I-20 EAST TRANSIT INITIATIVE

Assessment of Travel Trends

Prepared for:
Metropolitan Atlanta Rapid Transit Authority

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Introduction

The Metropolitan Atlanta Rapid Transit Authority (MARTA), in close coordination with DeKalb County, the City of Atlanta, Georgia Department of Transportation (GDOT), and the Atlanta Regional Commission (ARC), and in cooperation with the Federal Transit Administration (FTA), is undertaking the preparation of documentation for the I-20 East Transit Initiative. This initiative will identify and summarize the transportation and environmental impacts associated with the implementation of new east-west transit service from Downtown Atlanta to the Mall at Stonecrest, in eastern DeKalb County.

This project seeks to identify transit investments that would improve east-west mobility and accessibility to jobs and housing within the corridor, provide convenient and efficient transit service to accommodate the increasing transit demands within the corridor, and support corridor economic development and revitalization. The initiative is organized in two study phases, a Detailed Corridor Analysis (DCA) followed by a Draft Environmental Impact Statement (DEIS).

This effort will update the work previously conducted in the corridor and conform to the FTA's New Starts project development process. The highly competitive New Starts program is the primary federal financial resource for supporting major transit investments. This program evaluates projects based on mobility improvements, cost effectiveness, transit supportive land uses and policies, and local financial commitments, as well as other criteria.

The primary purpose of this report is to determine the existing and future travel patterns within the study corridor. (More specifically, it seeks to determine where people are traveling to and from, both internal to the corridor, and externally.) This report will also identify where access and mobility are constrained within the corridor. A strong understanding of the travel patterns, demands, and mobility constraints will allow this study to better identify the location and type of transit investments that would most effectively address the transportation needs within the corridor. This report will focus on both automobile and transit travel and analyze historical, existing, and projected travel trends within the I-20 East Corridor. The subsequent sections detail the findings of this analysis.

Major Findings

The following are the major findings of the travel trends assessment.

- **Downtown and Midtown Atlanta represent the largest concentrated destination for travel within the corridor.**

  The results of the travel demand modeling and select link analysis reveal that, while a large percentage of trips originating in the corridor are destined for the geographically large North Fulton and North DeKalb areas, the largest concentration of peak hour trips originating in the corridor are destined for Downtown and Midtown Atlanta. This is especially true for transit trips, with 49 percent of transit trips originating in the corridor destined for Downtown and Midtown Atlanta. This confirms Downtown Atlanta as primary destination for highway and transit trips within the I-20 East study area.

- **East-west travel along I-20 is the predominant travel pattern within the corridor**

  Results of a select link analysis illustrate that the majority of peak hour automobile trips traveling eastbound and westbound on I-20 continue their trips along I-20 rather than diverting on I-285 to the north or south. This demonstrates that east-west travel along I-20 within the study area is the predominant travel pattern. This trend is particularly relevant because it reconfirms the need to improve east-west mobility between Downtown Atlanta and the Mall at Stonecrest.

- **By 2030, the largest source of trips coming into the study area will be from Rockdale and Newton Counties to the east.**

  By 2030, Rockdale and Newton Counties will represent the largest source of work trips entering the study area. Approximately 10 percent of all trips destined for the study corridor will come from these areas. This represents a 113 percent increase in trips from Rockdale and Newton Counties from 2005 and 2030. With I-20 the main option for travel into the study area from these counties, congestion will continue to increase, causing mobility and access to decrease. This confirms the need for transportation improvements to address east-west mobility along I-20.

- **Automobile and transit travel times limit mobility and access within much of the corridor. These travel times are expected to increase significantly by 2030.**

  Much of the study area already experiences long travel times to and from downtown. These travel times are expected to increase significantly in the future. By 2030, most of the corridor west of I-285 is expected to experience automobile travel times to downtown of greater than 50 minutes with much of this area experiencing travel times of 60 - 80+ minutes. The same is true for transit travel times.

- **The eastern portion of the study area is the most mobility and access constrained.**

  The results of this analysis indicate that much of the study area east of I-285 already experiences long travel times and these travel times are expected to worsen significantly by 2030. By 2030, the average automobile travel times to and from downtown are expected to be greater than one hour for those residents living east of I-285. Transit travel times surrounding the existing MARTA heavy rail line are not expected to lengthen by 2030. However, by 2030 local and express bus service in much of the eastern portion of the corridor is expected to experience considerably longer travel times, primarily due to the fact that these services operate on congested roadways and there are few capacity-adding roadway improvements planned for the study area by 2030. Furthermore, no managed lanes or HOV lanes are planned along I-20 east of I-285 by 2030. This further highlights the need for travel time competitive transit service to address the mobility and access needs of the study area.

- **Transit travel times are longer than automobile travel in the corridor**

  Overall, existing and future transit travel times are considerably longer than automobile travel times, illustrating that current transit service is not travel time competitive.

- **Transit travel is expected to increase significantly in the corridor**

  In 2005 there were 143,700 daily transit trips in the I-20 east corridor. By 2030, it is projected that there will be 253,000 daily transit trips in the study area each day, a 77 percent increase from 2005. Transit travel growth will far outpace the 36 percent growth for trips of all modes, which includes automobile trips. Over the past five to ten years, significant increases in ridership have been seen on express bus services offered by GRTA and MARTA that travel on I-20 East. These increases have occurred despite the fact that these buses operate on congested roadways. This demonstrates the strong demand for transit service within the corridor despite the fact that the existing transit service is not travel time competitive.

1.0 INTRODUCTION

The Metropolitan Atlanta Rapid Transit Authority (MARTA), in close coordination with DeKalb County, the City of Atlanta, Georgia Department of Transportation (GDOT), and the Atlanta Regional Commission (ARC), and in cooperation with the Federal Transit Administration (FTA), is undertaking the preparation of documentation for the I-20 East Transit Initiative. This initiative will identify and summarize the transportation and environmental impacts associated with the implementation of new east-west transit service from Downtown Atlanta to the Mall at Stonecrest, in eastern DeKalb County.

This project seeks to identify transit investments that would improve east-west mobility and accessibility to jobs and housing within the corridor, provide convenient and efficient transit service to accommodate the increasing transit demands within the corridor, and support corridor economic development and revitalization. The initiative is organized in two study phases, a Detailed Corridor Analysis (DCA) followed by a Draft Environmental Impact Statement (DEIS).

This effort will update the work previously conducted in the corridor and conform to the FTA's New Starts project development process. The highly competitive New Starts program is the primary federal financial resource for supporting major transit investments. This program evaluates projects based on mobility improvements, cost effectiveness, transit supportive land uses and policies, and local financial commitments, as well as other criteria.

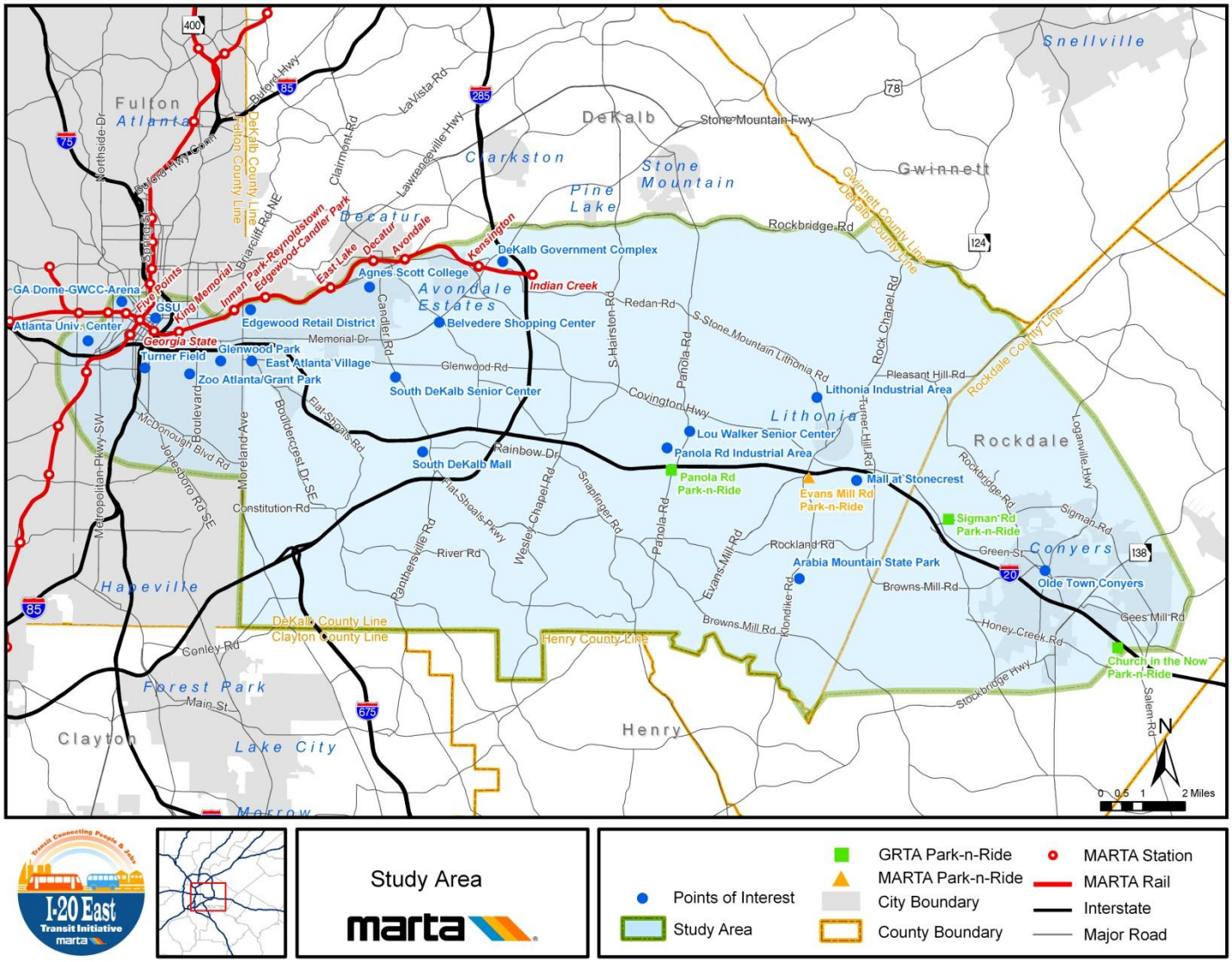
The primary purpose of this report is to determine the existing and future travel patterns within the study corridor. (More specifically, it seeks to determine where people are traveling to and from, both internal to the corridor and externally.).This report will also identify where access and mobility are constrained within the corridor. A strong understanding of the travel patterns, demands, and mobility constraints will allow this study to better identify the location and type of transit investments that would most effectively address the transportation needs within the corridor. This report will focus on both automobile and transit travel and analyze historical, existing, and future travel trends within the I-20 Corridor. The subsequent sections detail the findings of this analysis.

1.1 Study Area Overview

The travel patterns and mobility needs along the I-20 East Corridor extend beyond the immediate vicinity and, as such, should not be analyzed in isolation. Although the general transit corridor extends from downtown Atlanta to the Mall at Stonecrest in eastern DeKalb County, the study area represents a far larger area in order to capture overall travel-sheds that influence travel patterns with the corridor. In order to provide continuity with the previous corridor study, the northern and southern study area boundaries remain the DeKalb/Henry County line to the south and the MARTA Blue (E-W) Line and Rockbridge Road to the north. These northern and southern boundaries generally represent the travel-shed for vehicles using I-20.

The eastern boundary was extended into Rockdale County since the transportation needs along the corridor do not end at the DeKalb County line. Thus the study corridor was extended beyond the MARTA service area. The western boundaries were also extended to include a larger portion of downtown Atlanta and the Atlanta University Center. **Figure 1-1** presents the I-20 East study area.

Figure 1-1: I-20 East Corridor Study Area



1.2 Analysis Methodology

An analysis of the travel patterns, demands, and mobility constraints within the study areas will allow this study to better identify the location and type of transit investments that would most effectively address the transportation needs within the corridor. The source of information for this analysis was the Atlanta Regional Commission (ARC) regional travel demand model (TDM) in conjunction with current and historical trip demand, mode share, and transit ridership data. **Table 1-1** summarizes the sources of data and resources used in this report. The results presented in this report may be updated and refined over the course of the study.

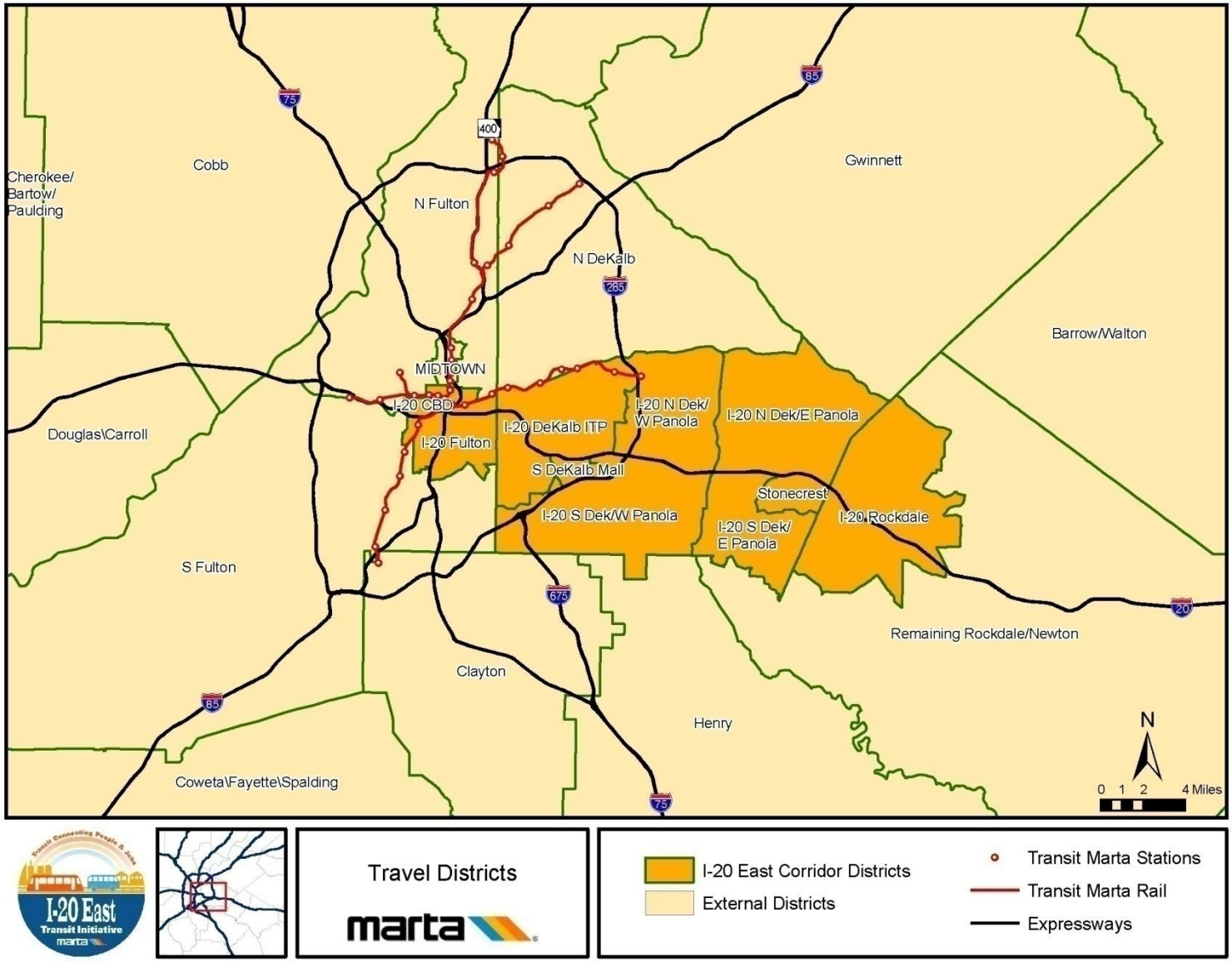
Table 1-1: Data Summary

Data	Time Period	Source
Trip Tables, Travel Times, Mode Share	2005 and 2035	ARC Travel Demand Model
GRTA Xpress Routes Monthly Ridership and Average Daily Boardings	2006 -2009	GRTA
ARC On-Board Survey, Weekday trips between stations (October 2009)	October 2009	ARC
Daily Rail Station Entries	2007- 2009	MARTA

As shown in Figure 1-1, the study area for this analysis is large. The traffic analysis zones (TAZs) used to determine the major origins and destinations were aggregated into larger travel districts shown in **Figure 1-2**. Since the corridor is so large, it was necessary to divide the study area into these travel districts in order to better identify transportation needs and deficiencies throughout the corridor. This also allows the analysis to identify the districts with the greatest mobility constraints. The following 10 districts were created to better understand the travel demands and patterns within the corridor:

1. I-20 Central Business District (CBD) including the entire Downtown Central Business District as defined by ARC.
2. I-20 S DeKalb Mall includes the TAZs that comprise the Gallery at South DeKalb Mall as defined by ARC.
3. I-20 Stonecrest includes the TAZs that comprise The Mall at Stonecrest as defined by ARC.
4. I-20 Fulton is comprised of the remainder of Fulton County within the corridor.
5. I-20 DeKalb Inside the Perimeter (ITP) includes the remainder of DeKalb County inside the I-285 Perimeter.
6. I-20 N DeKalb/W Panola includes the area in the corridor north of I-20 and west of Panola Road.
7. I-20 N DeKalb/E Panola includes the area in the corridor north of I-20 and east of Panola Road.
8. I-20 S DeKalb/W Panola includes the area in the corridor south of I-20 and west of Panola Road.
9. I-20 S DeKalb/E Panola includes the area in the corridor south of I-20 and east of Panola Road.
10. I-20 Rockdale includes the TAZs that comprise the City of Conyers in Rockdale County.

Figure 1-2: Travel Districts



2.0 OVERALL STUDY AREA TRAVEL TRENDS

2.1 Major Origins and Destinations

District-to-district trips represent all trips made by all modes, including walking, auto, and transit. Trips originating in a particular district are referred to as trip productions and trips ending in a particular area are referred to as trip attractions. Because transit ridership potential along the corridor will be gauged in later steps in the I-20 East Transit Initiative, person trips rather than vehicle trips were used in this assessment.

The ARC model estimates that out of the total 14.7 million daily person trips in the Atlanta Region in 2005, 2.6 million either began or ended in the I-20 corridor, as shown in **Table 2-1** below. These trips accounted for nearly 18 percent of all regional daily person trips in 2005. The total number of study area trips is expected to increase to 3.5 million daily trips by 2030, a 35 percent increase.

Table 2-1: Daily Person Trips in the I-20 East Corridor and Region

	Regional Daily Person Trips	
	Year 2005	**Year 2030**
I-20 East Corridor	2,600,000	3,500,000
Entire Region	14,700,000	21,900,000
Percent in the I-20 East Corridor	17.7%	16.0%

Source: 2005 and 2030 ARC Travel Demand Model

Table 2-2 presents the corridor trip attractions and productions for 2005 and 2030. In general, the corridor trip attractions and productions are comparable, which indicates a balance in the number of employment/activity centers and residences. However, the trip attractions are expected to have a higher rate of growth by 2030, which is consistent with the local zoning and development initiatives to create more jobs and mixed-use areas in the corridor. Recognizing that the transportation system and travel trends and land use are inherently connected, a detailed assessment of land use and development patterns will be explored as part of an overall inventory of existing and future conditions.

Table 2-2: I-20 East Corridor Total Trips

Total Attractions			Total Productions		
2005	**2030**	**Growth**	**2005**	**2030**	**Growth**
1,298,500	1,814,800	40%	1,287,200	1,701,000	32%

Source: 2005 and 2030 ARC Travel Demand Model

Home-based work (HBW) trip is defined as trips made for the purpose of work and which either begin or end at home. HBW trips are typically used to make major investment decisions in recognition of the significance in providing mobility and viable transportation alternatives for commuters. Furthermore, HBW trips are the predominant trip purpose for those traveling via carpool or transit. These trips are presented in **Table 2-3**.

Table 2-3 presents the origins or production districts and the corresponding number of HBW trips that travelled into the I-20 East Corridor. The table is organized by production trip types – internal and external to the corridor. Analysis results revealed that 27 percent of people who work in the study area also live within it (internal trips). This trend is expected to increase slightly to 31 percent by 2030. With almost three quarters of the

total HBW trip attractions, the trips originating from outside the corridor (external trips) make up the predominant travel pattern.

Overall, work trips to the corridor are expected to increase by 44 percent by 2030. The internal trip growth (62 percent) is expected to be much higher than external trip growth (37 percent). This phenomenon reflects the significant number of employment centers and their associated employment growth in the corridor, especially surrounding the Downtown Atlanta area. The highest share of trips from within the study area originates from the residential areas concentrated in the I-20 DeKalb ITP district, followed by the districts north of I-20. As would be expected of employment centers such as Downtown Atlanta and Gallery at South DeKalb Mall and the Mall at Stonecrest, very few trips from home to work begin in these districts.

Table 2-3: Home-Based Work Trip Productions for Travel into the Corridor

Production District	2005		2030		Change	Growth
	Trips	Share	Trips	Share		
Internal	**82,200**	**27%**	**133,400**	**31%**	**51,200**	**62%**
I-20 DeKalb ITP	17,100	6%	24,900	6%	7,800	46%
I-20 N DeKalb W of Panola	12,700	4%	17,600	4%	4,900	39%
I-20 N DeKalb E of Panola	12,700	4%	21,100	5%	8,400	66%
I-20 Fulton	11,600	4%	19,100	4%	7,500	65%
I-20 S DeKalb W of Panola	11,100	4%	16,300	4%	5,200	47%
I-20 Rockdale	8,400	3%	18,800	4%	10,400	124%
I-20 S DeKalb E of Panola	4,700	2%	8,800	2%	4,100	87%
I-20 CBD	1,800	1%	3,400	1%	1,600	89%
I-20 S DeKalb Mall	1,500	0%	2,000	0%	500	33%
I-20 Stonecrest	600	0%	1,400	0%	800	133%
External	**218,500**	**73%**	**299,600**	**69%**	**81,100**	**37%**
N Fulton	28,100	9%	32,900	8%	4,800	17%
S Fulton	26,500	9%	36,900	9%	10,400	39%
N DeKalb	25,300	8%	31,200	7%	5,900	23%
Gwinnett	23,500	8%	26,400	6%	2,900	12%
Cobb	22,000	7%	23,900	6%	1,900	9%
Clayton	20,900	7%	25,000	6%	4,100	20%
Remain Rockdale/Newton	20,000	7%	42,500	10%	22,500	113%
Henry	16,300	5%	33,900	8%	17,600	108%
Coweta/Fayette/Spalding	11,700	4%	12,900	3%	1,200	10%
Other	29,700	10%	39,500	9%	9,800	33%
Total	**300,700**	**100%**	**433,000**	**100%**	**132,300**	**44%**

Source: 2005 and 2030 Travel Demand Model

The current ARC socioeconomic data forecast which is used as the basis of trip assignments may not reflect some of the recent local development regulations and revitalization initiatives (e.g., I-20 Overlay Districts and the developing I-20 Community Improvement District (CID)) in the corridor, especially at Gallery at South DeKalb Mall and Mall at Stonecrest. As a result, the number of trips to and from these malls may be underestimated. The trip tables may be refined based on the most recent socioeconomic and land use data at a later phase in the study, if deemed appropriate.

As Downtown Atlanta is a major destination for HBW trips, it is not surprising that the production districts for trips into the corridor are spread fairly evenly throughout the neighboring counties, including Fulton, DeKalb, Gwinnett, Cobb, Clayton, and remaining Rockdale/Newton. By 2030, Rockdale and Newton Counties will represent the largest

source of work trips entering the study area. Approximately 10 percent of all trips destined for the study corridor will come from these areas. This represents a 113 percent increase in trips from Rockdale and Newton Counties from 2005 and 2030. With I-20 the main option for travel into the study area from these counties, congestion will continue to increase, causing mobility and access to decrease.

Table 2-4 presents the destinations and the number of HBW trips that originate from within the corridor. In 2005, approximately 255,000 HBW trips were made from the corridor. This number is expected to be 363,600 by 2030, an increase of 43 percent. This is representative of the high level of growth expected in the study area. It is important to note that the Downtown Atlanta district (I-20 CBD) is a primary destination for many HBW trips in the region, attracting 12 percent of all HBW trips made into to the corridor .

Table 2-4: Home-Based Work Trip Destinations for Travel from within the Corridor

Attraction District	2005		2030		Change	Growth
	Trips	Share	Trips	Share		
Internal	**82,200**	**32%**	**133,400**	**37%**	**51,200**	**62%**
I-20 CBD	29,600	12%	41,000	11%	11,400	39%
I-20 Rockdale	11,000	4%	17,400	5%	6,400	58%
I-20 DeKalb ITP	9,400	4%	19,400	5%	10,000	106%
I-20 Fulton	9,100	4%	14,300	4%	5,200	57%
I-20 N DeKalb W of Panola	8,400	3%	14,900	4%	6,500	77%
I-20 S DeKalb W of Panola	5,700	2%	7,200	2%	1,500	26%
I-20 N DeKalb E of Panola	5,600	2%	10,200	3%	4,600	82%
I-20 S DeKalb E of Panola	1,300	1%	4,600	1%	3,300	254%
I-20 S DeKalb Mall	1,100	0%	1,800	0%	700	64%
I-20 Stonecrest	1,000	0%	2,600	1%	1,600	160%
External	**172,800**	**68%**	**230,200**	**63%**	**57,400**	**50%**
N DeKalb	45,900	18%	61,800	17%	15,900	35%
N Fulton	31,600	12%	43,100	12%	11,500	36%
Gwinnett	20,500	8%	26,800	7%	6,300	31%
Clayton	17,500	7%	19,800	5%	2,300	13%
S Fulton	17,200	7%	22,400	6%	5,200	30%
Midtown	14,200	6%	20,400	6%	6,200	44%
Cobb	10,500	4%	12,700	3%	2,200	21%
Other	15,400	6%	23,200	6%	7,800	51%
Total	**255,000**	**100%**	**363,600**	**100%**	**108,600**	**43%**

Source: 2005 and 2030 Travel Demand Model

For those corridor residents who live and work within the corridor, Downtown Atlanta (I-20 CBD) is by far the most popular (12 percent) work destination with almost 30,000 trips. By 2030, the number of HBW trips to the CBD from the corridor is expected to increase to 41,000. When Midtown Atlanta is included with Downtown Atlanta, the percentage of HBW trips to this area rises to 18 percent, or 43,800 trips, from the corridor. By 2030 this number rises to 61,400. With Midtown immediately adjacent to Downtown, trips to this area can be considered a single destination.

While a large percentage of trips (18 percent) are destined for the North DeKalb area, this destination represents a large geographical area encompassing the Emory University/Centers for Disease Control (CDC) area, the North DeKalb Mall and Lavista area, as well as Perimeter Center. The same is true for the North Fulton area which

includes the cities of Sandy Springs, Roswell, Alpharetta, Johns Creek, and Milton. Thus, while a higher overall percentage of corridor HBW trips are destined for North Fulton and DeKalb, the Downtown and Midtown Atlanta area are the largest concentrated destination for HBW trips in the corridor. The primary destinations for HBW trips are further examined in the next section.

2.1.1 Select Link Analysis

In order to provide further analysis of the travel patterns and trip destinations within the corridor, a select link analysis was performed. This select link analysis utilizes the travel demand model to better identify routes and destinations of trips within the study area. As shown in **Figure 2-1**, the segment of I-20 just east of I-285 was selected to capture the travel patterns of those trips which utilize that section of I-20 as part of the HBW trip. As presented in Figure 2-1, the path of traffic travelling through the selected link is represented by the dark line, with the thickness of the line representing the number of trips. As presented, the majority of HBW trips utilizing I-20 just east of I-285 travel to and from the downtown area. While a large percentage of trips do utilize I-285 to travel north or south, the majority of HBW trips on I-20 travel to or from the Downtown area.

Figure 2-2 presents another select link analysis in which the dots represent the number of trip ends (destinations) for HBW trips utilizing this same segment of I-20. The findings of this analysis clearly indicate that the Downtown and Midtown Atlanta area represent the highest concentration of HBW trip destinations within the corridor. A second concentration of trip ends can be seen within the study area north of I-20 and east of I-285 in the Snapfinger Woods Drive industrial area.

2.1.2 Travel Time

Corridor stakeholder interviews held in Spring and Summer of 2010 identified improved mobility and access as a primary transportation need within the corridor. Previous studies in the corridor, the South DeKalb-Lindbergh Major Investment Study (2000) and the I-20 East Corridor Alternatives Analysis (2004) have also concluded that the corridor has significant mobility constraints. Mobility and access have decreased within the corridor over the past 20 years for several reasons. These include increasing traffic congestion, lack of east-west transportation facilities, and the lack of rapid transit service along most of the corridor.

In order to quantify the mobility constraints within the corridor as well as identify which areas of the corridor are most impacted by these constraints, an analysis of existing and future travel times was performed. In order to better understand the mobility and access constraints facing the corridor, both highway and transit travel times were analyzed. Since travel times are affected by congestion, the highway network, and the transit facilities and service, it is an invaluable measure of the level of mobility constraints within a study area.

Travel times were analyzed during the AM and PM peak travel hours for this analysis since mobility within the corridor and access to jobs and housing is most affected during these periods. Congestion on study area roadways was identified as the primary cause of slow travel times, both for automobiles and local and express bus transit. While traffic congestion does not hinder travel times on the MARTA Blue Line within the study area, access to stations via automobile or bus are influenced by this congestion.

Figure 2-1: Select Link Analysis – Network Volumes (2005 AM Peak Period)

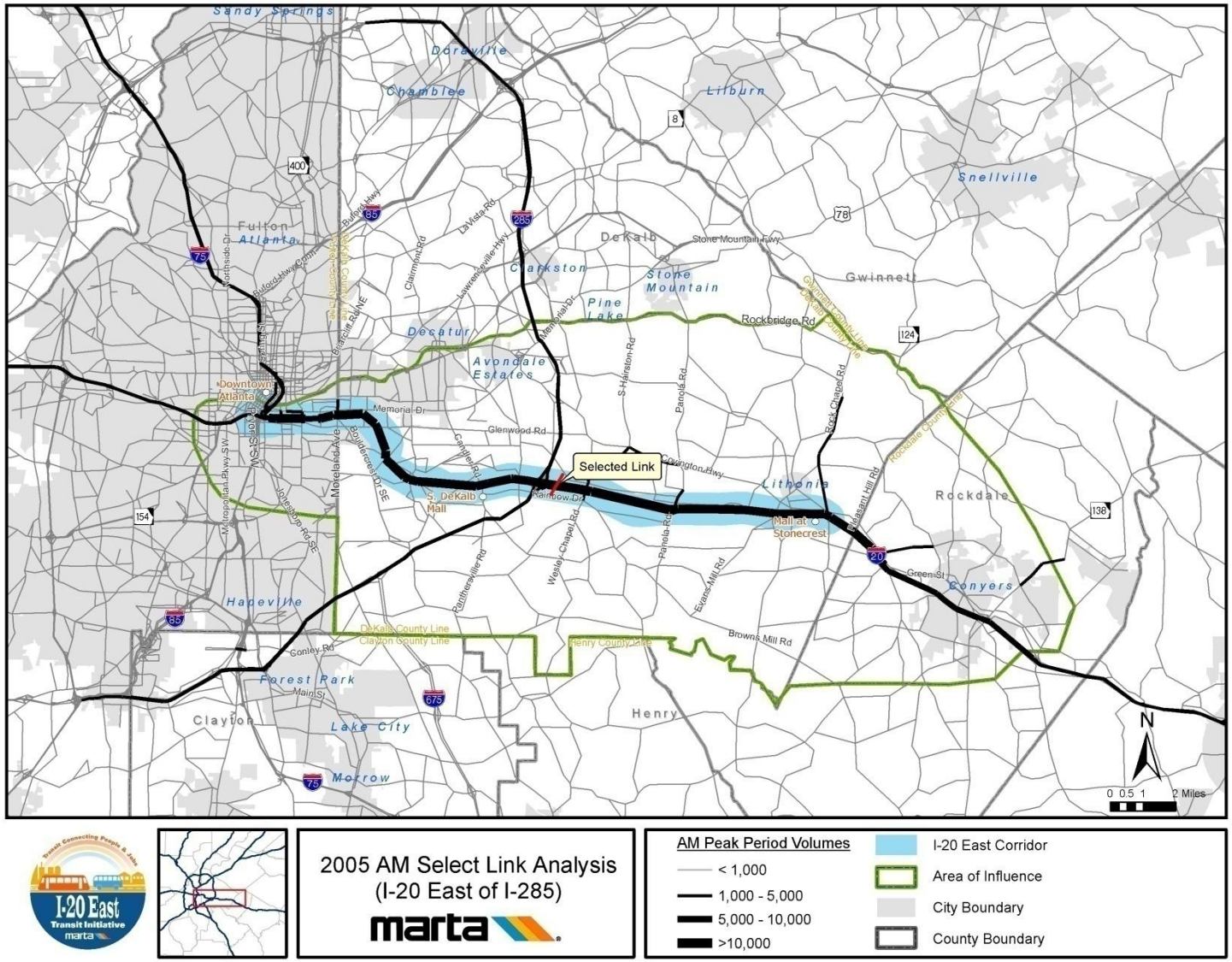
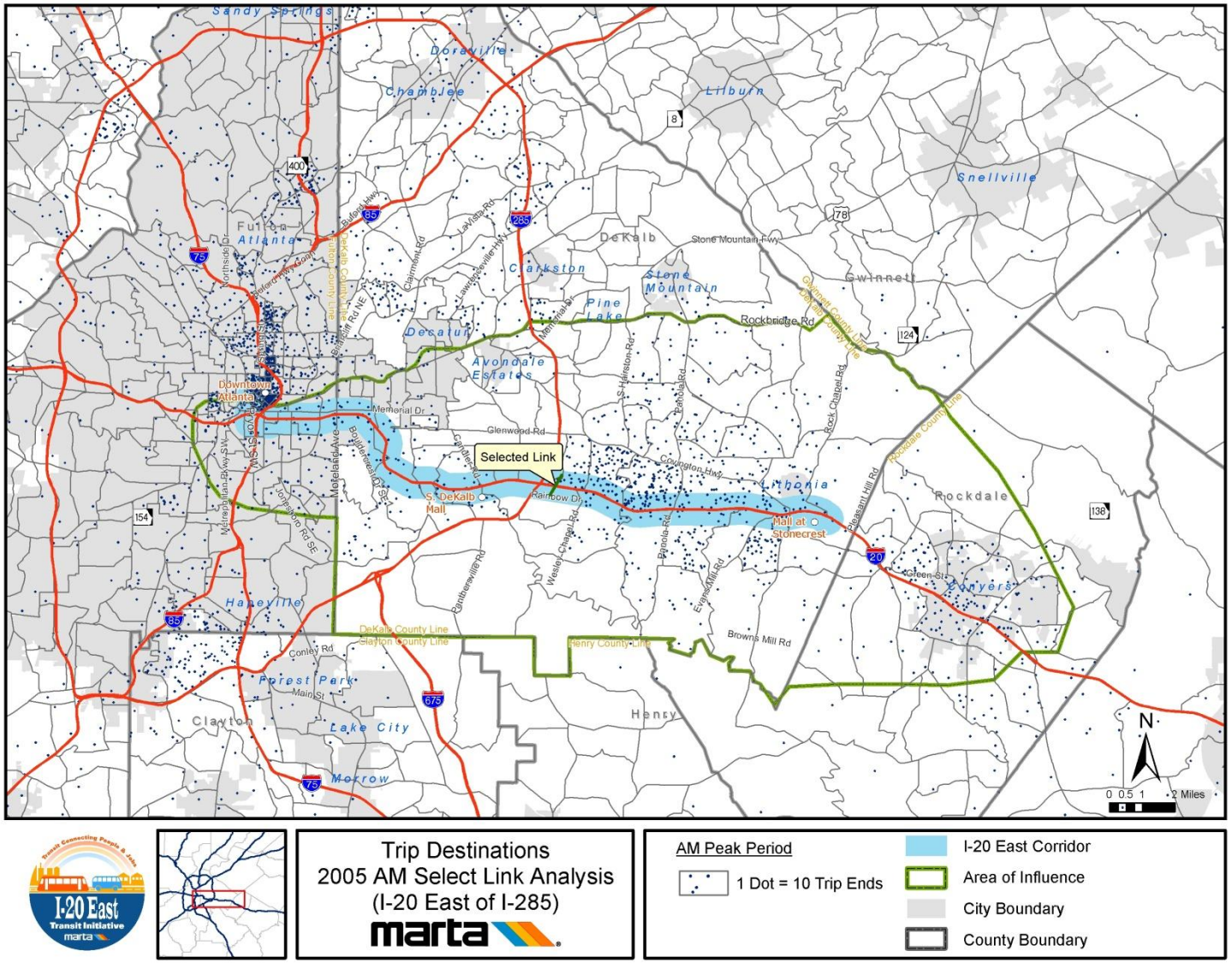


Figure 2-2: Select Link Analysis – Trip Destinations (2005 AM Peak Period)



Travel times between Downtown Atlanta the Mall at Stonecrest, a trip of 18 miles, were analyzed to quantify the declining mobility between these two major activity centers within the corridor. **Table 2-5** presents the peak period travel times for both automobiles and transit in 2005 and 2030 in the corridor. The table shows that trips into downtown in the AM period experience significant delay compared to travel in the non-peak direction. The same is true for the PM peak period, with eastbound trips taking appreciably longer than westbound trips. Furthermore, peak direction travel times are expected to worsen considerably more than non-peak directional travel times between 2005 and 2030. This deterioration of travel times is a direct result of increasing traffic congestion.

Table 2-5: Travel Times between Mall at Stonecrest and Downtown Atlanta (2005 & 2030)

Mode	Travel Times (in minutes)				% Change 2005 - 2030	
	2005		2030			
	AM	PM	AM	PM	AM	PM
Roadway						
Stonecrest to Downtown	51.55	35.52	63.49	37.51	23%	5%
Downtown to Stonecrest	30.29	49.86	31.13	66.26	3%	33%
Transit						
Stonecrest to Downtown	58.11	43.11	65.98	45.40	13%	5%
Downtown to Stonecrest	38.56	56.72	39.77	68.16	3%	20%

Source: 2005 and 2030 Travel Demand Model

Transit travel times for this analysis are only slightly longer. Since the primary mode of transit between the Mall at Stonecrest and Downtown Atlanta is express bus, it is not surprising that the travel times would be similar to automobile travel since these buses operate in the same congested conditions as automobiles.

While an analysis of travel times between the Mall at Stonecrest and Downtown Atlanta does quantify the mobility constraints between these two activity centers, this analysis does not represent travel within the entire corridor. As the previous sections highlight, Downtown Atlanta represents the largest single destination for travel within the corridor; however, in order to quantify mobility throughout the corridor, travel times to and from downtown for the entire corridor must be quantified.

The average length of trips made inside the corridor to and from Downtown Atlanta is projected to lengthen considerably over the next 20 years. In 2005, just four percent of automobile trips to and from downtown from within the corridor took longer than one hour. By 2030, however, 21 percent of the AM trips and 28 percent of the PM trips to downtown from within the corridor are projected to take one hour or more. The increase in travel times from 2005 to 2030 highlights the reduction in mobility expected for study area residents. **Table 2-6** on page 2-8 presents travel times to and from downtown for automobile trips from the entire study corridor during peak hours in 2005 and 2030.

Table 2-6: AM and PM Peak Hour Automobile Travel Times between Study Area and Downtown Atlanta (2005 & 2030)

	Year 2005		Year 2030	
Travel Time Range (minutes)	AM Trips to Downtown	PM Trips from Downtown	AM Trips to Downtown	PM Trips from Downtown
0 - 15	9%	19%	6%	11%
15 - 30	37%	34%	28%	26%
30 - 45	29%	24%	21%	16%
45 - 60	21%	18%	24%	19%
> 60	4%	4%	21%	28%

Source: 2005 and 2030 Travel Demand Model

Figure 2-3 on page 2-9 presents corridor automobile travel times to and from Downtown Atlanta for 2005 and 2030 in both AM and PM peak periods. This analysis was prepared to better quantify the mobility constraints of the corridor, and identify which areas within the corridor experience the highest mobility constraints. As presented earlier in this report, the study area is divided into ten travel districts. Figure 2-3 reveals that, in 2005, only the eastern travel districts experience travel times of greater than 50 minutes. By 2030 however, most travel districts west of I-285 are expected to experience travel times of greater than 50 minutes with much of the area experiencing travel times of 60 - 80+ minutes.

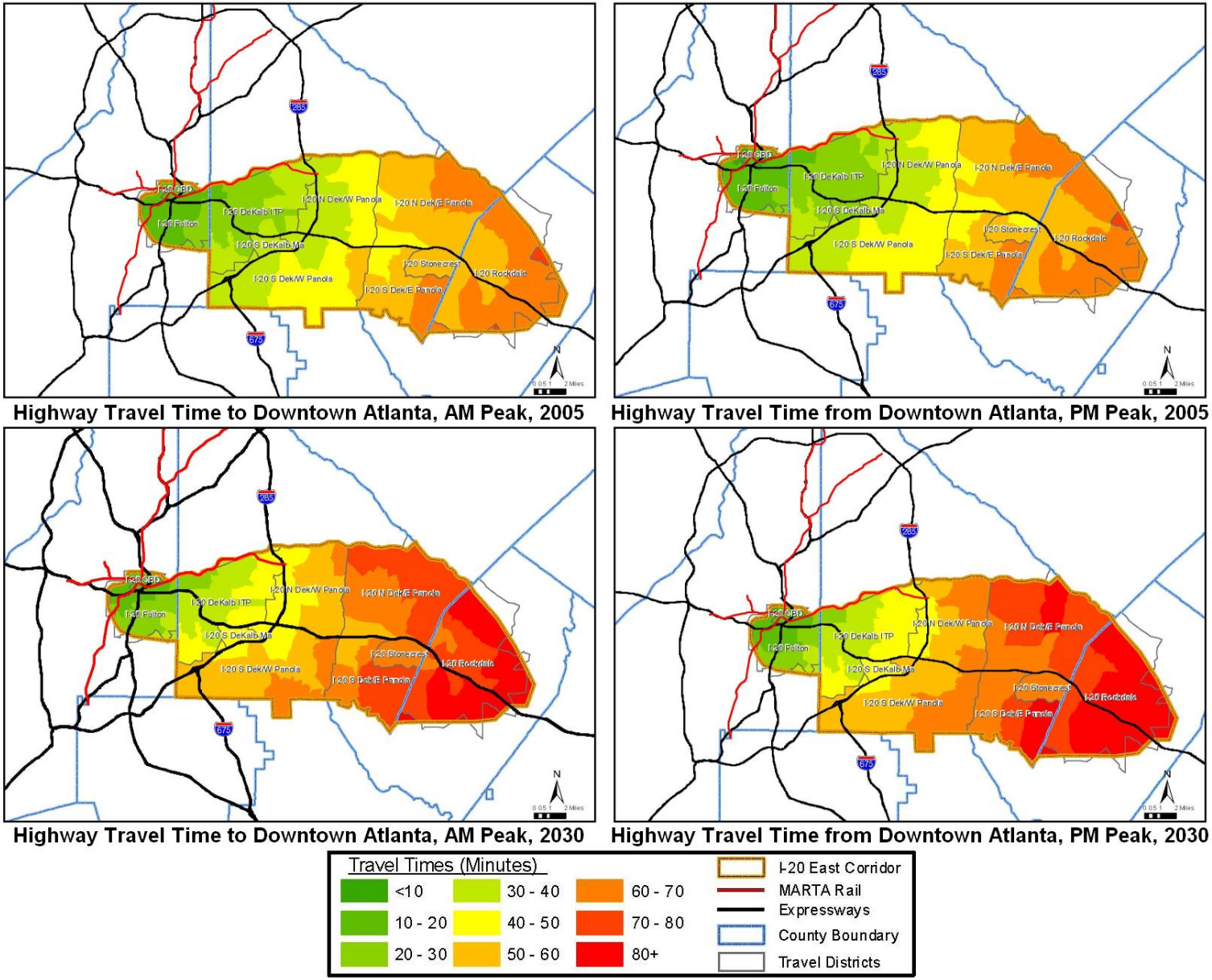
In order to further identify which areas of the study corridor are expected to experience the greatest loss of mobility by 2030, average travel times to and from downtown for all travel districts were calculated. **Table 2-7** below lists the average travel time by automobile to and from downtown Atlanta from each I-20 travel district, As presented in this table, all travel districts east of I-285 are expected to experience travel times approaching or exceeding one hour by 2030.

Table 2-7: AM and PM Peak Hour Average Transit Travel Times to and from Downtown Atlanta by I-20 Travel Districts (2005 & 2030) in Minutes

Travel District	Travel Time To Downtown (in minutes)		Travel Time From Downtown (in minutes)	
	2005 AM Peak	2030 AM Peak	2005 PM Peak	2030 PM Peak
I-20 CBD	12.12	14.45	8.39	11.38
I-20 Fulton	20.75	28.18	17.80	26.57
I-20 S DeKalb Mall	31.72	43.84	29.82	46.05
I-20 DeKalb ITP	33.85	45.72	31.03	49.10
I-20 N DeKalb/W Panola	47.51	58.82	47.31	63.22
I-20 N DeKalb/E Panola	45.56	58.36	45.35	62.40
I-20 S DeKalb/W Panola	48.54	59.97	46.74	61.78
I-20 S DeKalb/E Panola	50.40	63.08	48.61	65.59
I-20 Rockdale	53.14	70.54	55.74	76.03
Stonecrest	51.55	63.49	49.86	66.26

Source: 2005 and 2030 Travel Demand Model

Figure 2-3: 2005/2030 Peak Period Automobile Travel Times to and from Downtown Atlanta



Highway Travel Time to Downtown Atlanta, AM Peak, 2005

Highway Travel Time from Downtown Atlanta, PM Peak, 2005

Highway Travel Time to Downtown Atlanta, AM Peak, 2030

Highway Travel Time from Downtown Atlanta, PM Peak, 2030

Figure 2-4 on page 2-11 presents transit travel times to and from Downtown Atlanta for 2005 and 2030 in both AM and PM peak periods. The transit travel accounts for local and express bus as well as travel on the existing MARTA heavy rail (Blue Line) within the corridor. As shown in Figure 2-4, transit travel times in the eastern portion of the corridor are extremely long. This is expected to worsen by 2030 since transit service to this area of the corridor is provided by buses operating on congested roadways. It is important to note that transit travel times within 2-3 miles of the existing MARTA heavy rail line are not expected to decline between 2005 and 2030. This is expected since heavy rail service is not affected by increasing traffic congestion. Additionally, 2030 transit travel times in the areas surrounding the eastern end of the MARTA heavy rail line are expected to be shorter than automobile travel times. This further highlights the detrimental effect that congestion will have on automobile travel in the study area.

Table 2-8 below lists the average travel time by transit to and from downtown Atlanta from each I-20 travel district. As with automobile travel times, the travel districts east of I-285 are expected to experience transit travel times approaching or exceeding one hour.

Table 2-8: AM and PM Peak Hour Transit Travel Times to and from Downtown Atlanta by -20 Travel Districts (2005 & 2030) in Minutes

	Travel Time To Downtown (in minutes)		Travel Time From Downtown (in minutes)	
	2005 AM Peak	2030 AM Peak	2005 AM Peak	2030 AM Peak
I-20 CBD	16.81	19.36	14.3	17.54
I-20 S DeKalb Mall	31	38.86	29.78	40.34
I-20 Fulton	22.49	26.61	21.57	26.61
I-20 DeKalb ITP	36.88	40.49	35.95	41.42
I-20 N DeKalb/W Panola	61.59	68.92	61.59	71.27
I-20 N DeKalb/E Panola	54.48	60.77	54.48	62.55
I-20 S DeKalb/W Panola	51.45	53.2	50.48	53.98
I-20 S DeKalb/E Panola	52.99	60.18	51.96	62.2
I-20 Rockdale	63.89	71.67	66.57	76.41
Stonecrest	58.11	65.98	56.72	68.16

Source: 2005 and 2030 Travel Demand Model

The results of this travel time analysis indicate that much of the study area east of I-285 already experiences long travel times and these travel times are expected to worsen significantly by 2030. As presented in this analysis, most areas east of I-285 are expected to experience automobile and transit travel times to and from downtown of one hour or more. Furthermore, without dedicated rapid transit service, much of the study area will not have convenient access to travel time competitive transit service.

2.2 Mode Share

Table 2-9 on page 2-12 describes all HBW trips either to or from the corridor, in terms of mode type (e.g., transit, single occupancy vehicle (SOV), or high-occupancy vehicle (HOV)). The mode share data show that HOV trips account for 15 percent of HBW trips to the corridor, a higher share than that of transit, which made up 10.5 percent. This high percentage of carpoolers travelling into the corridor may be indicative of high demand for alternative mode of transportation.

Figure 2-4: 2005/2030 Peak Period Transit Travel Times to and from Downtown Atlanta

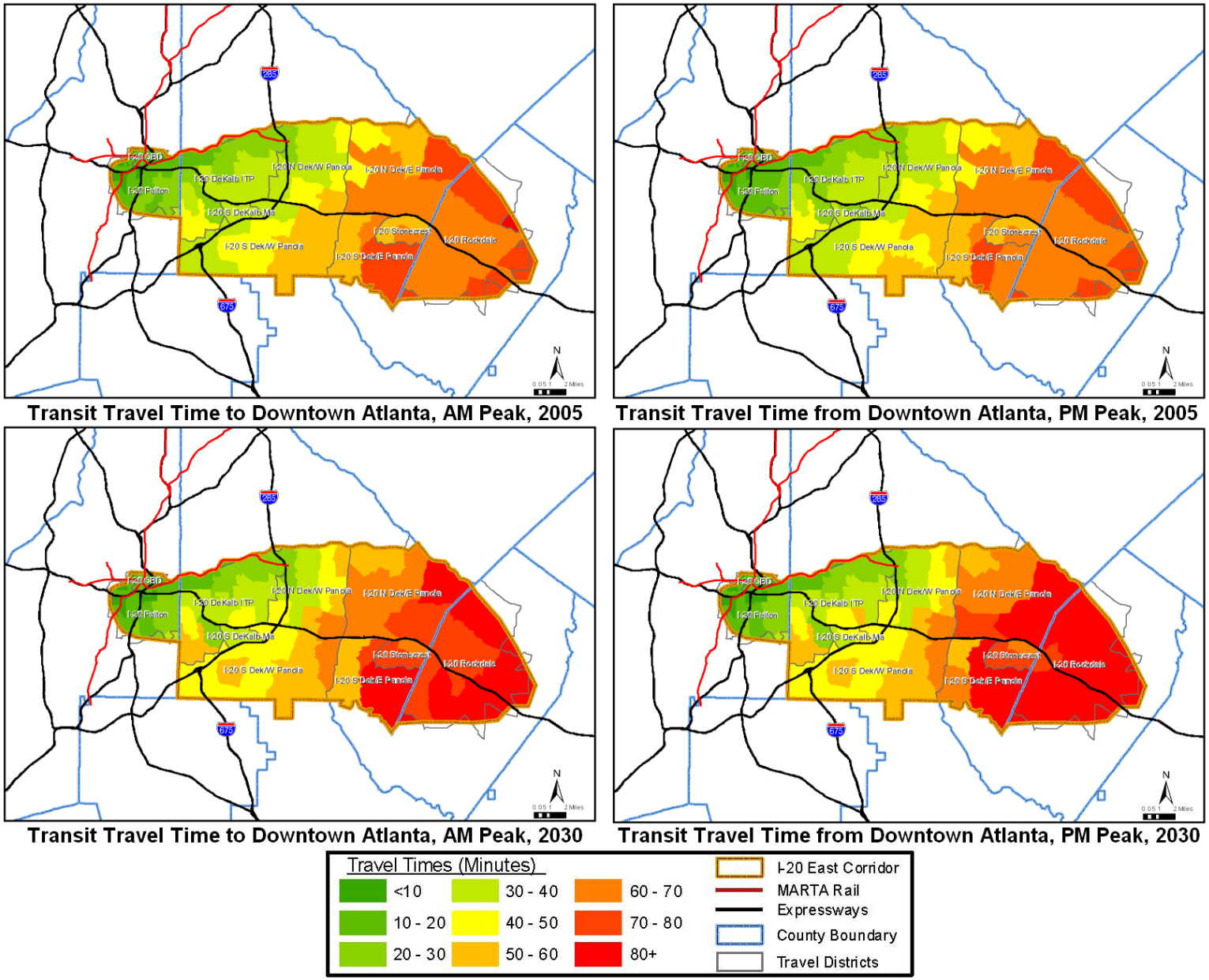


Table 2-9: Home-Based Work Mode Shares

I-20 Study Area Mode Share				
	Year 2005		Year 2030	
Mode	Productions	Attractions	Productions	Attractions
Transit	10.5%	15.0%	13.8%	17.7%
SOV	74.3%	71.4%	71.7%	68.6%
HOV	15.2%	13.6%	14.5%	13.7%
Total	255,000	300,800	363,700	432,900

Source: 2005 and 2030 Travel Demand Model

The corridor's highest rate of HBW trips via carpooling is to Mall at Stonecrest area. In 2005, 22 percent of the trips to and from this area of the corridor were made via HOV. In general, the transit mode share is expected to increase slightly by 2030, as the percentage of SOV trips drops slightly and that of HOV trips remains largely unchanged.

Transit accounted for 25 percent of HBW trips to Downtown Atlanta and Midtown from the corridor in 2005, which reflects the proximity of transit service to these employment centers. By 2030, it is projected that 30 percent of the trips to this area will be made via transit. Of the HBW trips from the corridor, the greatest amount of transit use was found in the I-20 Fulton district. In 2005, 25 percent of work trips originating in the I-20 Fulton district were made by transit and many were destined for the Downtown and Midtown. By 2030, it is projected that 35 percent of work trips from this area will be made by transit. These high rates of transit use reflect high transit availability as well as potentially high numbers of transit-dependent populations in this district. Transit travel patterns in the corridor are discussed in greater detail in the subsequent sections.

3.0 TRANSIT TRAVEL TRENDS

The primary purpose of the I-20 East Transit Initiative is to identify transit investments that would improve east-west mobility and accessibility to jobs and housing within the corridor. In order to identify what type of transit improvements are necessary and where these are most needed, a thorough understanding of the existing and projected transit travel trends is necessary. This section provides a detailed examination of transit trends that focuses on existing and forecast ridership and travel times. As with the previous analysis of overall travel trends in the corridor, travel demand model outputs are used to study existing and forecast trip origins and destinations. Furthermore, recently collected ridership data from Georgia Regional Transportation Agency (GRTA) and MARTA also are used to examine existing transit trips and recent trends in the corridor.

3.1 Existing and Forecast Transit Trips

3.1.1 Travel Demand Model

Table 3-1 below shows the total number of existing and projected transit trips in the corridor. These transit trips include all trip purposes (e.g., home-based work, home-based other, etc). The number of transit trips have been divided by trip productions from the corridor and trip attractions to the corridor. The model estimates a total of 143,700 transit trips in 2005 and 253,000 trips by 2030. Analysis results revealed that transit trips in the corridor are expected increase at a much higher rate (77 percent) than that of total trips (36 percent) which include all modes.

Table 3-1 also shows more transit trips traveling into the corridor than trips originating from within the corridor. This is primarily due to the inclusion of Downtown Atlanta in the study area. With its high levels of employment and convenient access to the MARTA heavy rail system, the Downtown Atlanta area represents a significant destination of transit trips within the region.

Table 3-1: Total Transit Attractions to and Productions from the I-20 East Corridor

Total Transit Attractions			Total Transit Productions		
2005	**2030**	**Growth**	**2005**	**2030**	**Growth**
83,200	145,000	74%	60,500	108,000	79%

Source: 2005 and 2030 Travel Demand Model

Transit trip characteristics are further examined in this section by analyzing home-based work (HBW) trips. As noted previously, HBW trips are made for the purpose of accessing employment that end or begin at home. As such, HBW trips are commonly used for making major transit investment decisions due to the value in providing access to jobs. **Table 3-2** on page 3-2 provides a breakdown of the origins of commuters who are using transit to access jobs within the corridor. In 2005, the majority (70 percent) of commuters taking transit to work in the corridor did so from outside the study area. The remaining 30 percent of the trip attractions translate to 13,700 transit trips that begin and end in the corridor. By 2030, the number of internal transit trips in the corridor will increase to 25,300, a growth of 83 percent.

Table 3-2: Home Based Work Transit Trip Productions for Travel into the Corridor

Production District	2005		2030		Change	Growth
	Trips	Share	Trips	Share		
Internal	**13,700**	**30%**	**25,300**	**33%**	**11,200**	**83%**
I-20 DeKalb ITP	4,700	10%	8,000	11%	3,300	70%
I-20 Fulton	4,100	9%	8,500	11%	4,400	107%
I-20 N DeKalb W of Panola	2,000	4%	3,000	4%	1,000	50%
I-20 N DeKalb E of Panola	800	2%	1,400	2%	600	75%
I-20 CBD	700	2%	1,400	2%	700	100%
I-20 S DeKalb W of Panola	600	1%	1,300	2%	700	117%
I-20 S DeKalb Mall	300	1%	500	1%	200	67%
I-20 S DeKalb E of Panola	200	0%	500	1%	300	150%
I-20 Rockdale	100	0%	300	0%	200	200%
I-20 Stonecrest	200	0%	400	0%	200	0%
External	**31,300**	**70%**	**51,300**	**67%**	**20,000**	**63%**
N Fulton	8,700	19%	13,000	17%	4,300	49%
S Fulton	8,100	18%	13,600	18%	5,500	68%
N DeKalb	6,100	14%	9,500	13%	3,400	56%
Clayton	2,100	5%	3,400	4%	1,300	62%
Cobb	2,100	5%	3,900	5%	1,800	86%
Gwinnett	1,300	3%	1,600	2%	300	23%
Midtown	1,000	2%	2,300	3%	1,300	130%
Other	1,900	4%	4,000	5%	2,100	111%
Total	**44,800**	**100%**	**75,700**	**100%**	**30,900**	**69%**

Source: 2005 and 2030 ARC Travel Demand Model

As transit accessibility is required for both trip ends to complete the trip, it is no surprise that the top transit origins are located within the MARTA service area (DeKalb and Fulton Counties). Within the corridor, the highest number of HBW transit trips originates from Fulton and DeKalb Counties inside I-285. This is mainly due to the access to MARTA heavy rail and the extensive local bus service within these areas. In 2030, these areas will continue to have the highest transit trip productions, not to mention gain the most number of trips, with an additional 4,400 and 3,300 trips, respectively. This is likely due to projected increases in the density of land uses surrounding central Atlanta. Percentage of HBW trips taken via transit by travel district in 2005 and 2030 are mapped in **Figures 3-1 and 3-2** on page 3-3 and 3-4.

The 2005 and 2030 model data reveals relatively few HBW transit trips from the areas in the eastern portions of the study area. This suggests a lack of convenient transit options and travel time competitive transit service. As detailed earlier in this report, areas east of I-285 currently experience long travel times and these are expected to worsen by 2030.

Table 3-3 on page 3-4 details the HBW transit trips that originate from the study area. This table provides a breakdown of where the study area residents are taking transit for work. Unlike auto travel and transit trip attractions, an analysis of transit trip productions shows that about half of the corridor transit work trips begin and end within the corridor; this is expected to remain constant in 2030.

Figure 3-1: Percentage of HBW Trips Taken via Transit by Travel District, 2005

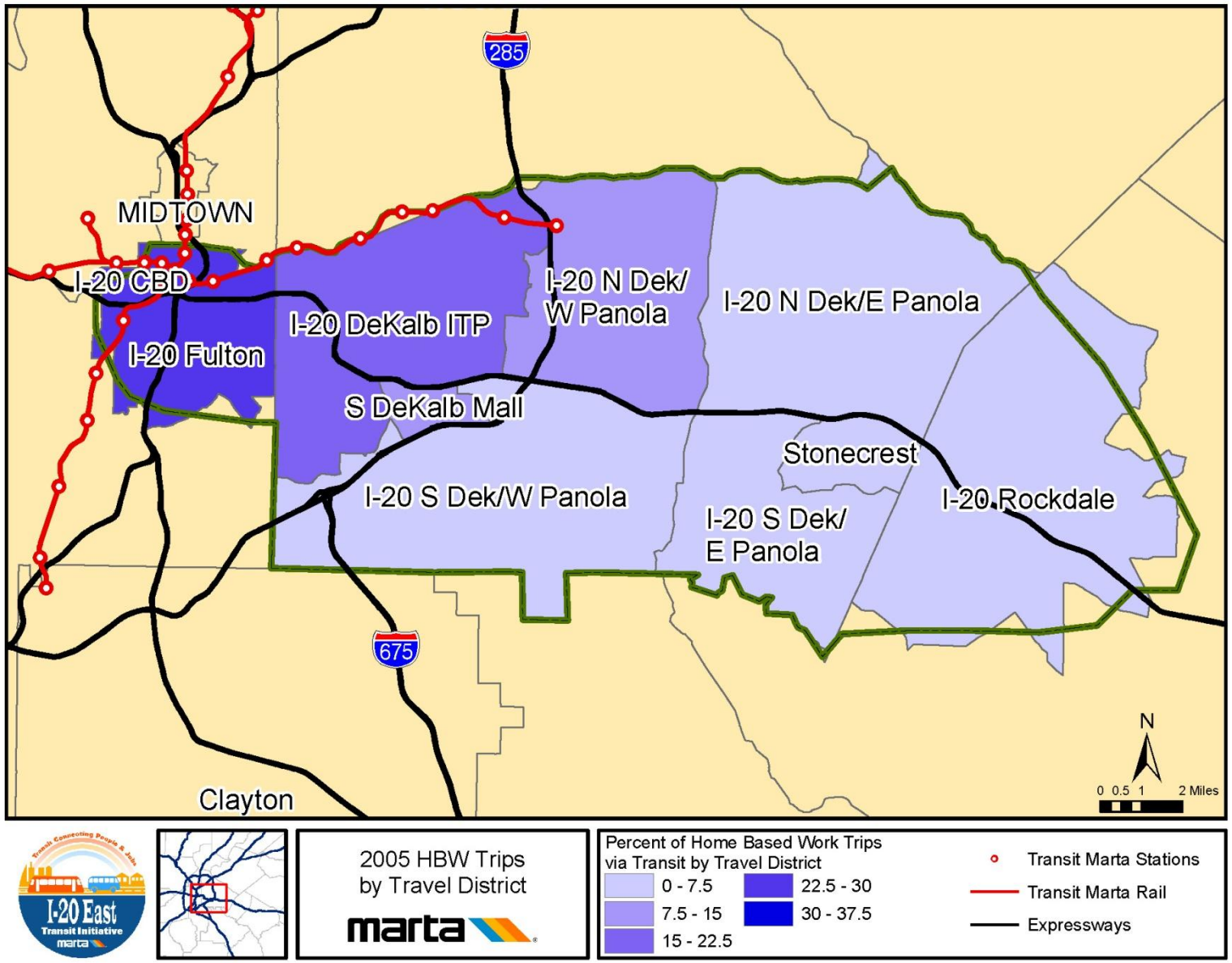
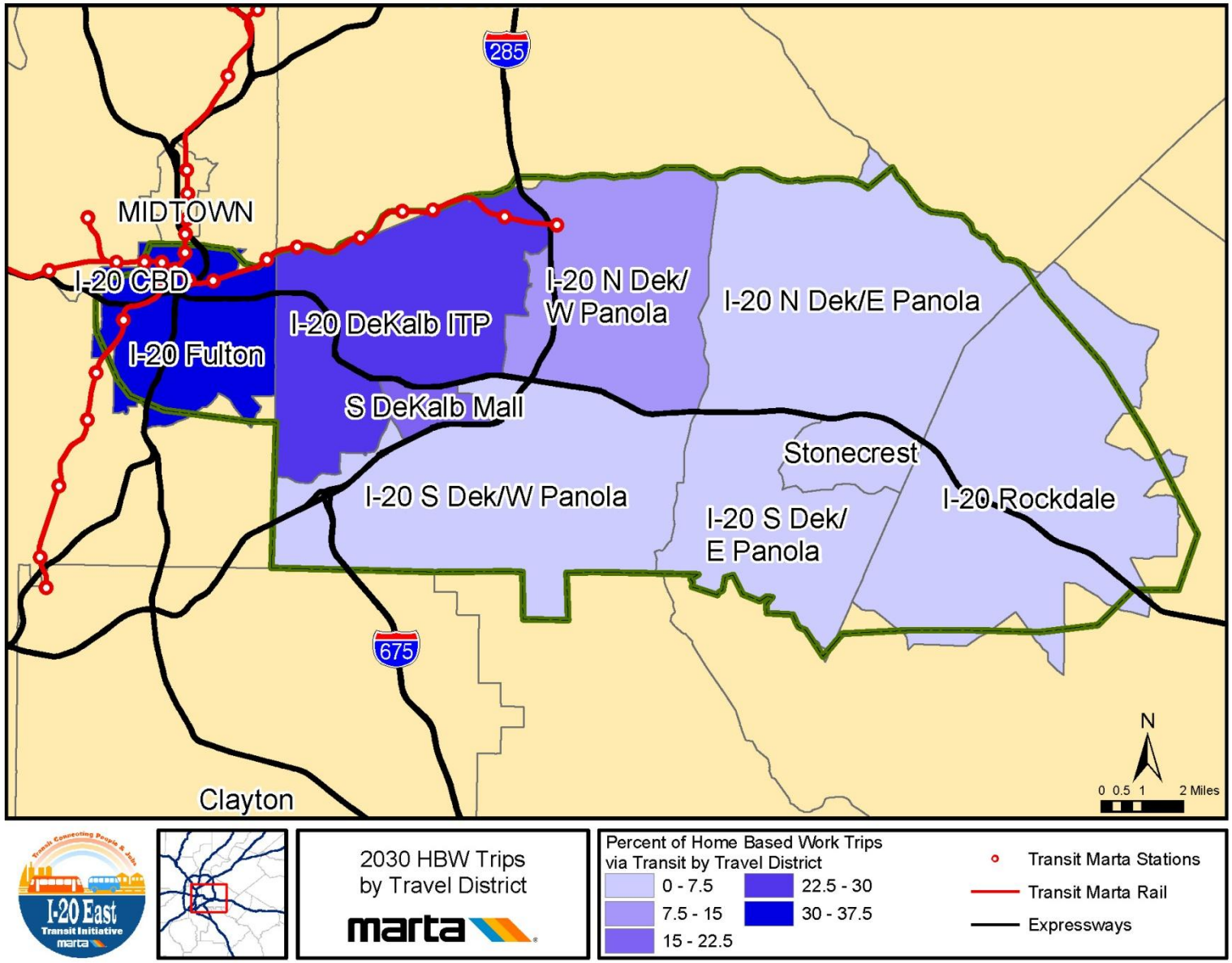


Figure 3-2: Percentage of HBW Trips Taken via Transit by Travel District, 2030



As shown in Table 3-3, Downtown Atlanta (I-20 CBD) is by far the single largest destination for transit trips within the corridor, as it attracts 37 percent of all HBW transit trips from within the I-20 Corridor. This is also corroborated in Section 3.1.3, which examines MARTA rail ridership in the corridor and shows the majority of rail boardings from the corridor exiting the system in Downtown Atlanta at the Five Points Station. If Midtown Atlanta is included due to its close proximity to Downtown, the percentage of corridor transit trips destined for these two locations is 49 percent. As with automobile trips in the corridor, this data clearly identifies the Downtown and Midtown Atlanta area as the primary destination for HBW transit trips in the corridor.

Table 3-3: Home Based Work Transit Destination for Travel from within the Corridor

Attraction District	2005		2030		Change	Growth
	Trips	Share	Trips	Share		
Internal	**13,600**	**51%**	**24,900**	**50%**	**11,300**	**83%**
I-20 CBD	10,000	37%	15,400	31%	5,400	54%
I-20 Fulton	1,700	6%	4,500	9%	2,800	165%
I-20 DeKalb ITP	1,000	4%	2,900	6%	1,900	190%
I-20 N DeKalb W of Panola	500	2%	1,200	2%	700	140%
I-20 N DeKalb E of Panola	200	1%	300	1%	100	50%
I-20 S DeKalb Mall	100	0%	300	1%	200	200%
I-20 S DeKalb W of Panola	100	0%	300	1%	200	200%
I-20 Stonecrest	10	0%	40	0%	30	0%
I-20 S DeKalb E of Panola	10	0%	40	0%	30	0%
I-20 Rockdale	-	0%	-	0%	-	0%
External	**13,100**	**49%**	**25,100**	**50%**	**12,000**	**50%**
N Fulton	3,600	13%	7,800	16%	4,200	117%
Midtown	3,300	12%	5,400	11%	2,100	64%
N DeKalb	3,300	12%	6,000	12%	2,700	82%
S Fulton	1,600	6%	3,100	6%	1,500	94%
Clayton	700	3%	1,200	2%	500	71%
Cobb	400	1%	1,300	3%	900	225%
Gwinnett	200	1%	300	1%	100	50%
Other	-	0%	-	0%	-	0%
Total	**26,700**	**100%**	**50,000**	**100%**	**23,300**	**87%**

Source: 2005 and 2030 ARC Travel Demand Model

3.1.2 GRTA Xpress Bus Service

GRTA began operating its express (Xpress) bus service within the I-20 East Corridor in 2006. During the time period (2002 – 2004) in which the previous *I-20 East Corridor Study* was conducted, the GRTA Xpress service was only in the planning stages. Ridership data is now available from 2006 to 2009 and it shows an increasing demand for work trip alternatives in the corridor. Xpress ridership levels and trends are particularly relevant for this study because they mimic commuter service that could be provided through a major transit investment running parallel to I-20 East. For instance, GRTA has added three Xpress bus routes (422, 423, and 425) that bring riders to Downtown or Midtown from stops near Lithonia at Panola Road or east Conyers. The weekday boardings have increased by approximately 755 patrons on these three GRTA routes since they began service. As a result, new routes were added due to overwhelming demand for service in the corridor.

As shown in **Table 3-4** on page 3-5, Xpress service ridership (expressed in boardings) has significantly increased (300 percent) within the I-20 East Corridor from 2006 to 2009.

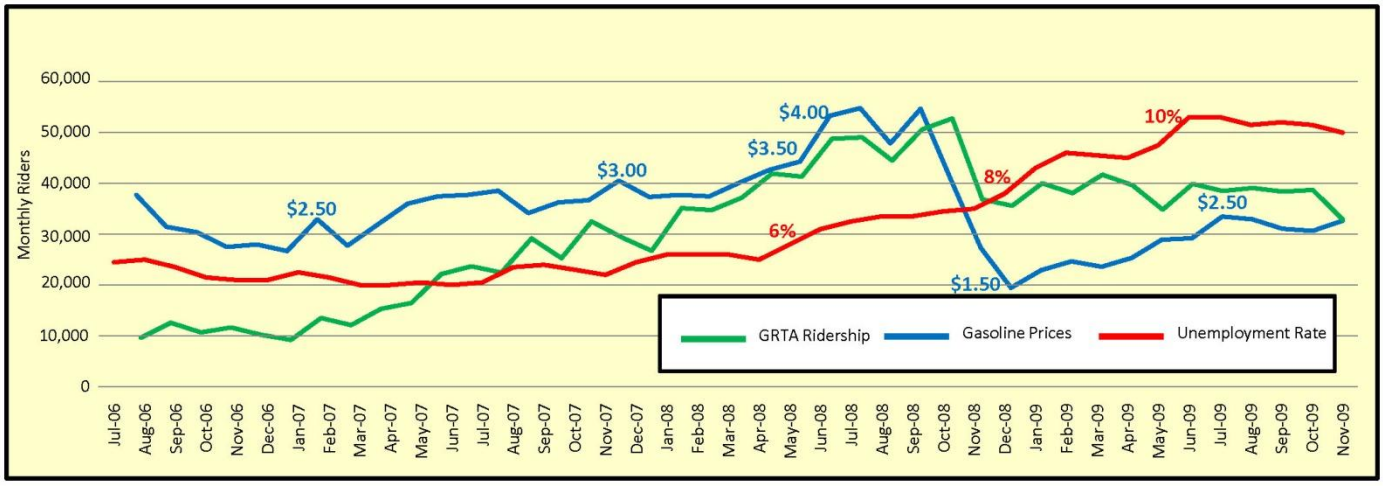
Table 3-4: GRTA Xpress Bus Ridership Trends

	2006	2007	2008	2009
Monthly Boardings	11,216	26,196	57,207	44,903
Yearly Percent Increase	--	134%	118%	-22%

Source: Georgia Regional Transportation Authority, Monthly Boardings in July

In the fall of 2008, there was a marked reduction in the number of monthly boardings. To analyze potential causes for the reduction, the number of boardings was compared to average gasoline prices and the unemployment rate in the region. Analysis shows that these economic factors may have a major impact on transit ridership. Increasing gas prices may have driven commuters to change their travel habits from single-occupancy vehicles to transit alternatives. **Figure 3-3** below shows evidence of correlation between transit ridership and gas prices. When gas prices fell by more than half in the fall of 2008, ridership dramatically fell as well. Concurrently, as a result of an economic recession, the unemployment rate in the Atlanta Metropolitan Statistical Area (MSA) continued to rise, which in turn played a role the depressive effect on demand for the commuter-based Xpress service.

Figure 3-3: GRTA Xpress Ridership, Local Gasoline Prices and Regional Unemployment Rate



Sources: GRTA, www.atlantagasprices.com, Georgia Department of Labor

More recently, in spite of these economic factors, ridership has held steady at levels seen in the beginning of 2008. As the unemployment rate decreases and gas prices rise again it is expected that express bus ridership will increase to levels seen in 2008 or above again.

3.1.3 MARTA Rail Ridership

The I-20 East Corridor includes 12 MARTA heavy rail stations. Since the major purpose of this study is to explore ways to improve east-west mobility through the study area, the nine stations along the segment of the Blue Line east of Five Points Station have been chosen for detailed analysis. These include the Indian Creek, Kensington, Avondale, Decatur, East Lake, Edgewood/Candler Park, Inman Park/Reynoldstown, King Memorial, and Georgia State Stations. This section examines the rail ridership by analyzing travel patterns through station boardings and exits along the eastern Blue Line.

Station Entries and Exits

A key element to understanding travel patterns is to investigate the origins and destinations of rail riders in the corridor. An examination of average weekday rail boardings and exits along the Blue Line in the corridor suggests that a large percentage of riders (42 percent) are traveling within the study area. Unlike GRTA Xpress service which is mostly commuter-based, patrons use MARTA for a wide variety of trips (e.g., work, school, and shopping).

Table 3-5 below presents the top 10 station destinations of eastern Blue Line Station entries and the top 10 origins of exits at these stations[1]. The corresponding correlation between the two is expected as travelers reverse their trips to and from destinations at different points in the day. The high levels of travel to and from Five Points Station in downtown Atlanta suggest its importance as an employment center to area residents as well as the station at which transfers to the north south lines can be made.

Table 3-5: Top 10 Destinations of All Eastern Blue Line Station Entries and Origins of All Exits

Top Destinations of Station Entries			Top Origins of Station Exits		
1	Five Points	5,107	1	Five Points	4,714
2	Kensington	2,662	2	Kensington	2,794
3	Avondale	2,583	3	Unknown	2,586
4	Unknown	2,481	4	Avondale	2,437
5	Decatur	2,317	5	Decatur	2,206
6	Georgia State	2,187	6	Georgia State	2,220
7	Indian Creek	1,995	7	Indian Creek	2,037
8	H.E. Holmes	1,295	8	H.E. Holmes	1,312
9	Airport	1,291	9	Airport	1,065
10	Inman Park	1,014	10	Inman Park	968

Source: Atlanta Regional Commission, On-Board Survey, Average Weekday in October 2009

Passenger Volumes

MARTA rail boardings have increased in the study area since the last major corridor study conducted using 2001 ridership data (**Table 3-6** on page 3-7). An average of 36,000 weekday boardings occurs in the nine study area rail stations. A comparison of the boardings at the stations has shown a significant ridership increase (nine percent) from 2001 to 2008. As with GRTA Xpress bus ridership, MARTA heavy rail ridership dipped in 2009 for reasons assumed to be attributable to decreases in area gasoline prices and increases in the regional unemployment rate shown in Figure 3-2. In spite of this dip, ridership remained greater than in 2001. The long term trend of increasing ridership is expected as gas prices increase and the unemployment rate decreases.

[1] The large number of "Unknown" exits is due to riders to access MARTA from other transit systems with a magnetic ticket rather than a Breeze card. Whereas a Breeze card would record each rider's point of exit, the magnetic card does not allow exits to be tracked. This "free" exit ends in October 2011.

Table 3-6: Average Weekday Boardings of Study Area Stations

Rail Station	2001	2007	2008	2009
Indian Creek	5,322	6,190	6,373	5,804
Kensington	8,807	7,617	7,757	7,177
Avondale	5,828	5,104	6,002	5,595
Decatur	3,489	4,387	4,642	4,580
East Lake	1,344	1,129	1,258	1,114
Edgewood/Candler Park	1,594	1,463	1,529	1,360
Inman Park/Reynoldstown	2,560	3,328	3,354	3,134
King Memorial	1,519	2,142	2,192	2,027
Georgia State	4,659	4,919	5,319	4,960
Total	**35,122**	**36,279**	**38,426**	**35,751**
Percent Increase over 2001	**--**	**3%**	**9%**	**2%**

Source: 2001, I-20 East Corridor Study (Average Weekday in November); 2007-2009, MARTA Weekday Boardings (November)

3.1.4 MARTA Bus Ridership

While recent service cuts have resulted in several routes being discontinued, this travel trends report analyzes all MARTA bus routes prior to the fall 2010 changes in order to better understand the trends in ridership within the corridor. The I-20 East Corridor is currently served by multiple bus routes. The majority of these bus routes provide local or rail station feeder service and generally cover the western portions of the study area. Routes 216 (Lithonia Express – Discontinued Service), 74 (Flat Shoals) and 186 (Rainbow Drive/South DeKalb) are notable because they are cross-town or express routes that travel on I-20 East for a portion of their trip. These routes are particularly relevant because they mimic service that could be provided through a major transit investment along I-20 East. Ridership trends from 2006 to 2009 are shown in **Table 3-7** below for these three routes in addition to bus ridership for all routes in the corridor. Route 186 provides a majority of the express service with almost 3,200 weekday boardings in 2009.

Table 3-7: Average Weekday Boardings for MARTA Bus Routes

Route	Fall 2006	Fall 2007	Fall 2008	Fall 2009	Increase from '06-'09	Percent Change
186	2,179	2,994	3,523	3,185	1,136	32%
216	875	572	660	593	-282	-48%
74	1,204	1,375	1,504	1,426	222	16%
All Other Routes	39,092	41,940	47,171	43,496	4,404	11%
Total	43,350	46,891	52,858	48,700	5,350	12%

Source: MARTA, Average Weekday Boardings (2006-2009)

Table 3-7 shows increases in ridership on the 186 and 74 routes indicating increasing demand for this type of cross-town service. Route 216 (discontinued), the Lithonia Express shows dwindling ridership since GRTA has added Xpress bus routes that offer similar service that brings riders to Downtown or Midtown from stops near Lithonia at Panola Road or east Conyers. As a result, the weekday boardings have decreased by 282 patrons on the Lithonia Flyer from 2006-2009.

Table 3-7 also indicates a general increase in ridership on local and rail station feeder routes in the study area. From 2006 to 2009 there has been an increase in ridership of

11 percent for these routes, indicating an increasing demand for local transit service, in addition to express cross-town trips.

These trends in bus and rail ridership within the corridor support the travel demand modeling results which indicate that transit demand is growing within the corridor.

4.0 NEXT STEPS

The following actions represent the next steps in the I-20 East Transit Initiative, as they relate to the travel trends identified in this report:

- Utilize the major findings in this report to contribute to a Purpose and Need statement and for the I-20 East Transit Initiative.
- Incorporate the findings within with more detailed analysis regarding land use, demographics, and economic market analysis and review previous studies to contribute to a Purpose and Need Report. This report will provide data on the baseline conditions in the corridor and tie these assessments to Goals and Objectives for the I-20 East Transit Initiative that support the overall Purpose and Need statement.
- Continue to reach out to stakeholders and the general public to validate the major findings of this report.