commercial	Urban Residential	Suburban Commercial	Suburban Residential	Exurban	Rural	Facility Type
								ramp
8	50	50	50	50	50	50	50	exit ramp
9	45	45	45	50	50	50	50	entrance ramp
10	23	26	31	35	41	48	53	principal arterial
11	21	26	29	33	38	43	48	minor arterial
12	21	26	29	33	38	43	48	arterial HOV
13	21	26	29	33	38	43	48	arterial truck only
14	17	23	24	26	30	35	45	collector

5) Transit Modeling
   a. Model recalibrated to 2010 transit ridership estimates, provided by transit operators
   b. Reflects results from the 2009-2010 Transit On Board Survey
   c. Routes updated to reflect current operating plans
   d. Transit mode split is estimated using the mode choice model
      i. Estimates individual modal trips from the person trip movements developed in the trip distribution model
      ii. Composed of 15 modes, including auto by occupancy and toll/non-toll choice, walk and bike non-motorized modes, and walk and drive access to different transit line-haul modes:
         1. Auto SOV (Free)
         2. Auto SOV (Pay)
         3. Auto 2-Person (Free)
         4. Auto 2-Person (Pay)
         5. Auto 3+ Person (Free)
         6. Auto 3+ Person (Pay)
         7. Walk
         8. Bike
         9. Walk-All-Transit
         10. Walk-Premium-Only
         11. PNR-All-Transit (PNR = Park and Ride)
         12. PNR-Premium-Only
         13. KNR-All-Transit (KNR = Kiss and Ride)
         14. KNR-Premium-Only
         15. School Bus
      iii. The mode choice model is organized in terms of seven characteristics:
         1. Mathematical structure;
         2. Trip purposes and choice sets;
         3. Limitations on choice sets;
         4. Analysis of transit access;

5. Treatment of HOV lanes;
6. Stratification by income groups; and
7. Analysis of alternative transit paths.

e. Transit Fare Modeling
   i. Transit fares are based on information provided by the local transit operators throughout the Atlanta region
   ii. The base year for the travel demand model is year 2010; therefore, any costs of traveling incurred within the model are representative of year 2010 dollars
      1. The base year calibration utilized transit fares that were in place in 2010; however the majority of local operators have implemented a fare increase since 2010. To reflect these fare increases while maintaining year 2010 dollars, the year 2015 fares were adjusted using the Consumer Price Index (CPI) online calculator[9] which accounts for inflation to calculate the cost of goods.[10]
   iii. A CPI adjustment was applied to all the operator fares and is carried forward for all model years from 2015 and beyond
   iv. The current ARC transit coding approach enables fares to be coded by mode and operator (cases where an operator has a different fare for different modes).
   v. The transit fare structure includes additional fares incurred from transferring from one operator to another
   vi. The fare structure results in a fare matrix which includes the total fare of the trip on a zone-to-zone level

f. 2009-2010 Transit On Board Survey Calibration
   i. Update of regional transit travel targets based on expansion of the on-board survey data
      1. Modifications to express bus and BRT transfer constants
      2. Modifications to travel demand model estimates of zero-car transit work trips
      3. Modifications to travel demand model estimates of kiss-and-ride passenger access and use of transit system
      4. Overall evaluation of all modal constants
      5. Refinement to park-and-ride lot assumptions
      6. Updated walk connector and percent walk procedures
   ii. Modified transit skimming procedures
   iii. Re-calibrated air passenger model
   iv. Assessment of travel demand model understanding of market segments and travel patterns relative to the on-board survey records

[9] http://data.bls.gov/cgi-bin/cpicalc.pl

[10] For example, the current year 2015 one-way MARTA fare of $2.50 translates to approximately $2.30 in year 2010 dollars. In other words, the MARTA fare increase from $2.00 to $2.50 outpaces inflation. So, using the consumer price index calculator, the 2015 MARTA fare in year 2010 dollars is $2.30.

Appendix D – I/M Program

- Exhaust and Evaporative (OBD and gas cap pressure test) for 1996 and newer vehicles
  - Annual inspection required
  - Computerized test and repair OBD – Exhaust
  - Computerized test and repair OBD & GC - Evaporative
  - Applies to all LDG vehicle types
  - Three year grace period
  - 3% waiver rate for all vehicles – Exhaust test
  - 0% waiver rate for all vehicles – Evaporative test
  - 97% compliance rate
- Exhaust and Evaporative test for 1975 – 1995 vehicles
  - Annual inspection required
  - Computerized test and repair ASM 2525/5015 Phase-in – Exhaust
  - Computerized test and repair GC – Evaporative
  - Applies to all LDG vehicle types
  - 3% waiver rate for all vehicles – Exhaust
  - 0% waiver rate for all vehicles – Evaporative
  - 97% compliance rate
  - 25 year and older model years are exempt

Appendix E – VMT Adjustment Factors

Ozone VMT Adjustment Factors

Functional Class Name	Functional Classifications	Factor for 13 County Area	Factor for 7 County Area
Interstates / Freeways	1, 11, 12	0.99	0.83
Arterials	2, 14	1.02	0.90
Collectors	6, 7, 8, 16, 17	0.84	1.18
Local	9, 19	1.83	2.26

Interagency Consultation Group
July 25, 2017

MEETING SUMMARY

Attendees	
ARC	David D'Onofrio, Kyung-Hwa Kim, Jean Hee Barrett, David Haynes, Kofi Wakhisi, John Orr, Guy Rousseau
CBMPO	
Cobb	
Douglas	
EPA	Dianna Myers, Richard Wong
EPD	Gil Grodzinsky
FHWA	Tamara Christion
FTA	
GDOT	Megan Weiss, Kaycee Mertz, Daniel Dolder
GHMPO	Sam Baker
GRTA/SRTA	Jamie Fischer
Gwinnett	Vince Edwards
MARTA	
Other	

1. **Transportation Planning Updates**
   a. **ARC**

David Haynes, ARC, updated the committee on ARC planning activities. The public comment period for TIP Amendment #3 just wrapped up. It ran from June 21 – July 20. ARC held a couple of open houses to share information about the plan: one in the Peachtree Center Mall food court and one at GDOT's office. In total, about 85 people participated in the open houses. ARC staff is reviewing the one set of public comments received and preparing remarks that will be distributed to TCC by Friday, July 28th ahead of any TCC or policy board action on the amendment. GDOT is pulling together some information to support ARC's response as well. TIP Amendment #3 will go through formal adoptions in August with GRTA Board approval planned for September.

Due to the passage of several SPLOSTS, the More MARTA referendum in Atlanta and the current ARC TIP Solicitation another amendment is likely by the end of this year or in the first quarter of 2018. The amendment will likely be conformity-triggering. The exact nature of the amendment, whether it will be split into a #4 and a #5, and whether ARC will seek to turn these series of substantial amendments into a new full-fledged RTP is still up for debate. ARC staff will provide more information to Interagency when it becomes available.

Interagency Consultation Group
October 24, 2017

MEETING SUMMARY

Attendees	
ARC	David D'Onofrio, Jean Hee Barrett, David Haynes, Kofi Wakhisi, John Orr, Nosa Omokaro
CBMPO	
Cobb	
Douglas	
EPA	
EPD	Gil Grodzinsky
FHWA	Tamara Christion
FTA	
GDOT	Megan Weiss, Daniel Dolder, Phil Peevy
GHMPO	Sam Baker
GRTA/SRTA	
Gwinnett	
MARTA	
Other	

1. **Transportation Planning Updates**
   a. **ARC**
      i. **Amendment #4**

Jean Hee Barrett, ARC, updated the committee on ARC's planning schedule for the next few months. ARC staff is working on finalizing project selection from the solicitation earlier this year. Staff plan on incorporating funding recommendations that do not trigger an emissions analysis in Amendment #4. This amendment will rely on a short conformity form and will allocate funds for the CMAQ, STBGP and TAP programs. Interagency members should expect an updated short conformity form, along with a project list, in late November for their review ahead of the opening of public comment in December. ARC is seeking committee approvals in February with GRTA approval in March.

      ii. **Future Amendments**

David Haynes, ARC, followed by explaining plans for the beginning of 2018. Staff is anticipating another amendment to cover solicitation projects that trigger an emissions analysis along with updates to long-range state as well as local TSPLOST projects. Staff is targeting adoption for this update by the end of June 2018. Interagency will be involved with planning assumptions and draft conformity determinations in the winter and spring.

Interagency Consultation Group
January 23, 2018

MEETING SUMMARY

Attendees	
ARC	David D'Onofrio, Jean Hee Barrett, Kyung-Hwa Kim, Kofi Wakhisi, John Orr, Guy Rosseau
CBMPO	
Cobb	
Douglas	
EPA	Dianna Myers, Richard Wong
EPD	Gil Grodzinsky, Deb Basnight
FHWA	Tamara Christion
FTA	
GDOT	Megan Weiss, Daniel Dolder, Habte Kassa
GHMPO	Sam Baker
GRTA/SRTA	Rob Goodwin
Gwinnett	
MARTA	
Other	

1. **Transportation Planning Updates**
   a. **ARC**
      i. **Amendment #4 Update**

Jean Hee Barrett, ARC, updated the committee on ARC's schedule to wrap up Amendment #4. Public comment closed on January 16. ARC received 29 comments via email. ARC staff is reviewing and preparing responses to those comments to release by January 26. Comments were varied, with some reflecting the new project evaluation procedures, some related to transit expansion and some more general.

Amendment #4 will begin moving through ARC committees in February. It's scheduled to be in front of TCC on February 9 and TAQC on February 15. GRTA is scheduled to act on the amendment on March 14.

      ii. **Amendment #5 Update**

Barrett continued the conversation into Amendment #5. ARC provided planning assumptions and a modeling list to Interagency last week and hope to receive comments by February 1. ARC staff hopes to complete the runs by early March with a goal of the amendment going out to a 30-day public comment period on March 21. ARC committees are scheduled to act in May with GRTA providing a conditional approval in May as well. Amendment #5 includes some FY'18 funds so ARC staff is eager to get that allocated ASAP.

Amendment #5 includes a mix of solicitation projects, project scope and costs changes, and TSPLOST locally funded projects.

b. CBMPO

No Update.

c. GHMPO

Sam Baker, GHMPO, updated the committee on planning activities in Hall County. GHMPO has recently completed two planning studies: a regional freight study and a Green Street traffic improvement study. This year, GHMPO is starting several new studies: two trail routing studies to connect existing segments and a traffic improvement study on Dawsonville Hwy. GHMPO staff is also actively working on an update to their UPWP for FY'19. GHMPO staff is gearing up to start their next RTP update, which is due by mid-2020. Staff is planning to kick-off work for that product later this year.

Baker noted that GHMPO is preparing an application for additional PL funding from GDOT to prepare an update to the Jackson County CTP. If granted they hope the project will begin in July and finish by the end of 2019.

Finally, GHMPO staff are working on a resolution and agreement with GDOT to incorporate statewide safety performance measures and targets into their planning process.

Interagency Consultation Group
February 27, 2018

MEETING SUMMARY

Attendees	
ARC	David D'Onofrio, Jean Hee Barrett, John Orr, Guy Rosseau, David Haynes
CBMPO	
Cobb	
Douglas	
EPA	Dianna Myers, Richard Wong
EPD	Gil Grodzinsky
FHWA	
FTA	
GDOT	Habte Kassa
GHMPO	Sam Baker
GRTA/SRTA	Rob Goodwin
Gwinnett	
MARTA	
Other	

1. **Transportation Planning Updates**
   a. **ARC**
      i. **Amendment #4 Update**
      Jean Hee Barrett, ARC, updated the committee on ARC's schedule to wrap up Amendment #4. Public comment closed on January 16, and ARC's TCC and TAQC have taken action to approve the amendment. ARC's Board is scheduled to take action on February 28. GRTA's board is scheduled to take it up on March 14 before USEPA/USDOT can take action. This amendment allocates FY'18 funds for projects associated with ARC's 2017 project solicitation, among other changes.

      ii. **Amendment #5 Update**
      Barrett continued the conversation into Amendment #5. ARC is still coordinating with GRTA and GDOT on the amendment, which is scheduled to go to public comment on March 21 for 30 days. ARC staff are finishing up model coding and emission modeling on the project list. After the close of public comment, ARC committees will take action in May followed by GRTA action in June, before the close of FY'18.

   b. **CBMPO**
      No Update.

   c. **GHMPO**

Sam Baker, GHMPO, updated the committee on planning activities in Hall County. GHMPO recently passed a resolution to support the state's safety targets. Otherwise, all planning activities they discussed in January's meeting are still ongoing.

2. Air Quality Updates

a. 2008 Ozone Implementation Plan Ruling

D'Onofrio explained that on February 16, the DC Circuit Court of Appeals vacated portions of the EPA's 2008 Ozone Implementation Rule. Among those components vacated are the revocation of transportation conformity requirements for the 1997 ozone standard.

Interagency had a roundtable discussion on this topic and its potential implications. EPA staff were only able to offer that they would provide more information to the group as soon as they received it from headquarters. As of now, the exact impacts of this ruling on the region's transportation planning process remains unknown.

MEMORANDUM

To: **Citizens Advisory Committee Members**

From: **Joseph Boyd, Senior Transportation Planner**

Date: **October 25, 2018**

Re: **Gainesville Trail Study & South Hall Trail Study**

In September 2017, GHMPO was awarded additional PL (Planning) funding to conduct two trail studies for the region: the Gainesville Trail Study and the South Hall Trail Study. In December 2017, Alta Planning + Design was awarded the contract to conduct the two trail studies simultaneously for GHMPO and the participating local jurisdictions.

Alta began work in January 2018 and has recently completed the first drafts of the studies, which include historical analysis of bicycle and pedestrian infrastructure in the region, stakeholder interviews and surveys, current inventory analysis, project recommendations, implementation strategies, and trail design best practices.

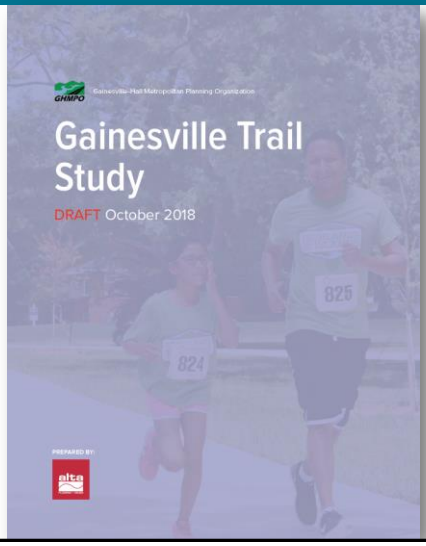
Britt Storck, Alta's Project Manager for the two studies, will be presenting the draft findings and recommendations to the committee.

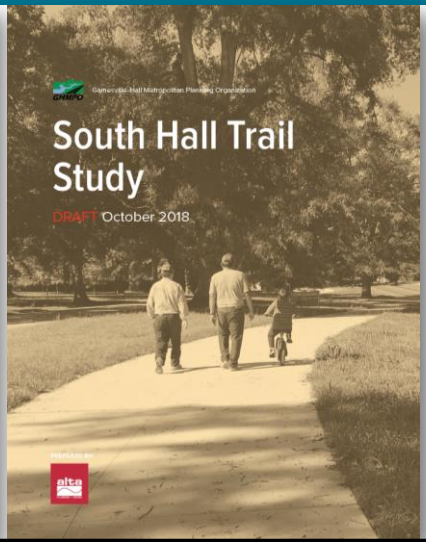
RECOMMENDED ACTION: ***None***

Attachment: Presentation of the Gainesville & South Hall Trail Study's Progress Report

Gainesville + South Hall Trail Study Update: CAC Meeting

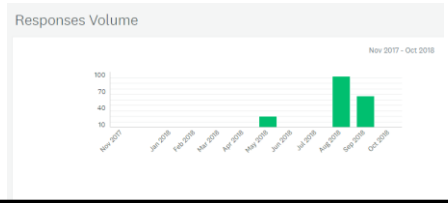
Draft Plan At a Glance

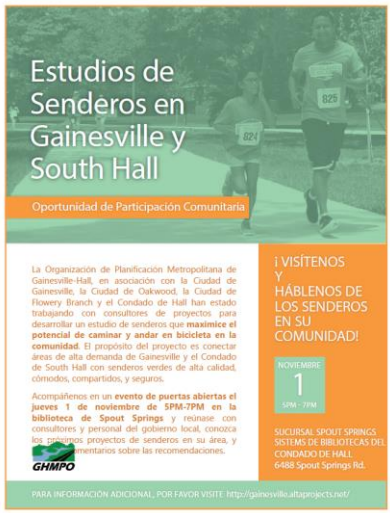




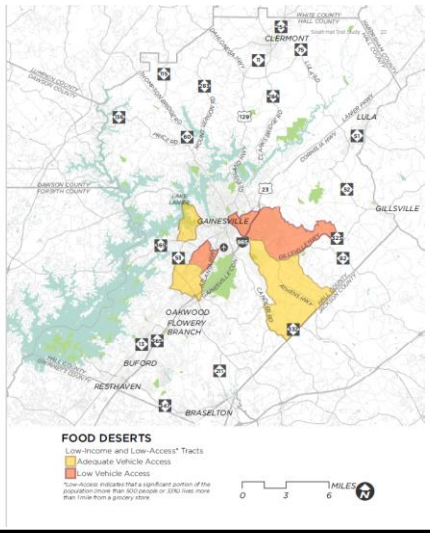
Public Engagement Update

- To date, 171 responses to comment forms
- Static exhibits being updated with workshop flyers
- Next event: Open House at Spout Springs Library 5-7 PM on Nov. 1st
- Spanish translator will be present
- See you at the Library!

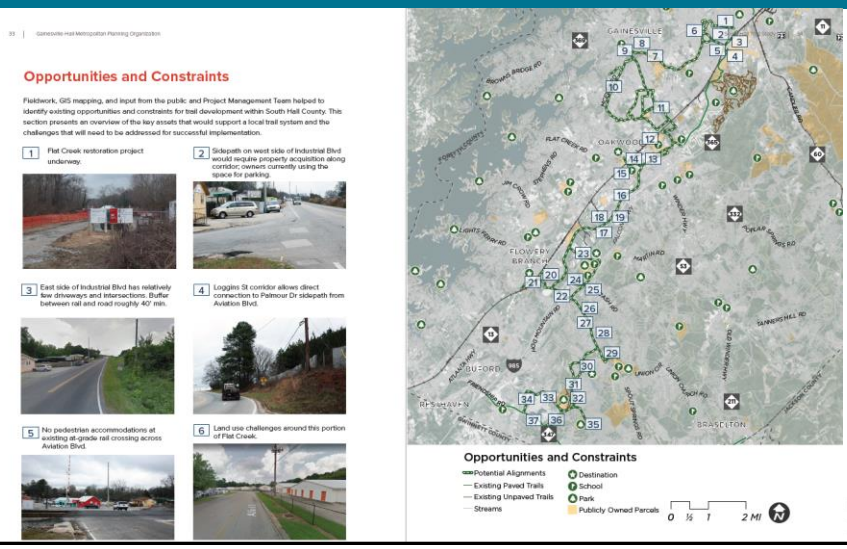




Inventory + Analysis



Inventory + Analysis



33 | Gainesville-Hall Metropolitan Planning Organization

Opportunities and Constraints

Fieldwork, GIS mapping, and input from the public and Project Management Team helped to identify existing opportunities and constraints for trail development within South Hall County. This section presents an overview of the key assets that would support a local trail system and the challenges that will need to be addressed for successful implementation.

1 Flat Creek restoration project underway.

2 Sidepath on west side of Industrial Blvd would require property acquisition along corridor; owners currently using the space for parking.

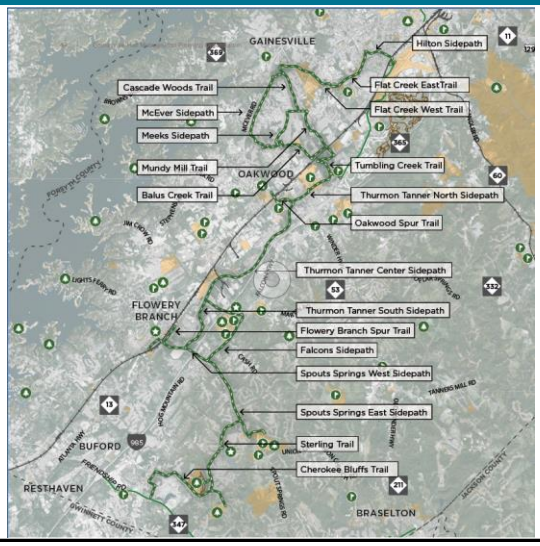
3 East side of Industrial Blvd has relatively few driveways and intersections. Buffer between rail and road roughly 40' min.

4 Loggins St corridor allows direct connection to Palmour Dr sidepath from Aviation Blvd.

5 No pedestrian accommodations at existing at-grade rail crossing across Aviation Blvd.

6 Land use challenges around this portion of Flat Creek.

Project Segments



Project Segments

Airport Connector Trail

The Airport Connector Trail extends from the existing Palmer Dr. Connector Trail east along Aviation Blvd. Due to grade challenges and utility placement on the east side of Aviation Blvd., the preferred implementation strategy for the trail is a 4-to-3 lane reconfiguration and repurpose one of the westbound lanes as trail. At the Queen City Parkway intersection, the trail will extend north and easterly between state property and roadway. The trail will pass beneath the Queen City Pkwy. bridge, continuing along Georgia Ave. and crossing the railroad at grade, and connect to the Midtown Greenway.

Intersection Improvement | Airport Connector | 100-Year Floodplain
Rail Crossing | Other Proposed Trail | Publicly Owned Parcels/ ROW
Trail Underpass | Existing Trails
0 ¼ ½ MILES

1. Reduce travel lanes from 4 to 3 and repurpose eastbound lane into shared-use path with new curb and gutter
2. Bench trail into slope between the roadway and state property
3. Install 18" culvert at drainage area
4. There is ample overhead clearance to extend trail beneath Queen City Pkwy. and no structural improvements are required
5. Coordinate with Norfolk Southern at railroad crossing for at-grade crossing modification to convey trail use
6. Connect with existing Midtown Greenway

PROPERTY TYPE	LENGTH	% OF PHASE	APPECTED PARCELS
Utility Easement	201	3%	N/A
ROW	6,068	89%	N/A
Public Parcels	337	5%	3
Private Land	203	3%	1

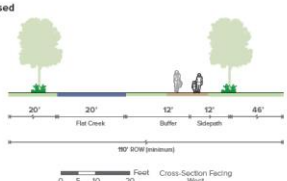
Approximate length: 1.29 miles
Estimated Cost: $1.5M with road diet; $3M without road diet

Project Segments

Flat Creek Trail East

The Flat Creek corridor is one of the natural resources extending through Gainesville and South Hall county and opportunities exist to provide a contiguous trail along its banks, offering residents options for recreation and connections to neighboring land use. Flat Creek east extends from Old Flowery Branch Rd., at the proposed trailhead. The entire trail corridor is located in 100-year floodplain, therefore concrete is recommended to provide durability during storm events. The corridor will follow sewer easements. There are three roadway crossings along the corridor, which will be treated at-grade. The segment connects to the north at Hilton Dr. This section of the Flat Creek corridor is more remote and will provide a separated facility for almost 1.25 miles.

Proposed



Intersection Improvement | Flat Creek Trail East | 100-Year Floodplain
Trail Bridge | Other Proposed Trail | Publicly Owned Parcels/ ROW
0 ¼ ½ MILES

1. Provide RRFB at Old Flowery Branch Rd. to connect with the proposed trailhead
2. Multiple culverts are recommended along the sewer easement to convey drainage
3. 50-foot bridge proposed at stream
4. This area has encroaching wetlands into the sewer easement and may require raised tread. Because no structures are allowed in utility easements, additional easement will need to be acquired to the north from adjacent property owner.

PROPERTY TYPE	LENGTH (FT)	% OF PHASE	APPECTED PARCELS
Utility Easement	0	0%	N/A
ROW	298	3%	N/A
Public Parcels	9,032	97%	5
Private Land	0	0%	0

Approximate length: 1.77 miles
Estimated Cost: $3.28M

Project Segments

Tumbling Creek Trail

Apartments within Education Way

Tumbling Creek Trail begins at the future railroad bridge crossing and extends south along the west side of Tumbling Creek Rd. before making a direct connection into UNG campus and existing trails. The alignment's routing is based on the preservation of the existing trails where possible, and follows sewer easement which is currently being used as a commuter corridor for UNG faculty and students. Extensive boardwalk and a creek crossing will be required as the majority of the site is located in 100-year floodplain.

1	Install trail along the west side of Tumbling Creek Rd. to connect with UNG campus
2	Approximately 40-foot creek crossing
3	Boardwalk will be required through this area due to extensive flooding sring storm events
4	Connect to minor trailhead where improvements are proposed
5	Earthwork will be required in this location based on topography

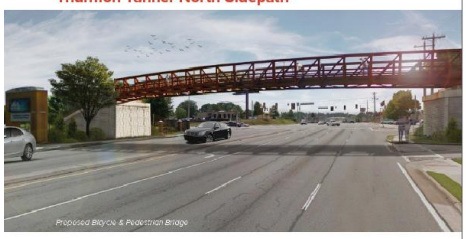
PROPERTY TYPE	LENGTH (FT)	% OF PHASE	AFFECTED PARCELS
Utility Easement	2525	34%	N/A
ROW	252	3%	N/A
Public Parcels	935	12%	0
Private Land	3799	51%	9

Approximate length: **1.42 miles**

Estimated Cost: **$2.22M**

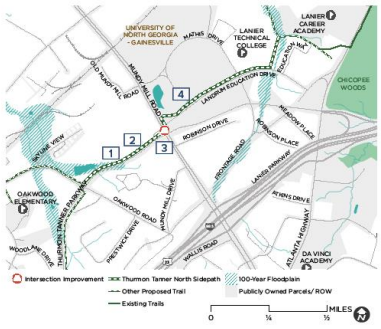
Project Segments

Thurmon Tanner North Sidepath



Mundy Mill Rd.

The North Sidepath connects Oakwood north to UNG. This very important connection will provide active transportation choices for residents who work or attend UNG and may live nearby in Oakwood. The trail will extend along the west side of the parkway until Mundy Mill Rd. where a separated overpass is proposed to connect to the university. The trail will use existing walking and biking routes on UNG campus to connect through to Tumbling Creek trails.



1	Existing pedestrian lighting will need to be relocated
2	Demolish existing sidewalk and construct 12-foot wide sidepath
3	Approximately 180-foot pedestrian overpass across Mundy Mill
4	Work with UNG to determine precise routing and shared use/sidewalk widening

PROPERTY TYPE	LENGTH (FT)	% OF PHASE	AFFECTED PARCELS
Utility Easement	5	0.1%	N/A
ROW	3970	65%	N/A
Public Parcels	1080	18%	0
Private Land	1068	17%	4

Approximate length: **1.16 miles**

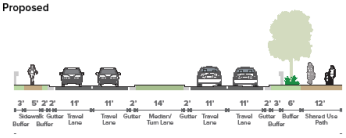
Estimated Cost: **$3.93M**

Project Segments

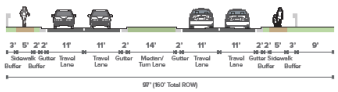
Thurmon Tanner Center Sidepath

The Center Sidepath connects Oakwood south to the railroad crossing. The trail will extend along the east side of Thurmon Tanner Pkwy. Where feasible, the trail will be constructed in roadway right-of-way, which will include moving guardrail to protect trail users and maintain motor vehicle safety. In these areas the trail will bench into the outslope. The trail character along this roadway will include streetscape and shade trees and the lighting will be maintained. This segment and the north and south segments are part of an overall important north/south connection in South Hall County for the trail network.

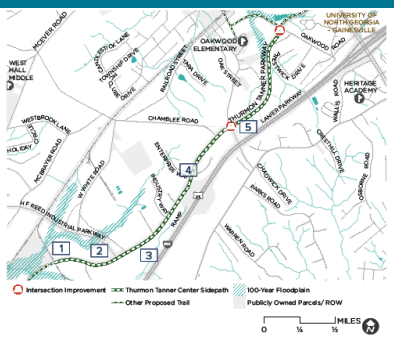
Proposed



Existing



0 5 10 20 Feet — Cross-Section Facing NorthNortheast



Intersection Improvement | Thurmon Tanner Center Sidepath | 100-Year Floodplain | Other Proposed Trail | Publicly Owned Parcels/ ROW

0 ¼ ½ MILES

1. At-grade crossing modification and coordination is required for trail to cross the railroad
2. Route trail along outside of existing canopy trees
3. Demolish existing sidewalk and construct 12-foot wide sidepath outside of guardrail
4. Several commercial driveway crossings will be required
5. Culvert extension required

PROPERTY TYPE	LENGTH (FT)	% OF PHASE	AFFECTED PARCELS
Utility Easement	0	0%	N/A
ROW	13,680	100%	N/A
Public Parcels	0	0%	0
Private Land	0	0%	0

Approximate length: **2.59 miles**
Estimated Cost: **$4.93M**

Project Segments

Flowery Branch Spur Trail

Connecting to Flowery Branch downtown will provide trail users an appealing destination since there are shops, restaurants, and access to Lake Lanier. The segment continues from Phil Niekro Blvd. and will require an a crossing modification at the railroad to accommodate the trail. The sidepath extends north on Snelling Ave. and then west on Mitchell St. to provide access to Flowery Branch Park and Lake Lanier. A northerly spur is also recommended along Railroad Ave to connect users to the shops, museum, and other services downtown.

Intersection Improvement | Flowery Branch Spur Trail | 100-Year Floodplain | Rail Crossing | Other Proposed Trail | Publicly Owned Parcels/ ROW

0 ¼ ½ MILES

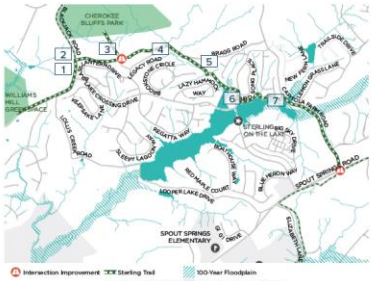
1. Widen sidewalk on north side of Railroad Ave. to 12-feet
2. Include wayfinding signage to direct trail users to downtown shops and restaurants
3. Install streetscape amenities such as lighting, seating, and rest stops for bicycles
4. Widen sidewalk on east side of Snelling Ave. to 12-feet
5. Provide directional signage at roundabout to direct trail users to recreation area
6. Install 10-foot trail on north side of Mitchell St with curb and gutter

PROPERTY TYPE	LENGTH (FT)	% OF PHASE	AFFECTED PARCELS
Utility Easement	0	0%	N/A
ROW	4,775	96%	N/A
Public Parcels	0	0%	0
Private Land	187	4%	1

Approximate length: **0.94 miles**
Estimated Cost: **$2.99M**

Project Segments

Sterling on the Lake Trail provides a vital trail connection between Spout Springs Rd. and Blackjack Rd. trails. Sterling on the Lake is one of South Hall County's largest single-family neighborhoods, with future expansion planned. Once constructed, this segment will provide neighborhood residents links to Williams Mill Greenspace, Cherokee Bluffs Park, and Spout Springs Rd. trails, which also provide active transportation connections to commercial areas. Connections through Sterling on the Lake will only be provided with permission of Newland Communities and homeowners' cooperation, and privacy measures and controlled access must be provided to respect adjacent properties. A primary "through-trail" along the neighborhood's existing trail system has been identified from Bragg Rd. and will be improved for public use and close coordination with Sterling residents. Once through the neighborhood, the trail continues along the south side of Capitola Farm Rd. where it connects to Spout Springs Rd.



Intersection Improvement | Sterling Trail | Other Proposed Trail | 100-Year Floodplain | Publicly Owned Parcels/ ROW

0 ¼ ½ MILES

1. Obtain easements/additional property to accommodate proposed trailhead
2. RRFB across Blackjack Rd. to connect to Bragg Rd.
3. Provide spur to Cherokee Bluffs Park
4. This segment requires ample wayfinding signage to direct users and limit access to other neighborhood trails
5. Boardwalk will be required in natural areas
6. Work with Newland Communities and HOA to determine feasible route, controlled access, and other privacy measures to accommodate through trail
7. Improve trail conditions on public trail sections through neighborhood

PROPERTY TYPE	LENGTH (FT)	% OF PHASE	AFFECTED PARCELS
Utility Easement	1364	9%	NA
ROW	8381	57%	NA
Public Parcels	674	5%	0
Private Land	4498	31%	19

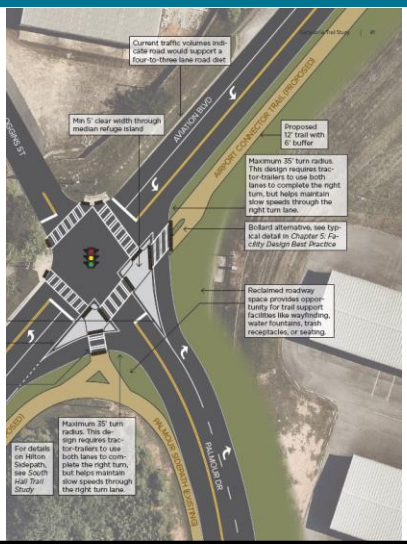
Approximate length: **2.59 miles**

Estimated Cost: **$5.74M**

Intersections

Cascade Woods Trail

The Cascades Trail will be a neighborhood trail extending along tributary off of Flat Creek near the Maple Forge subdivision. This trail will provide a valuable north/south connection from Meeks Rd. to the Flat Creek trail corridor, offering residents in this part of Hall County recreational connections directly from their homes. Since the trail extends along a creek, the surfacing will be concrete to accommodate occasional inundation during storm events. The acquisition of easements will be required from all property owners, and close coordination with individual home owners is necessary during design to ensure their privacy.



Trailheads

Old Flowery Branch Rd. Trailhead

OLD FLOWERY BRANCH RD. TRAILHEAD

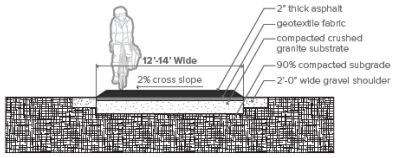
At the service drive entrance to the water treatment plant, an existing gravel pad rests just west of Old Flowery Branch Rd. There is ample space for parking up to 20 vehicles with a two way driveway entrance. A trailhead plaza will include bicycle parking, a kiosk, and the area around the parking area landscaped with canopy trees and groundcover. The utility drive etnrance will be maintained for service vehicles.

Phil Niekro Blvd. Trailhead

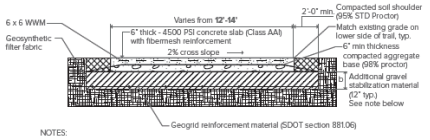
PHIL NIEKRO BLVD. TRAILHEAD

At the corner of Phil Niekro Blvd. and Thurmond Tanner Rd., a large flat area of undeveloped property exists on the eastern corner. Because the location is a gateway to Flowery Branch, it makes an ideal candidate for a trailhead. the trailhead will have two entrances since it rests on a corner and can accommodate up to 35 vehicles with potential seating, bicycle parking, and landscape. A kiosk and wayfinding signage is important to orient users. This trailhead proposal is prospective, and discussions with the property owner did not occur during this study. The County will need to work with the property owner to obtain easements for the trailhead and discuss the final design.

Implementation Strategy



Asphalt Shared Use Path



NOTES:

1. Additional gravel stabilization layer shall be typically installed as an uncompacted bridge lift over geogrid layer for subgrade improvement.

2. Some areas may contain exceptionally weak subgrade materials which will require additional soil stabilization measures per direction of geotechnical consultant.

Soft Subgrade Area Concrete Trail

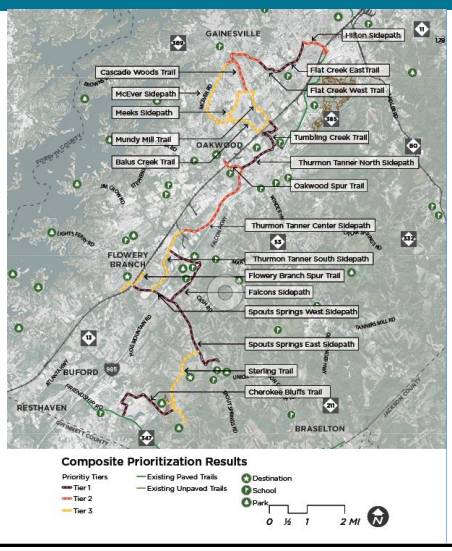
PROJECT SEGMENT	TOTAL COST
TUMBLING CREEK TRAIL	$2,436,426.22
THURMON TANNER SOUTH	$4,009,246.76
THURMON TANNER NORTH	$4,451,531.06
THURMON TANNER CENTER	$5,401,907.18
STERLING TRAIL	$6,286,343.24
SPOUT SPRINGS WEST	$1,827,764.04
SPOUT SPRINGS EAST	$5,207,843.33
OAKWOOD SPUR TRAIL	$1,695,759.57
MUNDY MILL TRAIL	$2,129,678.75
MEEKS SIDEPATH	$2,422,154.45
MCEVER SIDEPATH	$3,890,072.01
HILTON SIDEPATH	$2,813,850.73
FLOWERY BRANCH SPUR TRAIL	$3,264,098.83
FLAT CREEK TRAIL WEST	$2,146,564.99
FLAT CREEK TRAIL EAST	$3,574,419.76
FALCON SIDEPATH	$4,282,177.65
CHEROKEE BLUFFS TRAIL	$4,823,699.89
CASCADE WOODS TRAIL	$1,463,233.47
BALUS CREEK TRAIL	$5,044,550.57
TOTAL	**$67,171,322.53**

PERMITTING OVERVIEW

Potential permits which may be required for South Hall County trail construction include:

- GEPD Stormwater Management (National Pollutant Discharge Elimination System General Permit)
- GEPD Riparian Buffer Authorization/ Floodplain Development Permit
- Hall County Land Disturbance Permit
- Hall County Building Permit (for structures)
- Jurisdictional Site Plan Review/ Construction Review
- GDOT Access Permit
- GDOT Lighting Permit (as appropriate)
- GDOT Utility Permit (as appropriate)
- GDOT Signal Permit
- GDOT Air Rights Permit (for bridges)
- GDOT Encroachment Permit
- FEMA Conditional Letter of Map Revision (CLOMR)
- FEMA Letter of Map Revision (LOMR)
- FEMA Compliance
- U.S. Army Corps of Engineers Section 401/404 Permit

Prioritization



This prioritization criterion is based on the number of roadway and driveway crossings. Fewer at-grade crossings of roadways creates fewer conflict points between trail users and motor vehicles. Scores are calculated on a per-mile basis.

1.A: Roadway Crossing Frequency

- More than 1.5 crossings per mile
- Between 1 and 1.5 crossings per mile
- Less than 1 crossing per mile

1.B. Feeling of Safety (security)

This sample prioritization criterion reflects the ability of a corridor to address ....

1.B: Feeling of Safety (Security) Scoring

- Does not feel secure
- ..
- ..

1.C. Low Stress Facility

This sample prioritization criterion reflects the ability of a corridor to address ....

1.C: Low Stress Facility Scoring

- More than 1.5 crossings per mile
- Between 1 and 1.5 crossings per mile
- Less than 1 crossing per mile

1.D. Need for crossing improvements

This prioritization criterion is based on required number of at-grade intersection and mid-block crossings. Fewer at-grade crossings of roadways creates fewer conflict points between trail users and motor vehicles. Scores are calculated on a per-mile basis.

1.D: Need for Crossing Improvements Scoring

- More than 1.5 crossings per mile
- Between 1 and 1.5 crossings per mile
- Less than 1 crossing per mile

2. CONNECTIVITY

2.A. Population Served

Population density within 1/2-mile of the trail corridor provides a relative scoring system to measure the number of people that can benefit from nearby access to trails.

2.A: Population Served Scoring

- Less than one person per acre
- Between 1 and 3 persons per acre
- More than 3 persons per acre

2.B. Proximity to Parks

For people bicycling and walking, trails can serve as vital connectors to and between local and regional parks. This scoring category measures the acres of parks that intersect a 1/2-mile buffer around the trail corridor (not limited only to park land within the half-mile buffer) and groups them into three categories as shown below.

2.B: Proximity to Parks Scoring

- Less than 5 acres per mile
- 5 to 100 acres per mile
- More than 100 acres per mile

2.C. Proximity to Schools

Trails can also provide needed access to schools for children and families. This category measures the number of K-12 schools, colleges, and universities within

Prioritization Results

Rank	Corridor Name	Project Tier	Composite Score
1	Thurmon Tanner North Sidepath	1	25
2	Falcons Sidepath	1	24
3	Spout Springs East Sidepath	1	23
4	Tumbling Creek Trail	1	23
5	Cherokee Bluffs Trail	1	21
6	Flat Creek Trail East	1	21
7	Spout Springs West Sidepath	1	21
8	Flat Creek Trail West	2	20
9	Oakwood Spur Trail	2	19
10	Airport Connector	2	19
11	Cascade Woods Trail	2	18
12	Thurmon Tanner Center Sidepath	2	18
13	Hilton Sidepath	2	18
14	Flowery Branch Spur Trail	3	17
15	Thurmon Tanner South Sidepath	3	17
16	Balus Creek Trail	3	16
17	McEver Sidepath	3	16
18	Meeks Sidepath	3	16
19	Sterling Trail	3	15
20	Mundy Mill Trail	3	12

Design Guidance

Design Needs of Wheelchair Users

As the American population ages, the number of people using mobility assistive devices (such as manual wheelchairs, powered wheelchairs) increases.

Manual wheelchairs are self-propelled devices. Users propel themselves using push rims attached to the rear wheels. Braking is done through resisting wheel movement with the hands or arm. Alternatively, a second individual can control the wheelchair using handles attached to the back of the chair.

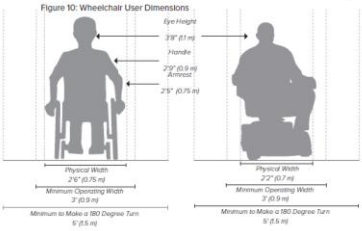
Power wheelchairs use battery power to move the wheelchair. The size and weight of power wheelchairs limit their ability to negotiate obstacles without a ramp. Various control units are available that enable users to control the wheelchair movement, based on their ability (e.g., joystick control, breath controlled, etc).

Maneuvering around a turn requires additional space for wheelchair devices. Providing adequate space for 180 degree turns at appropriate locations is an important element of accessible design.

Table 7: Wheelchair User Design Considerations

Effect on Mobility	Design Solution
Difficulty propelling over uneven or soft surfaces.	Firm, stable surfaces and structures, including ramps or beveled edges.
Cross-slopes cause wheelchairs to veer downhill.	Cross-slopes of less than two percent.
Require wider path of travel.	Sufficient width and maneuvering space.

Figure 10: Wheelchair User Dimensions



Median Crossing

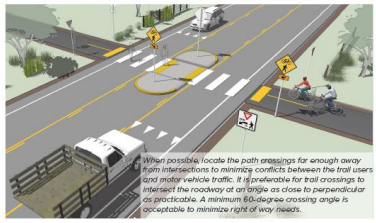
On roadways with higher volumes, higher speeds and multi-lanes of vehicular traffic, a median crossing is preferred. A median refuge island can improve user safety by providing pedestrians and bicyclists space to perform the safe crossing of one side of the street at a time.

Typical Application

- Maximum Traffic Volumes
  - Up to 15,000 ADT on two-lane roads, preferably with a median
  - Up to 12,000 ADT on four-lane roads with median

Design Features

- Unsignalized crossings of multi-lane arterials over 15,000 ADT may be possible with features such as sufficient crossing gaps (more than 60 per hour), median refuges, and/or active warning devices like rectangular rapid flash beacons or in-pavement flashers, and excellent sight distance. For more information see the discussion of active warning beacons.



When possible, locate the path crossings far enough away from intersections to minimize conflicts between the trail users and motor vehicle traffic. It is preferable for trail crossings to intersect the roadway at an angle as close to perpendicular as practicable. A minimum 60-degree crossing angle is acceptable to minimize right of way needs.

Operations + Maintenance

Table 4: Routine and Remedial Maintenance

Type	Task
Facility Maintenance	Sweeping
	Trash Removal
Vegetation Management	Tree and shrub trimming and pruning
	Mowing of vegetation
	Mulching and edging
	Invasive species control
Facility Repair or Replacement	Replenish gravel, mulch, or other materials
	Repaint/restripe/restain
	Repave/seal
	Replace asphalt or concrete
	Remove encroaching debris along paved trail/sidewalk edges
	Regrade to prevent or eliminate low spots and drainage issues
	Add culverts, bridges, boardwalks, retaining walls, etc. to prevent or eliminate drainage and/or erosion issues
	Reroute trail, if necessary, to avoid environmentally sensitive or overused areas and any safety issues
Seasonal Maintenance	Remove leaf debris, snow, or ice from all network facilities as soon as possible. Leaf debris is potentially hazardous when wet, and special attention should be given to facilities with heavier usage.
	Ice control and the removal of ice build-up is a continual factor because of the freeze-thaw cycle. Ice control is most important on grade changes and curves. Ice can be removed or gravel/ice melt applied. After ice is gone, leftover gravel should be swept as soon as possible.
	Remove leaf litter from network facilities via raking, blowing, mulching, etc. as needed to sustain the safe usability of all network facilities and prevent any storm water drainage or erosion issues
	Remove snow and ice from network facilities, via plowing, shoveling, picking, salt, sand, etc. by 6 AM the morning following a storm
Habitat Enhancement and Control	Plant vegetation, such as trees and shrubs
	Take preventative measures to protect landscape features from wildlife, such as installing fencing around sensitive or newly planted plant materials
	Apply herbicide to eliminate any problem plant species, such as poison ivy, kudzu, etc.
	Apply herbicide to maintain facility edges and prevent encroaching vegetation, such as along trails and sidewalks
	Deter interaction between facility users and facility inhabitants, such as feeding the wildlife, etc.

Operations + Maintenance

ORGANIZATIONAL FRAMEWORK FOR IMPLEMENTATION

Hall County Board of Commissioners
Recognize the value of trails by adopting this plan, thereby supporting quality of life for all in Hall County

GHMPO
Coordinate with Hall County and municipal partners on leveraging funding opportunities through the FAST Act and TIP process. Incorporate this Plan's projects into long-range transportation plans

Private Sector Partners
Meet with project leadership & learn about partnership opportunities

Hall County Planning & Development
Consider trail development policies & assist with public outreach for trail projects

Hall County Parks and Leisure
Coordinate implementation of this Plan's Action Steps, working directly with project partners

GDOT District 1
Technical support and review for trail-roadway crossings and trails in GDOT right-of-way

Regional Partners
Continued support, coordination, & outreach for trails from:
- Atlanta Regional Commission
- East Coast Greenway Alliance
- Georgia State Parks
- Chattahoochee Riverkeeper
- Tourism & Visitors Bureaus
- Healthcare Providers and Advocates
- Private Developers
- GA Power
- Brenau University
- UGA & Other Academic Partners
- Neighboring Jurisdictions

Hall County GIS Division
Maintain GIS database of trails that are existing, proposed, and in-development

Long Range Planning Division
Adjust long-range plans to reflect ongoing and planned trail development, update the zoning ordinance and subdivision regulations to support trails

Development Review Division
Review plans and codes to include provisions for trails in new developments

Hall County Public Works Department
Provide continuity from planning to implementation Capital Projects, including land acquisition

Hall County Traffic Engineering Division
Coordinate installation of traffic control devices and neighborhood traffic calming with trail projects and trail crossings

Municipal Partners
- Coordinate with Hall County and GHMPO to leverage local trail project funding
- Provide GIS updates to Hall County GIS Division for trail projects in-development, and completed trail projects
- Promote public awareness and use of local and regional trails through and local tourism and economic development agencies
- After priority gaps are completed, coordinate with Hall County and other partners on a comprehensive regional wayfinding system and branding/marketing strategy for greenways

Consultants
Assist county & municipal partners by providing guidance on project development, and by providing trail design and construction services

Local Residents and Civic Organizations
Help build public support for trails and trail funding

IMPLEMENTATION ACTION STEPS

Table 6: Policy Action Steps

#	Task	Lead Agency	Support	Details	Phase
1	Present Plan to Board of Commissioners for adoption	Planning Consultants	Hall County Planning & GHMPO	The plan should be presented to the board in Fall 2018. Focus on the health and economic benefits of greenways and key trail recommendations. Adoption signals intent to implement the plan over time; it does not commit County to funding the plan.	Short Term (2018)
2	Meet with GDOT to introduce the Plan and coordinate on key recommendations	GHMPO Staff + GDOT District 1	GDOT Bike & Pedestrian Coordinator	This plan and the recommended trail routes should be officially recognized by GDOT. For example, GDOT should refer to this document when assessing the impact of future projects and plans, such as future trail crossings needed in relation to state road RRR projects. Effort should be made between state and local partners to include parallel trail facilities on planned future roadways and roadway reconstruction projects, especially where they appear on adopted plans.	Short Term (2018)
3	Amend county and local development ordinances and technical standards	Hall County Planning & Development; Municipal Partners	Hall County Planning Commission; Local Planning Boards	County and local development ordinances should be considered for amendment to ensure that, as developments are planned and reviewed, the recommended greenway trail corridors identified in this plan are protected. This would entail amending development regulations to have developers set aside land for trails whenever a development proposal overlaps with the proposed routes, as adopted. Local governments should also consider requirements and tools like dedicating easements, connections to adjacent land uses, issuing credits, and offering some form of recognition to developers who go above and beyond the requirements for trail development.	Short Term (2018)
4	Revise sewer, stormwater and utility easement policies	Hall County Planning and Zoning	Hall County Planning Commission	All new sewer, stormwater and utility easements should be considered for allowing public access as a matter of right. Such a consideration should allow for access that does not require landowner approval for each parcel the easement overlaps. As trails are developed, also review applicable existing easements for similar revision considerations.	Short Term (2018)
5	Develop a corporate sponsorship policy	GHMPO	Local Private Sector Partners	For a comprehensive sponsorship policy example, see that of Portland Parks and Recreation: www.portlandonline.com/shared/cfm/image.cfm?id=155570 . For a sponsorship brochure example, see that of the 'Mountains to Sound Greenway': http://mtsgreenway.org/events-calendar/greenway-365-sponsorship-brochure	Short Term (2018)
6	Develop a coordinated operations & maintenance plan	GHMPO; Hall County Parks & Leisure	Municipal Partners onOrganizations	This plan will help to apportion responsibility between agencies where facilities cross jurisdictional boundaries or where pooled efforts can reduce costs. See the maintenance section of this chapter for more information about best practices for operations and maintenance.	Short Term (2018)

Questions?

Technical Coordinating Committee
Jurisdiction and Agency Reports
October 10, 2018

City of Gainesville – Rhonda Brady

- Fiscal Year 2019 LMIG (Local Maintenance and Improvement Grant) letter received; approximately $395,000 in funding.
- CMAQ (Congestion Mitigation and Air Quality) improvement project for Jesse Jewell/Queen City Parkway intersection let in April 2019.
- GTIB (Georgia Transportation Infrastructure Bank) turn lanes project on Jesse Jewell still coordinating with utilities.
- GTIB grant for State Route 60 Connector/Oak Tree Drive still doing preliminary engineering work with Pond (consulting firm).
- Downtown projects still in progress along the square (streetscape work); expansion of parking deck underway.
- Dawsonville Highway/McEver Road Connectivity Study still ongoing; will be completed by end of 2018.
- Gainesville Trail Study ongoing and will be completed by November 2018.
- TAP (Transportation Alternatives Program) grant applied for Gainesville Trail extension from the existing terminus on Palmer Drive to under SR 60/Queen City Parkway.

Hall County – Denise Farr

- Finished replacing the Hubert Stephens bridge.
- Finished intersection project at Jim Hood/ Odom Smallwood.
- Tumbling Creek Bridge work ongoing, scheduled to open by April 2019.
- Still acquiring right-of-way for Spout Springs widening Phase 1.
- Right-of-way acquisition for Phase 2 of the Spout Springs Road widening to begin in summer 2019.
- Sardis Road Connector Open House meeting on November 15th at Chestatee High School; will begin acquiring right-of-way beginning in summer 2019.
- Roundabout at Martin Road/JM Turk Road will begin construction in May 2019 and is scheduled to be completed by the beginning of school in August 2019.

Jackson County – Gina Roy

- Jackson County Transportation Plan ongoing; planning public engagement events for fall 2019.

City of Flowery Branch – Bill Andrew

- Working with Norfolk Southern on perhaps closing the Chattahoochee Street crossing for safety concerns. City exploring the installation of a lunar light instead, which stops the train from blocking the remaining crossings.
- Working on Personal Transportation Vehicle (PTV) ordinance.
- Just began a planning effort in partnership with GDOT to try to get the underpass under Exit 12 along Spout Springs Road to be widened when GDOT widens I-985 within the next five years.

City of Oakwood – B.R. White

- Two years remaining on Thurmon Tanner Parkway payments.

Town of Braselton – Jennifer Scott

- Working on design for the widening of State Route 211.
- Appling for a TAP grant for sidewalk improvements.
- Parking deck due to open a week from Friday.
- Local crossing/safety work in progress.

Georgia Department of Transportation (GDOT) - Brandon Kirby

- Working on multiple bridges across Lake Lanier.
- Ongoing resurfacing projects throughout the planning area.
- Grinding/pavement markings on I-985 continue; approaching end of slab replacements.

Georgia Mountains Regional Commission

- Nobody present to report.

Hall Area Transit (HAT)

- Nobody present to report.

MEMORANDUM

To: **Citizens Advisory Committee Members**

From: **Sam Baker, Transportation Planning Manager**

Date: **October 25, 2018**

Re: **Other – GHMPO Regional Transportation Plan: 2020 Update**

Federal planning regulations require that GHMPO update the region's financially constrained long-range transportation plan on a regular cycle. GHMPO is required to produce an update to its LRTP, the Gainesville-Hall Regional Transportation Plan: 2020 Update, by June 2, 2020 in order to meet federal requirements as well as to ensure compliance with our air quality requirements.

On September 17, 2018, an application for $200,000 of PL (Planning) funds to conduct this LRTP update was approved by the PL funds review committee. This award requires a 20% match by the local jurisdictions within the GHMPO planning area totaling $50,000. The responsibility of this local match has been split amongst each local government based upon that jurisdiction's percentage of population within the urbanized area. This local match can be paid by either the tracking of in-kind local staff hours spent on this study update, a cash match, or a combination of the two. If a jurisdiction chooses to pay for their match through in-kind hours, they will be responsible for the difference in cash at the end of the study if there is a shortage of in-kind hours documented for their specific match total. In other words, each jurisdiction will be responsible for only their specific local match totals.

GHMPO Urbanized Area Populations by Jurisdiction		
	2010 Population	% of Total Urbanized Population
Gainesville	34,681	23.53%
Oakwood	3,913	2.65%
Flowery Branch	5,691	3.86%
Hall County	95,904	65.07%
Jackson County	7,204	4.89%
Total:	147,393	100%

GHMPO Regional Transportation Plan: 2020 Update Local Match Requirement by Jurisdiction		
	% Local Match Share	Local Match Required (In-Kind, Cash, or both)
Gainesville	23.53%	$11,764.81
Oakwood	2.65%	$1,327.40
Flowery Branch	3.86%	$1,930.55
Hall County	65.07%	$32,533.43
Jackson County	4.89%	$2,443.81
Total:	100%	$50,000.00

RECOMMENDED ACTION: None

Attachments: None