

“FINAL DRAFT”
GREATER DALTON

METROPOLITAN PLANNING ORGANIZATION
2035 LONG RANGE TRANSPORTATION PLAN



JUNE 2010

Prepared by
Whitfield County Transportation Planning Staff

In Cooperation With:
Georgia Department of Transportation
Federal Highway Administration
Federal Transit Administration

The contents of this publication reflect the views of the author, who is responsible for the facts and accuracy of the data presented herein. The opinions, findings, and conclusions in this publication are those of the author and do not necessarily reflect the official views or policies of those of the Department of Transportation, State of Georgia or the Federal Highway Administration. This publication does not constitute a standard, specification or regulation.

A RESOLUTION

A Resolution Approving the 2035 Long Range Transportation Plan (LRTP) for the Dalton-Tunnel Hill-Varnell-Whitfield County area, known as the Greater Dalton Metropolitan/ Urbanized Area.

WHEREAS, on May 1, 2002, the U.S. Bureau of Census designated Dalton, Georgia as an Urbanized Area which, in accordance with Title 23, Section 134 of the United States Code requires the Greater Dalton Urban Area to have a transportation planning process to be eligible for federal transportation funds; and

WHEREAS, Federal regulations described in 23CFR 450.324(a) states that the metropolitan transportation planning process shall include development of a Long Range Transportation Plan (LRTP) for the metropolitan planning area by the Metropolitan Planning Organization (MPO) in cooperation with the State and Federal guidelines; and

WHEREAS, the Greater Dalton Metropolitan Planning Organization (GDMPO), the designated MPO for the Greater Dalton Urbanized Area, has worked with the Federal Highway Administration (FHWA) and the Georgia Department of Transportation in the development of the LRTP for the Dalton-Whitfield County Area, and

WHEREAS, in accordance with 23 CFR 450.316(a) and in accordance with the GDMPO Participation Plan, a draft 2035 LRTP was available for public review/comment for 30 days at Dalton City Library, Dalton City Hall, the Whitfield County Administrative Offices Building #1 and #2, the Whitfield County Chamber of Commerce, the North West Georgia Regional Commission office, and the City Halls of Tunnel Hill and Varnell;

NOW THEREFORE, BE IT RESOLVED that the Policy Committee of the GDMPO does hereby approve the 2035 Long Range Transportation Plan for the Greater Dalton Metropolitan Area.

CERTIFICATION

I hereby certify that the above is a true and correct copy of the Resolution adopted by the Policy Committee of the Greater Dalton Metropolitan Planning Organization at the meeting held on June 14th, 2010.

J. Tyson Ross, Chairman
GDMPO Policy Committee

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**Greater Dalton
Metropolitan Planning Organization
Committees
June 2010**

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Frank Hubbs, Airport Authority Chairman, City of Dalton Municipal Airport
Kyle Mote, Urban Planning Engineer, GDOT
Allen Little, C.I.M.S. V.P. Engineering - Bicycle/Pedestrian Representative
Mike Williams, Manager, Interplant Transportation, Shaw Industries, Inc.

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Ron Hale, Whitfield County Finance Director
Kevin Herrit, Whitfield County Planner
Ronnie Nix, Moreland Altobelli Associates
Michelle Nystrom, GDHR Regional Coordinator
Karen Quarels, GDOT Transit Planner
Kent Sager, GDOT District Six Engineer
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Greater Dalton Metropolitan Planning Organization 2035 Long Range Transportation Plan

I. INTRODUCTION

A. Purpose

The Long Range Transportation Plan (LRTP) for the Greater Dalton Urban Area outlines the goals, objectives, policies, and improvements needed to maintain a safe and efficient multimodal transportation system for the movement of people and goods throughout the area in a manner that will enhance the economic, social, and environmental qualities of the community.

B. Study Area Description

The study area of the LRTP is the geographic area within the jurisdictional boundaries of Whitfield County. Whitfield County is located in North Georgia, 25 miles south of Chattanooga, Tennessee and 90 miles north of Atlanta, Georgia. There are four municipalities in Whitfield County: Dalton, the county seat, also known as the “Carpet Capital of the World;” and the municipalities of Cohutta, Tunnel Hill and Varnell. Dalton and Whitfield County have a rich history. Dalton lies along the path of Sherman’s Atlanta Campaign, and Whitfield County has a large collection of intact Civil War defenses. Tunnel Hill is named after the Western and Atlantic Railroad Tunnel, which linked the east coast to the American heartland. Dalton is also a gateway to the Chieftains Trail, which commemorates American Indian History.

Whitfield County divides into two districts on the Ridge and Valley Province of the Appalachian Highlands, with the Armuchee Ridge District to the west, and the Great Valley District to the east. The Conasauga River is the County’s east boundary. Additional hydrological resources include three water supply watersheds, wetlands, and groundwater recharge areas. Steep slopes of 15 to 25 percent on elevations ranging from 800 to 1,800 feet above sea level are common, and constrain transportation. Local topography provides abundant scenic forest, agriculture, water and wildlife resources providing unique recreational and tourism opportunities.

C. Planning Context

In September 2003 the transportation planning consultants Greenhorne & O’Mara, Inc., completed the Whitfield County/City of Dalton Multimodal Transportation Study for the Georgia Department of Transportation (GDOT), in partnership with Whitfield County and the City of Dalton. This two-phase study addressed all modes of transportation including highways, streets, airport, bike, pedestrian, railroads and transit. **Phase I** identified existing deficiencies, and projected the transportation needs through the year 2025 based upon the land use plan. **Phase II** identified a prioritized list of transportation improvements to address deficiencies from Phase I. Recommendations of this study were used in developing the 2030 Long Range Transportation Plan (LRTP), approved in June of 2005, and this 2035 LRTP Update.

No substantial projects were finished since approval of the 2030 LRTP. Major differences between the 2030 LRTP and this 2035 LRTP update include data for the base year 2006 such as: demographics, traffic volumes, accident reports, and numerous other updates throughout the plan, as well as the Whitfield County, City of Dalton, City of Tunnel Hill and City of Varnell Joint Comprehensive Master Plan and Development (Land Use) Plan, approved and adopted by all listed agencies in December of 2008. Another major difference between the two LRTPs was the inclusion of expected population and employment growth stemming from the development of the Volkswagen Manufacturing Plant in Chattanooga, Tennessee in 2011 and the Wacker Chemical Plant north of the Georgia/Tennessee state line, by 2013, including growth from the ancillary businesses created as a result of these two manufacturing facilities. This data was used to develop a travel demand model to forecast traffic on various road system alternatives/networks for the year 2035.

The following map shows the GDMPO Planning Area boundaries (Whitfield County) for this 2035 Long Range Transportation Plan. There is a renewed Memorandum-Of-Understanding (MOU) between the Chattanooga-Hamilton County-North Georgia Transportation Planning Organization and the Greater Dalton-Whitfield County Metropolitan Planning Organization allowing them to manage the urbanized area that spills into their urbanized area. This was renewed in May and June of 2010 by both organizations.



GDMPO Planning Area

D. Study Process

Following the 2000 US Census, the City of Dalton was officially classified as a metropolitan statistical area (MSA) and became an urbanized area which is defined as a “densely settled territory that contains 50,000 or more people”. The Dalton urbanized area recorded a population of 57,666 people in 2000, and encompasses the Cities of Dalton, Cohutta, Varnell and Tunnel Hill as well as developments along the Cleveland Highway and the unincorporated areas outside the city limits inside Whitfield County.

Federal law requires the creation of a Metropolitan Planning Organization (MPO) for all urbanized areas to ensure that transportation investments are based on a comprehensive, cooperative, and continuing (3-C) planning process. The Governor of Georgia initially designated the North Georgia Regional Development Center as the MPO for Dalton and Whitfield County in 2003 and re-designated Whitfield County as the agent to manage the MPO in 2009. The newly re-designated MPO was named the Greater Dalton MPO and provided guidance in the development of the 2035 Long Range Transportation Plan through two committees, the Policy (PC) and Technical Coordinating Committees (TCC) whose basic functions are outlined as follows:

Policy Committee (PC): The PC is composed of the principal elected and/or appointed officials of participating governments and agencies that oversee or operate major transportation modes within the MPO area. This committee reviews and approves all transportation plans and programs resulting from the Dalton-Whitfield County Transportation Study.

Technical Coordinating Committee (TCC): The TCC provides professional technical assistance to the PC and recommends transportation plans and programs for consideration and approval by the PC.

The study process consisted of three phases:

Phase 1: Establish the LRTP process and create the travel demand model (TDM). This phase collected data to determine existing and project future conditions and needs. The findings and recommendations of the Green-horne & O’Mara study and the 2030 LRTP were reviewed in this Phase.

Phase 2: Assessment of existing conditions, the findings and road improvement recommendations of the Green-horne & O’ Mara study and 2030 LRTP, and newly identified needs using the 2035 TDM. The GDMPO committees and staff met with local stakeholders to determine existing and future transportation needs of all modes of transportation, and identify proposed improvements. The TDM will evaluate alternatives.

Phase 3: Prioritization of identified project improvements: This phase evaluated the ability of proposed projects to satisfy future travel demand and/or affect positive change in travel behavior. Cost and funding estimates over the planning period were determined. A program of recommended projects and strategies was developed and presented to local citizens for review and comment.

E. Participation Plan

On May 17, 2010, following a 45 day public review period, the PC adopted a Participation Plan (PP), which was rewritten and updated for the GDMPO. The objective of the PP is to assure that the public concerns and issues relating to transportation are addressed in the development of the policies, programs, plans and projects being proposed in the MPO area. This plan provided a public involvement guide in creation of the 2035 LRTP.

Public Meeting I

The 1st 2035 LRTP Update public meeting was held May 19, 2009 at 5:30 P.M. at Dalton City Hall.

Public Meeting II

The 2nd 2035 LRTP Update public meeting was held March 23, 2010 at 5:30 P.M. at Dalton City Hall.

Public Meeting III

The 3rd 2035 LRTP Update public meeting was held May 11, 2010 at 5:30 P.M. at Dalton City Hall.

Public Meeting IV (Public Hearing)

The 2035 LRTP Public Hearing was held June 14, 2010 at 10:00 A.M. at the W.C. Admin. Building #1.

News releases, in English and Spanish were placed in local newspapers advertising the meetings. Summaries of the meeting proceedings, public comments, responses to comments and materials provided at the meetings are in the Appendix ‘A’ of this plan.

II. GUIDING PRINCIPLES, SAFETEA-LU PLANNING FACTORS, STRENGTHS, ASSETS, CORE ISSUES and GOALS & OBJECTIVES of the 2035 LONG RANGE TRANSPORTATION PLAN.

A. Guiding Principles

A transportation system that is effective and efficient in serving the mobility needs of an urban area should be developed and maintained in accordance with the following guiding principles:

1. Includes all modes.
2. Be safe, convenient, and efficient.
3. Serve and enhance existing land use and planned growth.
4. Sustain the quality of the environment and preserve community values.
5. Be financially feasible, and support all sectors of the area's economy.
6. Provide access and connectivity with diverse land uses and modes.
7. Be maintained through local official/citizen participation in transportation decision-making.

B. SAFETEA-LU Planning Factors/Provisions

Section 134 (f) of Title 23 U.S.C of Federal Highway Administration (FHWA), and Federal Transit Administration (FTA) section 5303 (h) of Title 49 U.S.C list eight planning factors that must be considered as part of the transportation planning process for all metropolitan areas. At a minimum, these factors shall be explicitly considered, analyzed as appropriated and reflected in the production of planning documents. These factors listed below are used in prioritizing projects for the Long Range Transportation Plan (LRTP).

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.
2. Increase the safety of the transportation system for motorized and non-motorized users.
3. Increase the security of the transportation system for motorized and nonmotorized users.
4. Increase the accessibility and mobility of people and for freight.
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns.
6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.
7. Promote efficient system management and operation.
8. Emphasize the preservation of the existing transportation system.

New Consultation: In each metropolitan area, the MPO shall consult, as appropriate, with State and local agencies responsible for land use management, natural resources, environmental protection, conservation and historic preservation concerning the development of the LRTP. Consultation shall involve a comparison of transportation plans with State conservation plans or maps and inventory natural or historic resources.

MPO Consultation in Plan and TIP Coordination: The MPO is encouraged to consult and coordinate its planning process with officials responsible for other types of planning activities affected by transportation including State/local planned growth, economic development, environmental protection, airport operations and freight movements. Under the metropolitan planning process, transportation plans and TIPs shall be developed with due consideration of governmental agencies and nonprofit organizations that receive Federal assistance from a source other than US Department of Transportation. The MPO will ensure all measures as outlined in the PP are used to incorporate these agencies in the plan development process.

Operation and Management Strategies (O&MS): SAFETEA-LU emphasizes not only the importance of improving transportation facilities but the management of these facilities as well. The goal of establishing OMS is to improve the performance of existing transportation facilities to relieve congestion and maximize safety and mobility of people and goods. Incorporating O&MS into the transportation planning process can provide opportunities to achieve the goal listed above, set forth by SAFETEA-LU. The following chart gives a brief synopsis of examples using O&MS in with the transportation planning process:

Transportation Planning Process	Operations and Management Strategies
Integrate and Engage Stakeholders	Engage relevant operating agencies, committees or stakeholders
Develop Goals and Objectives	Engage operations managers in developing goals and objectives specific to O&M
Define Performance Measure Criteria and Data Needs	Include measures for information accuracy and determine relevant resources
Evaluate Deficiencies	Evaluate deficiencies for systems management and interagency coordination
Develop Alternative Plan Scenarios	Involve operations managers/experts to help develop systems management alternatives
Evaluate Alternatives to Select Best Option	Involve operations managers/experts in evaluating management and operations strategies

Linking planning and operations is important to improve transportation decision-making and the general efficiency of the MPO transportation system. Coordination between planners and operators helps ensure that regional transportation decisions consider all available strategies to meet regional goals and objectives.

Safety and Transportation Planning: Incorporating safety into transportation planning is accomplished by identifying safety as a major goal of the agency, developing a strong multi-disciplinary safety management process and emphasizing safety on all transportation projects. The commitment to make safety a priority must come from the highest levels with assistance from agencies responsible for the planning and enforcement of transportation projects. It is vital to ensure all opportunities to improve roadway safety are identified, implemented and evaluated during the planning, design, construction and maintenance stages. The SAFETEA-LU requires each state to complete a highway safety plan. Georgia's Strategic Highway Safety Plan (SHSP) is titled: *"Every Life Counts-Strive for Zero Deaths and Injuries on Georgia Roads"*, and will be used to lower the number of traffic fatalities by utilizing the 4 E's: Engineering, Enforcement, Education and Emergency Services. The GDMPO will apply these components, where applicable, to projects outlined in its LRTP.

Engineering: Engineering improvements can improve elements of the road to allow for easier traffic flow and increased safety for users. Improving safety techniques to lower incidents begins at the planning level. The MPO planning process will incorporate safety measures to address patterns occurring in the state to meet the goals set forth in Georgia's SHSP.

Georgia's traffic fatality rate has closely resembled the national highway fatality rate for several years. Georgia experienced an increase of 103 highway fatalities in 2005, and the statewide fatality rate increased from 1.46 in 2004 to 1.54 per 100 million vehicle miles traveled in 2005. The national fatality count during the same period is 43,443, up from 42,836 in 2004 - an increase of 607 fatalities. Georgia's increase accounts for 17% of the national increase. This distinction highlights Georgia's need to seriously consider new approaches and comprehensive highway safety initiatives to reduce motor vehicle crashes, injuries, and fatalities.

Georgia's highway fatalities peaked in 1973 at 1,928. Specific evaluations are needed to identify which actions are most effective in Georgia. For example, fatalities on state routes only increased by 3% (1102 to 1134) from 2004 to 2005, fatalities on non-state routes increased by 13% (539 to 610). This indicates new strategies are needed to affect the climb in highway fatalities. In 2000 dollars, the costs of traffic crashes, injuries, and deaths exceed \$7.8 billion per year. Georgia's SHSP outlines several strategies to lower these fatalities:

- Improve highway and road design guidelines.
- Construction of bike lanes and paved shoulders.
- Implement appropriate intersection improvements to mitigate incidents.
- Improve access management near intersections.
- Implement a pedestrian-friendly street design.
- Improve design of roadside hardware.
- Improve design and application of barrier systems.

Enforcement: Enforcement activities often include methods to mitigate behavior to avoid accidents and injury, which include increasing law enforcement participation, forming task forces and increasing partnerships with organizations dedicated to reducing accident rates and fatalities. Enforcement activities make the public aware that local, state and federal agencies are committed to achieving lower rates of injury and death on the Georgia roads. The MPO will utilize techniques to support goals in the Georgia SHSP plan by supporting planning activities that promote effective, consistent, and continuous law enforcement to reduce traffic accidents.

Education: Education to encourage safety can be integrated into school, church, tasks force and organization activities. Raising the awareness of road safety often requires effective publicity programs, such as “Click It or Ticket”, that should be designed, targeted and monitored to ensure success. Introducing safety skills to children can provide lifelong benefits to society if the message is constant throughout the child’s development. Creating a positive attitude towards road safety in Georgia can happen if it is a part of everyday life.

Emergency Services: Emergency Services are an important component to achieving road safety as a top priority. Timely and proper treatment of accident casualties is essential to reduce the severity of motor vehicle related injuries. Establishing a system that can notify police, ambulance and other rescue services simultaneously can reduce emergency service response times. Strengthening the statewide ITS system, Navigator, to increase local cooperation can help achieve this goal as well. Navigator’s communication system can be used to inform all emergency responders to the exact location of the incident and provide real-time information resulting in effective and timely incident management.

Environment Mitigation Activities (EMA): Consultation should include a discussion of potential EMA for the development of LRTPs and other MPO plans. These activities should address issues from a policy or strategic level rather than from a project-specific level. This discussion should also be developed in consultation with Federal, State, and tribal wildlife, land management and regulatory agencies. In addition, the MPO should allow reasonable opportunities for these agencies to performing their consultation duties.

EMA require MPOs to provide a discussion of types of potential EMA and potential areas to carry out these activities, including those having the greatest potential to restore and maintain the environmental functions affected by the plan. These activities should also be developed in consultation with Federal, State and tribal agencies’ projects as compared with LRTP projects through comparison can be shown through the use of local archaeological maps, historic and natural resources, and wetland/water supply maps.

The “**Environmental Mitigation Summary**” chart on the next page includes a list of each of the planned MPO projects listed in the LRTP and the above stated resources that affect each project.

Environmental Mitigation Summary						
Project #	NAME	Historic	Environmental	Archaeological	Watershed	Wetlands
0931 /-1	I-75 & Rocky Face Exit		X		X	
610890 / 2	I-75 & Carbondale Exit		X		X	
631360 / 3	SR 3/US 41-Campbell to Catoosa Co. Line					X
5	Dawnville-Underwood to SR286	X	X		X	
6	Underwood-Dawnville to NDB	X	X		X	X
7	Thornton/Hospital Access-NDB to E. Waugh				X	
8	Lower Dawnville-SR52 to Co. Line		X		X	
9	Glenwood Ave-Morris to Morningside				X	
611180 / 10-13	I-75 at SR 201 - Widening		X			X
620630 / 11	S. Dixie Hwy-SR3 Conn. to Walnut		X		X	
14	SR2-SR2 Bus to CR 112		X			X
15	E.Morris/Murray-SR52 to Glenwood					
17	SR52/Chatsworth Hwy- Bypass to Co. Line		X		X	X
18	SR 201-Mt Vernon to SR3/41				X	
19	Antioch/Brickyard-S Dixie to Riverbend Rd		X			
21	US 41at Old Chattanooga & Old Lafayette	X			X	
22	Reed Rd-NDB to SR 201	X	X	X	X	
631065 / 23	Airport Rd-Tibbs Rd. to Murray Co. Line		X			
25	Riverbend-SDB to Walnut Ave					
26	Beaverdale-SR71 to Lake Francis Rd.		X		X	X
27	SR 2 -SR 201 to Old Praters	X	X		X	
622120 / 28	ATMS-GDOT Regional TCC-ITS					
4607 / 29	CR 3/Henry Owens at NS R/R Xing					
30	CR 290/ Beaverdale at CSX R/R Xing					
37	Mill Creek Rd-Hurricane Rd to SR41	X			X	
8719 / 38	Intersection Improvement-71 & NDB	X				
39	Tyler- Tyler to Waugh				X	
41	E.Dug Gap/Threadmill- to S. Dixie Hwy		X		X	
42	Dug Gap-SDB to Threadmill		X		X	
43	Mill Creek-SR201 to Hurricane Rd	X	X		X	
46	SDB-I-75-Lakeland		X			X
47	New Interchange-71 & NDB	X				
48	I-75 at Waugh St/College Dr.		X		X	
50	Dug Gap Battle/Dug Gap-Widen		X	X	X	
632670 / 56	SR3-SR13 to SR3 Conn.	X	X			X
7058 / 57	SR 2 at Conasauga Bridge Widening				X	
60	I-75 Widening Whitfield Co.	X	X		X	
61	SR 71 Widening N. of Cohutta to state line		X		X	
62	SR 2 and 201 Intersection Improvement		X		X	
63	Lake Francis Rd. Widening Beaverdale/SR 2		X		X	
8364 / 64	Sr 3/US 41 Bridge @ Little Swamp Creek		X		X	X

C. Strengths and Assets of the Transportation System

Whitfield County has over 1,000 miles of public roads in its transportation system. The extensive truck freight shipping and worker commuting patterns make continued maintenance and updating of the road system important. Interstate 75 with four exits to the Dalton/Whitfield area makes it the major commercial and industrial center of North Georgia. The bypass around Dalton provides access and connectivity to diverse land use activities along its route and contributes to the efficient movement of people and goods.

D. Transportation Issues

During creation of the Whitfield County/City of Dalton Multimodal Transportation Study prepared for the GDOT by Greenhorne & O'Mara, Inc., an Advisory Group was organized to supply information and guidance. At the first meeting, the following questions were asked and member responses follow:

What issues should be addressed in the Whitfield County Transportation Plan?

Mobility of People

- Signalization improvements for pedestrians in downtown Dalton.
- Emergency response improvements along State Route 201 west of SR3/US 41.
- Improvements in the access and connectivity of sidewalks.
- Establishment of fixed route transit service in downtown Dalton.
- Provision of Bicycle paths/routes in downtown Dalton
- Connection of hiking trails to bicycle and pedestrian paths.
- Improved connectivity between roads and arterials.

Movement of Goods

- Improvement in turning radii at intersections in downtown Dalton.
- Improved maintenance to many roads having deteriorated due to large truck volumes.
- Truck volumes are high on all roads in the study area.
- Improvements to roads with heavy rail and truck traffic connections.
- No railroad grade separation north of Waugh Street in downtown Dalton.
- Heaviest railroad tonnage is on a single Norfolk Southern track in downtown Dalton.
- The CSX/Norfolk Southern railroad crossing impacts traffic in downtown Dalton.
- Widening is needed for bridges that cross over railroad tracks and there is a need for more railroad grade separations to improve traffic flow on heavily traveled roadways.

Other Modes of Transportation

- Airport – needs longer runway (500' extension completed during 2030 LRTP development).
- Magnetic Levitation Rail and/or High Speed Rail.
- Multi-modal hub.

Safety

- Provide more streetlights.

What are the transportation constraints in Whitfield County?

- Mountainous terrain
- CSX/Norfolk Southern Railroad at-grade crossings
- Endangered Species/Critical habitat
- Conasauga River and Wetlands
- Funding limitations at the federal, state and local levels of government
- Signals that are not coordinated on main arterials
- I-75
- Historic districts and Civil War historic areas
- Greenspace
- School Buses

What are the core transportation issues in the City of Dalton and Whitfield County?

City of Dalton

- **Sight distance:** Waugh St., Moice Road, Industrial Blvd. and South Dixie Highway.
- **Geometric deficiencies:** Foster Road, and South Dixie Highway.

- **Signalization:** Industrial Blvd., South Dixie Hwy., Foster Rd. and SR 52/Walnut Ave.
- **Congestion:** Haig Mill Rd., N. Dalton Bypass, SR 71 Corridor, Holiday Dr., Walnut Ave., Tibbs Rd., Brickyard Rd. at S. Dixie Hwy., and S. Hamilton Rd.
- **Protected left turns and exclusive left turn lanes:** At key intersections throughout downtown Dalton, and Glenwood Ave. to Legion Rd.
- **Access problems:** Springdale Rd. at Legion Dr. to Cleveland Plant 81, Warning Rd. at Cleveland Rd. to Plant 6.
- **Pedestrian:** Pedestrian signalization, connectivity of sidewalks and hike & bike paths.
- **Biking:** Bicycle routes/facilities in downtown.
- **Transit:** Fixed route transit service in downtown.
- **Trucking:** Improved turning radii at intersections, improved paving maintenance of roads with high truck volumes and improved connectivity between trucks and rail.
- **Rail:** RR grade separations north of Waugh St., reduce tonnage on single NS track downtown, reduction of RR induced traffic delays by widening RR grade separations.

Whitfield County

- **Congestion:** Intersection of SR 286 and SR 52, Mitchell Rd. to N. Dalton Bypass, Dawnville Rd., Underwood Rd., Airport Rd. at SR 52, Beaverdale Rd., and SR 201 between Tunnel Hill and Varnell.
- **Alignment problems:** Reed Rd., Lafayette Rd., Houston Valley Rd., and the intersection of Haig Mill Rd. and SR 71/Cleveland Hwy.
- **Lack of transportation grid system:** Most roadways empty into the Bypass. There is a lack of connectivity between local roads, collector roads and arterials.
- **Emergency response:** Lack of emergency response on SR 201 west of SR 3/US 41.

E. Overall Goal of the 2035 Long Range Transportation Plan

Interaction with citizens at public meetings determined the following goal of the 2035 LRTP:

“Develop a guide for orderly development of a safe and efficient transportation system for the movement of people and goods which supports the land use and economic goals of the area and promotes quality of life”.

F. Objectives Expressed by Citizens in Public Meetings

- Alleviate and/or manage traffic congestion.
- Address safety in all modes of transportation.
- Address accessibility and connectivity for all modes of transportation.
- Facilitate the use of alternate modes of transportation such as bicycling, walking, and transit.
- Address transportation concerns related to the movement of goods via railroads and trucks.
- Improve air travel service.
- Create a funding plan to implement improvements within projected funding constraints.
- Address accessibility and connectivity for all modes of transportation.
- Consider land use in the recommendations for transportation improvements.
- Improve circumferential flow of all modes of transportation in Whitfield County.
- Facilitate the east-west and north-south flow of traffic within the County.
- Support development of the magnetic levitation (Maglev) high speed rail through the region.

III. SOCIO/ECONOMIC

A. Existing conditions for the 2006 Base Year

1. Population Characteristics

Since 1980, Whitfield County has grown slower than the state but faster than the nation. The population of Whitfield County in 2000 was **83,525** and the City of Dalton population was **27,912**. The 2000 Census reported a **15.3%** increase since 1990 in Whitfield County compared to **26.4%** for Georgia and **13.1%** for the nation. The 2006 Base Year population for Whitfield County was estimated to be **91,331**, a **9.34%** increase over 2000, while the City of Dalton population in 2006 was estimated to be **32,214**, a **15.41%** increase over 2000. **Table 1** shows Whitfield County’s population from 1980 to 2000, with estimated future populations.

Table 1 - Whitfield County Population 1980 – 2000 with 2006* and 2035* Population Estimates.		
Year	Population	Percent Change
1980	65,775	Base
1990	72,462	10.2%
2000	83,525	15.3%
2006*	91,331*	9.34%*
2035*	162,282*	77.68%*

Source: U.S. Census Bureau Statistics/GDMPO Staff.

Whitfield County and, more specifically the City of Dalton, have a large Hispanic/Latino population. The 2000 Census reported **18,419** Hispanics living in Whitfield County, representing **22.1%** of the population and in the City of Dalton the Hispanic population was **11,219** or **40%** of the city's population of **27,912**.

2. Households

The U.S. Census Bureau defines Households as a group of people sharing a housing unit. A household may or may not, constitute a family. Household sizes declined at the national and State levels due to lifestyle and housing design changes, the aging population and fragmentation of family units through divorce, causing more individual housing units to be needed in 2000 to accommodate the same number of people in 1990. This trend is projected to have generally reached its limit.

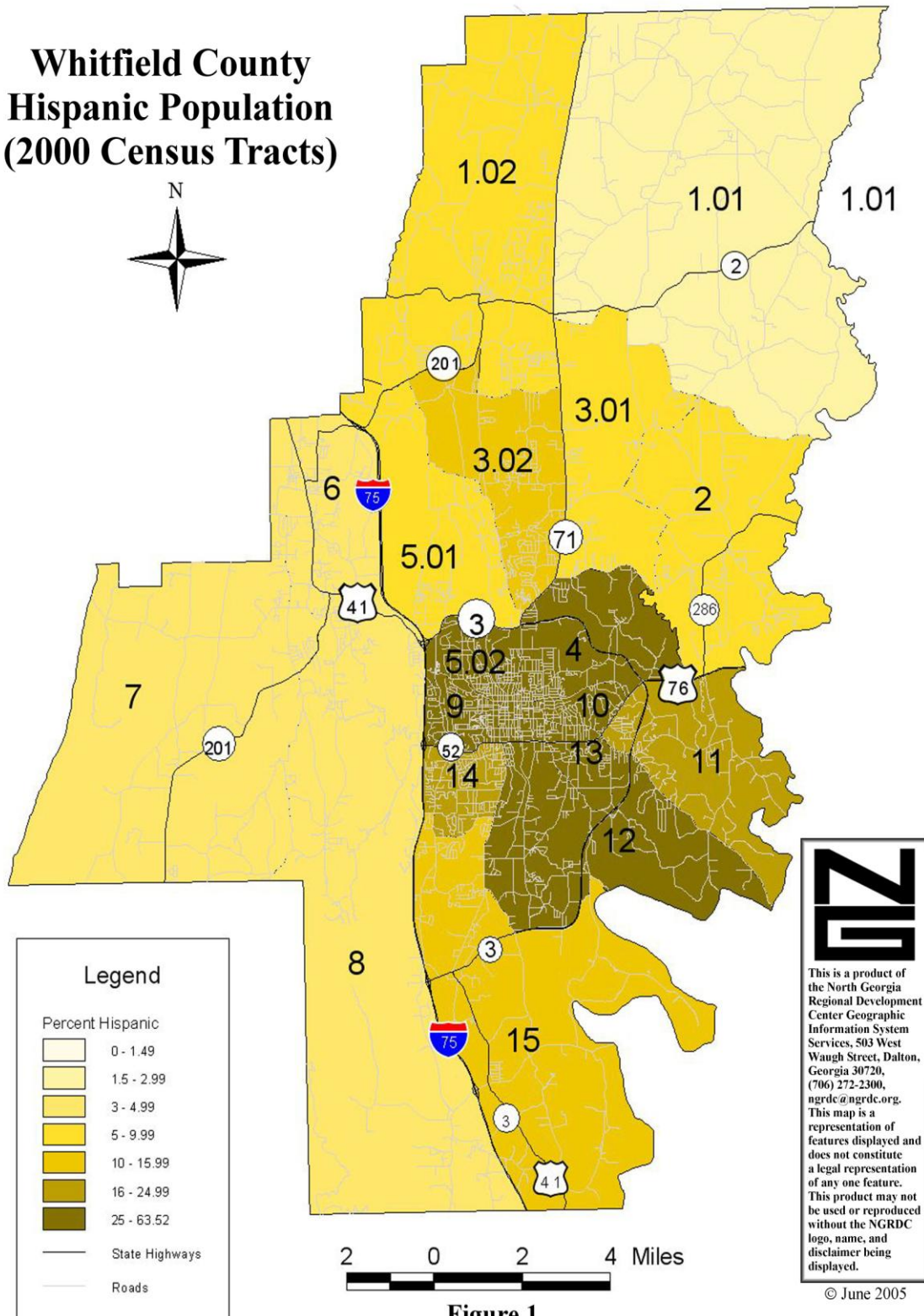
Table 2 - Households and Average Household Size - 1970- 2035								
Households	1970	1980	1990	2000	2010	2020	2030	2035
Whitfield	16,611	22,466	26,859	29,385	34,086	43,465	50,505	57,547
Dalton	6,056	7,778	8,733	9,689	11,239	14,339	16,664	18,990
Cohutta	n.a.	144	203	222	258	328	381	435
Tunnel Hill	n.a.	323	344	451	523	667	775	884
Varnell	n.a.	98	126	510	591	754	876	1,000
Avg. Size	1970	1980	1990	2000	2010	2020	2030	2035
Whitfield	3.30	2.91	2.67	2.82	2.81	2.80	2.82	2.81
Dalton	3.07	2.64	2.42	2.81	2.79	2.77	2.79	2.83
Cohutta	n.a.	2.82	2.61	2.62	2.61	2.60	2.65	2.68
Tunnel Hill	n.a.	2.90	2.82	2.68	2.70	2.71	2.73	2.75
Varnell	n.a.	2.88	2.84	2.92	2.86	2.80	2.82	2.81
Georgia	3.25	2.84	2.66	2.65	2.63	2.61	2.63	2.62
U.S.	3.14	2.76	2.63	2.59	2.58	2.57	2.60	2.61

Sources: U.S. Bureau of Census, 1970, 1980, 1990, 2000; Projections by GDMPO staff.

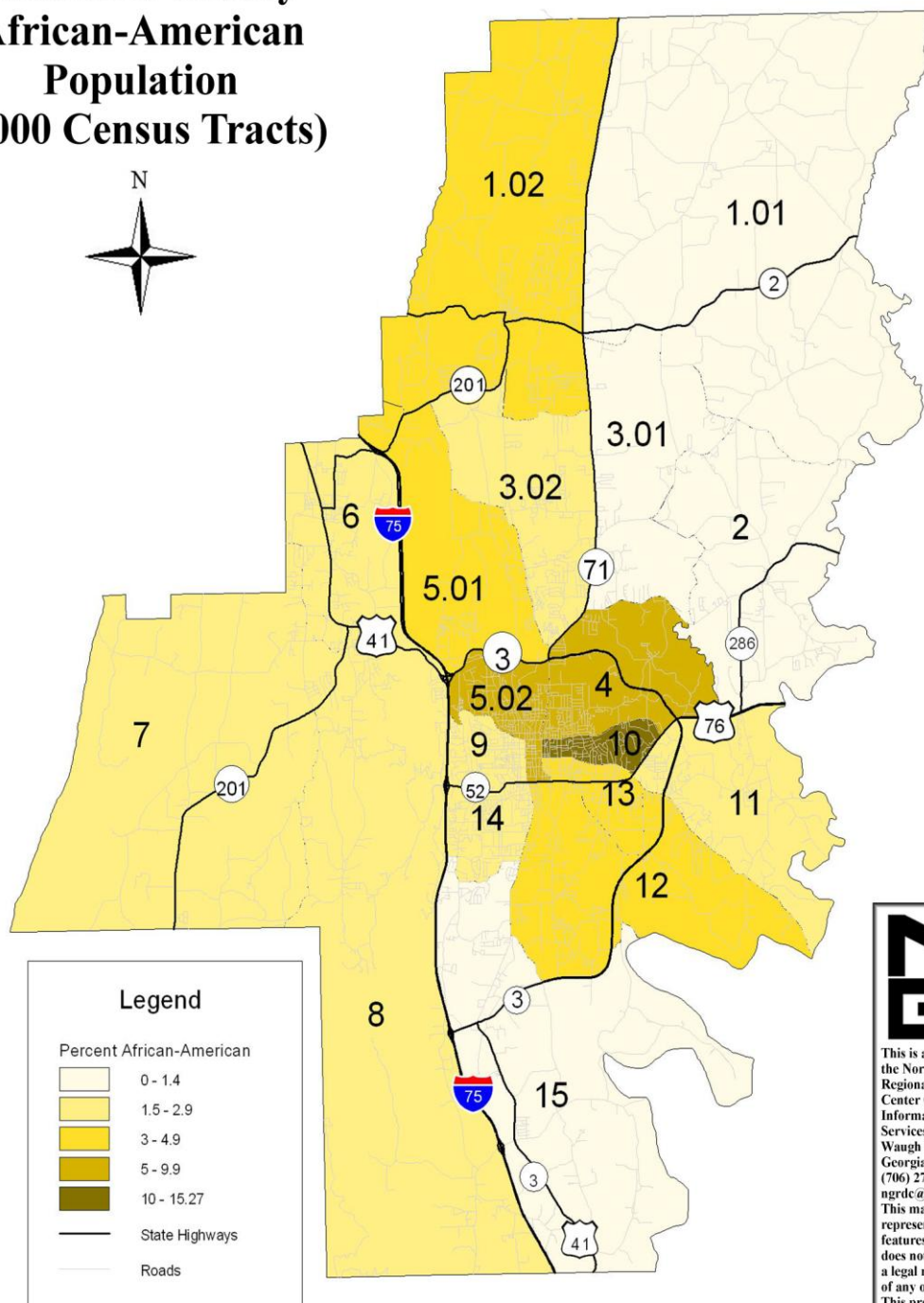
Average household size from 1970 to 2000 was calculated from census data by dividing the non-institutional population by the number of occupied units. Projections for the number of households needed by 2035 were calculated by dividing population projections (**162,282**) by the average household size (**2.82**). Based on this, **57,547** total housing units (*new and existing*) will be needed in Whitfield County by 2035 to accommodate the future population. In Whitfield County from January 1, 2000 through January 1, 2010, multi-family units increased only **43** units, single family homes increased by an additional **2,616** units and manufactured homes increased by **1,938** units. This is a total, countywide housing unit increase of **4,597** housing units, or an increase of almost **16%** over 2000. Future projections took into account the recession during the end of the 2000 decade, beginning in 2008, and the proposed construction of the Volkswagen and Wacker Manufacturing plants between 2013 and 2016, with the vast majority of growth taking place after 2015.

Housing Unit Building Permit Source: Whitfield County.

Whitfield County Hispanic Population (2000 Census Tracts)



Whitfield County African-American Population (2000 Census Tracts)



NGRDC

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Figure 2

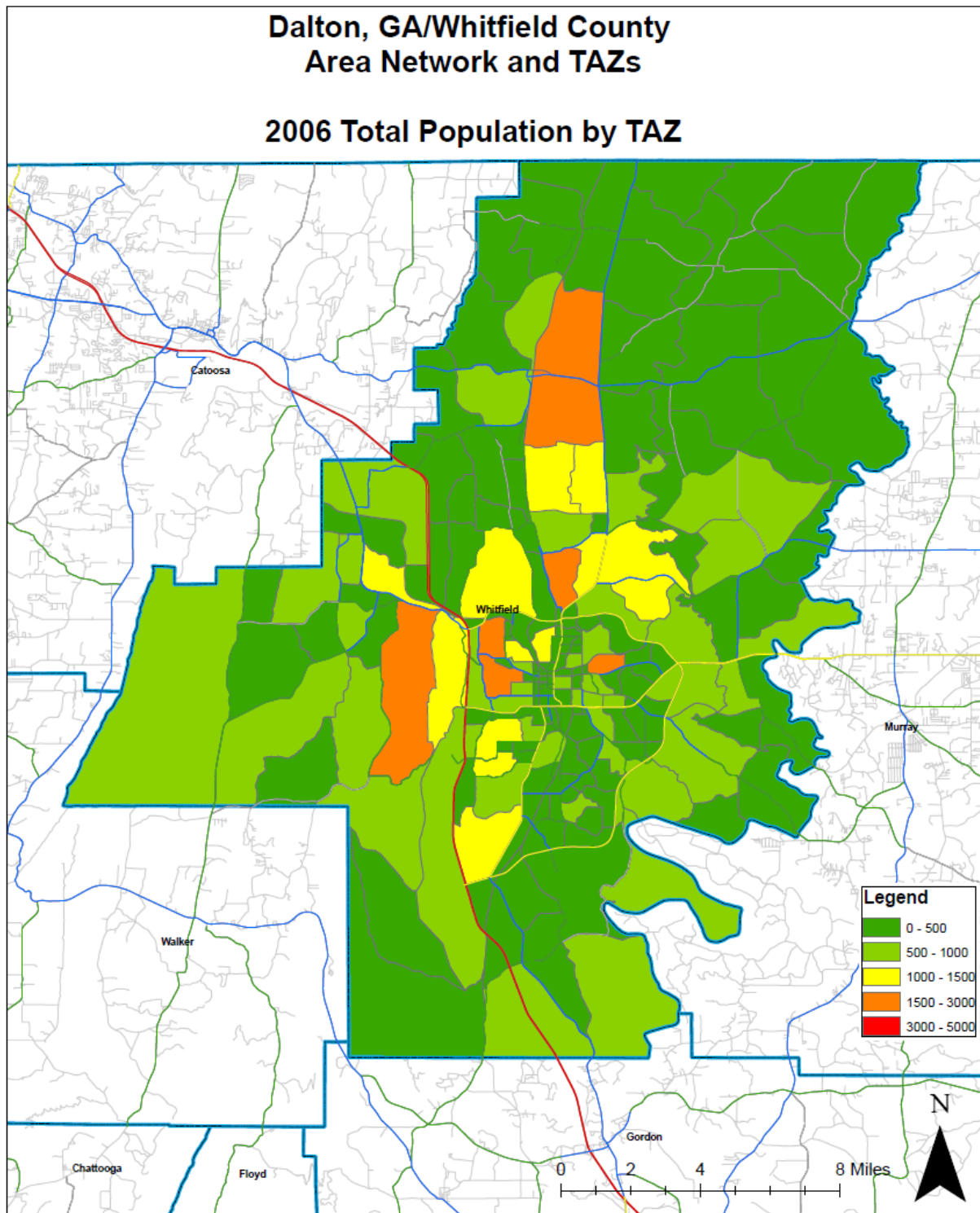


Figure 3

3. Employment

2000 employment in Whitfield County was **60,279** with **51** percent in manufacturing. 2006 employment in Whitfield County was **68,600**, with approximately **49** percent in manufacturing. As a worldwide production and distribution leader in the carpet/flooring industry, Whitfield County is a leading economic force in North Georgia and a significant contributor to the state's overall economy. Over **46%** of the estimated total number of people working in carpet/flooring manufacturing in the State of Georgia in 2006 worked in Whitfield County. (Source: U.S. Department of Labor-Bureau of Labor Statistics.)

Employment continued to grow in all sectors except agriculture through 2006. Dalton, the largest employment hub for the region, is located off of I-75 with no nearby cities of a competitive size closer than Chattanooga, Tennessee. The City of Dalton's primary markets include Whitfield, Murray and Gordon Counties. With the proposed Volkswagen and Wacker Manufacturing Plants being built just north of the Georgia/Tennessee line, employment projections include an additional 3,000 people working in Whitfield County as a result of ancillary businesses created from these two manufacturing facilities. **Figure 4** below shows the distribution of employment in Whitfield County by Traffic Analysis Zone.

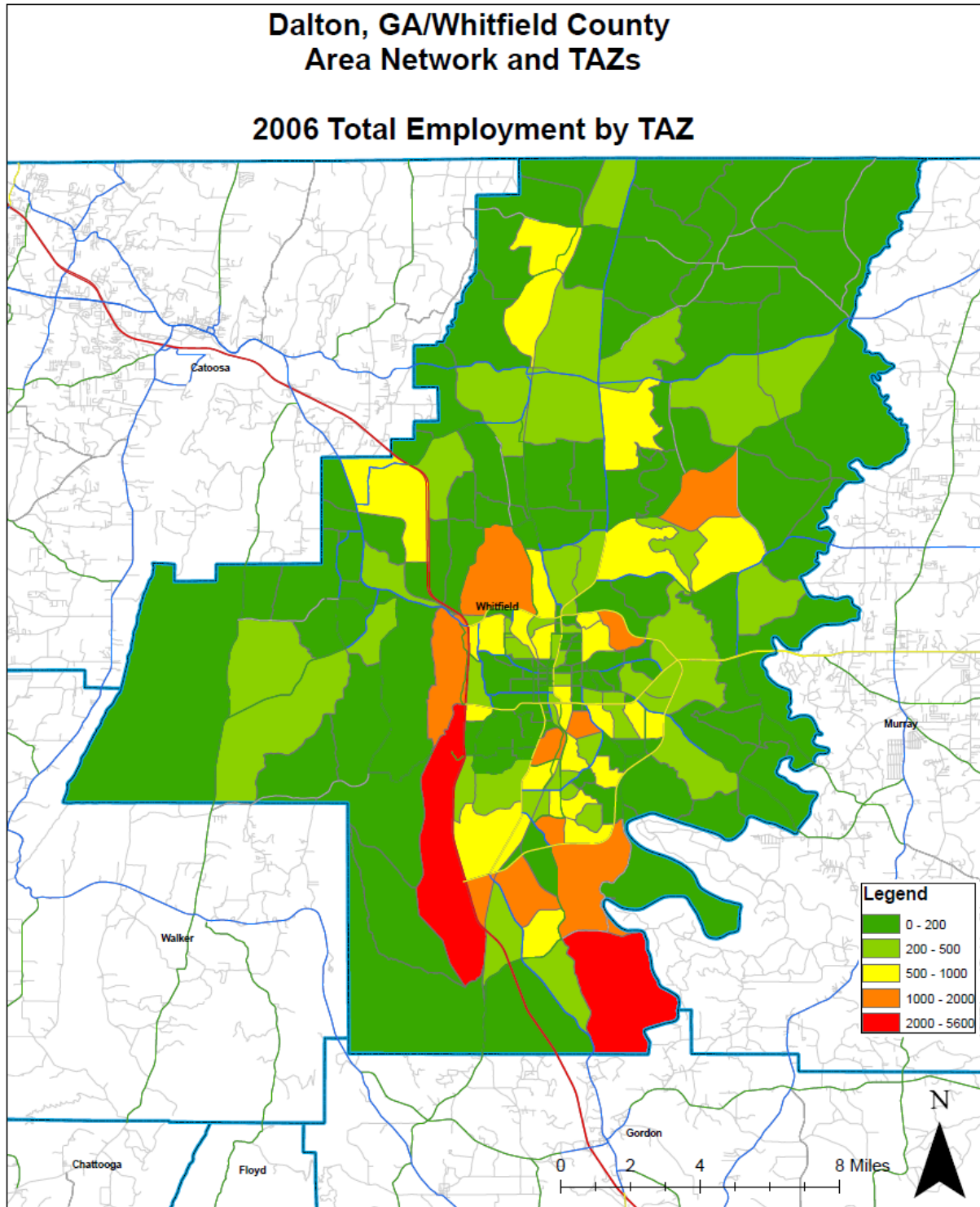


Figure 4

4. Journey to Work

Between 1990 and 2000, the percentage of residents working in Whitfield County decreased by **3.35%**, the percentage of residents working outside Georgia increased by **1.04%**, and the percentage of residents working outside Whitfield County increased by **2.41%**. While these percentages show a small increase in commuters working outside Whitfield County, the County continues to provide a strong employment sector that not only employs local residents (**87%** of the population) but also attracts workers from surrounding counties. In 1990, **31%** of the Whitfield County workforce commuted in from surrounding counties. By 2000, this in-commuting had grown to **40%**. **Figure 5** and **Figure 6** illustrate the changes in the journey to work statistics.

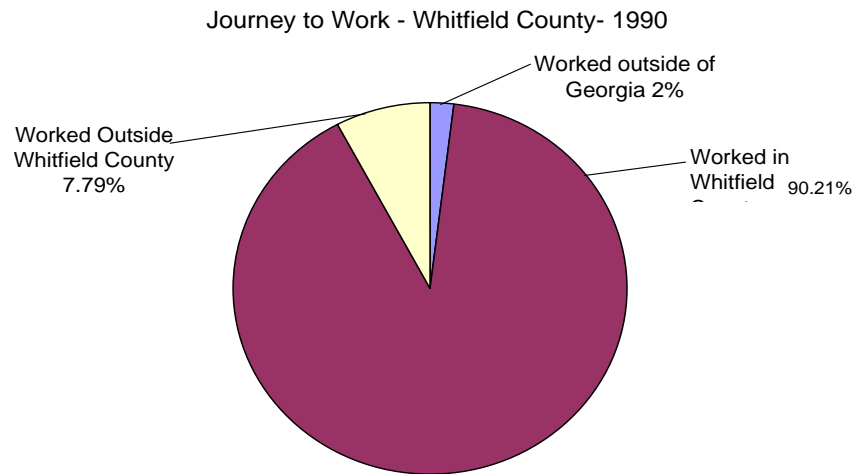


Figure 5

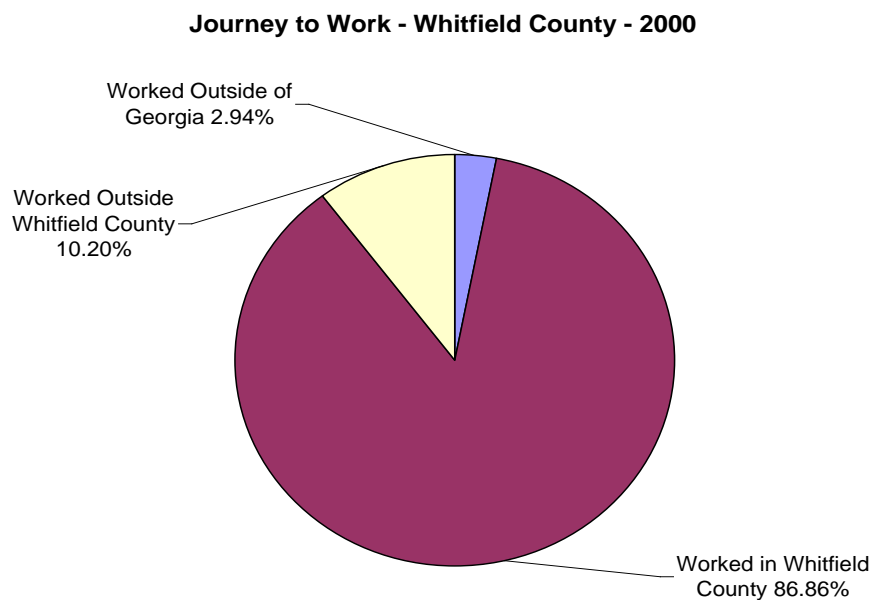


Figure 6

B. Area Wide Projections

1. Population Projections

Projected population for 2035 is **162,282**, an increase of **94%** from 2000 population of **83,535**. The majority of projected population is expected to occur in unincorporated areas and mostly in the north end of the county to accommodate for proposed manufacturing work in Tennessee. The Latino population is likely to be the major component of future growth. The median age is rising, making persons age 65 and over a larger portion of the population. **Figure 7** shows the distribution of population projections for the year 2035 by traffic zone.

2. Household Projections

From 1990 to 2000 the average household size increased to **2.82** due to Hispanic in-migration. It is expected this average will hold steady at the current rate through 2035, translating into **57,547** households in 2035.

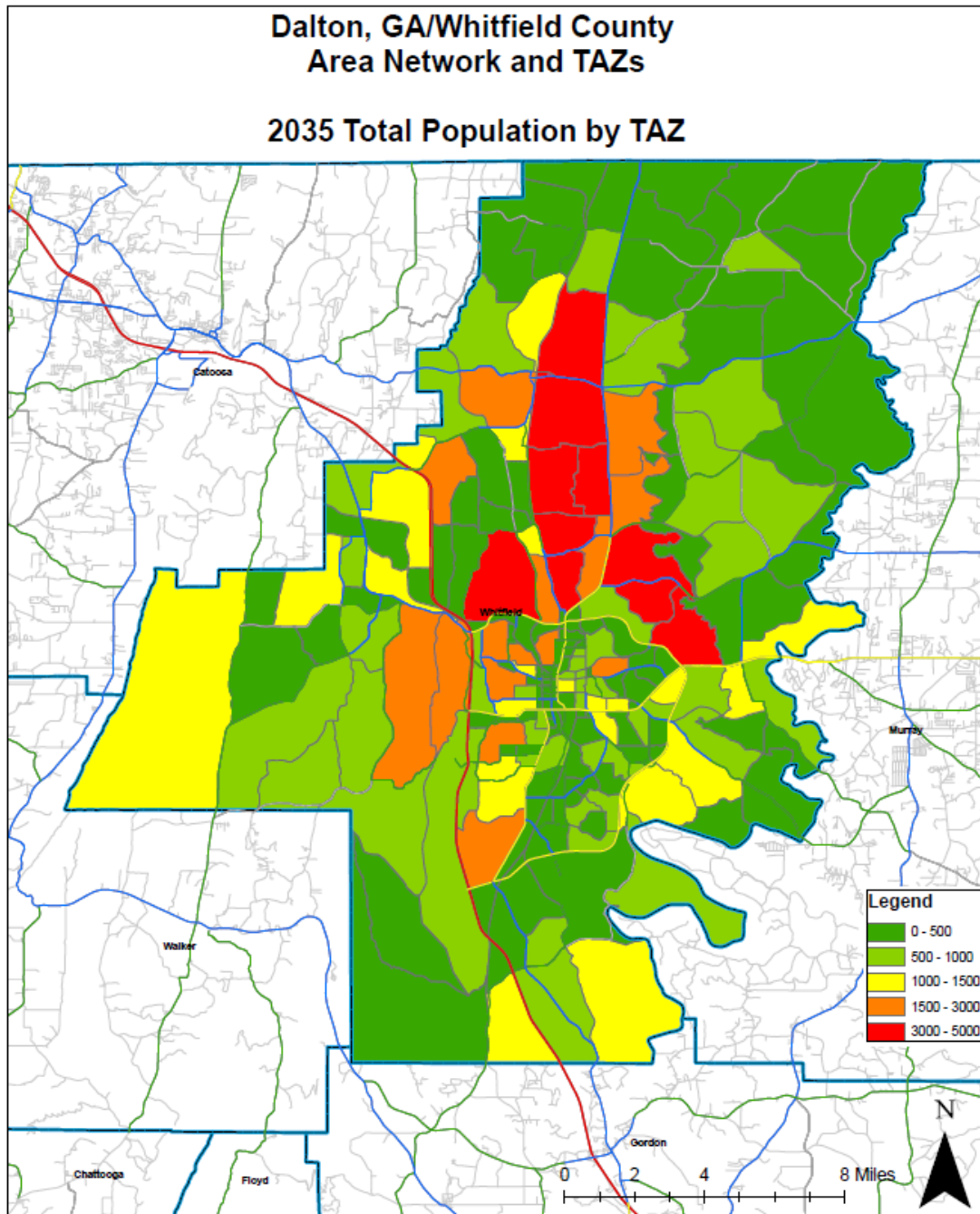


Figure 7

3. Employment Projections

The projected 2035 employment in Whitfield County is **87,939**, an increase of **45%** from 2003. Employment was projected as a straight-line trend of employment data by economic sectors over the last decade, plus the addition of **3,000** new employees due to ancillary businesses being created due to the proposed Volkswagen and Wacker Manufacturing plants north of the Georgia/Tennessee state line. **Figure 8** shows the distribution of employment projections for the year 2035 by Traffic Analysis Zone (TAZ).

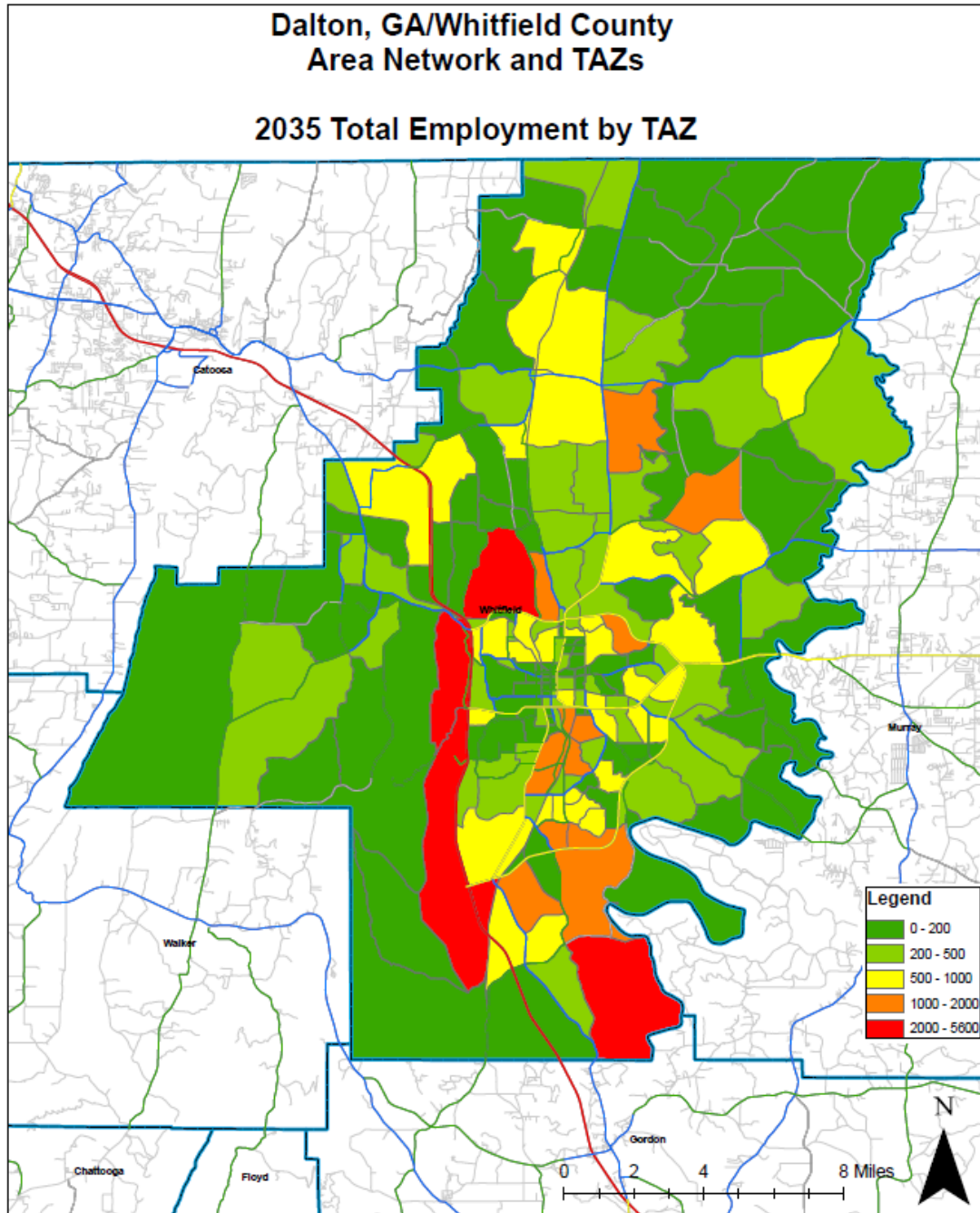


Figure 8

C. Growth Allocations

2006 population numbers were allocated to TAZs based on common growth ratios from 2000 Census data, plus the added 3,000 possible employees due to manufacturing just north of Georgia. The 2035 projections were reviewed and modified based on local knowledge of zoning and subdivisions by professional planners. Modifications were matched to opportunities and limitations of development throughout the County.

D. Vehicle Registrations - Table 3 shows the number of vehicles registered in Whitfield County in 2006.

Table 3 – Whitfield County Vehicle Registrations 2006	
Municipality	Number of Registered Vehicles
Cohutta	282
Dalton	20,683
Tunnel Hill	339
Varnell	215
Unincorporated Whitfield Co.	59,995
Total	81,514

Data provided by the Whitfield County Tax Assessor's Office.

IV. LAND USE

A. Existing Land Use

The existing travel patterns in Whitfield County are a function of the location and intensity of the existing land uses and transportation system and are shown in Figure 9. Commercial, industrial, and manufacturing uses are located primarily within Dalton and Tunnel Hill. Commercial land use is located primarily along the corridors of SR 71/Cleveland Highway, SR 52 near I-75, SR 52/Chatsworth Highway, and I-75/SR 3 Connector. The majority of land use is agriculture, with pockets of single family residential scattered throughout the county.

The City of Dalton is the primary urban center for Whitfield County and is a significant regional economic center that provides employment, retailing, and service opportunities to populations in adjoining counties. Commercial land uses occupy about **9.6%** of the city's land area with the majority of this activity located in the Central Business District, along Walnut, Thornton and Glenwood Avenues, Morris Street and the bypass around the city. Industrial land uses occupy about **15%** of the land area located on a north/south axis through the center of the city, with the majority being located at the south end. Dalton contains the majority (**74%**) of all multi-family housing located in the county. Multi-family housing is widely scattered throughout the city.

Whitfield County contains **186,595** acres, with roughly **101,580** acres dedicated to some type of development including forestry, agriculture, parks, recreation, and conservation lands. **Table 4** shows a detailed breakout of each category of land use. About **85,015** acres remain undeveloped within the county. Most of this land consists of woodlands and dormant agriculture lands. The county also contains approximately **1,371** acres of water bodies. **Figures 9 and 10** are existing land use maps for Whitfield County and the City of Dalton.

Table 4 – 2006 Existing Land Use (Acres)						
Land Use	Cohutta	Dalton	Tunnel Hill	Varnell	Unincorporated Whitfield County	Total Acres
Agriculture/Forestry	566	0	341	387	44,106	45,400
Commercial	7	1,276	55	27	1,058	2,424
Industrial	34	1,963	10	43	2,659	4,699
Residential	211	3,794	326	888	20,986	26,205
Multi-Family	3	487	1	3	167	661
Single Family	208	3,307	325	885	20,819	25,544
Parks/Recreation/Conservation	23	796	89	214	10,912	12,033
Public/Institutional	11	783	20	34	732	1,579
Transport., Comm., Utilities	70	1,911	74	195	5,619	7,868
Right-of-Way	68	1,431	74	193	4,902	6,667
Other	2	480	0	2	717	1,201
Undeveloped	696	2,699	281	1,515	81,195	86,386
Vacant, open land	696	2,666	271	1,508	79,874	85,015
Water	0	33	10	7	1,321	1,371
Total Acres	1,617	13,223	1,196	3,293	167,266	186,595

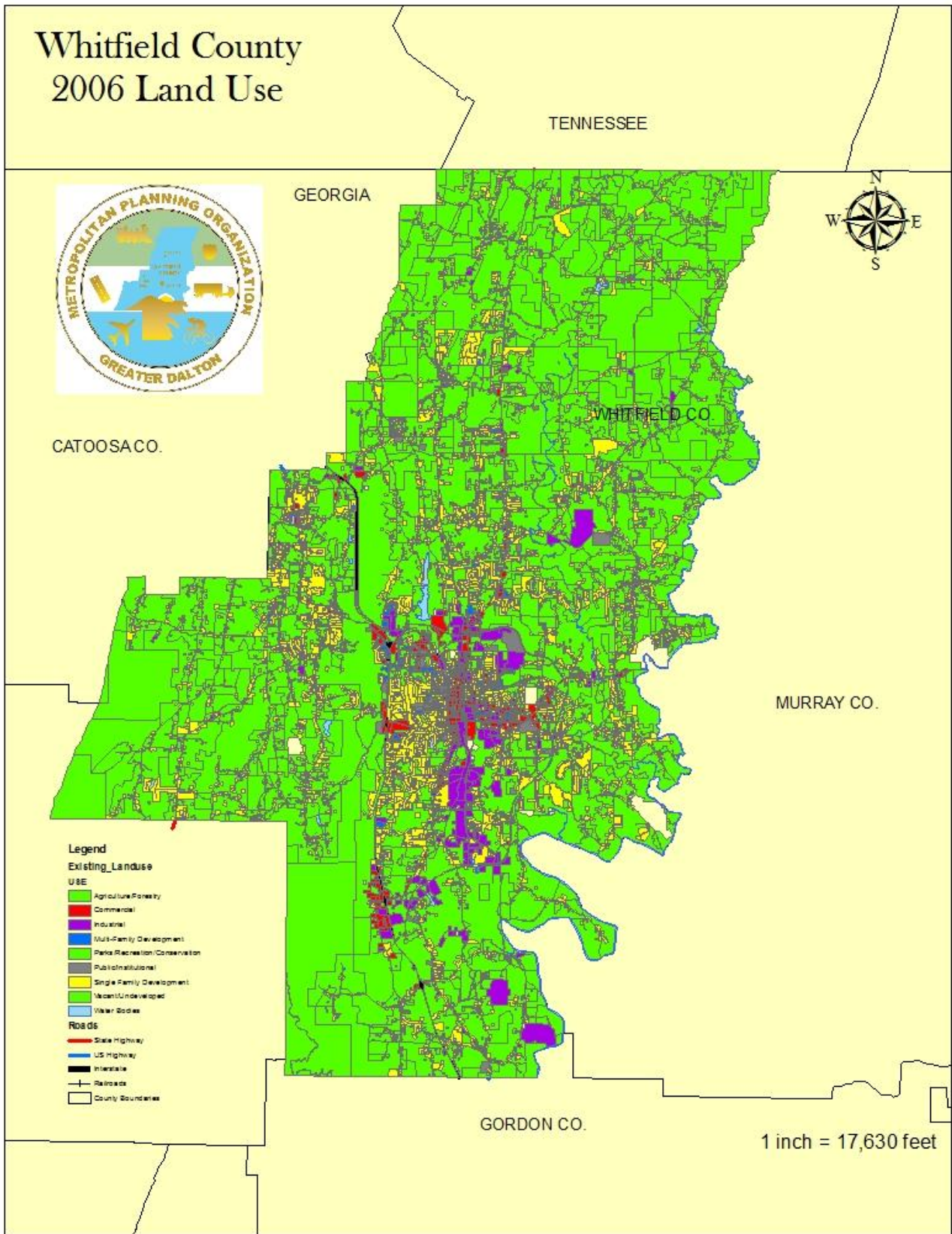


Figure 9

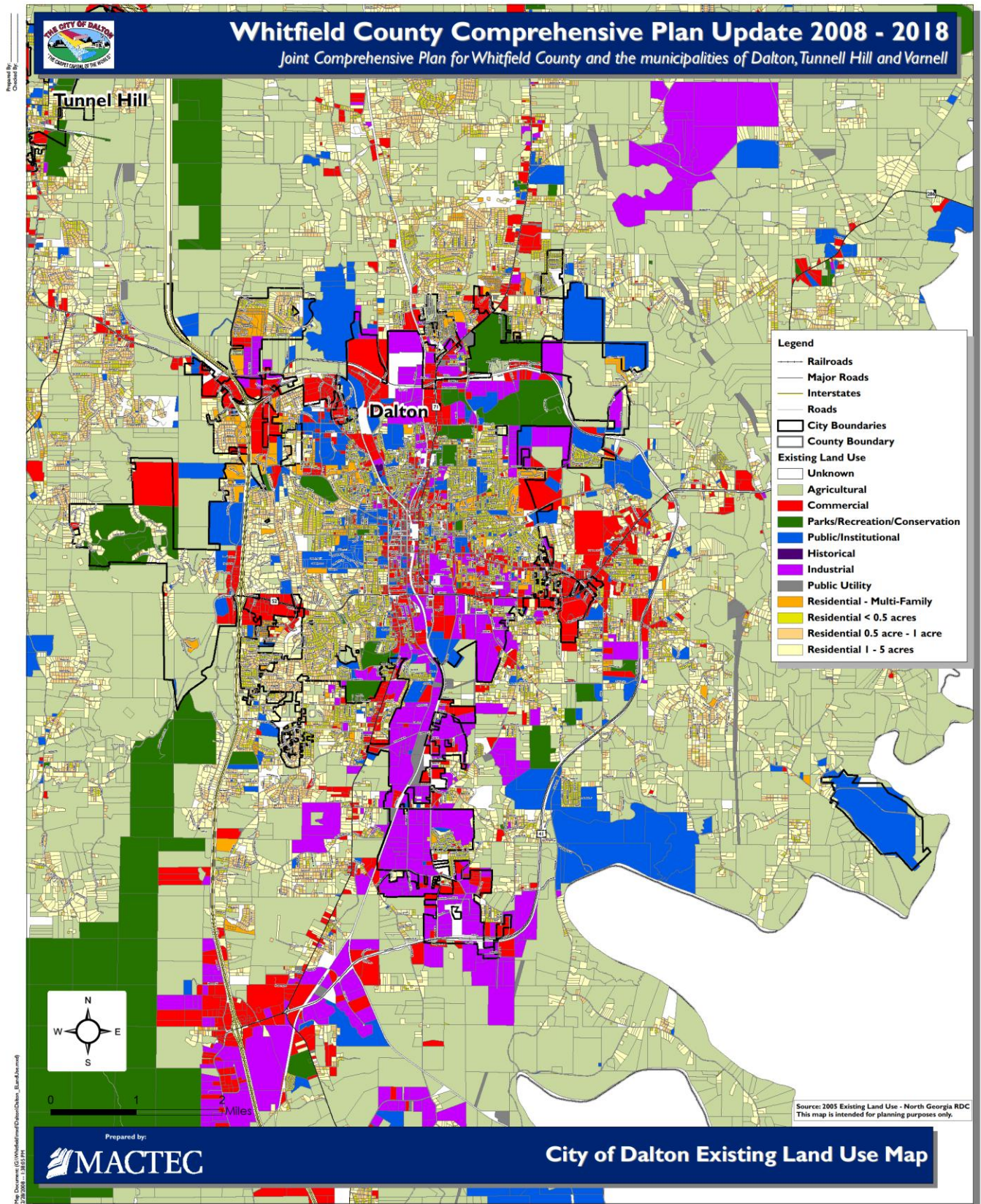


Figure 10

B. Land Use Plan

Land Consumption Projections

Table 5 below shows the minimum amount of land expected to be needed to accommodate future population and economic growth and the various types of zoning required to meet these demands through the horizon year of 2035. This information was projected forward based on historical development patterns and the residential, commercial and industrial development expected to take place by 2035.

The Future Land Use Maps for Whitfield County and City of Dalton, as shown in **Figures 11 and 12** on the following pages, depict the desired development pattern through 2018. These maps were generated by the professional staff and consultants charged with creating the Joint Comprehensive Master Plan between Whitfield County and the cities of Dalton, Tunnel Hill, Varnell and Cohutta. The amount of land indicated on the Future Land Use Map for the various land use categories is higher than will be actually developed. This was done for two reasons: 1) *A larger allocation allows maximum flexibility in choosing development sites while still being consistent with plan policies*, and 2) *it is impossible to account for every factor, whether internal or external, that might influence the rate, intensity or location of development*.

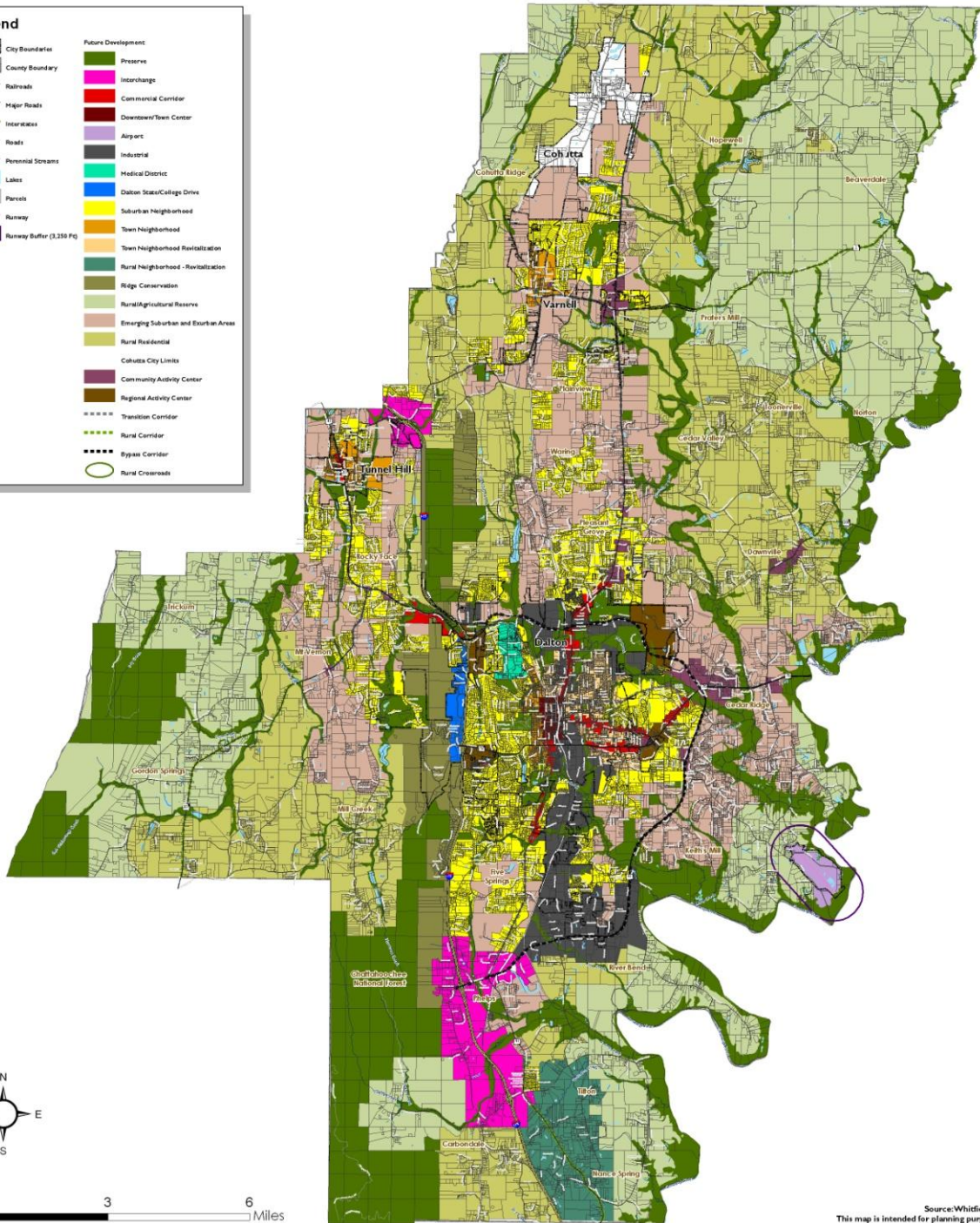
Table 5 - Future Land Use Projections – Through 2018 For Whitfield County and Cities Combined (Acres)					
Land Use	Existing Acreage	Percent of Total	Projected Acreage	Percent of Total	Net Change
Agriculture and Forestry	45,400	24.43	42,300	22.7	(3,100)
Commercial	2,424	1.32	4,181	2.23	1,757
Industrial	4,699	2.32	6,943	3.72	2,244
Residential	26,205	14.04	36,200	19.4	9,995
Multi-Family	661	.35	899	.46	238
Single Family	25,544	13.68	35,301	18.9	9,757
Parks, Rec., and Conservation	12,033	6.43	41,162	22.2	29,129
Public/Institutional	1,579	.85	2,502	1.32	923
Transport., Commun., Utilities	7,869	4.32	9,569	5.13	1,700
Undeveloped	86,386	46.3	43,738	23.4	(42,648)
Total Acres	186,595	100.00	186,595	100.00	

Projections prepared by the NWGRC staff and affirmed by the GDMPO and Whitfield Co. Planning staff.



Whitfield County Comprehensive Plan Update 2008 - 2018

Joint Comprehensive Plan for Whitfield County and the municipalities of Dalton, Tunnel Hill and Varnell



0 3 6 Miles

Source: Whitfield County
This map is intended for planning purposes only.

Prepared by:
MACTEC

DRAFT

Future Development Map

Figure 11

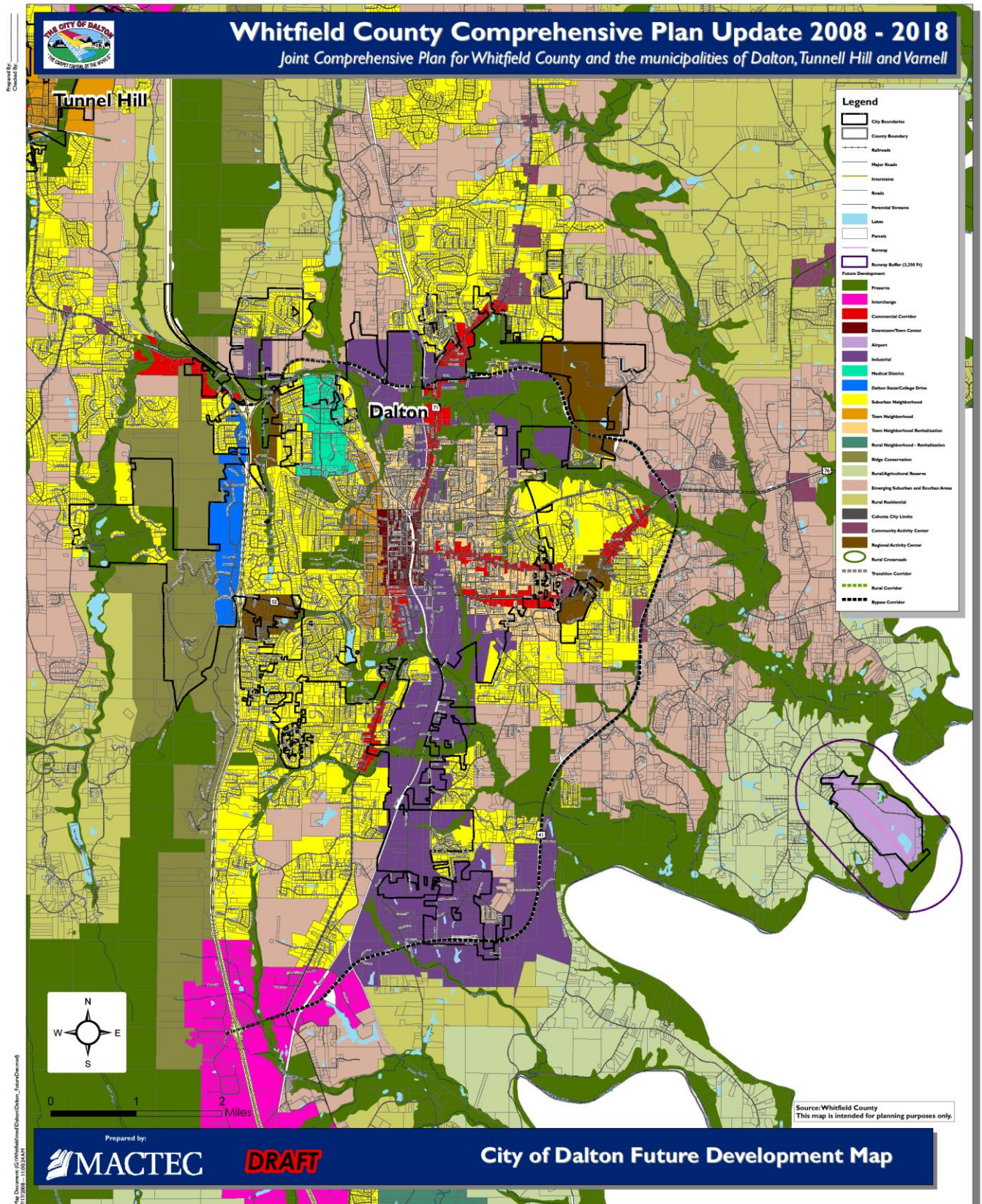


Figure 12

C. Policies

General Land Use Policies

1. Achieve compatibility between municipal and county land use regulations to create a level playing field for attracting development and minimizing land use conflicts between adjoining governments.
2. Promote quality development.

Commercial Land Use Policies

1. Promote development of the following four basic commercial development patterns:
 - a. Continuation/expansion of Central Business Districts of cities in the County;
 - b. General commercial nodes located at intersections of arterial highways, and/or arterials and major collector thoroughfares;
 - c. Infill existing commercial corridors where development is evident; and,
 - d. Neighborhood commercial nodes at appropriate intersections of collectors.
2. Encourage "cluster/nodal development" versus "strip development" along major highways.
3. Promote an orderly transition between commercial and residential through multi-family residential, offices, and similar lower intensity uses and/or green spaces, screening and other buffer treatments.

Industrial Land Use Policies

1. Encourage development of industrial uses in locations that:
 - a. have convenient access to the Interstate, arterials and major collector roads;
 - b. are in proximity to existing and planned water, sewer, and other utilities; and,
 - c. are in areas requiring minimum grading, drainage, and similar site improvements.
2. Promote development of planned industrial parks that incorporate a combination of manufacturing, office and related mixed-use activities.
3. Promote an orderly transition between industrial areas and other uses through the use of transitional zone districts and adequate landscaping, screening, and other buffer treatments.

Residential Land Use Policies

1. Development of compact, pedestrian friendly and socially interactive neighborhoods.
2. Allow planned unit developments, zero lot line and other cluster housing arrangements, where the net density, design, landscaping and buffer areas are compatible with surrounding neighborhoods.
3. Encourage high-density residential development in areas where adequate transportation, utilities and public services exist or are planned, or as transitional zoning uses.
4. Limit placement of manufactured housing to residential zoning districts where the majority of housing stock is of comparable cost, size and characteristics.
5. Encourage use of alternative wastewater treatment systems rather than septic tanks.

Recreation/Open Space Policies

1. Encourage preservation of open space in or near developed sites. Such open space should preserve the land's natural features and provide opportunities for active recreation facilities.

Public Facilities and Institutional Land Use Policies

1. Plan and provide adequate land areas for public and semi-public institutional uses with consideration of projected population growth and density.

Agriculture/Forestry Land Use Policies

1. Preserve agriculture and forested lands and other "rural" characteristics of the County.

V. TRANSPORTATION NEEDS - Roads and Bridges

The existing transportation system in Whitfield County includes a network of roads and bridges, sidewalks, two rail lines, two state bicycle routes, a 5311 rural paratransit program, and a general aviation airport. Existing information was used to evaluate the existing and future multimodal transportation needs in Whitfield County, the City of Dalton, and the smaller towns of Varnell, Tunnel Hill, and Cohutta.

A. Roads

The roadway network, comprised of a system of arterials, collectors, and local streets, is the backbone of Whitfield County's transportation system. **Table 6** shows the mileage of streets and highways in Whitfield County by functional class. The following is a listing of the major roads that serve Whitfield County:

- I-75 serves as the major gateway into Whitfield County from the urban areas of Atlanta, Georgia and Chattanooga, Tennessee. This corridor serves tourists and the major goods movements through the county.
- The Dalton Bypass (US 76/US 41/SR 3), and the State Route 3 Connector provide a multi-lane route north, east, and south of Dalton. Due to mountainous terrain, the bypass does not extend west of I-75.
- State Route 71/Cleveland Highway runs from the North Dalton Bypass to the Tennessee state line.
- State Route 201 enters Whitfield County from the east in Walker County and extends through Tunnel Hill, where it terminates in Varnell at State Route 2.
- State Route 2 enters Whitfield County from the west at the Catoosa County line and extends through Varnell and exits Whitfield County into Murray County on the east side.
- State Route 3/US 41 enters Whitfield County on the south from Gordon County and extends north to the South Dalton Bypass/SR 3 Connector. State Route 3/US 41 then traverses north through Tunnel Hill and into Catoosa County on the west side.
- State Route 52/Walnut Avenue begins at I-75 and extends east and west through Dalton.
- State Route 52/US 76/Chatsworth Highway extends east and west through Dalton into Murray County.
- State Route 286 begins at SR 52/US 76 in Dalton and extends east into Murray County.

Table 6 - Whitfield County Road Classifications 2006				
Road Classification	State Routes Mileage	County Roads Mileage	City Streets Mileage	Class Total
Urban Interstate	6.12	0.00	0.00	6.12
Urban Principal Arterial	23.19	5.17	2.59	30.95
Urban Minor Arterial	27.81	29.23	5.45	62.49
Urban Collector	0.05	49.18	10.49	59.72
Urban Local	0.00	277.93	130.16	408.09
Urban Total	57.17	361.51	148.69	567.37
Rural Interstate	12.50	0.00	0.00	12.50
Rural Principal Arterial	3.08	0.00	0.00	3.08
Rural Minor Arterial	20.01	0.00	0.00	20.01
Rural Major Collector	8.38	30.91	0.00	39.29
Rural Minor Collector	0.00	39.37	0.00	39.37
Rural Local	0.00	287.18	0.00	287.18
Rural Total	43.97	357.46	0.00	401.43
Grand Totals	101.14	718.97	148.69	968.80

Source: Georgia Department of Transportation Website, 2006 data.

B. Roadway Conditions

The concerns expressed by citizens about roadway conditions during public meetings with local officials, NGRDC and GDMPO members during the public involvement process from 2003 to 2010 are listed below:

- A number of major roads leading into the Central Business District (CBD) have heavy congestion.
- Walnut Ave./SR 52 east of I-75, is a four-lane divided roadway and major entrance to the CBD. It and the left turn bays are especially congested during peak travel times.
- The north and southbound I-75 exit ramps accessing Walnut Ave./SR 52 are very congested during the peak travel times and adversely impacts the operation of I-75.

- North Dug Gap Rd. (west of I-75, north of the Carbondale exit) is currently a congested area.
- Traffic is increasing on Dawnville Rd. from the Murray County line into and out of Dalton.
- Geometry on busy Underwood Rd. from the N. Dalton Bypass to Dawnville Rd. needs improvements.
- Traffic volumes at peak travel times increase along Cleveland Hwy./SR 71 near the N. Dalton Bypass.
- Increased population growth near Mill Creek Rd. is generating more traffic along Mill Creek Rd.
- The N. Dalton Bypass/US 76/US 41 intersection with Cleveland Hwy./SR 71 is extremely congested. About 70% of vehicles traveling eastbound on the N. Dalton Bypass turn north onto Cleveland Hwy. with only one dedicated left turn lane and one shared left/straight lane for westbound to northbound movement. Causing this signal to be “split phased,” with the east/westbound approaches operating independently. Improved geometrics and signalization are a short-term solution. A new intersection/interchange between Cleveland Hwy. and I-75 is a long-term solution.
- Many intersections in Dalton have inadequate turning radii creating congestion when large trucks turn.
- Glenwood Ave. needs dedicated left turn lanes at key intersections to reduce rear end collisions.
- Several roads with horizontal curve problems need to be redesigned to improve safety and efficiency.
- Main St./Old Varnell Rd./SR 2 need realignment for better connectivity to Cleveland Hwy./SR 71.
- Reed Rd. carries a great deal of traffic, and needs to be widened to improve safety and efficiency.
- Improving Foster Rd. between Dug Gap Rd. and S. Dixie Hwy./US 41 would provide better east/west connectivity in Dalton to reach Dug Gap Elementary School.

Some of the major roadway concerns and suggested solutions expressed by members of the MPO committees and citizens attending the public meetings include the following:

- Glenwood Ave. needs dedicated left turn lanes to reduce rear end collisions.
- Widen Veterans Dr.
- The Cleveland Hwy. and N. Dalton Bypass intersection needs improving to relieve congestion.
- The signals along Hamilton St. and Pentz St. in the Central Business District are not timed well.
- There is too much heavy truck traffic on Walnut Ave.
- Cleveland Hwy. needs to be widened near the N. Dalton Bypass.
- Airport Rd. from the N. Dalton Bypass to Murray County needs to be widened to reduce congestion.
- State Route 201 between I-75 and Reed Rd. needs additional lanes to reduce congestion.
- Riverbend Rd. needs to be widened from Downtown to Antioch Rd.
- Walnut Ave. should not be widened because of adverse impacts to adjacent residential properties.
- Waugh St. should extend and link with I-75 with a new interchange to relieve Walnut Ave. congestion.
- Fleming St. from the N. Dalton Bypass to Cleveland Hwy. should be widened to relieve congestion on Cleveland Highway.
- Dawnville Rd. between Underwood and SR 286 should not be widened to prevent adverse impacts to residential properties on Dawnville Rd.
- A grade-separation at the Cleveland Hwy. and N. Dalton Bypass interchange should be constructed to relieve traffic congestion.
- Widen Hospital Access Rd. from the N. Dalton Bypass to improve emergency response times.
- Reed Rd. from N. Dalton Bypass and SR 201 should not be widened to prevent adverse impacts to residential properties along Reed Rd.

Diverse opinions were expressed in public meetings, and the concerns and suggested solutions above were considered by members of the GDMPO TCC and Policy Committees in their recommendations for proposed roadway projects to be included in the 2035 LRTP.

The purpose of the MPO transportation planning process is to address transportation problems such as those listed above. The creation of the 2035 LRTP includes a comprehensive, system-wide study of traffic flow within the county to assist in deciding which projects to be implemented in the future.

C. Georgia Department of Transportation (GDOT) - Travel Demand Modeling (TDM)

The GDOT developed a TDM to be used in the development of this LRTP. Data used to create this TDM included the classification and number of lanes on major roads, estimates of future populations and employment and school enrollment. The data provided to GDOT was allocated by Traffic Analysis Zones (TAZs) representing areas of traffic generation. Through the use of traffic modeling/forecasting software, the **2006 Base Year** person trip interchanges between all of the TAZs were generated and converted to traffic volumes along the street/road network between the TAZs. These computer generated traffic volumes were compared to “actual traffic counts” to determine the degree of conformity between the computer generated counts and the actual “traffic counts.” Adjustments were made to the model so the model traffic counts matched the actual traffic counts to within an acceptable standard range.

After these adjustments were made, the model was considered “calibrated” and was used in the computer analysis of present conditions and the testing of various alternative improvements to alleviate areas of road deficiencies or traffic congestion. **Figure 14** shows the existing Highway/Major Road network, while **Figures 15, 16, 17 and 18** show the results of an analysis using the TDM.

The categories of information gathered to develop the TDM included: population, households, median income, employment, school enrollment and acreage. The U.S. Census Bureau was the primary source for population, households, and income, with secondary information from local sources. Employment was not considered as one category but was divided into retail, service, manufacturing, and wholesale. These numbers were gathered by the GDMPO staff from the U.S. Census Bureau and the Georgia Department of Labor. School data was obtained through the City of Dalton and Whitfield County School Boards.

The GDMPO staff worked with the GDOT to develop the **2006 Base Year** highway/street system network used to develop the TDM. Information on the classification and number of lanes of the roads, travel time and traffic volumes were collected for this network. This data, with the population and socioeconomic data, was used to develop an array of scenarios to be considered by the GDMPO in recommending projects to be included in the 2035 LRTP. These scenarios, as developed by the GDMPO staff and GDOT, are as follows:

1. **Network 1** – 2006 Base Year Model –Includes all functionally classified roads in the study area based on the GDOT Road Classification System.
2. **Network 2**- “No Build” (Network 1 roads + projects completed or under construction since base year). This network is intended to show what would happen in our 2035 model if no new projects were built.
3. **Network 3**- (Existing + Committed (E+C). This network shows what would happen in the future if only existing and presently committed projects were built. This only includes projects from the present Transportation Improvement Program (TIP). No medium or long range projects appear in this network.
4. **Network 4**- Remainder of the TIP projects and short and mid-range projects. This network is usually built on the previous network (Network 3-E+C) and includes all remaining projects from the TIP.
5. **Network 5**- Remainder of projects programmed by GDOT as Long Range. This network is built on the previous network (Remainder of the TIP), and includes projects in the current LRTP that have not been used in previous model tests or “runs.”
6. **Network 6**- All remaining roadway projects listed in the 2035 LRTP. This scenario is run to determine how traffic would be improved if all projects listed in the LRTP are completed, regardless of cost.
7. **Network 7**- Financially Constrained Network- This network is composed of all the projects whose costs are within the projected available funds allocated by the GDOT, plus any additional local projected funds. All proposed projects including roads, bridges, bike/pedestrian facilities, transit and road maintenance were accounted for in the project cost/available fund analysis in order to show a financially constrained plan.

Following is the methodology used to create the socioeconomic data needed by TAZ to create the Travel Demand Model.

Methodology for 2035 GDMPO Socioeconomic (SE) TAZ Level Projections

Initial Projections: Draft Traffic Analysis Zone (TAZ) level socioeconomic (SE) data for the GDMPO area 2035 Long Range Transportation Plan update were prepared and provided to the GDMPO, in both data and map form, for review and feedback in early December 2009. Prior to preparation of the draft 2035 SE projections, Whitfield County was asked to provide a list of data to support the projections but only provided a future Land Use ARCGIS shape file from their most recent Joint Comprehensive Master Plan (JCMP). Among the items requested from Whitfield County were draft projections of population and employment prepared by the Carl Vinson Institute at the University of Georgia.

County Control Totals:

Population: Control totals for population were derived from trending the county population from Census data for 1970, 1980, 1990 and 2000, with estimates for 2006 and 2008. The absolute average growth in population per year and the percentage growth rate per year were averaged – which results in a future year growth rate of **1.2%** per year – for a county population projection of just over 130,000 by 2035. However, the GDMPO elected not to use this forecast, but rather chose to build upon the initial population forecast by increasing the amount of population (*an additional 32,286*) for a new population estimate totaling 162,286 to account for the ancillary employment impacts on Whitfield County from the new Volkswagen and Wacker Manufacturing facilities being built near Chattanooga, TN.

Employment: Control totals for employment were derived from trending the Georgia Department of Labor (GDOL) annual employment estimates for Whitfield County from 1990 through 2008. As with population growth, the growth rates for employment for the most recent years are significantly lower than previously. The forecast 2035 total employment for Whitfield County is just under 85,000, for an annual growth rate of **1.35%** per year. However, the GDMPO elected to use an increment over the initial estimate (*an additional 3,000*) to account for the ancillary employment impacts on Whitfield County from the new Volkswagen and Wacker Manufacturing facilities being built in Tennessee.

TAZ Projection Methodology: 2035 SE trend forecast projections were modified as follows:

1. Permit data supplied by the North Georgia RDC at the TAZ level were used to modify population and household growth rates.
2. The Future Land Use (FLU) map provided by Whitfield County from the JCMP was used to somewhat restrict growth in preservation/conservation areas.
3. Employment at the TAZ level was reviewed against the FLU map to make adjustments to the distribution of employment to reflect the 2008 to 2018 JCMP adopted in March 2008.
4. A high school was added where the Whitfield County School District anticipates building one.

Although employment adjustments were attempted in a systematic way, and did hold to the estimated county level control totals, distributions to the TAZ level ended up being mostly based on comparison of base year TAZ employment and inspection of employment density versus acreage by FLU type within each TAZ. This method is fairly subjective but there is little correlation between existing land use categories and those used for future land use, such that reliable estimates of changes could not be made directly between the two.

Because the FLU map is prepared at the parcel level; a much finer level of detail than the TAZ structure, it is difficult to draw direct comparisons between the TAZ SE data and the FLU map. However, the 2035 TAZ SE projections are a reasonable representation of Whitfield County's future land use.

Final Projections - County Control Totals:

Population: Population for Whitfield County was set to **162,286** at the GDMPO's request.

Employment: Employment for Whitfield County was set to **87,930** consistent with long-term employment growth data from the GDOL, plus **3,000** to account for ancillary employment impacts on Whitfield County from the new Volkswagen and Wacker Manufacturing facilities.

Table 7 - 2006 Base Year - 2035 Initial and 2035 Final Socioeconomic Projections.		
Whitfield County	Population	Employment
2006 Base Year Estimate	92,999	64,028
Initial 2035 Projection	130,076	84,939
Final 2035 Projection	162,286	87,930

Source: GDOT – PBS&J Consultants and GDMPO Staff.

Final TAZ Projection Methodology

The GDMPO allocated the additional 32,206 population and 3,000 employment due to the Volkswagen and Wacker Manufacturing facilities to the affected TAZs and provided a spreadsheet to the GDOT listing the distribution per affected TAZ for population and employment, based on the following assumptions:

- 1. The largest growth will occur in close proximity to existing utilities and infrastructure.*
- 2. The largest growth from the Volkswagen and Wacker facilities will be within a 45 minute drive time.*
- 3. The highest number of Volkswagen and Wacker employees will locate closer to Varnell than to Dalton.*

The following **Table 8** was created by the GDMPO, for the GDOT Traffic Demand Model to show where the population and employment would be distributed, and to what degree/numbers it would be distributed based on the previous three assumptions.

Table 8 - Distribution of Population and Employment by TAZ

TAZ	Growth	Population Increment	Original Projected Population	Final Population	Employment Increment	Original Projected Employment	Final Employment
27	High	2,200	1,512	3,712	120	57	177
28	High	2,400	1,200	3,600	105	495	600
114	High	1,600	462	2,062	162	847	1009
117	High	1,800	934	2,734	182	171	353
119	High	2,100	1,718	3,818	149	694	843
141	Low	400	587	987	86	227	313
142	Low	300	383	683	57	267	324
201	Low	750	495	1,245	85	202	287
202	Medium	1,200	404	1,604	138	436	574
208	Medium	1,250	2,030	3,280	93	2,177	2270
209	Medium	1,250	229	1,479	90	22	112
210	High	2,056	337	2,393	154	1,317	1471
214	Medium	700	355	1,055	73	481	554
216	High	2,200	1,884	4,084	218	32	250
217	High	2,800	1,555	4,355	277	221	498
218	High	2,600	863	3,463	204	86	290
219	High	1,500	137	1,637	115	119	234
220	Low	400	2,818	3,218	22	415	437
221	Low	200	1,481	1,681	8	484	492
229	Medium	500	897	1,397	71	830	901
230	Medium	800	2,635	3,435	150	481	631
232	Medium	800	1,260	2,060	125	275	400
233	High	2,400	2,148	4,548	316	454	770
TOTAL		32,206	26,324	58,530	3,000	10,790	13,790

Figure 13 below is the TAZ map generated by the GDOT to show where the population and employment by TAZ, listed in **Table 8** above, would be distributed in map form.

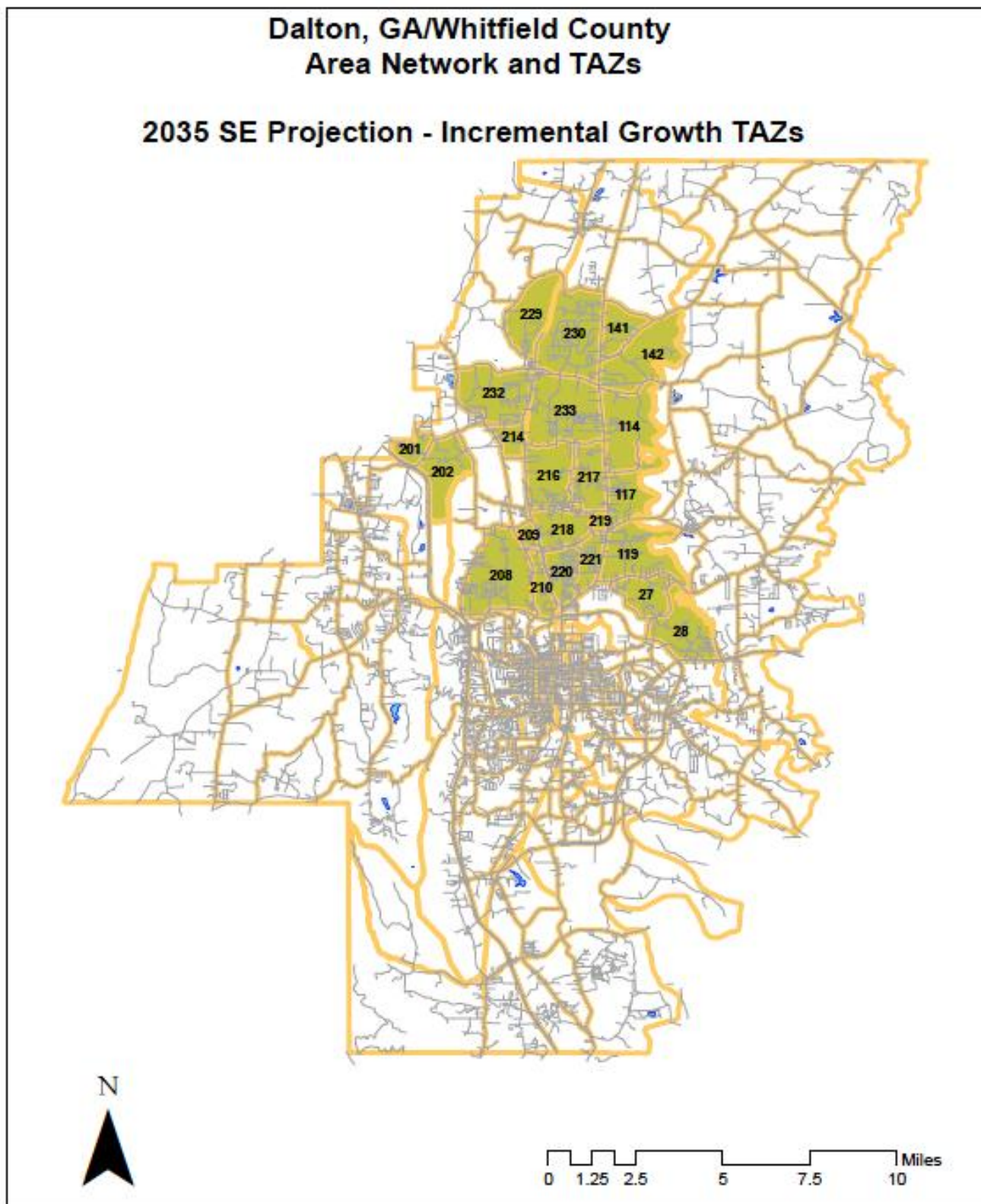


Figure 13

Table 9 below lists all of the proposed road improvement projects included in each of the seven (7) network scenarios listed above, which were used to create the Traffic Demand Model (TDM) for the 2035 LRTP.

Table 9 - Scenarios of Future Road Networks Tested by the GDOT - Travel Demand Model				
Networks	Project	From	To	Type
Network 1 2006 Base Year	All functionally classified roads			Calibrated - 2006 Traffic Counts
Network 2 “No Build to 2035”	No projects to add to this network! This is if no projects were built between 2006 Base Year & 2035			
Network 3 Existing and Committed Projects E+C	I-75/Rocky Face Interchange	Interchange Reconstruction		Reconstruction & add turn lns.
	I-75/Carbondale Interchange	Interchange Reconstruction		Reconstruction
Network 4 Remainder of the TIP and Short & Mid-Range Projects	SR 3	SR 136 N. Gordon Co.	SR 3	Widen to 3 lanes
	N. Dalton Bypass/SR 71	Intersection Improve		Intersection Improve
	CR 3/Henry Owens @ NS R/R	Railroad Crossing		Railroad Crossing
	CR 290/Beaver Rd. @ CSX R/R	Railroad Crossing		Railroad Crossing
	Dawnville Rd.	Underwood Rd.	SR 286	Widen to 3 lanes
	Beaverdale	SR 71	Lake Francis Rd.	Widen to 3 lanes
	SR 3/US 41 @ Little Swamp Creek	Bridges		Bridges
	Airport Rd./CR 664	Dalton Bypass	Past Hill Rd.	Reconstruction
	I-75 @ SR 201 – I-75 Widening	½ mile each Direction		Widening I-75 & SR 201
	SR 3/US 41	Campbell Rd.	Catoosa Co. Line	Widen to 3 lanes
	SR 2 @ Conasauga River	Bridge Widening		Bridge Widening
	ATMS-GDOT Reg. TCC-ITS	Various locations to be determined		ATMS-GDOT Reg. TCC-ITS
	S. Dixie Hwy	SR 3 Connector	Walnut Ave	Widen to 3 lanes
	US 41	Old Chattanooga	Old Lafayette	Intersection Improve
	Reed Rd.	N. Dalton Bypass	SR 201	Widen to 3 lanes
	New – SR 2/SR 201			Intersection Improvements
Note: Projects with gray background are not coded in the networks				

Table 9 (Continued)				
Networks	Project	From	To	Type
Network 5 Remainder of Projects Programmed by GDOT as Long Range	I-75 Widening	SR 156/Red Bud Rd.	CR 665/Carbondale	Widen to 8 lanes
	I-75 Widening	CR 665/Carbondale Rd.	SR 3/Dixie Hwy.	Widen to 8 lanes
	I-75 Widening	SR 3/Dixie Hwy	SR 151/Alabama Rd.	Widen to 8 lanes
Network 6 All Remainder Projects from the LRTP Projects	Underwood Rd.	Dawnville	N. Dalton Bypass	Widen to 3 lanes
	Riverbend Rd	S Dalton Bypass	Walnut Ave	Widen to 4 lanes
	New Interchange	S. Dalton Bypass @ SR 71		New Interchange
	E. Morris/Murray St.	SR 52	Glenwood	Widen to 3 lanes
	Thornton Ave.	N. Dalton Bypass	E. Waugh St.	Widen to 5 lanes
	Glenwood Ave.	Morris St.	Morningside	Continuous turn lane
	Antioch/Brickyard Rd	S Dixie Rd	Riverbend Rd	Widen to 4 lanes
	Mill Creek Rd	Hurricane Rd.	SR 3	Add one lane each direction
	Dug Gap Rd	S. Dalton Bypass	Hurricane Rd.	Upgrade/Widen/Geometrics
	SR 2	SR 201	Old Praters Mill Rd	Widen to 4 lanes
	Dug Gap Rd.	S. Dalton Bypass	E. Dug Gap Mnt. Rd.	Upgrade/Widen/Geometrics
	New – SR 71	North of Cohutta	TN State Line	Widening to 5 lanes
	New – Lake Francis Rd.	Beaverdale Rd.	SR 2	Widening
	Waugh St Ext. to I-75 w/Interch.	I-75	College Dr.	Extension plus interchange
	SR 52	SR 52 Business	CR 112	Widen to 6 lanes
	E. Dug Gap Rd/Treadmill	Dug Gap Rd	S Dixie Hwy	Add one lane each direction
	SR 201	Mt. Vernon Rd.	SR 3/US 41	Widen to 4 lanes
	SR 286	SR 52	County Line	Widen to 4 lanes
	Tyler St Ext	Tyler St	Waugh St	Extend to Waugh St
	Mill Creek Rd.	SR 201	Hurricane Rd.	Add lane/Geometrics
	SR 52/Chatsworth Hwy	Dalton Bypass	County Line	Widen to 6 lanes
	S Dalton Bypass	I-75	Lakeland Rd	Widen to 6 lanes

Table 9 (Continued)				
Network	Project	From	To	Type
Network 7 Financially Constrained Fits into GDOT & Federal Budget.	I-75/Rocky Face Interchange	Interchange Reconst.		Reconstruction & add turn Ins.
	I-75/Carbondale Interchange	Interchange Reconst.		Reconstruction
	SR 3	SR 136 N. Gordon Co.	SR 3	Widen to 3 lanes
	N. Dalton Bypass/SR 71	Intersection Improve		Intersection Improve
	CR 3/Henry Owens @ NS R/R	Railroad Crossing		Railroad Crossing
	CR 290/Beaver Rd. @ CSX R/R	Railroad Crossing		Railroad Crossing
	Dawnville Rd.	Underwood Rd.	SR 286	Widen to 3 lanes
	Beaverdale	SR 71	Lake Francis Rd.	Widen to 3 lanes
	SR 3/US 41 @ Little Swamp Crk.	Bridges		Bridges
	Airport Rd./CR 664	Dalton Bypass	Past Hill Rd.	Reconstruction
	I-75 @ SR 201 – I-75 Widening	I-75 @ SR 201		Widening
	SR 3/US 41	Campbell Rd.	Catoosa Co. Line	Widen to 3 lanes
	SR 2 @ Conasauga River	Bridge Widening		Bridge Widening
	ATMS-GDOT Reg. TCC-ITS	N/A	N/A	ATMS-GDOT Reg. TCC-ITS
	S. Dixie Hwy	SR 3 Connector	Walnut Ave	Widen to 3 lanes
	US 41 @Chattanooga-Lafayette	Intersection Improve		Intersection Improve
	Reed Rd. – Traffic Study	N. Dalton Bypass	SR 201	Widen to 3 lanes
	SR 2 & SR 201	Intersection Improve		Intersection Improve
	E. Morris/Murray St.	SR 52	Glenwood	Widen to 3 lanes
	Underwood Rd.	Dawnville	N. Dalton Bypass	Widen to 3 lanes
	Dug Gap Battle/Dug Gap Rd.	Trade Center Dr.	Hurricane Rd.	Widen, Geometrics
Note: Projects with gray background are not coded in the networks				

Results of the TDM analyses were used to develop the Road Improvement Plan (RIP) element, **Table 22**, and the Illustrative Projects List (IPL) element, **Table 23**, for the 2035 LRTP. Projects in **Table 22** are shown over three time periods: *Short-Range (1-5 years)*; *Mid-Range (6- 10 years)*; and, *Long-Range (11 years to the Horizon Year of 2035)*. Projects in **Table 23** are all listed as Long-Range Illustrative projects.

Highway Network

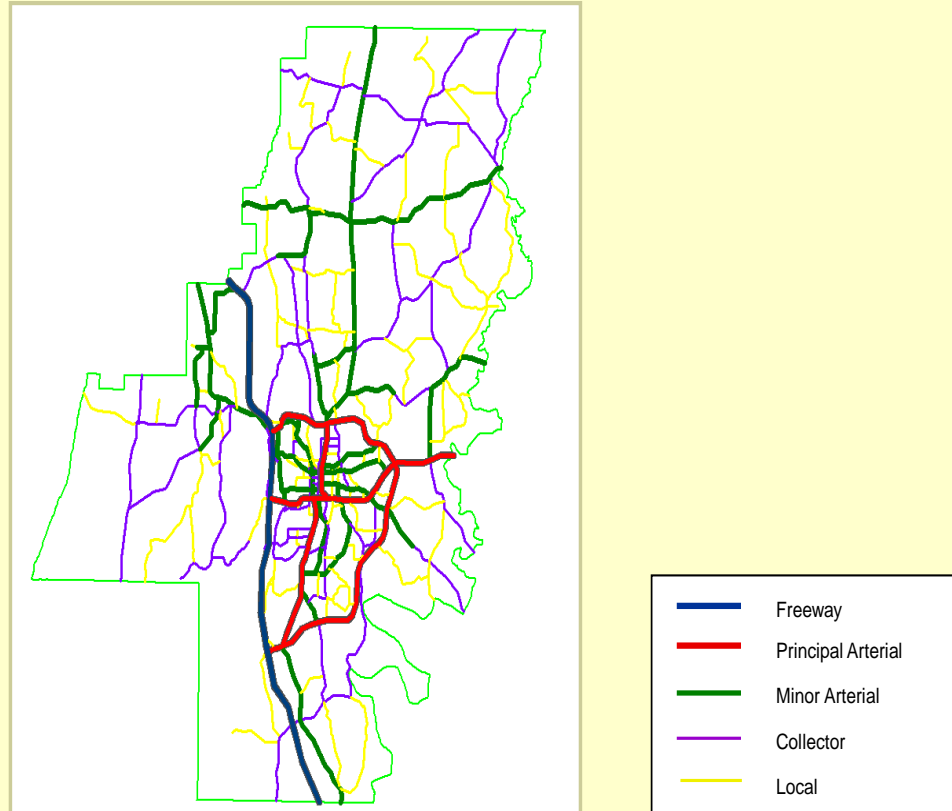


Figure 14

Figure 14 above shows the functional classifications of the major roads/streets throughout Whitfield County as they were used in the Traffic Demand Modeling (TDM). The Freeway (dark blue) depicts Interstate 75. The Principal Arterials (dark red) are the Bypass (SR3/US 41), Walnut Avenue (SR 52), Glenwood Avenue (SR 71) and South Dixie Highway (US 41). The Minor Arterials (green) and the Collectors (purple) are the local and county roads with the highest traffic counts which feed into the Arterials and Interstate 75 throughout the City of Dalton and Whitfield County. The Local streets (yellow) that are shown on the map have the highest traffic counts. These Local streets feed into the Collectors and Minor and Major Arterials throughout the City of Dalton and Whitfield County.

Figures 15 and 16 below show the existing/current **2006 Base Year** Daily Traffic Volumes and Level of Service for all major roads, streets, highways and interstates throughout Whitfield County.

Figures 17 and 18 on the following page show the projected Daily Traffic Volumes and Level of Service if no new projects were built between the 2006 Base Year and the horizon year of 2035.

Total 2006 Daily Traffic Volumes

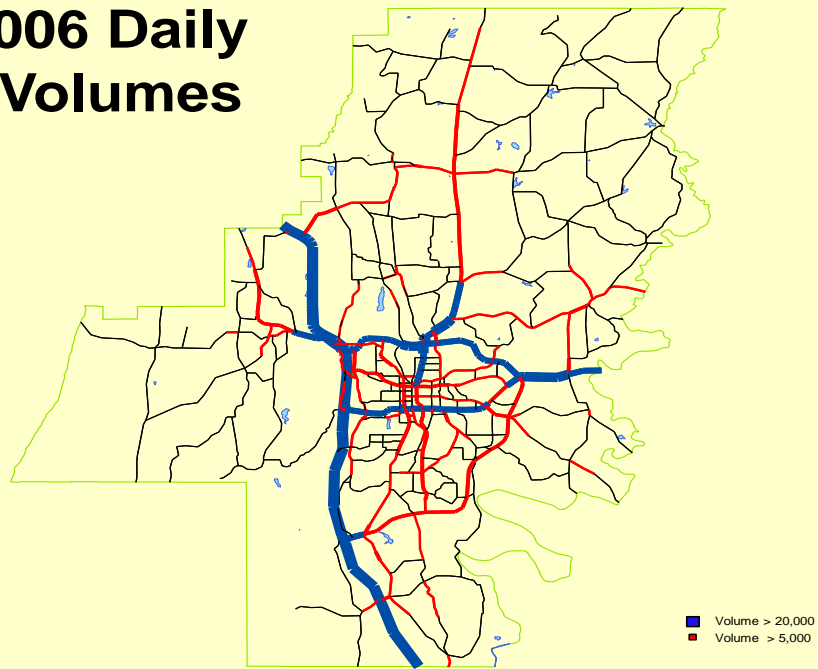


Figure 15

2006 Regionwide Level of Service

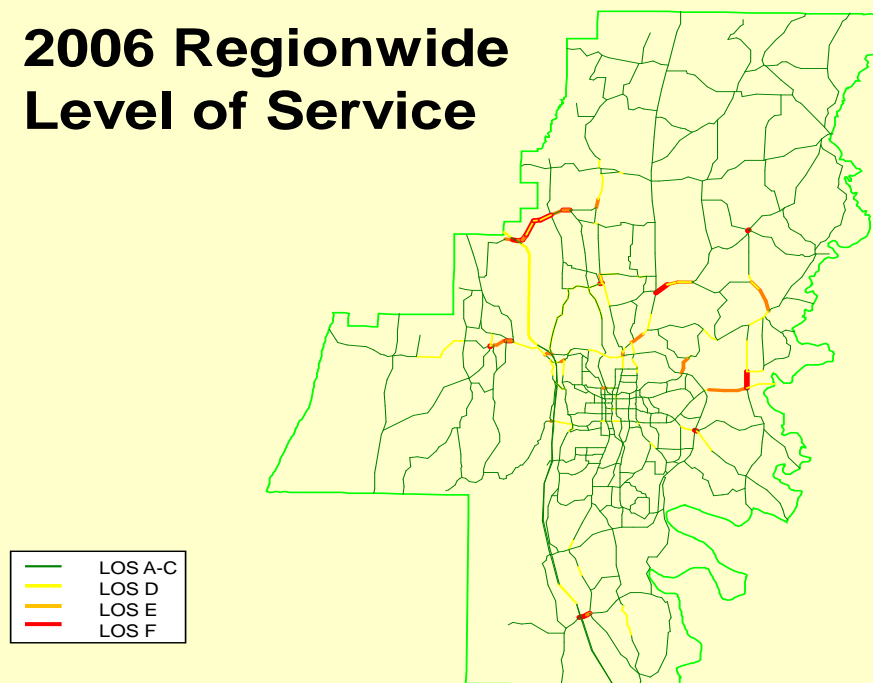


Figure 16

Total 2035 No-Build Daily Traffic Volumes

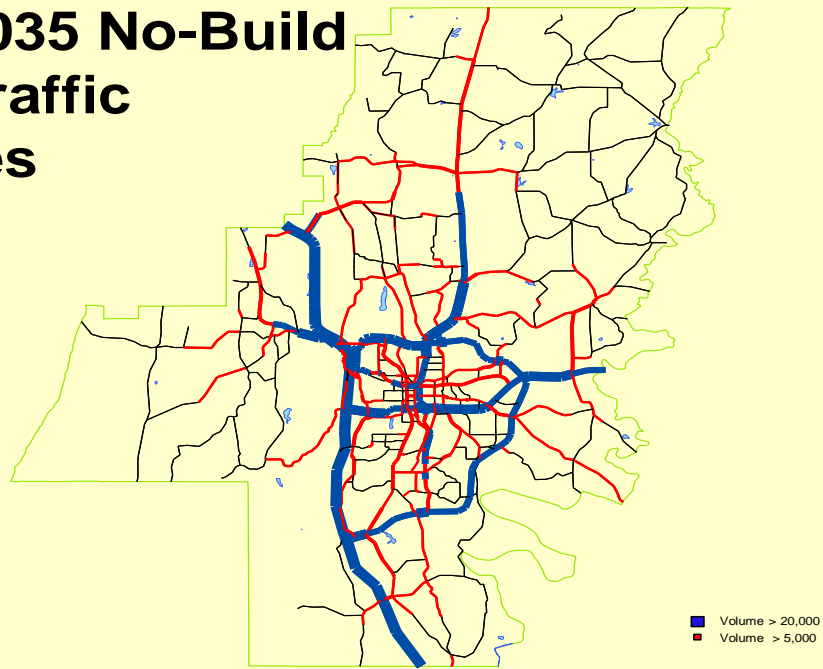


Figure 17

2035 No-Build Network (2nd) Regionwide Level of Service

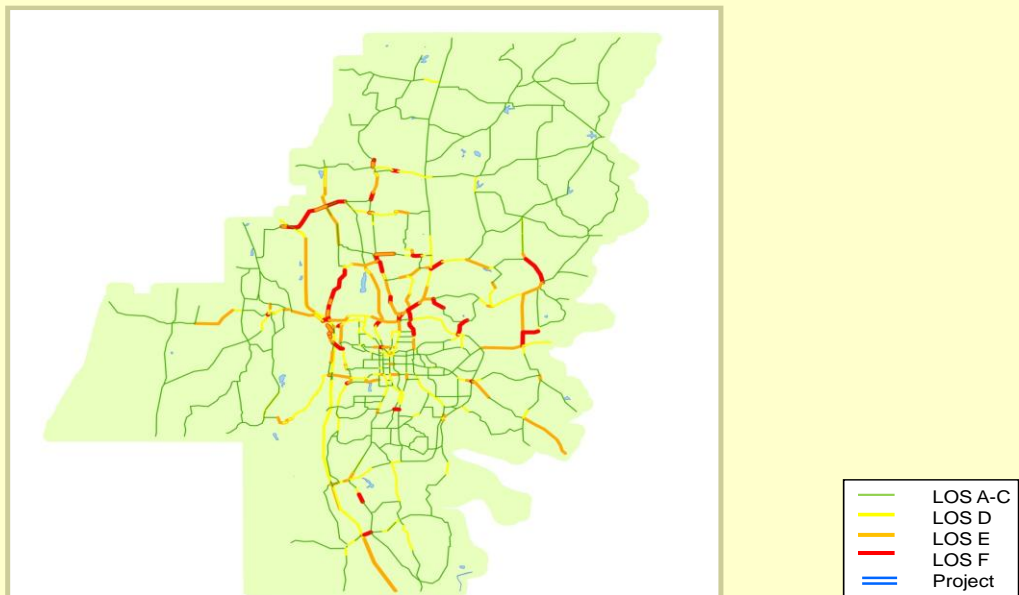


Figure 18

The following **Figure 19** map shows the Level of Service (LOS) for the approved network of roads which are Financially Constrained, or which fit within the budgetary constraints of proposed available State and Federal funds for road projects projected through 2035. These include the 12 projects which were run through the Traffic Demand Model (TDM) as Network #7. As depicted by the map below, even with these 12 projects completed, there are still problem areas within the traffic network, namely on the north end of Dalton. Further traffic corridor studies of these roads will help determine possible alternative solutions to reduce the congestion and improve safety along these corridors, such as improved signalization, dedicated turn lanes, improved visibility and possible intelligent traffic monitoring devices.

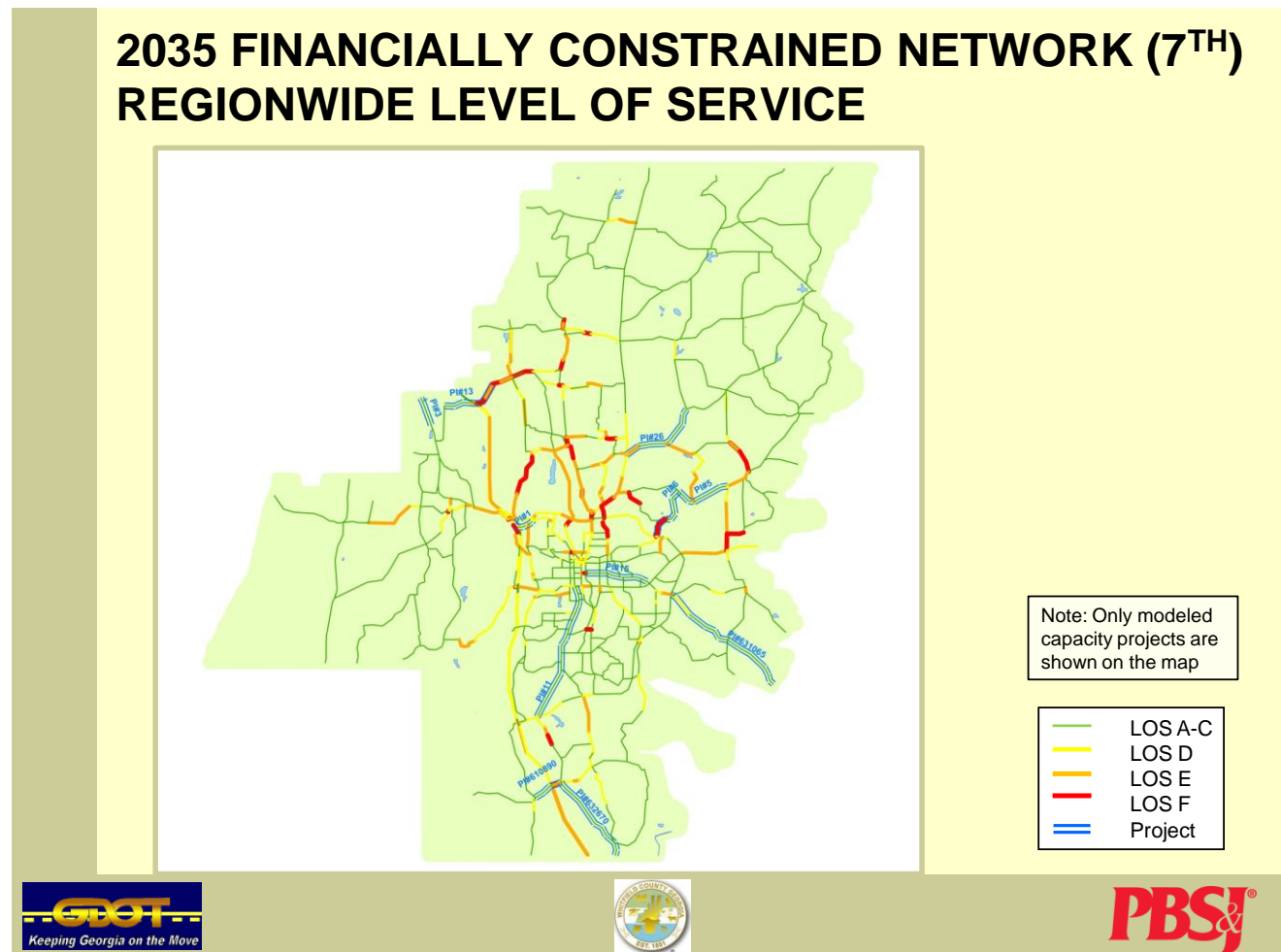


Figure 19

4. Level of Service (LOS)

The level of service (LOS) of roads is identified by determining the ratio of traffic volume to the traffic carrying capacity of the road. The volume to capacity (V/C) ratio is a numerical representation of the ability of a road to handle either the present counted volume or projected volume of traffic at a given time. A V/C of 1.0 represents a roadway that has reached its maximum capacity of traffic. A road with a V/C ratio below 1 indicates the amount of the road's capacity that is being utilized by traffic. For example, a V/C ratio of 0.8 represents a road that is operating or providing a level of service (LOS) at 80% of its capacity. Theoretically, a road cannot exceed a V/C ratio of 1.0.

V/C ratios are translated into LOS used to describe the “congestion” of a particular road. **Table 10** below shows the descriptions of the LOS experienced by motorists driving on roads of various capacities.

Table 10 – Level of Service (LOS) Descriptions

V/C	LOS	Description:
0-0.60	A	Level A describes the most favorable scenario with the best possible flow of traffic with the least amount of congestion. (Little to no delay)
0.60-0.65	B	Level B also represents reasonably free-flow conditions. Traffic flow is stable. More vehicles stop than for LOS A, causing higher average delays. (Short delay)
0.65-0.70	C	Level C provides for stable operations, but flows approach the range in which small increases in flow will cause substantial deterioration in service. (Average traffic delay)
0.70-0.85	D	Level D borders on unstable flow. In this range, small increases in flow cause substantial deterioration in service. The influence of congestion becomes more noticeable. (Long traffic delays)
0.85-1.0	E	Level E operations are extremely unstable, because there are virtually no useable gaps in the traffic stream. At capacity, the traffic stream has no ability to dissipate even the most minor disruptions. Any incident can be expected to produce a serious breakdown with extensive queuing. (Very long traffic delay)
1.0 Plus	F	Level F describes the worst possible scenario. The designation “LOS F” is used therefore, to identify the point of breakdown. In forecasting situations, the location represents a problem when the projected peak hour flow rate exceeds the estimated capacity of the location. (Extreme traffic delay)

Source: GDOT and PBS&J Consultants.

Figure 18 depicts the projected Level of Service (LOS) for roads in Whitfield County and the City of Dalton for the year 2035 if no road improvements are made. These projections were made using the Travel Demand Model. Level of Service C is the standard in Whitfield County and the City of Dalton. Roadway segments forecasted to operate at LOS ‘D’ or worse in 2035 are potential candidates for capacity improvements:

5. Bridges

The GDOT calculates sufficiency ratings for each bridge which evaluates its overall condition, taking into account all factors from low load to field/visual observation of deficiencies. GDOT’s Office of Bridge Maintenance suggests structures with a sufficiency rating less than 50 be replaced rather than improved. This rating is used to estimate when a bridge would need rehabilitation or reconstruction. With a 30-year planning horizon, bridge structures with a rating above 70 should be in acceptable condition as long as routine maintenance is provided. Based upon daily traffic volumes, bridge structures with a sufficiency rating between 60 and 70 are candidates for rehabilitation or reconstruction by 2020, and structures between 50 and 60 are candidates for reconstruction by 2015. **Tables 11 through 13** reveal the bridge ID Number, location, and Sufficiency Rating for bridges between: 60 and 70; 50 and 60; and, below 50.

Source for Bridge Sufficiency Ratings: GDOT.

Table 11 - Bridge Sufficiency Rating below 50

Bridge ID #	Roadway	Location	Rating
313-5053-0	CR 863/Nance Springs Circle	In Southeast Corner of Whitfield	39.14
313-5027-0	CR 194/Seaton Rd.	2.5 miles east of Cohutta	47.35
313-5025-0	CR 191/Hopewell Church Rd.	2 miles east of Cohutta	34.06
313-5019-0	CR 141/Boyles Mill Rd.	6.1 miles southeast of Varnell	34.43
313-5009-0	CR 33/Old Tilton Rd.	5.9 miles southeast of Dalton	46.28
313-5045-0	CR 349/Mill Creek Rd.	3.9 miles west of Dalton	38.17
313-5065-0	CR 678/Mt. Vernon Rd.	1 mile south of Tunnel Hill	41.10
313-0068-0	CR 670/Dawnville Rd.	4 miles northeast of Dalton	30.27
313-0004-0	SR 2	6.2 miles northeast of Varnell	43.50
313-5031-0	CR 237/Reed Pond Rd.	3.9 miles southwest of Varnell	48.87
313-0006-0	SR 3/US 41	6.5 miles south of Dalton	43.20

Table 12 - Bridge Sufficiency Rating between 50 and 60

Bridge ID #	Roadway	Location	Rating
313-5051-0	CR 874/Chattanooga Street	In North Dalton	57.61
313-5050-0	CR 677/McGaughey Chapel Rd.	3 miles northeast of Varnell	53.10
313-5043-0	CR 336/Tate Rd.	8.7 miles west of Dalton	52.63
313-5040-0	CR 326/Houston Valley Rd.	5 miles southwest of Tunnel Hill	56.39
313-5008-0	CR 33/Old Tilton Rd.	7.2 miles southwest of Dalton	50.60
313-5002-0	CR 6/Redwine Cove Rd.	8.7 miles southwest of Dalton	52.10
313-5041-0	CR 331/Freeman Springs Rd.	6.3 miles west of Dalton	59.76
313-5039-0	CR 326/Houston Valley Rd.	6.2 miles west of Dalton	57.02
313-5028-0	CR 195/Putman Rd.	1.9 miles east of Cohutta	57.45
313-5012-0	CR 44/Cavendar Rd.	3.1 miles south of Dalton	59.11
313-0066-0	CR 362/Tibbs Rd.	In West Dalton	59.61
313-0063-0	CR 899/Gordon Street	In Dalton	59.67
313-0020-0	SR 52/Walnut Avenue	3 miles east of Dalton	56.97

Table 13 - Bridge Sufficiency Ratings between 60 and 70

Bridge ID #	Roadway	Location	Rating
313-5044-0	CR 336/Dunnagan Rd.	6.1 miles west of Dalton	60.49
313-5033-0	CR 279/Willowdale Rd.	2.8 miles northwest of Dalton	69.77
313-0071-0	SR 3/US 41	In North Dalton (Bypass)	66.86
313-0007-0	SR 3/US 41	5.9 miles south of Dalton	63.14
313-0005-0	SR 3/US 41	6.8 miles south of Dalton	62.39

6. Accident History

The highest number of accidents occurred in 2004 (*highlighted in yellow*) with 1,602 accidents occurring at over 750 locations in Dalton, including 398 injuries and 1 fatality. Data was analyzed by type of accident: auto - (right angle, head on, rear end, sideswipes, left turn opposite, and non-vehicles collision); pedestrian; bicycle; and, time. In 2004, there were 9 accidents involving pedestrians with 8 injuries, and 10 bicycle accidents with 9 injuries. Historical accident data provides valuable information and indicates problem areas in a transportation system. **Table 14** shows number of accidents by time. **Table 15** shows accident locations by intersections. **Table 16** shows number and type of accidents. High traffic volumes conflicting with turning movements contribute to rear end and angle intersecting accidents. Several roads throughout the county have poor geometrics, which could be associated with higher accident rates.

Table 14 - 2002-2009 Accidents by Hour of Day – City of Dalton														
Accident Hours	2002	%	2003	%	2004	%	2006	%	2007	%	2008	%	2009	%
12 AM to 2 AM	21	1	20	1	20	1	12	1	8	1	14	1	9	1
2 AM to 6 AM	26	2	19	1	12	1	19	1	18	1	6	1	12	1
6 AM to 8 AM	96	6	89	6	110	7	95	7	77	6	91	8	54	5
8 AM to 10 AM	105	7	110	7	125	8	131	9	104	9	84	7	78	7
10 AM to 12 PM	146	10	186	13	180	11	157	11	131	10	102	9	129	11
12 PM to 2 PM	278	19	249	17	267	17	226	16	219	17	189	17	212	19
2 PM to 4 PM	269	18	267	18	265	17	284	20	233	18	207	18	199	18
4 PM to 6 PM	266	18	271	18	311	19	250	18	254	20	241	21	232	21
6 PM to 8 PM	159	11	155	11	170	11	132	9	125	10	115	10	99	9
8 PM to 10 PM	70	5	73	5	90	6	75	5	49	4	55	5	58	5
10 PM to 12 AM	46	3	32	2	52	2	39	3	50	4	32	3	36	3
Total	1482	100	1471	100	1602	100	1420	100	1268	100	1136	100	1118	100

Table 15 - Intersections with High Number of Accidents -2002-2009 – City of Dalton							
Intersection	2002	2003	2004	2006	2007	2008	2009
Airport Rd. at Walnut Ave.	21	26	23	17	14	11	12
Chattanooga Ave. at Tyler St.	14	8	12	5	0	1	0
Dug Gap Rd. at Walnut Ave.	16	16	16	19	18	13	10
Frederick St. at MLK Blvd.	18	5	7	6	3	3	5
Frederick St. at MLK Blvd.	12	4	3	7	4	3	3
Glenwood Ave. at Hawthorne St.	10	8	6	6	5	7	6
Glenwood Ave. at Legion Dr.	14	5	4	1	4	5	3
Glenwood Ave. at Morris St.	17	11	11	11	10	6	6
Glenwood Ave. at Smith Ind. Blvd.	16	10	6	16	12	11	6
Glenwood Ave. at Tyler St.	9	16	9	11	8	6	4
Glenwood Ave. at Walnut Ave.	19	18	11	16	19	6	6
Glenwood Ave. at Waugh St.	14	15	16	9	9	6	9
Hamilton Connector at Walnut Ave.	11	7	19	11	11	8	12
Hamilton St. at Tyler St.	7	7	12	5	4	1	1
Harris St. at Walnut Ave.	11	7	10	14	11	2	5
Market St. at Walnut Ave.	17	9	11	7	10	8	6
McGee St. at Walnut Ave.	8	10	10	12	17	8	2
Riverbend Rd. at Walnut Ave.	8	13	10	11	9	5	8
Shugart Rd. at US 41	1	10	20	21	25	20	17
Thornton Ave. at Walnut Ave.	17	12	16	12	12	12	7
Thornton Ave. at Waugh St.	13	6	3	10	10	9	0

Table 16 - 2002-2009 Accidents by Type – City of Dalton														
Type of Accident	2002	%	2003	%	2004	%	2006	%	2007	%	2008	%	2009	%
Right Angle	444	30	426	29	465	29	426	30	339	27	393	35	392	35
Head On	24	2	22	2	34	2	22	2	17	1	30	3	28	3
Rear End	581	38	608	41	681	43	572	40	528	42	461	40	510	46
Sideswipe	204	14	183	12	199	12	170	12	177	14	151	13	103	9
Left Turn Opposite	113	8	99	7	108	7	99	7	93	7	NA	NA	NA	NA
No-vehicle Accid.	116	8	132	9	115	7	131	9	114	9	101	9	85	7
Total	1482	100	1470	100	1602	100	1420	100	1268	100	1136	100	1118	100

Source: Accident history provided by the City of Dalton - Traffic Engineering Office.

Table 17 below defines the Roads/Streets with five or more accidents per year. This table gives a great overview of traffic accidents for the Greater Dalton area, over the course of eight years, 2002-2009. This table provides an at-a-glance comparison of the problem roads and streets in the area. (2005 not included)

Road/Street	02	03	04	06	07	08	09	Road/Street	02	03	04	06	07	08	09
Abutment	9	26	41	30	16	22	21	Holiday	10	7	8	14	-	-	-
Airport	32	35	25	22	19	18	18	I-75 NB OfR	5	5	10	8	5	8	-
Beechland	-	5	-	-	-	-	-	I-75 SB OfR	-	-	9	-	-	-	-
Broderick	8	9	11	9	12	7	8	Industrial	6	-	-	-	9	-	7
Bryant	-	-	7	11	7	-	-	Jones	5	-	-	-	8	7	5
Burleyson	-	5	-	-	-	-	-	King	5	-	-	-	-	8	-
Calhoun	6	5	-	-	-	-	-	Kroger	-	5	-	-	-	-	-
Cappes	-	-	7	-	-	-	-	Lakeland	-	6	12	11	14	6	-
Cascade	-	5	-	-	-	-	5	Legion	5	11	8	8	9	14	9
Central	6	-	-	-	-	-	-	Manly	5	7	-	-	-	8	-
Chattanooga	14	18	40	19	7	15	15	Market	17	14	14	10	13	11	10
College	7	8	-	-	16	18	20	McGee	11	13	12	16	18	10	5
Colorado	-	5	-	-	-	-	-	Memorial	-	-	7	-	5	6	-
Crawford	17	20	25	19	15	10	11	MLK Blvd.	12	12	14	34	32	24	22
Cuyler	20	16	14	21	7	17	5	Morris	33	20	28	42	35	28	30
Dantzler	-	5	-	-	5	8	-	Murray	15	23	22	35	24	18	20
Dug Gap	25	30	31	29	33	20	20	N. Thornton	12	10	10	14	-	-	-
Easterling	7	5	5	6	5	7	-	Pentz	-	-	9	7	8	12	9
Emery	31	35	32	39	32	21	18	Riverbend	30	31	29	13	24	15	14
Fields	19	6	-	-	7	9	8	Selvidge	8	12	8	10	14	8	10
Fifth	16	13	9	9	14	-	-	Sheridan	5	6	8	-	9	8	-
Fort Hill	5	-	-	-	-	-	-	Shugart	11	30	63	57	65	60	54
Franklin	6	6	-	-	5	7	-	Spencer	-	-	7	8	11	11	5
Frazier	7	5	12	7	-	-	-	Thornton	71	66	68	82	97	76	78
Fredrick	41	17	17	15	11	10	18	Tibbs	25	40	35	45	39	39	54
Georgia	-	-	5	-	-	-	-	Trammell	8	5	-	-	6	-	-
Glenwood	250	223	188	166	168	129	129	Tyler	9	6	8	31	26	17	17
Gordon	5	5	6	7	-	10	7	Underwood	13	15	19	36	25	34	25
Grade	7	6	14	7	12	-	-	US 41	-	38	76	109	102	93	112
Grimes	20	12	9	10	15	-	7	VD Parrott	5	5	14	20	11	25	11
Hamilton	17	11	24	19	13	13	17	Veterans	-	8	-	-	7	33	20
Hamilton	80	73	71	104	72	43	39	Walnut	154	154	199	299	263	224	205
Harris	15	10	11	14	14	-	-	Waugh	19	19	20	39	66	55	44
Hawthorne	10	12	14	21	20	23	14	Lakeshore	-	5	-	-	-	-	-
Henderson	-	-	7	-	-	-	-								

Source: Accident history provided by the City of Dalton - Traffic Engineering Office.

***2004, (YELLOW), reported the largest number of traffic accidents during the eight year period.**

****Streets in (RED) increased in, and/or maintained a high number of accidents since 2004.**

*****Streets in (BLUE) showed a decline in the number of accidents since 2004.**

A high number of “rear end” accidents occur along Abutment Rd., Thornton Ave., Glenwood Ave., Walnut Ave., and Cleveland Hwy. near the intersection with the N. Dalton Bypass, and on Chatsworth Hwy. near the intersection with the N. Dalton Bypass. Most accidents along these corridors occurred at intersections. While these corridors do not have any geometric problems that would contribute to “rear end” type of accidents, the lack of exclusive left turn lanes can cause “rear end” accidents, because automobiles are forced to make left turns from the through travel lane.

Airport Rd. between SR 52 and the S. Dalton Bypass experienced a large number of “rear end” and “angle intersect” type of accidents. This two-lane road carries a large volume of traffic and congestion and turning movements may contribute to accidents on this road. This area is congested with commercial businesses and many vehicles enter/exit Airport Rd. between State Route 52 and the S. Dalton Bypass.

Dawnville Rd. between SR 71 and SR 286 is a two-lane road supporting large traffic volumes and has experienced many accidents related to geometrical problems. Dawnville Rd. has vertical curves reducing sight distance which contributes to some “sideswipe” and “angle intersecting” accidents.

Numerous accidents on busy roads like Glenwood Ave. and Walnut Ave. show improvements like volume activated signalization, left turn bays at critical intersections, continuous left turn lanes and truck travel regulations would reduce congestion and accidents.

In 2004 there were 10 bicycle and 9 pedestrian accidents in Dalton, with injuries to 9 bicyclists and 8 pedestrians. These accidents occurred at the following locations:

Bicycle Accidents

*Crawford St. at Hamilton St.
Heather W.y at Dawnville Rd.
Springdale Rd. at Glenwood
Walnut Ave. at Tibbs St.
Glenwood at Matilda St*

*Cuyler St. at Henderson St.
MLK Blvd. at Easterling St.
Thornton Ave. at Crawford St.
Morris St. at Frederick St.
Morris St. at Green St.*

Pedestrian Accidents

*Glenwood Ave. at Legion Dr.
Walnut Ave. at Greenwood A.
Hamilton St. at Tyler St.
Market St. at Walnut Ave.
Jones St. at Piedmont St.*

*Easterling at Cuyler St.
Frederick at MLK Blvd.
Waugh St. at Selvidge St.
Walnut Ave. at Airport Rd.*

Rail Crossing Accidents

Since 2000 only one accident has occurred at a railroad crossing. That crossing is located at Tyler Street near Thornton Ave. and the accident took place in 2004.

B. Public Transportation

Through a Federal Transit Administration 5311 grant, Whitfield County operates 8 vehicles in their demand-response and route-deviation transportation system with service available Monday through Friday, from 6:30 a.m. to 6:00 p.m. to all County residents for various trip purposes, including medical, nutrition, shopping, education, recreation, etc. Other services include purchase of service agreements.

As of January 1, 2009, Whitfield County provides all operational and administrative services in house. About **60%** of service is provided for trips in Dalton, but this service is available countywide.

Primary beneficiaries of the County’s 5311 program are disadvantaged populations, providing improved accessibility to shopping, education, medical and social service centers. Disadvantaged residents are provided affordable/dependable transportation to any local destination otherwise not be available to them. The City of Dalton Multimodal Transportation Study, completed in January 2003, indicated fixed-route public transit might be feasible in the county, particularly in more densely developed corridors. Dalton has a high concentration of two groups typically identified as needing or choosing public transit service – Hispanics and the elderly. Of Dalton’s total population of 27,912, **40%** or 11,219 persons are Hispanic and **11%** or 3,202 are elderly.

In August 2004 the North Georgia Regional Development Center was awarded a 5303 FTA planning grant to perform a transit feasibility study for Dalton and Whitfield County. On October 1, 2004, the NGRDC sent a Request for Proposal (RFP) to pre-qualified consultants. After proposals were received, the selection committee recommended Dovetail Consulting to conduct the study. The consultants identified community goals and objectives, public transportation needs, formulated transit service alternatives and selected service alternatives. The consultant completed the study by July of 2005 with an implementation plan. The implementation plan will serve as a guide to local government officials in making decisions on public transit. The Public Transportation Needs Study was completed and adopted by the MPO in January of 2006 and is available for review by any interested parties through the GDMPO offices. Since Whitfield County is operating and administering the public transit countywide since January of 2009, any additional information regarding public transit may be obtained through their offices at 301 West Crawford Street, Dalton, Georgia.

C. Private Transit System

Greyhound provides intercity/interstate bus services to and from Whitfield County. There are also eleven taxicab services operating within the county, several of which are Hispanic owned and operated.

D. Bicycle and Pedestrian

The “March to the Sea” and the “Mountain Crossing” are two state bicycle routes in Whitfield County. **Figure 25** shows the location of these state bicycle routes that traverse the county. State Route 90, Mountain Crossing, runs east/west across the mountains and north, between Walker County, south of Chattanooga and Rabun County, in the northeast corner of the state. Within Whitfield County the Mountain Crossing Route traverses 21.4 miles. The route crosses Dalton State College, I-75, the City of Dalton, and the Conasauga River, the eastern boundary of Whitfield County. The route follows these roadways through the county:

Lower Mill Creek Road
Mill Creek Road
Bradberry Hill Road
Sam Love Road
Old Lafayette Road
US 41
Tibbs Road

College Drive/Holiday Avenue
Walnut Avenue
Thornton Avenue
Morris Street/Murray Avenue
Airport Road
Tibbs Bridge Road
Keith Mill Road

Statewide Route 35, March to the Sea, runs northwest/southeast between the Tennessee State line near Chattanooga and downtown Savannah. Within Whitfield County the route traverses 11.7 miles. The route crosses Tunnel Hill and Mount Vernon and follows these roadways through Whitfield County:

US 41/US 71/GA 3
GA 201
Mount Vernon Road

Utility Road
White Road
Mill Creek Road

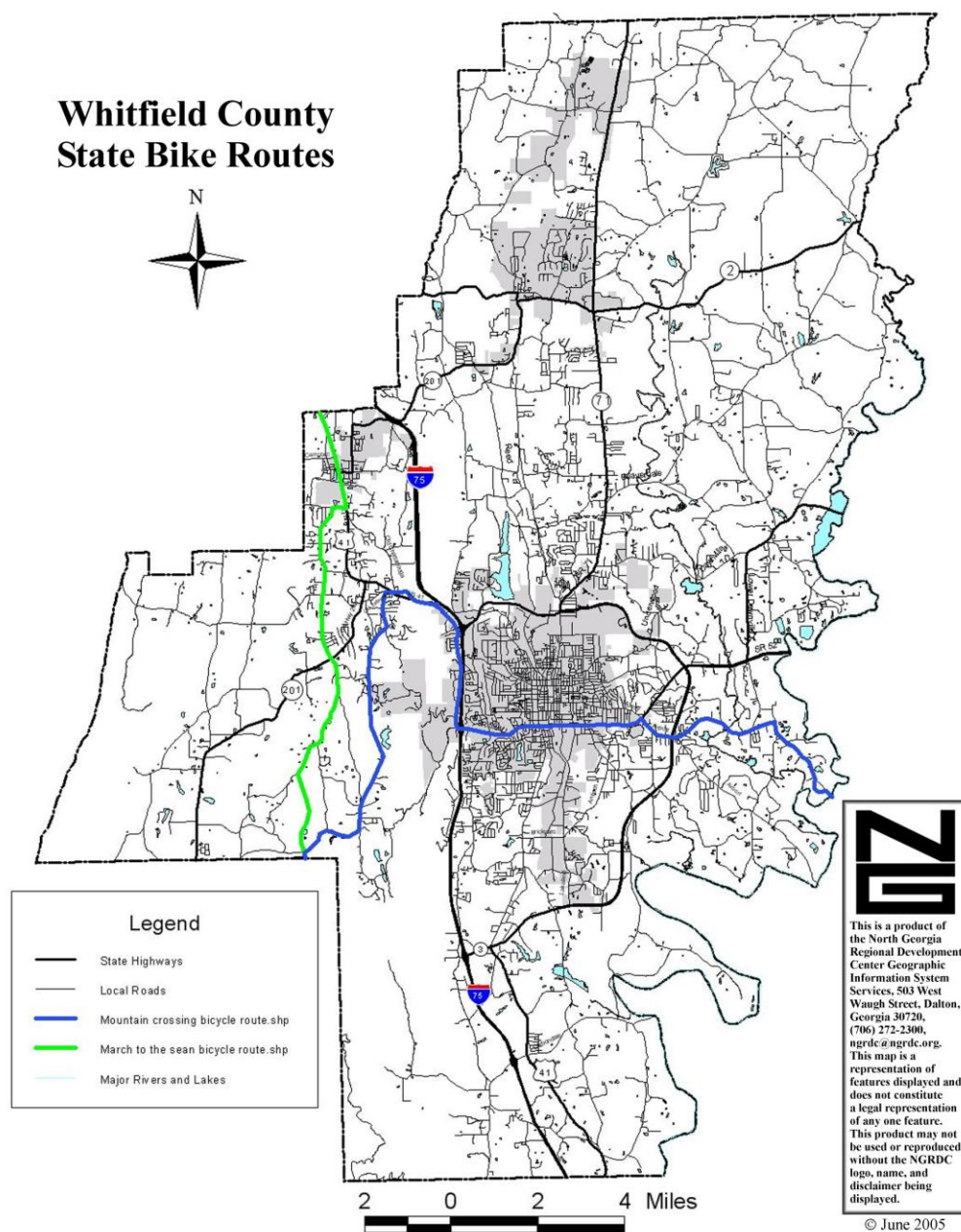


Figure 20

The Chattahoochee National Forest in Whitfield County contains a number of hiking and/or biking trails, including the Pinhoti Trail. The Pinhoti Trail is the connecting link between the Appalachian Trail and the Appalachian National Scenic Trail via the Benton MacKaye Trail, making it possible to hike the entire southern Appalachian Range. The completed section of the Georgia Pinhoti Trail follows the Armuchee Ridges near Rome and enters Whitfield County from Mill Creek Mountain along the Walker County line, and continues north along Middle Mountain and Rocky Face Ridge at Dalton, where it effectively ends at Dug Gap Road. Upon completion, it will cross the Great Valley to the Cohuttas and connect to the Benton MacKaye Trail.

Whitfield County has a relatively good sidewalk network within downtown Dalton and along SR 71/Cleveland Highway. **Figure 21** shows the sidewalk system within the city limits of Dalton. A sufficient portion of the existing sidewalk system covers most of the major activity centers along SR 52/Walnut Avenue, Thornton Avenue, and Glenwood Avenue.

City of Dalton Sidewalks

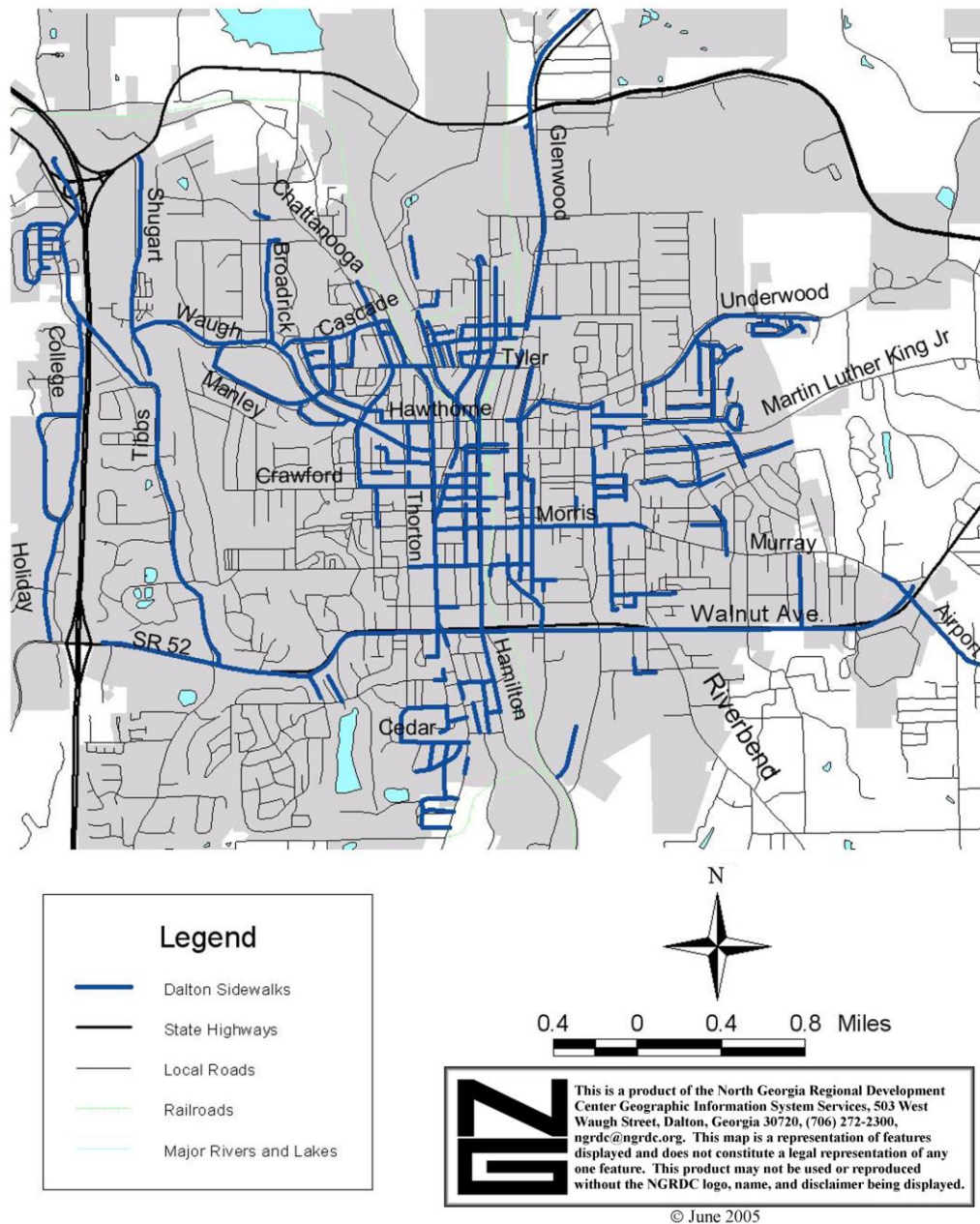
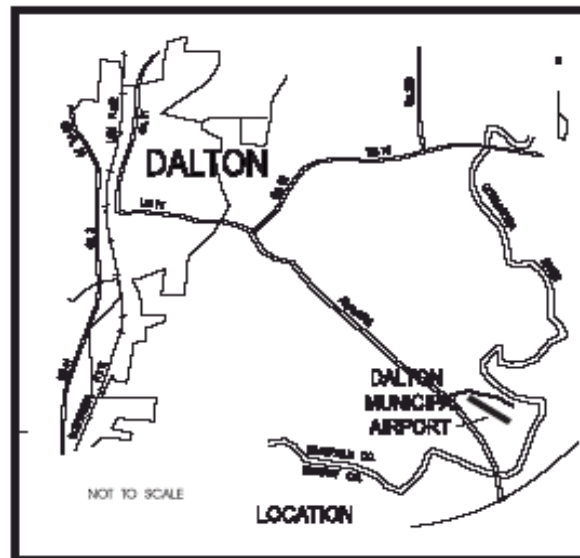


Figure 21

E. Airport

The closest commercial jet air carrier service to Whitfield County is in Chattanooga, TN. The Dalton Municipal Airport, situated on 360 acres, is located southeast of the Central Business District, adjacent to Airport Road (*See location map below*). The airport can accommodate aircraft up to the size of a Gulfstream IV. There are 28 hangars and four corporate/multiple use hangars that provide space for the storage of one jet, three turbo prop twins, four piston twins and 38 single engine aircraft currently based at the airport. The airport accommodates a variety of aviation related activities including recreational flying, police/law enforcement, corporate/business jets, ultra lights, and experimental aircraft.



The airport has one runway (Runway 14/32) 5,500 feet long by 100 feet wide with high-intensity runway lighting (HIRL), precision approach path indicators (PAPI), and a full parallel taxiway with medium-intensity taxiway lighting (MITL). The airport has a rotating beacon, segmented circle, wind cone, and an Automated Weather Observation System (AWOS). The airport has a non-directional beacon (NDB), and a geographical positioning system (GPS) approach to runway 14, a GPS approach to Runway 32 and an Instrumental Landing System (ILS) approach for runway 14.

Current landside facilities and services include a full-service fixed-base operator (FBO) and maintenance facility with a fuel concession that provides AvGas and Jet A fuels. The airport has a 2,450 square foot terminal/administration building and 75 auto parking spaces, 46 hangar spaces, and 35 apron parking spaces. The airport also provides rental cars.

A review of the airport's historic demand levels shows based aircraft decreased from 78 in 1990 to a current level of 46. By 2021, the airport's based aircraft are expected to reach 69. The airport has approximately 23,500 annual aircraft takeoffs and landings divided between local and itinerant operations. This figure is projected to increase to 26,081 by 2021. By the end of the planning period, the airport is expected to reach **12%** of its available annual operational capacity. **Table 18** below shows the current and forecasted demand levels of the airport. *Source for data: Dalton Municipal Airport.*

Table 18 - Current and Forecast Demand Level – Dalton Municipal Airport

Dalton Municipal Airport	Current	2006	2011	2021
Based Aircraft	46	58	61	69
Operations	23,500	24,021	24,689	26,081
Local	13,056	13,345	13,716	14,490
Itinerant	10,444	10,676	10,973	11,592
Enplanements	N/A	N/A	N/A	N/A
Demand/Capacity Ratio	10%	11%	11%	12%

The Dalton Municipal Airport, shown in **Figure 22** below, is classified as a Level III airport which is defined as air carrier and general aviation airports having a regional business impact and capable of accommodating a variety of business/corporate jet aircraft including the Boeing Business Jet and Gulfstream IV and V.

Recent improvements to the Dalton Municipal Airport include:

- Completed a 500 ft runway and parallel taxiway extension for the Runway 14 end in 2004.
- Installed high intensity lighting on new runway extension and parallel taxiway.
- Replaced Automated Weather Observation System (AWOS), lighting system, and control vault.
- Installation of medium intensity approach lights for 2,400 feet off Runway 14.
- Installation of a glide slope antenna and related equipment on Runway 14.
- System was upgraded from Visual Approach Path Indicators (VASI) to PAPI.
- 20 hangars were replaced with new structures.
- Full perimeter security fencing has been completed.

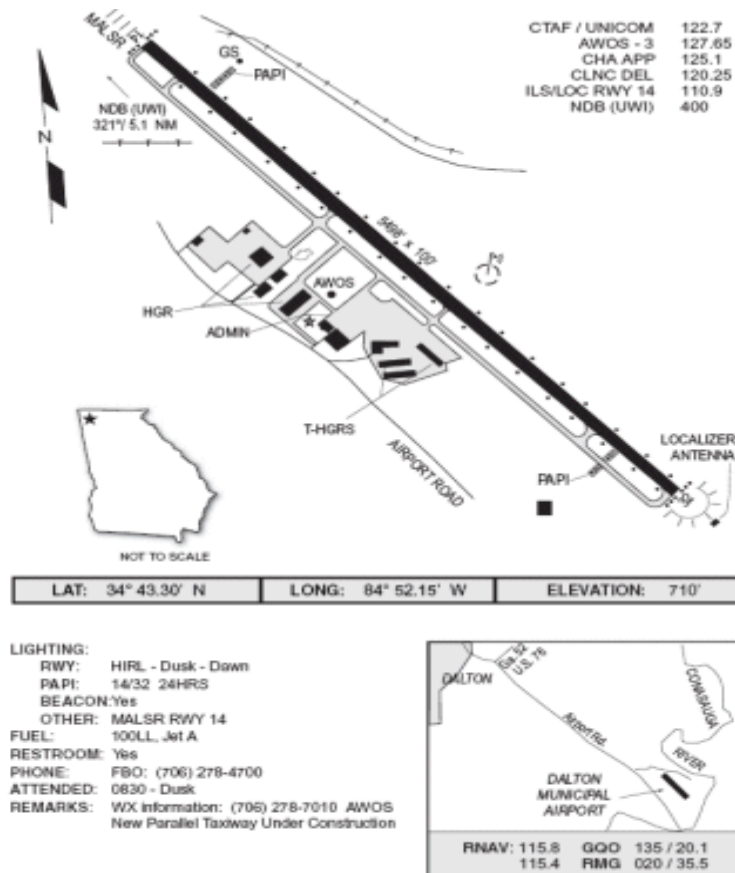


Figure 22

F. Freight and Goods Movement

1. Truck Freight

Goods movement by truck is essential for commerce in Dalton/Whitfield County, especially for the carpet industry. The four I-75 interchanges providing access to Whitfield County and the Dalton Bypass afford adequate access to various carpet related businesses. These highway facilities provide excellent links to economic markets in the United States and ocean ports for international connections.

In 2006, Whitfield County had roughly 46 motor freight carriers, including interstate and intrastate freight haulers, liquid/dry bulk carriers, heavy haulers and local cartage. There were 1,337 trucks over 18,000 pounds registered in Whitfield County; however, this number does not adequately reflect the number of heavy trucks that travel through the County. Because the Carpet Industries in the region have plants in the surrounding counties, many trucks are registered in those counties. The 158 freight terminals in Whitfield County are shown and defined in **Figures 23 through 27**, and named in **Table 19**.

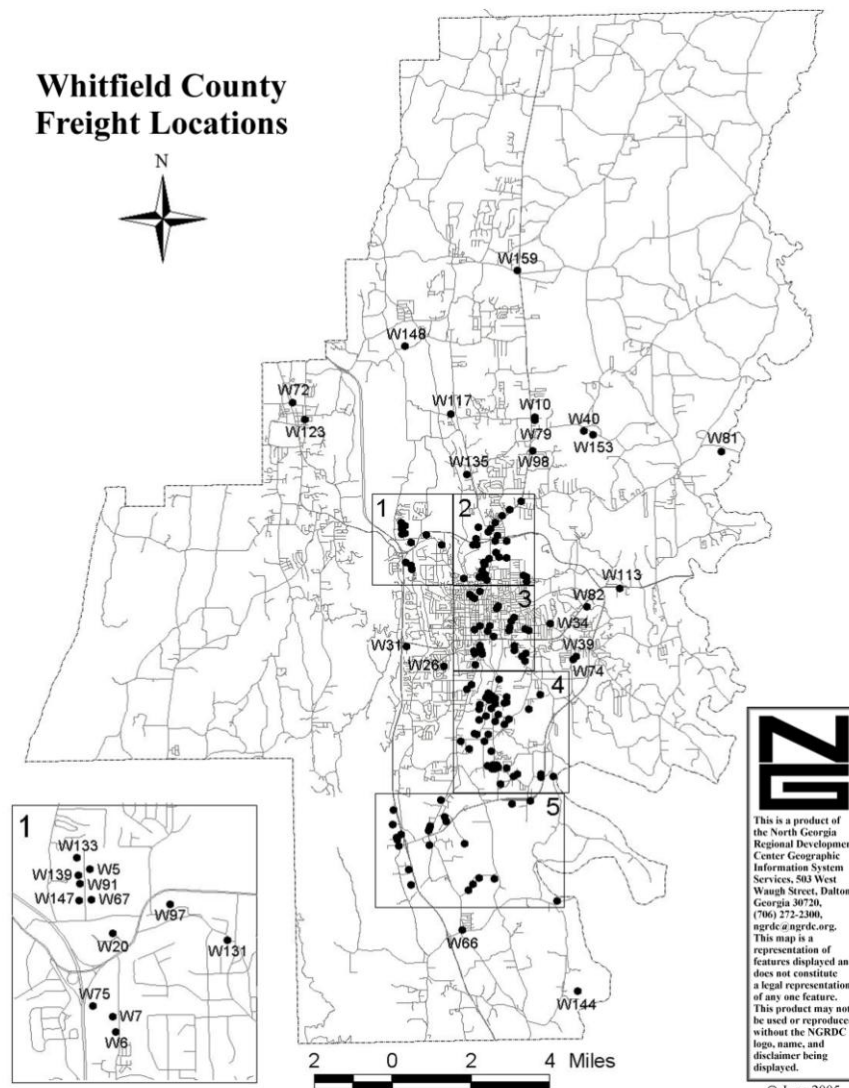


Figure 23

Whitfield County Freight Locations

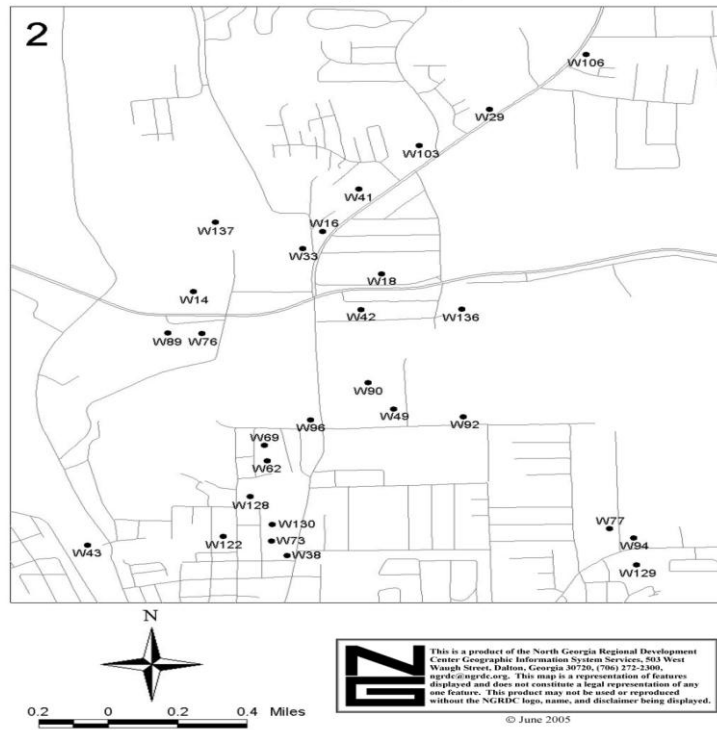


Figure 24

Whitfield County Freight Locations

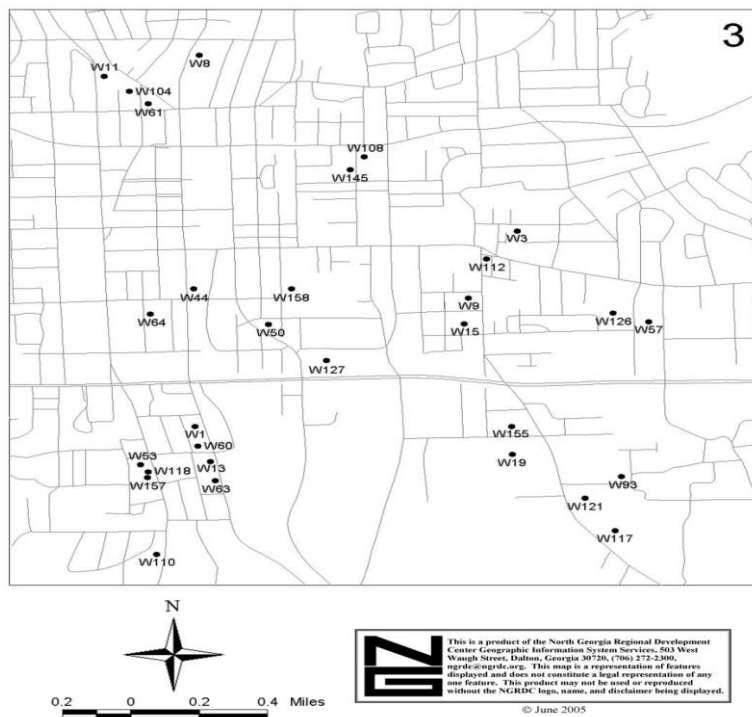
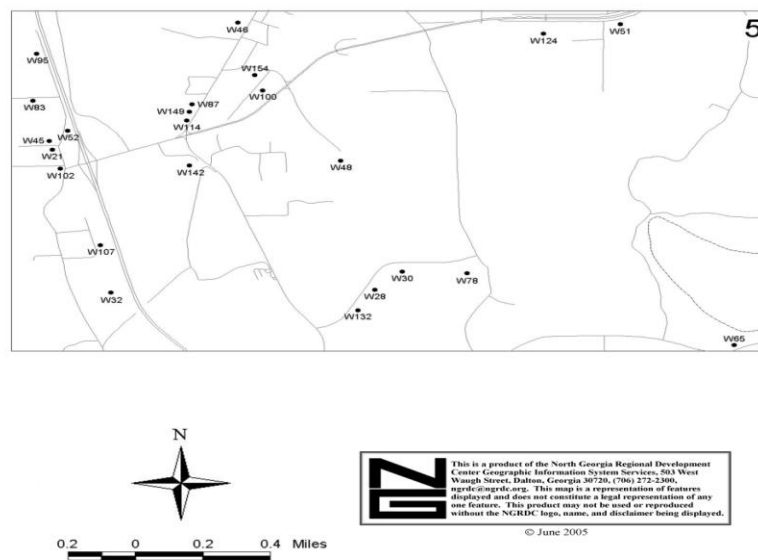


Figure 25

This is a product of the North Georgia Regional Development Center Geographic Information System Services, 503 West Waugh Street, Dalton, Georgia 30720, (706) 272-2300, ngrdc@ngsdc.org. This map is a representation of features displayed and does not constitute a legal representation of any one feature. This product may not be used or reproduced without the NGRDC logo, name, and disclaimer being displayed.

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Whitfield County Freight Locations



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A large percentage of truck traffic in Whitfield County is intra-county trips between carpet manufacturing sites, such as when raw materials are shipped into and stored in Whitfield County warehouses before trucks pick them up and deliver them to a carpet tufting plant, followed by trips to the next processing plant for finishing and finally to distribution centers for shipments from Whitfield County to ocean ports and markets worldwide. Shaw Incorporated, the largest manufacturer headquartered in the county, has 63 manufacturing plants and warehouses in Dalton, Cartersville, Calhoun, Chatsworth and Ringgold, with distribution centers in Dalton, Cartersville and Ringgold. Truck trips generate over 600 intrastate trailer moves each weekday from dry vans, liquid tankers and dry bulk tankers to straight trucks. Shaw Inc. in Dalton generates 120 interstate shipments a day with about 700 interstate shipments a week from all distribution centers to points across the U.S. The local intrastate trailer moves of Shaw Inc, are made with company trucks based in Dalton. Roughly **50%** of Shaw’s interstate shipments are made using their company trucks, with the remainder of shipments being made by common carriers. Proposed improvements and strategies to enhance trucking operations in Whitfield County are included in the Transportation Recommendation Section of this plan.

Table 19 - Whitfield County Freight Locations

Label	Name	Label	Name	Label	Name
W1	Aladdin Manufacturing	W55	Display Craft Inc.	W109	Origi-Trim
W2	American Delta Chemicals	W56	Dixie Transport	W110	Ownbey Enterprises Inc.
W3	American Emulsions Co. Inc.	W57	Dorsett Industries LP	W111	Paradigm Printing Inc.
W4	American Polycraft	W58	Durkan Patterned Carpet	W112	Paramount Printing Inc.
W5	American Sample Systems	W59	Empire Sample	W113	Peanuts Carpet House Inc.
W6	Amoco Fabrics & Fibers Co.	W60	Engineered Textile Prod. Inc.	W114	Penske Truck Lease Co. LP
W7	Amoco Fabrics & Fibers Co.	W61	Export Trade Service Inc.	W115	Pentafab Inc.
W8	Apex Samples Inc.	W62	Extruded Fibers Inc.	W116	Perpetual Machine Co.
W9	Astroturf MGF Co.	W63	Federal Express Corp.	W117	Polychem of Georgia Inc.
W10	Baker Carpet Mills Inc.	W64	Floor Products Inc.	W118	Polytech Fibers Inc.
W11	Baldrige Lumber & Supply Co.	W65	Frankline Limestone Co.	W119	Precision Samples Inc.
W12	Barrett Carpet Mills Inc.	W66	Freedom Express Inc.	W120	Product Cncpts Resid. LLC
W13	Bearden Industrial Supply Inc.	W67	G I R Systems Inc.	W121	Rogers Finishing LLC
W14	Beaulieu Group LLC	W68	Garland Sales Inc.	W122	Rug-Hold Nat. S. Cntr Inc.
W15	Beaulieu Group LLC	W69	General Latex/Chem. Co. of GA	W123	Russel Chenille Inc.
W16	Beaulieu Group LLC	W70	Georgia Power Company	W124	S & S Mills Inc.
W17	Beaulieu Group LLC	W71	Global Textile Services	W125	Salem Leasing Corp.
W18	Beaulieu Group LLC	W72	Great Southern Xpress Inc.	W126	Sample Concepts Inc.
W19	Beaulieu Group LLC	W73	H & S Whiting Inc.	W127	Shaw Contract Floorg Srvcs.
W20	Beaulieu Group LLC	W74	Heatmax Inc.	W128	Shaw Industries Inc.
W21	Becklers Carpet Outlet Inc.	W75	Home Depot	W129	Shaw Industries Inc.
W22	Brauns Express Inc.	W76	Huntsman Packaging	W130	Shaw Industries Inc.
W23	Brown Industries Inc.	W77	J & J Industries Inc.	W131	Signs Graphics Printing Inc.
W24	Brown Industries Inc.	W78	Jet Tex Fibers	W132	Southeastern Freight Lines
W25	Brown Industries Inc.	W79	Joy Truck Lines Inc.	W133	Stephenson & Lawyer Inc.
W26	Brown Industries Inc.	W80	Judd & Sims Inc.	W134	Stone Container
W27	C & S Block Inc.	W81	Kruepke Trucking Inc.	W135	Summit Marketing Inc.
W28	C & S CPT Distribution Inc	W82	L & R Management Group Inc.	W136	SWM Georgia LLC
W29	Campbell Printing Co. Inc	W83	Landstar Login	W137	Synthetic Industries Inc.
W30	Capitol USA	W84	Latex Equip. Sales/Service Inc.	W138	Syntrex Inc.
W31	Carpet Express Inc.	W85	LCAH	W139	TCB Industries
W32	Carpets of Dalton Inc.	W86	Lexmark Carpet Mills Inc.	W140	Textile Coating LTD

W33	Carriage Industries Inc.	W87	Liberty Carpet Co. Inc.	W141	Textile Indust Welding Inc
W34	Caylor Industrial Sales Inc.	W88	Liebhardt Inc.	W142	Textile Rubb/Chem Inc
W35	Chemical-Tech Finishers Inc.	W89	Log Cabin Co. Inc.	W143	The 5D Group Inc
W36	Cherokee Carpets	W90	Lowes of Dalton	W144	The Dow Chemical Co.
W37	Citizens Carpet Service Inc.	W91	Lyle Industries Inc.	W145	Transportation Plus Inc
W38	Clarkliff of Dalton Inc.	W92	M. Fine & Sons Mfg. Co. Inc.	W146	Tuftco-Dalton Inc
W39	Classic Samples	W93	MFG Chemical Inc.	W147	Tufting Machine Co. Inc.
W40	Coffee Trucking	W94	Madison Industries	W148	US Express Enterps Inc
W41	Collins&Aikman Floor Covering	W95	Marketing Alliance Group Inc.	W149	United Parcel Service Inc
W42	Collins&Aikman Floor Covering	W96	Matco Inc.	W150	United Sample Servs Inc.
W43	Columbia Recycling	W97	Mattel Carpet & Rug Inc.	W151	Universal Text Tech LLC
W44	Conagra Poultry Co.	W98	Mid South Metal Works Inc.	W152	Varsity Carpet Services Inc
W45	Covenant Transport Inc.	W99	Mohawk Industries	W153	Vulcan Construction Mtrls.
W46	Craigs Carpet Inc.	W100	Mohawk Industries	W154	Vulcan Materials Co.
W47	Cross Plains Pallet	W101	Mohawk Industries	W155	Waste Manage of GA Inc
W48	Crown Crafts Inc.	W102	Myers Carpet Co. Inc.	W156	Watkins/Sheppard Inc.
W49	Cycle Tex Inc.	W103	N. GA Elec Membership Corp.	W157	Wood Hollow Cabinets
W50	Dalton Bearing Service Inc.	W104	N. GA Ready Mix Conc. Co. Inc	W158	World Carpets Inc
W51	Dalton Fruit Co.	W105	North Georgia Disposal Inc.		
W52	Dalton GA Whsle Fl. Coverings	W106	North Georgia Paper Tube Inc.		
W53	Dalton Machinery & Surplus	W107	Northwest Carpets Inc.		
W54	Dalyn Rugs Co.	W108	NPC South Inc.		

2. Rail Freight

Two freight rail systems operate in Whitfield County; Norfolk Southern (NS) connects Dalton, Varnell and Cohutta with Cleveland, TN and Rome, GA. CSX connects Dalton with Chattanooga, TN and Cartersville, GA and operates more than 2,000 piggyback cars per month. A rail yard in Dalton serves both CSX and NS lines running north/south through Dalton and they actually cross. At this crossing, one train must wait on the other, adding delays at upstream crossings. Train officials will work with Dalton officials to find solutions such as “breaking the trains” when more than a 15 minute delay is expected. There are three grade separations at railroad crossings in Dalton at SR 52/Walnut Ave., Gordon St., and Waugh St./MLK Blvd., which provide adequate east-west access in the mid and southern part of Dalton. The northern part of Dalton does not have a grade separation and frequent delays occur in this area.

Table 18 provides the most current statistics for the two rail lines going through Dalton. Within Dalton, the NS and CSX railroads run on a common track carrying 50 trains per day with speeds from 15 to 50 miles per hour. Within Tunnel Hill, CSX operates 22-26 trains per day with speeds from 22 to 45 miles per hour. Within Varnell, NS operates 27-36 trains per day with speeds from 5 to 50 miles per hour. Within Cohutta, CSX operates 44 trains per day and Norfolk Southern operates between 18 to 27 trains per day with speeds ranging from 1 to 30 miles per hour and 5 to 50 miles per hour respectively.

Scheduled Infrastructure Upgrade Improvements:

Norfolk Southern – Dalton Upgrade passing track and construct yard improvements \$5,000,000

CSXT - Atlanta to Chattanooga - TM & W&A - Capacity Expansion, Bridge Upgrades/connectivity.

Figure 28 below shows the two rail lines, Norfolk Southern and CSXT extending through Whitfield County and each railroad crossing for the two lines.

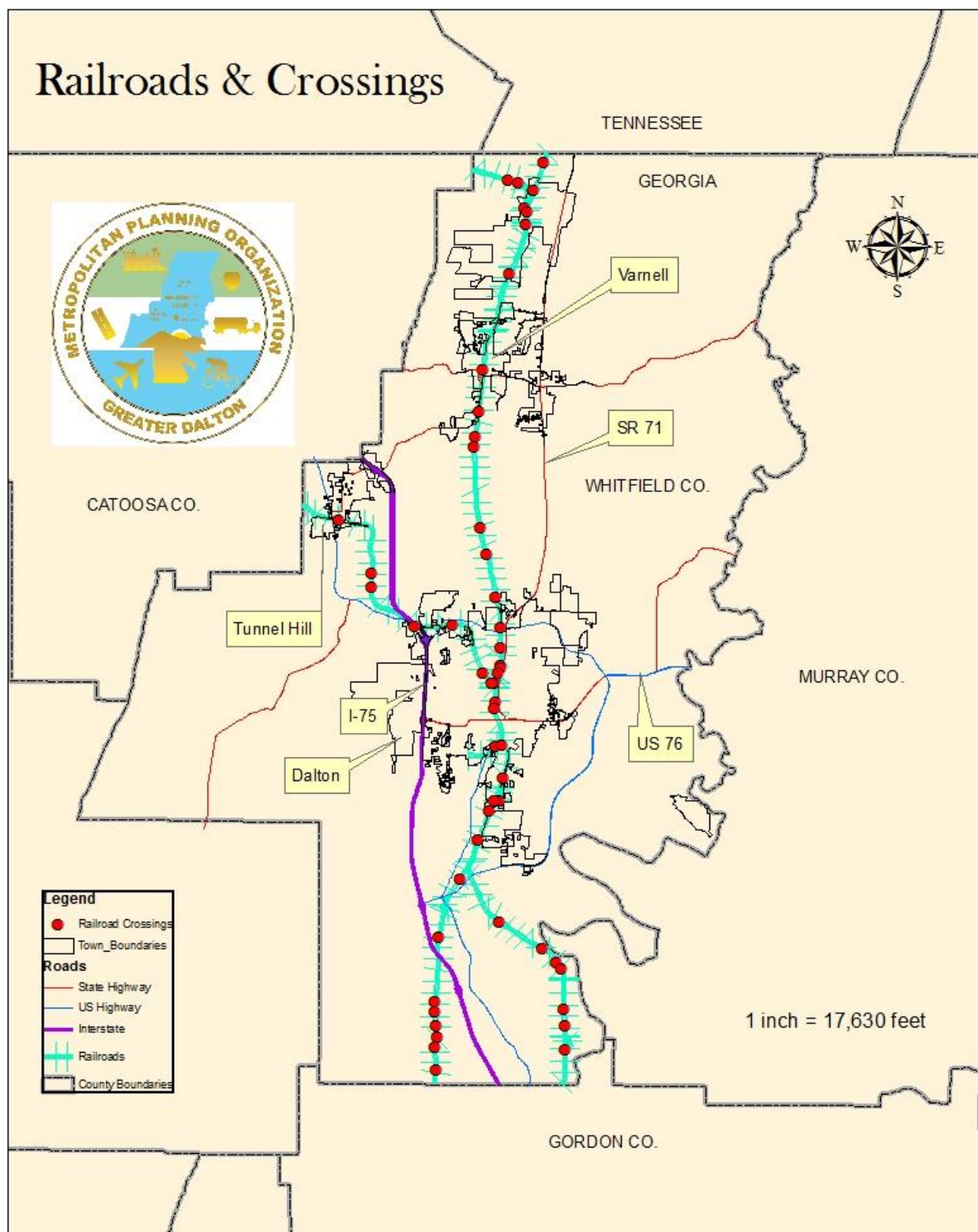


Figure 28

Table 20 - Whitfield County Railroad Inventory									
Inventory No.	City	Road Type	Road Number	Road Name	Railroad	Trains Per Day	Min Speed	Max Speed	Level of Warning
719695D	Cohutta	CR	209	NO NAME CR209	NS	27	5	50	Gates
719692H	Cohutta	CR	19		NS	18	5	50	Gates
719689A	Cohutta	CR	201	CR201	NS	27	5	50	Gates
719690U	Cohutta	CR	202	CR202	NS	27	5	50	Gates
719696K	Cohutta			PVT	NS				
719688T	Cohutta			PVT	NS				
719691B	Cohutta				NS	0	0	0	
719672W	Cohutta			PVT	NS	0	0	0	
340590L	Cohutta		0		CSX	44	1	30	Crossbucks
719669N	Cohutta			PVT	NS	0	0	0	
719673D	Cohutta			PVT	NS	0	0	0	
719668G	Cohutta			PVT	NS				
719693P	Cohutta				NS				
719670H	Cohutta	CR	189	WILSON-CALDWELL	NS	36	5	35	Gates
719671P	Cohutta	CR	203	RED CLAT	NS	36	5	35	Gates
719089X	Dalton	CS	603	IND. BLVD	NS	41	5	50	Gates
719085V	Dalton	CS	789	EMORY ST	NS	36	1	20	Gates
719084N	Dalton	CS	759	EAST MORRIS ST	NS	36	1	20	Gates
719078K	Dalton	CS	737	LONG STREET	NS	34	1	30	Gates
719080L	Dalton	CS	723	E TYLER ST	NS	38	1	30	Gates
719081T	Dalton	CS	716	W HAWTHORNE ST	NS	38	1	30	Gates
719073B	Dalton	CS	845	SPRINGDALE ROAD	NS	34	1	30	Gates
719724L	Dalton	CR	4	EBER RD	NS	33	5	50	Gates
719720J	Dalton	CR	16	CARBONDALE RD	NS	28	5	50	Gates
719721R	Dalton	CR	6	CARBONDALE RD	NS	27	5	50	Gates
719070F	Dalton	CR	239	WARING RD	NS	20	1	50	Gates
719072U	Dalton	CR	539	ROSEN DR	NS	34	1	50	Gates
719711K	Dalton	CR	395	MCFARLAND RD	NS	50	5	50	Gates
719712S	Dalton	CR	48	BRICKYARD CR48R48	NS	38	5	50	Gates
719713Y	Dalton	CR	666	FIVE SPRINGS RD	NS	38	5	50	Gates
719715M	Dalton	CR	488	PHELPS- CR488	NS	27	5	50	Gates
719072N	Dalton	CR	539	ROSEN DRIVE	NS	30			Gates
719716U	Dalton	SR	3	SR 3 US41	NS	0	0	0	
719719P	Dalton	SR	401	I 75	NS	0	0	0	
719082A	Dalton	CS	715	WAUGH ST	NS	0	0	0	
719074H	Dalton	CS	845	HAMILTON ST	NS				
719075P	Dalton	CS	726	SELVIDGE ST	NS				
719076W	Dalton	CS	725	CHATTANOOGA AVE	NS				
719086C	Dalton	CS	845	MCCAMY ST	NS				
915974M	Dalton	CS	604	S. HAMILTON	NS	2	1	5	
340546Y	Dalton	CS	899	GORDON ST	CSX	42	15	25	Flashing Lights
340547F	Dalton	SR	52	N HAMILTON ST	CSX	42	15	25	Gates
340535L	Dalton	CR	672		CSX	24	30	50	Gates
340536T	Dalton	CR	31	TILTON BRIDGE RD	CSX	24	30	60	Gates
340537A	Dalton	CR	33	OLD TILTON	CSX	24	30	50	Gates
340538G	Dalton	CR	666	OLD DIXIE HWY	CSX	24	30	50	Gates
340540H	Dalton	CR	666	FIVE SPRINGS RD	CSX	51	30	50	Gates
340541P	Dalton	CR	48	BRICKYARD RD	CSX	26	2	35	Gates
340539N	Dalton		0	(PVT)	CSX	0	0	0	
351174P	Dalton			SR3/SOUTH BYPASS	CSX	0	0	0	
340553J	Dalton		0	(PVT)	CSX				
340554R	Dalton	SR	401		CSX	0	0	0	
340548M	Dalton	CS	845		CSX	0	0	0	
340552C	Dalton	CR	644	HAIG MILL RD	CSX	42	45	50	Crossbucks
340542W	Dalton	CR	395	MCFARLAND RD	CSX	50	25	35	Gates
340543D	Dalton	CR	563	INDUSTRIAL BLVD	CSX	53	25	35	Gates
340556E	Dalton	CR	280	WILLOW DALE RD	CSX	23	45	50	Gates
340544K	Dalton	CS	789	E EMORY ST	CSX	42	20	25	Gates
340545S	Dalton	CS	759	W MORRIS	CSX	42	15	25	Gates
340549U	Dalton	CS	716	HAWTHORNE	CSX	42	15	25	Gates
340550N	Dalton	CS	726	SELVIDGE ST	CSX	42	15	25	Gates
340551V	Dalton	CS	723	E TYLER ST	CSX	42	15	25	Gates
719714F	Dalton			FRED MILLER PVT	NS	0	0	0	

Table 20 – Continued - Whitfield County Railroad Inventory									
Inventory No.	City	Road Type	Road Number	Road Name	Railroad	Trains Per Day	Min Speed	Max Speed	Level of Warning
719725T	Dalton			PVT	NS	0	0	0	
904117G	Dalton			NORTH DALTON BYP	NS	0	0	0	
904135E	Dalton			WALNUT AVE	NS	0	0	0	
719071M	Dalton			PVT	NS				
719083G	Dalton	SR	52	GORDON ST	NS	0	0	0	
719087J	Dalton	CR	416	NEEDHAM	NS	8	1	10	No Signs
719717B	Dalton	CR	17	CR 17	NS	2	1	10	No Signs
719088R	Dalton	CR	3	SR3 US41	NS	2			Crossbucks
719718H	Dalton	CR	17	E. FIELD RD	NS	33	5	55	Crossbucks
719722X	Dalton	CR	2	POSTELLE RD	NS	33	5	50	Crossbucks
719723E	Dalton	CR	3	HENRY OWENS RD	NS	33	5	50	Crossbucks
340561B	Tunnel Hill	CR	282		CSX	26	45	50	Gates
340559A	Tunnel Hill	CR	290	BEAVER RD	CSX	25	45	50	Crossbucks
340564W	Tunnel Hill	CR	304		CSX				
340557L	Tunnel Hill		0	(PVT)	CSX				
340566K	Tunnel Hill		0	(PVT)	CSX	0	0	0	
340558T	Tunnel Hill		0	(PVT)	CSX	0	0	0	
340567S	Tunnel Hill		0	(PVT)	CSX	0	0	0	
340563P	Tunnel Hill	SR	3	HWY 41	CSX	0	0	0	
340532R	Tunnel Hill	CR	27	NANCE SPRING	CSX	24	30	50	Crossbucks
340560U	Tunnel Hill	CR	290		CSX	23	45	50	Crossbucks
340562H	Tunnel Hill	CS	200	OAK ST	CSX	22	35	40	Flashing Lights
719699F	Varnell	CS	258	NO NAME S 2209	NS	27	5	50	Gates
719701E	Varnell			PVT	NS	0	0	0	
719703T	Varnell			PVT	NS	0	0	0	
719705G	Varnell			PVT	NS	0	0	0	
719706N	Varnell			PVT	NS	0	0	0	
904134X	Varnell				NS	0	0	0	
719697S	Varnell			PVT	NS				
719700X	Varnell	SR	2	SR2	NS	0	0	0	
719709J	Varnell	CR	239	WARING RD	NS	33	5	50	Gates
719710D	Varnell	CR	239	CLOSED	NS	30			No Signs
719708C	Varnell	CR	239	WARING RD	NS	20	5	50	Gates
719698Y	Varnell	CR	658	WHEELER ST	NS	36			Crossbucks
719707V	Varnell	CR	234	CR 234	NS	28			Crossbucks
719704A	Varnell	CR	234	MAPLE GROVE RD	NS	27	5	50	Gates
719702L	Varnell	CR	235	RAUSCHENBERG RD	NS	36	5	50	Gates

Source: NS & CSX Railroads and the GDOT.

Rail Tonnage:

Rail tonnage is an important measurement used by the railway companies and transportation planners to determine the current and future rail system needs for specific areas throughout the state. **Figure 29** below outlines the rail tonnage on all rail systems statewide. It is easy to see that the rail systems running through the Dalton/Whitfield County area rank among the highest for overall rail tonnage.

Georgia Rail Tonnage

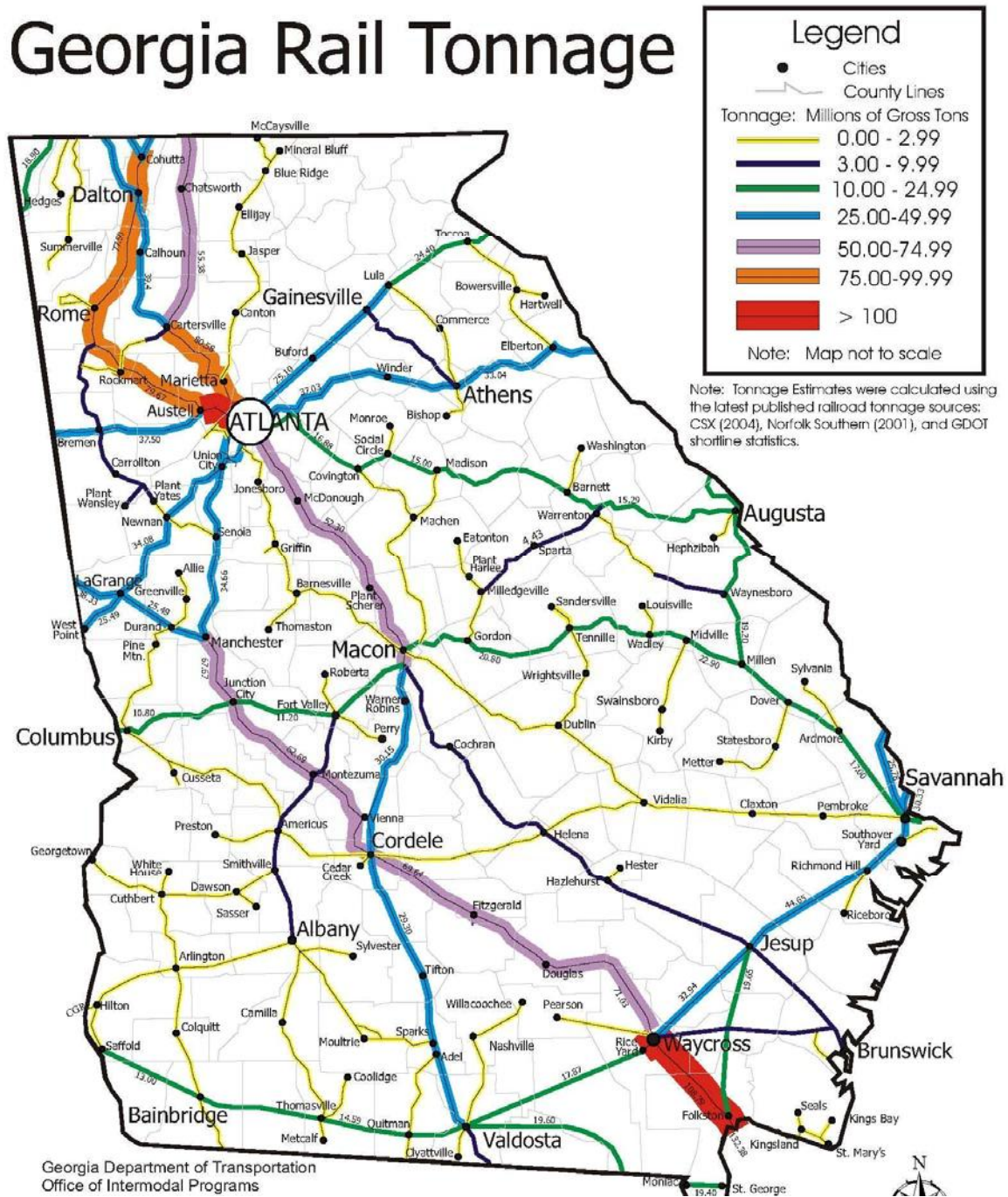


Figure 29 - Rail Tonnage in Georgia

3. Passenger Rail Projects

GDOT is pursuing funding from the High-Speed Intercity Passenger Rail (HSIPR) program for the Atlanta to Chattanooga High-Speed Rail (HSR) Project which will connect Hartsfield-Jackson Atlanta International Airport to the City of Chattanooga, TN. Stimulus funding is being requested to focus on augmenting the process currently underway in the Tier I Environmental Impact Study (EIS) and completing Tier 2 NEPA activities, presumably on an Initial Operating Segment (IOS).

Stimulus funding in the amount of \$1.5M is being requested for feasibility documentation for the South East High Speed Rail (SEHSR) (Macon to Jacksonville), feasibility documentation for SEHSR corridor segment Atlanta- Birmingham and feasibility documentation on a proposed segment from Louisville to Atlanta. In subsequent funding opportunities a coordinated business plan will be developed for the federally designated corridors with emphasis on sustaining average speeds of 120 mph & barriers to true 200 mph, as well as, NEPA documentation for the afore mentioned segments within each corridor.

Atlanta to Chattanooga High-speed Ground Transportation (HSGT) Tier I EIS Study:

The concept of high-speed ground transportation (HSGT) service between Atlanta, GA and Chattanooga, TN has been a subject of study for over 10 years. Initially, GDOT studied this corridor as part of the 1997 Intercity Rail Plan. The Atlanta Regional Commission (ARC) analyzed the 110-mile Atlanta-Chattanooga corridor over a four-year period from 1999 to 2003, exploring mobility options and the opportunity for high-speed passenger service. The Tennessee Department of Transportation (TNDOT) prepared a statewide rail plan in 2003, which recommended HSR connectivity with neighboring states. With HSR corridors in the planning stages east, west, and south of the Atlanta-Chattanooga corridor, this corridor is a major piece in the completion of a future hub system of HSR service throughout the Southeast.

The current Tier I EIS is being conducted by GDOT in partnership with the TNDOT and in cooperation with both the Federal Railroad Administration (FRA) and Federal Highway Administration (FHWA). The study involves planning for the deployment of a HSGT system in the 110-mile Atlanta – Chattanooga corridor which can provide competitive travel times with other travel modes. Preliminary engineering and environmental analysis for the deployment of a full 110-mile project is the subject of this study. Should implementation funding become available in the future, a completed Tier 1 EIS, with a Record of Decision (ROD) could allow for advancement of selected shorter sections and advanced acquisition in the Atlanta - Chattanooga corridor.

Work completed to date includes scoping, preparation of need and purpose statement, documentation of existing conditions, model development and alternatives analysis (AA). The Tier 1 EIS is building upon previous studies of maglev and steel wheel HSGT concepts prepared by the ARC to help identify logical termini for sub-sections in the corridor, analyze all reasonable location and technology alternatives, estimate potential ridership, determine an initial operating section, identify general station locations and identify possible implementation phasing. An analysis of projected revenue, capital costs and economic impact will also be conducted. The Tier 1 EIS is being prepared at a conceptual level of detail appropriate for a programmatic analysis using recorded data, available mapping and GIS techniques.

High-Speed Rail Corridors:

Mega Regions recognize the natural, economic and social characteristics that transcend political boundaries. HSR provides a significant part to transportation solutions to population growth and congestion within Mega Regions. Atlanta is the largest urban area within the Piedmont Atlantic Mega Region which also includes Birmingham, Charlotte, and Raleigh. Atlanta's central position makes it a logical hub for future HSR Systems connecting the Piedmont Atlantic to the Great Lakes, Gulf Coast and Florida Mega-Regions.

Georgia High-Speed Rail Corridors:

Atlanta plays a significant, central role in the advancement of the greatly needed initiative to inaugurate and implement a new National HSR system. This most progressive transportation advancement, of such critical value, providing vastly improved mobility, economic and community development, as well as significant environmental and energy improvements, is largely dependent upon the HSR crossroads projected for Atlanta. As proposals advance to add and refine federally designated high-speed rail corridors, Atlanta will be recognized as a very critical juxtaposition within the system and key to the Southeast contribution to the National system. Georgia recognizes the gap in the HSR network between Louisville, KY via Nashville and Chattanooga, TN and onto Atlanta, GA and will work closely with the states of Kentucky and Tennessee to highlight the feasibility of the HSR corridor connecting them.

A typical HSR trip could include an individual or group of people leaving a home or office and driving on the regional network of streets and highways, taking a bus or rapid rail transit to the HSR Station e.g. the proposed Atlanta Multi-Modal Passenger Terminal or to a HSR Station at the Airport. Ticketing could be handled via the internet or locally at the station. High-Speed trains are designed for comfort and leisure, and the business traveler. Trains are configurable to provide conference rooms, and include food service. There are no limitations on the use of cell phones or computers.

On adjacent platforms, one might notice intercity or commuter trains arriving, passengers unloading and walking towards their place of work or local connection - shuttle, bus, and heavy urban rail (MARTA). The HSR Train would leave the station and operate over tracks within existing joint-use rail right of way possibly shared with freight or regional commuter trains. Starting out, the HSR train does not attain its top speed, but gradually speeds up consistent with other users of the joint right-of-way. As HSR Trains leave the urban core, they switch onto dedicated right of way and accelerate to their maximum speeds. This is much like automobiles entering the Interstate Highway System and accelerating to maximum allowable speed. Passengers riding on these trains may see a regional commuter rail, with typical trip distances of 65-80 miles from the Core, traveling on adjacent tracks not far away but headed on a different alignment to their destination e.g. Athens or Griffin, GA.

Positive Train Control:

One of the emerging issues in the passenger rail industry mandated by Section 104 of the Rail Safety Act of 2008 is the Positive Train Control (PTC). This PTC issue is required on all rail lines and will be included in all future rail planning efforts. A PTC System is designed to prevent train-to train collisions, over-speed derailments, incursions into established work zone limits and the movement of a train through a switch left in the wrong position. PTC System technology is in development. The Act spurred on by the September 12, 2008 fatal head-on collision between a Metrolink Commuter Train and a Union Pacific Railroad Freight Train at Chatsworth, California requires: April 2010 - Each affected railroad and agency/entity must provide to the Secretary of Transportation its plan defining how they will implement PTC safety systems by 2015. December 31, 2015 - PTC must be operational on all required lines.

Future Planning Efforts for South East High-Speed Rail (SEHSR):

Georgia, North Carolina and South Carolina are working on a Memorandum of Understanding for future joint work on the SEHSR line between Charlotte, NC and Jacksonville, FL through Atlanta and Macon, GA. Florida DOT has agreed to participate in a joint application effort to seek funding from FRA for the SEHSR corridor. Travel intercept studies would be conducted with study segments to include: Charlotte – Macon; Macon - Savannah – Jacksonville; and, Raleigh – Florence – Charleston – Savannah.

Efforts are underway to fund the EIS for the corridor. SEHSR corridor trains travel at 90 - 110 mph linking cities where highway and airline congestion are the greatest. **Figure 30** below shows the Georgia Intercity HSR Plan corridors.

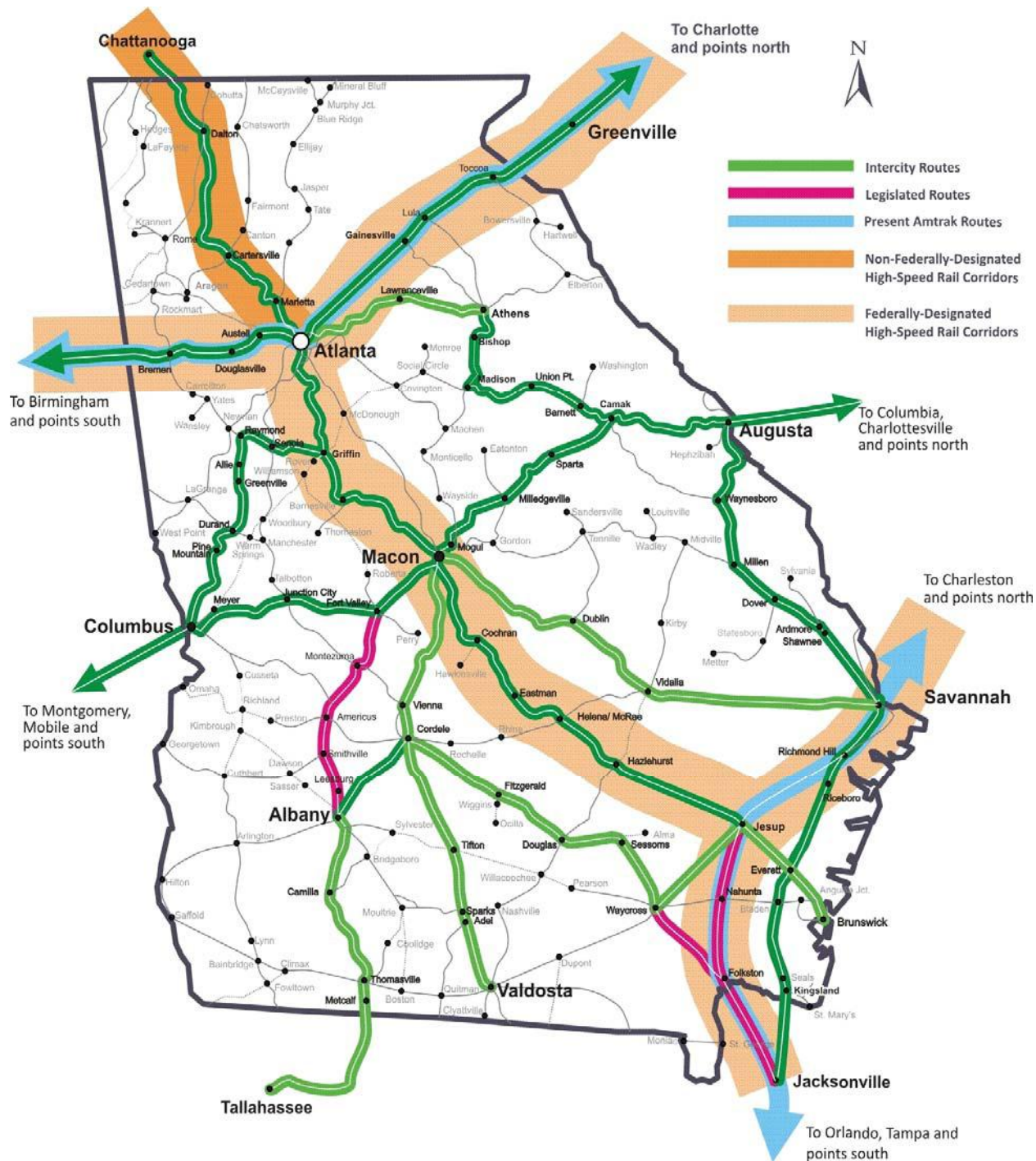


Figure 30 - Georgia Intercity/High-Speed Rail Plan

Impacts of High Speed Rail:

- ✓ HSR is a great tool in responding to the needs identified by regional and inter-regional planning to address the nation's growing population and socioeconomic development.
- ✓ These benefits increase as HSR Trip Time becomes competitive with the alternate modes of transportation in particular, interstate highway and air travel.
- ✓ HSR provides a safe, secure, alternative to interstate highway systems and short to medium distance air trips, reducing congestion within these transport systems while moving millions of people per year
- ✓ HSR provides a trip suited to leisure and business activity. Trains can be configured with conference rooms, seats configured with ample leg room and desks with power for computer and recharging other electronic devices. Food Service is also available. Unlike automobile and air, high-speed rail trains run on time, regardless of weather conditions. They provide non-stop and local services, and seamless connectivity with other transportation systems.
- ✓ HSR Stations are catalysts for economic development and centers for intermodal connectivity. HSR connects economic centers within the Piedmont Atlantic Mega Region and adjacent Mega Regions. Similar to the development of the Interstate Highway System, HSR provides mobility in response to population growth, laying the groundwork for economic development, within the context of the global economy of today.
- ✓ HSR increases the nation's energy efficiency, contributes to energy independence and improves the environment by moving passengers over distances of 200-600 miles through clean diesel technology or electrification. High-Speed Rail also contributes in curbing carbon emissions.
- ✓ HSR benefits also generally increase as maximum speeds increase, due to higher speeds being grade-separated and within dedicated right of way. Emerging HSR systems often share track with freight and other passenger rail services. Mixing HSR, Freight and traditional passenger rail, each one operating at different speeds, affects system safety and Trip Time. Existing rail lines have established alignments and infrastructure that often are incompatible with trains operating even at emerging HSR speeds between 90 mph and 110 mph. As speeds increase, safety requires grade separated dedicated right of way. Regional and Express HSR then begin to demonstrate the established safety record of high-speed rail.

Benefits of Southeast High-Speed Rail Corridor (SEHSR):

- ✓ The SEHSR corridor project contributes to safety by providing an alternate mode of travel for the riders along the corridor.
- ✓ The SEHSR Corridor also reduces the accident, injury, and fatality exposure of riders by preventing traffic accident deaths and fewer injuries per year compared to driving.
- ✓ The SEHSR Corridor also improves safety at highway-railroad grade crossings as it potentially could eliminate all crossings along the rail line.
- ✓ The SEHSR Corridor project also helps support the local community development around the station sites with respect to transit oriented development and town center redevelopment.
- ✓ The SEHSR Corridor project increases mobility to seniors and other non-driving population.
- ✓ The SEHSR Corridor also avoids the demand for scarce road construction funds and creates time savings for remaining road and air users.
- ✓ The SEHSR Corridor project also helps reduce pollution and reach clean air goals for the metropolitan regions along the corridor.
- ✓ The SEHSR Corridor project implementation would result in the reduction of Vehicle-Miles Traveled (VMT) inside the corridor.

Figure 31 below: shows the proposed alignments and the proposed Stations for the Atlanta to Chattanooga High Speed Ground Transportation Study.

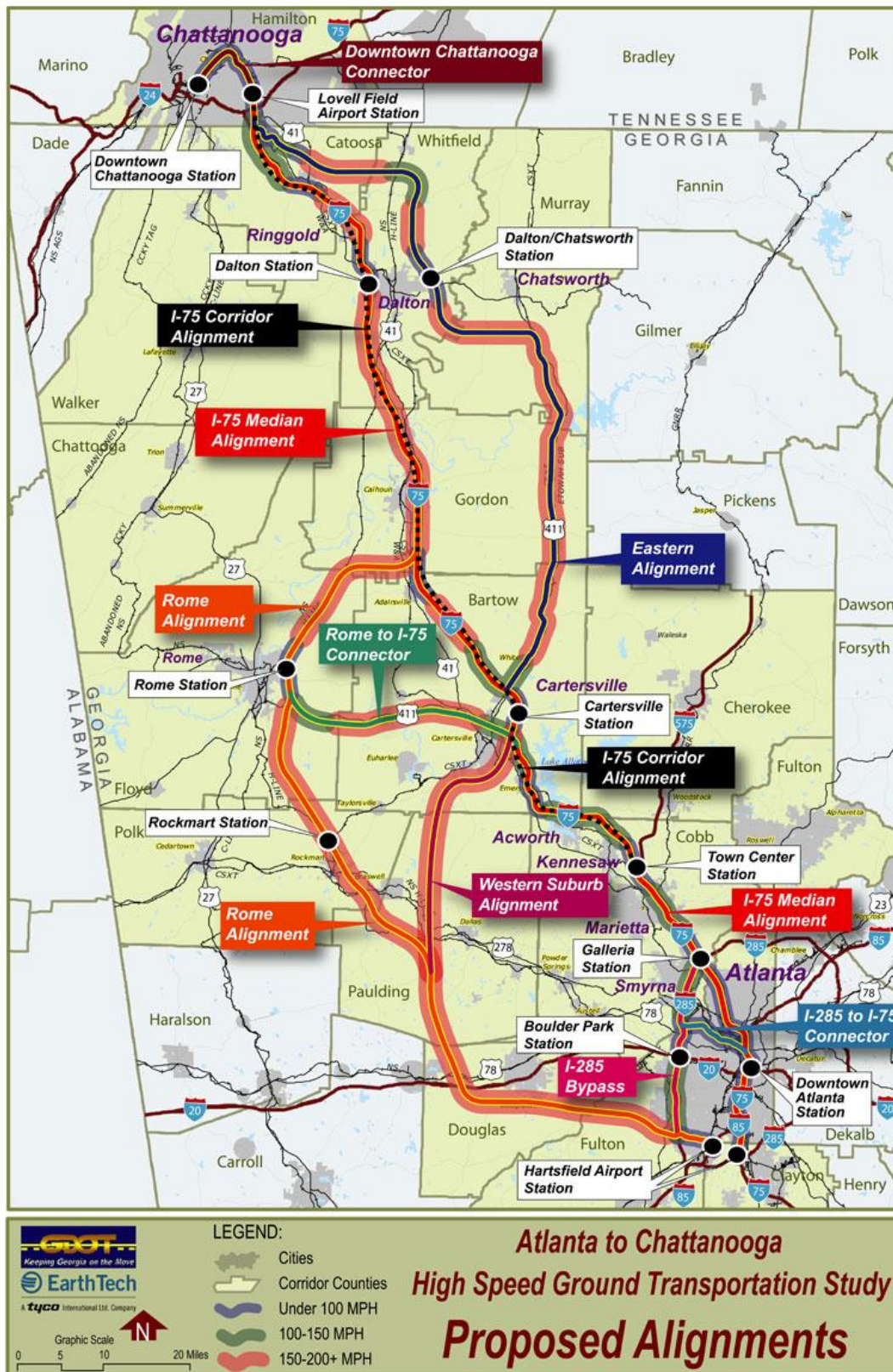


Figure 31

G. Operations and Maintenance

With no GDOT maintenance facility in Whitfield County, crews from Ringgold and Chatsworth perform the work needed on the state routes. Property on the S. Dalton Bypass (SR 3/US 41) was purchased and cleared for the eventual construction of a GDOT maintenance facility closer to Dalton, which has not been constructed to-date.

Maintenance activities from the GDOT Dalton Area Office include the following:

- Pothole, Shoulder and Bridge repair and maintenance.
- Mowing of state rights of ways.
- Resolution of drainage issues, including culvert maintenance.
- Removal of dead animals, Litter and natural debris.
- Tree and brush cutting.
- Installation and replacement of raised pavement markers.
- Restriping of state routes.
- Milling and inlay work at intersections.
- Response to major traffic accidents to quickly open and clear the roadway.
- Ice and snow removal.

Other work performed by the GDOT includes:

- Sign and guardrail installation and maintenance.
- Installation and maintenance of traffic signals.
- Access control through commercial and residential permits.
- Resolution of concerns expressed by local citizens.
- Work with local governments on state construction projects.

Paving state routes in Whitfield County is managed through the GDOT District 6 Office in Cartersville, GA, which is responsible for seventeen counties. Surface conditions of state routes are rated annually on degree of deterioration and traffic (mainly truck) volume. A list of priority resurfacing projects is prepared and from it, projects are contracted for resurfacing within the current year budget limitations.

Whitfield County is eligible to receive funds to resurface local roads through the Local Assistance Road Program (LARP). Funding is based on population, road mileage and available funds. A priority list of local roads is submitted annually to the District Office for review and rating of resurfacing needs.

The 160 miles of streets in the City of Dalton are ranked from '0' to '100' with '0' being the highest ranking. The City measured all streets and projected a cost to resurface them at \$5,497,412.00. The Citywide resurfacing program started in 2000 to resurface every city street within four years. The City was successful in resurfacing all but 27 miles of streets by the end of the four years, due to utility cuts and storm drainage improvements, finally completing their resurfacing project as promised.

The City of Dalton Public Works Department uses the Manual of Uniform Traffic Control Devices (MUTCD) standards to perform traffic control installation and maintenance with recommendations from GDOT. The City is responsible for the installation, operation and maintenance of traffic signals within the city limits. In 2004 there were 89 traffic signals at the intersections of the following major streets:

<i>Abutment Rd.</i>	<i>MLK Blvd.</i>	<i>Reed Rd.</i>	<i>Underwood St.</i>	<i>Hamilton St.</i>
<i>Crawford St.</i>	<i>Morris St.</i>	<i>S. Dixie Hwy.</i>	<i>US 41</i>	<i>Pentz St.</i>
<i>Dug Gap Rd.</i>	<i>Murray Ave.</i>	<i>Shugart Rd.</i>	<i>Veterans Ave.</i>	<i>Waugh St.</i>
<i>Glenwood Ave.</i>	<i>N. Dalton Bypass</i>	<i>Thornton Ave.</i>	<i>Walnut Ave.</i>	<i>Tibbs Rd.</i>

It is important for all governmental entities in the area to develop a good working relationship to maintain a high level of maintenance and to continuously improve the quality of the transportation system for all citizens living in and traveling through the Whitfield County area.

VI. PROJECT CONSIDERATIONS

Projects included in the Long Range Transportation Plan received input from several sources including goals and objectives, FHWA planning factors, review by MPO committees, public review, results from the Travel Demand Model, estimated project costs, environmental impact, safety, environmental justice concerns and civil rights concerns such as Title VI and the Americans Disability Act (ADA).

A. Goals, Objectives and FHWA Planning Factors

The goals and objectives and FHWA Planning Factors listed previously were considered for all projects, were shared in public meetings and modified, based on citizen input. The FHWA Planning Factors were considered in the evaluation of projects and in the recommendations of modal strategies.

B. Review by MPO Committees

Road projects were reviewed by the GDMPO Staff, the Technical Coordinating (TCC) and Policy Committees (PC). After review and recommendations by the TCC and GDMPO Staff, the PC selected specific projects for testing by the Travel Demand Model. After testing of projects to determine the impact on reducing traffic congestion, the GDMPO staff evaluated and prioritized proposed projects which were reviewed and approved by the PC. The evaluation criteria used in the prioritization included congestion reduction, safety, land use access, environment and local support. Other factors considered in the prioritization included estimated costs and available funds.

C. Public Review

Public review of the LRTP included four (4) public meetings and/or hearings, access to the LRTP on the GDMPO Website, and placement of the LRTP at eight (8) locations in the County, to review the LRTP before adoption by the PC. Public comments through surveys, comments and participation in a workshop format were used in the consideration and selection of projects including roads, sidewalks, bicycle facilities and transit. The proceedings of these meetings are summarized in Appendix 'A' of this report.

D. Environmental Justice, Title VI, and ADA.

Title VI, Executive Order 12898 and Section 450 of the TEA-21 legislation established environmental justice requirements for Federal agencies and federally funded programs. The three major principles of environmental justice are:

- Provide full and fair participation by traditionally underserved communities (TUCs).
- Avoid, minimize or mitigate disproportional impact to TUCs.
- Ensure TUCs share in the benefits of transportation improvements.

Environmental Justice issues were considered in developing the LRTP through the following activities:

- Identification of the location of TUCs (See Figures 1 and 2 in the population section.)
- Spanish Flyers advertising public meetings distributed to activity centers in Hispanic Communities.
- Public Service Announcements of all MPO Committees were sent to Hispanic newspapers.
- Public comment and survey forms were written in Spanish and made available at all public meetings.

The provisions of the Americans with Disabilities Act (ADA) were considered in choosing sites for the public meetings which were handicapped accessible, on the main floor with handicapped parking.

VII. PLAN RECOMMENDATIONS

A. Streets and Highways

The creation of a long range transportation plan involves working and cooperating with stakeholders such as the general public, representatives from local transportation related industries and agencies, the regional development commission and the local, state and federal agencies. In addition, the Road Improvement Plan includes recommended policies and projects to guide the implementation of the transportation investment over the next 25 years. The Road Improvement Plan (RIP) was created through the cooperative process described previously in this document and in the Participation Plan.

Recommendations for projects to be included in the **Road Improvement Plan (RIP)** were based primarily on the TCC and PCs' review and evaluation of the projects in the 2030 LRTP in regards to projects that best impact the reduction of traffic congestion, enhancement of safety, land use, have local support and available funds. Evaluating projects to reduce traffic congestion were based on results of the Travel Demand Model (TDM) and all projects were ranked with three new projects being added to the projects list for consideration. These projects were numbered as local project numbers 61, 62 and 63.

Cost and Revenue Inflation/Escalation: Federal legislation requires the Road Improvement Plan to be financially-constrained, and to only include projects which are financially feasible and remain within the projected revenues provided by the GDOT and, the available projected local funding through the expected Year-of-Expenditure (YOE). To allow for inflation and the ever-increasing costs of construction, expected revenues to pay for projects were projected at an annual rate of 2.5 % and the project costs were projected at an annual rate 4.0% to the expected YOE for each project. These cost and revenue projections are required to be identified in YOE dollars, instead of current dollars.

Projects in the RIP are **financially-constrained** in YOE dollars, and comply with federal SAFETEA-LU requirements. In addition to the projects listed in the financially-constrained RIP, this document includes a list of additionally needed, and important projects which are listed in the **Illustrative Project Plan (IPP)**. Projects from the IPP could be moved to the financially-constrained RIP and eventually be implemented, should additional funding become available.

To project future funding for transportation projects, after projects were prioritized by order of need, projects from the 2030 LRTP, plus the three new projects, were analyzed to determine when they could realistically be let for construction, based on projected revenues provided by GDOT and historical Federal and State funding levels for area projects. These were then categorized into **Short-Range**, **Mid-Range**, or **Long-Range** time periods. The 2030 LRTP base year project cost estimates were then escalated to the expected year the project would be let, or YOE. The projects were broken down into the following phases, as required, for completion of the projects: **Professional Engineering (PE) Phase**; **Rights-of-Way (ROW) acquisition Phase**; **Utilities (UTL) Phase**; and, **Construction (CST) Phase**. Project and/or phase costs authorized or spent prior to June 2009 were not included in the fiscally-constrained RIP.

Definitions for the three Ranges (periods of time) where projects were placed in the RIP:

The projects and/or phases for each RIP project were reviewed by the GDMPO staff to determine which of the following three time periods best fit the priority, funding, and schedule of each project or phase.

1. **Short-Range - (2010-2015):** This period coincides with the GDOT short-range planning period. Projects have a YOE of 2015 and include current GDOT cost estimates which are already inflation-escalated. Local projects were inflation-escalated to 2015, the expected Year-of-Expenditure (YOE), from the base year project costs, provided in the 2030 LRTP.
2. **Mid-Range – (2016-2025):** These projects include the already inflation-escalated project cost estimates from the GDOT to the year 2020, or local project inflation-escalated estimates to the year 2020 (the midpoint), from the base year project costs provided in the 2030 LRTP.

3. **Long-Range – (2026-2035):** All long-range projects were inflation-escalated to a 2030 YOE, the midpoint of the Long-Range time period. The GDOT estimates for their authorized long-range projects were already inflation-escalated to 2020. These projects were then inflation-escalated to a 2030 YOE, if applicable. Local project estimates were inflation-escalated from the base year project costs provided in the 2030 LRTP. New estimates were created for the Local projects #61, #62 and #63, through the new GDOT *Cost Estimation System Tool*.

Due to ever-increasing costs of construction and the decrease in available Federal, State and local revenues for projects, some projects listed in the current 2030 LRTP RIP were moved to the IPP in the 2035 LRTP RIP. The determination to move these projects to the IPP was made by the TCC and GDMPO staff, based on the project's ranking, need and available funding. Projects ranked highest by the GDMPO which showed progress, with funding phases already authorized by the GDOT, were placed in the 2035 LRTP RIP. This methodology helped determine where projects would be listed. Once the RIP list was drafted, projects were inflation-escalated to the expected YOE to finalize the RIP. Projects from the IPP could eventually be transferred into the RIP if more funding becomes available in the future.

After projects were tested in Network 6 of the Traffic Demand model (TDM), the lower ranking projects were removed to stay within the Federal/State funding allocation for the 25-year planning period. Network 7 represents the Financially Constrained Network after some projects were removed.

The reduction of traffic congestion can be seen by comparing the “No Build Scenario” with the “Recommended Plan Improvements Scenario”. Traffic congestion is noted along roads marked in red, indicating a volume to capacity (V/C) ratio equal to or greater than 0.80. While some roads shown in the “Recommended Plan Improvements Scenario” still exhibit traffic congestion, there is great improvement compared to roads that exhibit traffic congestion in the “No Build Scenario”. Also, improvements can be seen by comparing the level of service (LOS) maps with each other.

Therefore, based on the evaluation of the proposed road projects to improve road conditions in Whitfield County during the 25-year planning period, the projects shown on **Figure 32** and in **Table 22** make up the financially-constrained **2035 Road Improvement Plan**. All projects in this plan are within the estimated Federal/State funding allocation of **\$248,025,680** provided by GDOT.

The projects shown in **Figure 33** and **Table 23** make up the **Illustrative Projects Plan**, which are important projects needed by the GDMPO, but which did not make it into the Financially-Constrained Road Improvement Plan. Following is a summary of project costs and the projected and proposed funding for the Road Improvement Projects for each planning period over the 25-year LRTP.

Table 21	Estimated	Local	Federal/State
Planning Period	Project Costs	Funding	Funding
Short-Term (1 to 5 years)	\$ 58,889,783	\$ 749,280	\$ 58,140,503
Mid-Term (6 to 10 years)	\$ 188,940,276	\$ 18,976,760	\$ 169,963,516
Long-Term (11 to 25 years)	\$ 37,874,009	\$ 17,952,348	\$ 19,921,661
Totals	\$ 285,704,068	\$ 37,678,388	\$248,025,680
Estimated Federal/State Funding Limit – Provided by GDOT:			\$248,025,680
Difference between Federal/State Funding Limit and estimated costs for projects:			\$0
There is also a federal/state funding category for “Maintenance” of approximately \$39.5 million .			

Source: The Georgia Department of Transportation.

Local funds come from Dalton, Tunnel Hill, Varnell and Whitfield County general funds, as appropriate. Other possible local funding sources include General Obligation Bonds (GOB) and the Special Purpose Local Option Sales Tax (SPLOST). See Appendix ‘C’ for more details regarding funding and Table 21.



2035 ROAD IMPROVEMENT PLAN

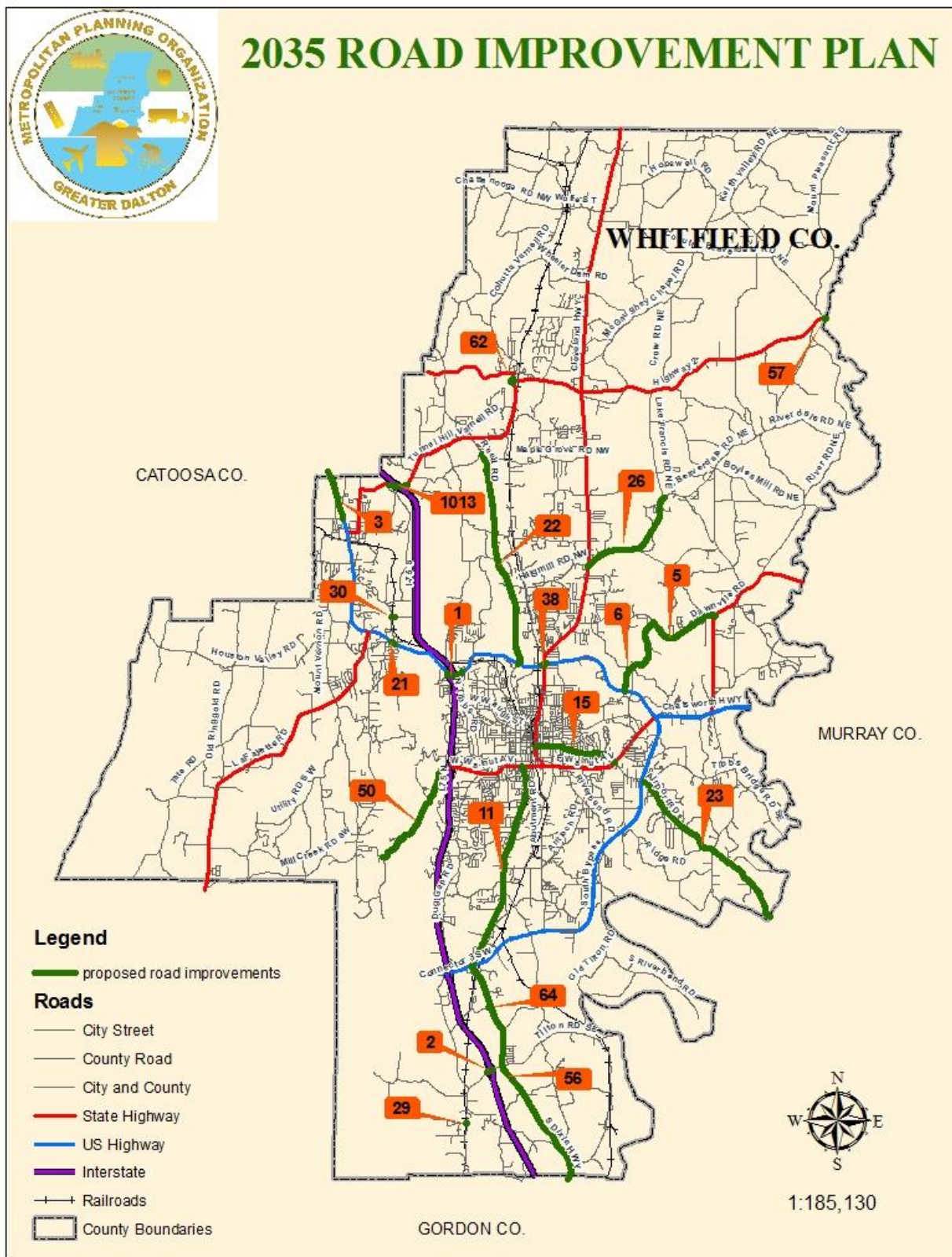


Figure 32



2035 ILLUSTRATIVE PROJECT PLAN

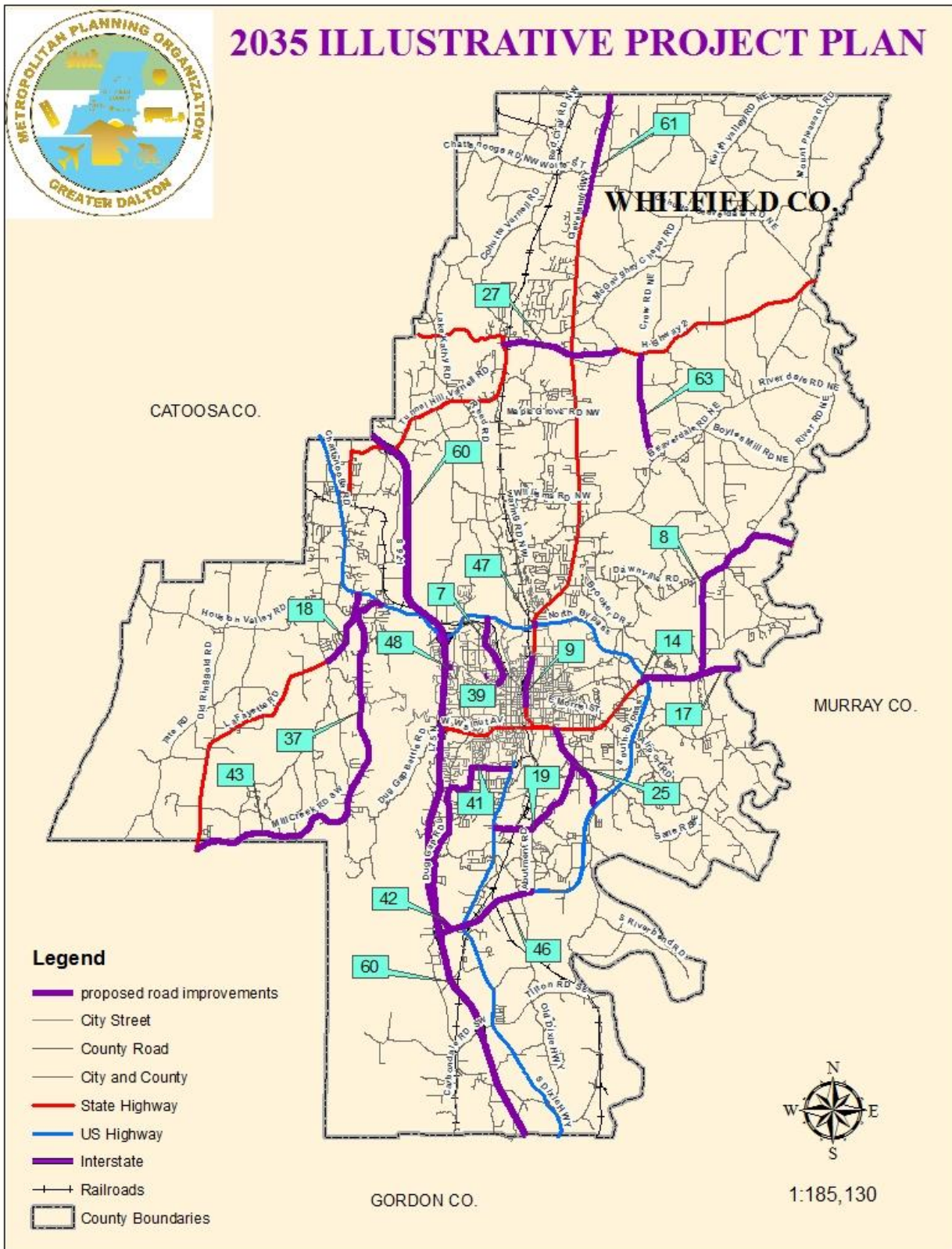


Figure 33

Table 22 - Road Improvement Plan 2010 to 2035							
GDOT/Local Project No.	Project	Location/Termini	Description	Phase	Federal/State Funding	Local Funding	Total Cost
SHORT-RANGE PROJECT RECOMMENDATIONS - (2010-2015)							
0931 / 1	I-75/Rocky Face Exit	I-75 at SR 3/US 41	Interchng Reconst.	CST	\$26,516,749	\$0	\$26,516,749
610890 / 2	I-75/Carbondale Exit	I-75 at Carbondale Rd./CR 665	Interchng Reconst.	ROW	\$26,433,091	\$0	\$26,433,091
632670 / 56	SR 3	SR3 Conn.SR 136 to Gordon Co.	Widening	SCP	\$1,725,000	\$0	\$1,725,000
8719 / 38	N. Dalton Bypass/SR 71	N. Dalton Bypass/SR 71	Intersect . Improve	PE/ROW/CST	\$1,847,801	\$0	\$1,847,801
4607 / 29*	CR 3/Henry Owens Rd.at NS R/R	CR 3/Henry Owens Rd.at NS R/R	RR X-ing Safety	LUMP SUM	\$130,000	\$0	\$130,000
30*	CR 290/Beaver Rd. at CSX R/R	CR 290/Beaver Rd. at CSX R/R	RR X-ing Safety	LUMP SUM	\$130,000	\$0	\$130,000
5	Dawnville Rd.	Underwood Rd. to SR 286	Widen to 4 lanes	PE	\$626,080	\$346,080	\$972,160
26	Beaverdale	SR 71 to Lake Francis Rd.	Widen to 4 lanes	PE	\$731,782	\$403,200	\$1,134,982
8364 / 64*	SR 3/US 41 @ Little Swamp Crk	SR 3/US 41 @ Little Swamp Crk	Bridges	MAINTENANCE*	{ \$444,073 }*	{ \$50,000 }*	{ \$494,073 }*
SHORT-RANGE TOTALS					\$58,140,503	\$749,280	\$58,889,783
MID-RANGE PROJECT RECOMMENDATIONS (2016 to 2025) – Local Project Costs Escalated to 2020 Mid-Point YOE.							
610890 / 2	I-75/Carbondale Exit	I-75 at Carbondale Rd./CR 665	Interchng Reconst.	UTL/CST	\$27,490,210	\$515,650	\$28,005,860
631065 / 23	Airport Rd./CR 664	Tibbs Bridge Rd. to Murray Co.	Reconstruction	ROW/CST	\$2,331,787	\$757,830	\$3,089,617
611180/10-13	I-75 at SR 201	I-75 at SR 201	Widen I-75/SR 201	CST	\$1,508,369	\$0	\$1,508,369
631360 / 3	SR 3/US 41	Campbell Rd. to Catoosa Co.	Widening	CST/ROW/UTL	\$22,699,247	\$0	\$22,699,247
7058 / 57*	SR 2 at Conasauga River	SR 2 at Conasauga River	Bridge Widening	ROW/CST	\$534,368	\$0	\$534,368
622120 / 28*	ATMS-GDOT Reg. TCC-ITS	Various Locations TBD	Construct/Plcmnt	CST	\$1,872,509	\$0	\$1,872,509
620630 / 11	South Dixie Hwy	SR 3 Connector to Walnut Ave.	Widening	ROW/CST	\$34,770,938	\$8,037,760	\$42,808,698
632670 / 56	SR 3	SR3 Conn.SR 136 to Gordon Co.	Widening	PE/UTL/ROW/CST	\$60,934,882	\$0	\$60,934,882
21*	US 41	@ Old Chattanooga & Lafayette	Intersect. Improve	PE/ROW/CST	\$712,800	\$712,800	\$1,425,600
22*	Reed Rd.	Rauschenberg to SR 71	Traffic Study	STUDY	\$0	\$336,000	\$336,000
5	Dawnville Rd.	Underwood Rd. to SR 286	Widen to 4 lanes	ROW/CST	\$7,199,920	\$3,979,920	\$11,179,840
26	Beaverdale	SR 71 to Lake Francis Rd.	Widen to 4 lanes	ROW/CST	\$8,415,494	\$4,636,800	\$13,052,294
62*	SR 2 & 201	Intersection of SR 2 & 201	Intersect. Improve.	PE/ROW/CST	\$1,492,992	\$0	\$1,492,992
MID-RANGE TOTALS					\$169,963,516	\$18,976,760	\$188,940,276
LONG-RANGE PROJECT RECOMMENDATIONS (2026-2035) - Project Costs Escalated to 2030 Mid-Point YOE.							
15	E. Morris Street	SR 52 to Glenwood	Widen to 4 lanes	PE/ROW/CST	\$6,685,777	\$10,177,104	\$16,862,881
6	Underwood Rd.	Dawnville to N. Dalton Bypass	Widen to 4 lanes	PE/ROW/CST	\$10,192,000	\$5,936,448	\$16,128,448
50*	Dug Gap Batt/Dug Gap Rd.	Trade Center Dr. to Hurricane Rd.	Widen, Geometrics	PE/ROW/CST	\$3,043,884	\$1,838,796	\$4,882,680
LONG-RANGE TOTALS					\$19,921,661	\$17,952,348	\$37,874,009
Fiscally-Constrained Road Improvement Plan Grand Totals for All Projects					\$248,025,680	\$37,678,388	\$285,704,068

**These projects were not coded through the Travel Demand Model or shown on the Level of Service Map, since they are primarily safety improvements which do not significantly impact the flow of traffic in the Travel Demand Model. {Project #64 - funded by Maintenance L110}*

Table 23 – Illustrative Project Plan

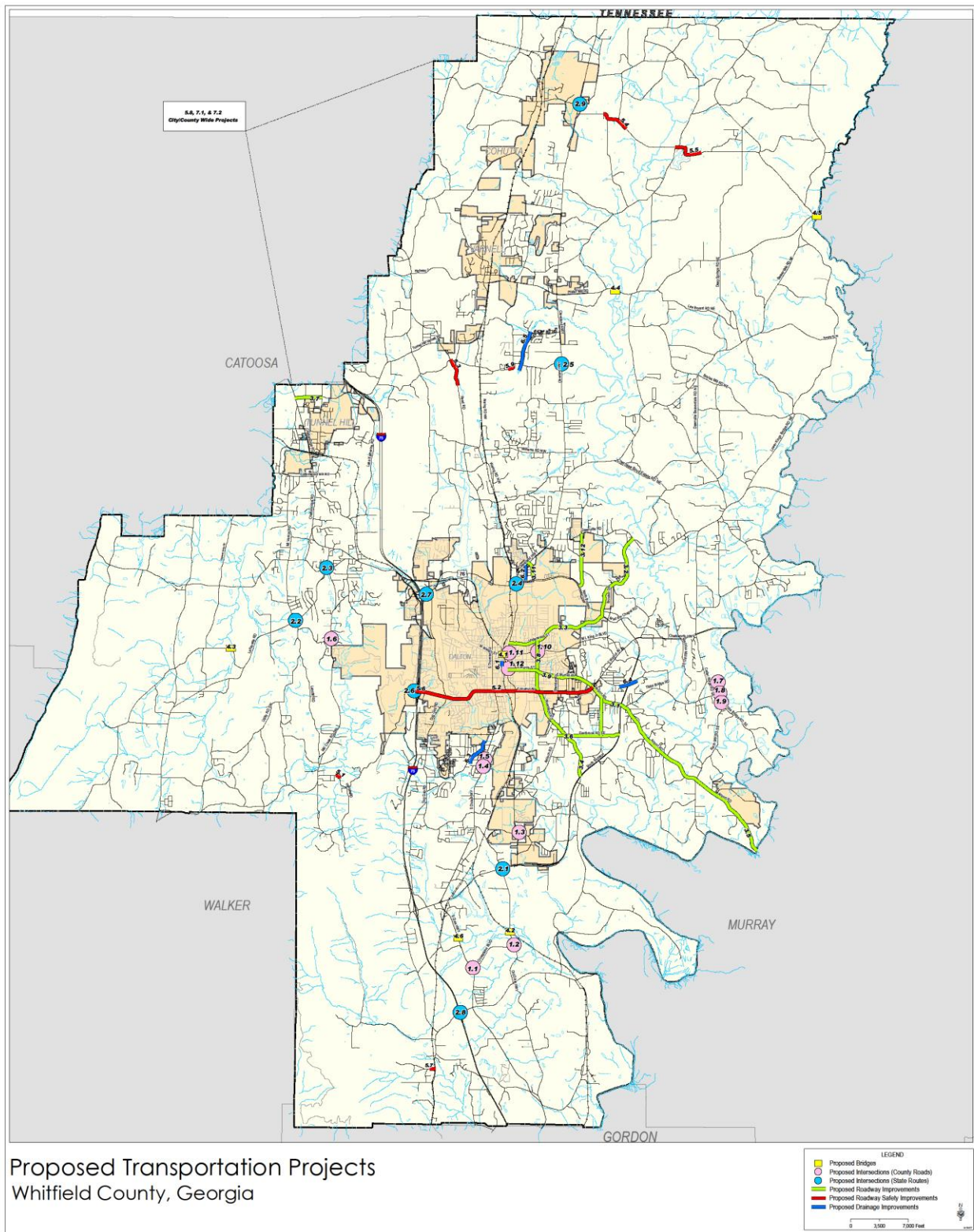
GDOT/Local Project No.	Project	Location/Termini	Description	Phase	Fed/State Funding	Local Funding	Total Cost
18	SR 201	Mt. Vernon Rd. to SR3/US 41	Widen to 4 lanes	PE/ROW/CST	\$13,117,907	\$8,283,744	\$21,401,651
25	Riverbend Rd.	S. Dalton Bypass to Walnut Ave.	Widen to 4 lanes	PE/ROW/CST	\$4,951,800	\$3,600,720	\$8,552,520
47	N. Dalton Bypass	Intersect w/SR 71/Cleveland Hwy	New Interchange	PE/ROW/CST	\$9,504,000	\$13,392,000	\$22,896,000
7	Thornton Ave./Hosp. Acc.	N. Dalton Bypass to E. Waugh St.	Widen to 4 lanes	PE/ROW/CST	\$6,405,480	\$9,025,560	\$15,431,040
9	Glenwood Ave.	Morris St. to Morningside	Continuous Turn Lane	PE/ROW/CST	\$1,485,000	\$1,485,000	\$2,970,000
19	Antioch/Brickyard	S. Dixie Hwy. To Riverbend Rd.	Widen to 4 lanes	PE/ROW/CST	\$12,831,480	\$6,718,680	\$19,550,160
37	Mill Creek Rd	Hurricane Rd. to SR 3	Upgrade, Widen, Geom.	PE/ROW/CST	\$8,647,560	\$12,185,640	\$20,833,200
27	SR 2	SR 201 to Old Praters Mill Rd.	Widen to 4 lanes	PE/ROW/CST	\$6,752,160	\$3,989,520	\$10,741,680
42	Dug Gap Rd.	S.Dalt Bypass to E. Dug Gap Mtn. Rd	Upgrade, Widen, Geom.	PE/ROW/CST	\$0	\$15,615,720	\$15,615,720
60	I-75	Gordon Co. Line to Catoosa Co. Line	Widen to 8 lanes	PE/ROW/CST	\$61,560,000	\$0	\$61,560,000
61	SR 71	N of Cohutta to State line	Widen to 4 lanes	PE/ROW/CST	\$11,773,440	\$6,914,560	\$18,688,000
63	Lake Francis Rd.	Beaverdale Rd. to SR 2	Widening	PE/ROW/CST	\$11,040,260	\$5,437,740	\$16,478,000
48	I-75 at Waugh St. Cllge Dr.	I-75 at Waugh St. College Dr.	Ext./New Interchange	PE/ROW/CST	\$11,264,000	\$15,872,000	\$27,136,000
14	SR 52	SR 52 Bus. To CR 112	Widen to 6 lanes and	PE/ROW/CST	\$2,155,520	\$0	\$2,155,520
41	E. Dug Gap Rd./Treadmill	Dug Gap Rd. to S. Dixie Highway	Upgrade, Widen, Geom.	PE/ROW/CST	\$0	\$7,074,560	\$7,074,560
8	Dawnville Rd.(SR 286)	SR 52 to County Line	Widen to 4 lanes	PE/ROW/CST	\$22,388,480	\$11,193,600	\$33,582,080
39	Tyler Street	Tyler to Waugh St.	Extend to Waugh, RR	PE/ROW/CST	\$0	\$12,988,160	\$12,988,160
43	Mill Creek Rd	S.R. 201 to Hurricane Rd.	Add lane, Geometrics	PE/ROW/CST	\$8,490,240	\$11,964,160	\$20,454,400
17	SR 52/Chatsworth Hwy.	Dalton Bypass to County Line	Widen to 6 lanes	PE/ROW/CST	\$14,767,360	\$10,352,640	\$25,120,000
46	S. Dalton Bypass	I-75 to Lakeland Rd.	Widen to 6 lanes	PE/ROW/CST	\$9,902,080	\$3,662,080	\$13,564,160
Illustrative Project Totals					\$217,036,767	\$159,756,084	\$376,792,851

Table 24 and **Figure 34** on the following pages describe and define all of the **Special Purpose Local Option State Tax (SPLOST)** projects for Whitfield County. These transportation projects are funded locally, without State and/or Federal assistance. SPLOST data provided by Whitfield County Engineering Department. More detailed information on the SPLOST and local project funding assumptions can be reviewed in Appendix ‘C’.

Table 24
Special Purpose Local Option Sales Tax (SPLOST) Project Estimates

SPLOST TENTATIVE COST ESTIMATE					
Project #		Pre-Const.	R/W	Construction	Total Revised Estimate
1.1	Intersection of Crossplains Blvd. & Old Dixie Hwy	\$52,017.00	\$50,000.00	\$391,456.67	\$493,473.67
1.2	South Dixie Hwy & Crossplains Blvd	\$52,017.00	\$50,000.00	\$633,252.99	\$735,269.99
1.3	Lakeland Road & Callahan Road	\$116,028.00	\$500,000.00	\$2,189,406.80	\$2,805,434.80
1.4	South Dixie Hwy & W. Industrial Blvd.	\$46,862.50	\$300,000.00	\$0.00	\$346,862.50
1.5	South Dixie Hwy & Foster Road	\$46,862.50	\$200,000.00	\$0.00	\$246,862.50
1.6	Mill Creek Road & Crider Road	\$41,400.00	\$50,000.00	\$584,053.58	\$675,453.58
1.7	Burgess Road & Elton Drive	\$21,208.00	\$40,000.00	\$463,840.76	\$525,048.76
1.8	Burgess Road & Tibbs Bridge Road	\$21,208.00	\$40,000.00	\$255,280.39	\$316,488.39
1.9	Tibbs Bridge Road & Keith Mill Road	\$21,209.00	\$20,000.00	\$149,360.23	\$190,569.23
1.10-see 3.8	Fields Ave. & MLK Jr. Blvd				\$0.00
1.11	Glenwood Ave & MLK Jr. Blvd	\$146,850.00	\$2,000,000.00	\$1,892,259.90	\$4,039,109.90
1.12	Glenwood Ave & E. Morris Street	\$87,967.00	\$750,000.00	\$746,602.00	\$1,584,569.00
2.1	Old Dixie Hwy & S. Dalton Bypass	\$4,000.00	\$0.00	\$0.00	\$4,000.00
2.2	SR201 (LaFayette Road) and Mt. Vernon Road				\$0.00
2.3	SR201 and Houston Valley Road				\$0.00
2.4	Intersection N. Dalton Bypass & Cleveland Hwy	\$57,000.00	\$0.00	\$0.00	\$57,000.00
2.5	SR71 (Cleveland Hwy) and Maple Grove Road	\$4,000.00	\$0.00	\$0.00	\$4,000.00
2.6	College Drive @ Dug Gap Mountain Road	\$200,000.00	\$310,652.00	\$0.00	\$510,652.00
2.7	I-75 and SR3/US41/Rocky Face				\$0.00
2.8	I-75 and CR665/Carbondale-Reconstruction				\$0.00
2.9	SR71 and Wolfe Street	\$4,000.00	\$0.00	\$0.00	\$4,000.00
3.1	Airport Road - Walnut Ave to S. Dalton Bypass	\$123,000.00	\$1,000,000.00	\$3,151,029.00	\$4,274,029.00
3.2	Underwood Road - N. Dalton Bypass to Dawville Rd.	\$184,115.00	\$750,000.00	\$0.00	\$934,115.00
3.3	Underwood Street - From Glenwood to Bypass	\$318,857.00	\$302,791.00	\$1,000,000.00	\$1,621,648.00
3.4	Riverbend Road - S. Dalton Bypass to Walnut Ave.				\$0.00
3.5	Airport Road - S. Dalton Bypass to Murray Co. Line				\$0.00
3.6	Antioch Road	\$101,000.00	\$518,000.00	\$1,659,165.00	\$2,278,165.00
3.7	SR201 (Realignment) US41	\$65,000.00	\$300,000.00	\$0.00	\$365,000.00
3.8 Incl 1.10	Veterans Drive Extension	\$188,495.00	\$0.00	\$0.00	\$188,495.00
3.9	Murray Street/E. Morris St. -Walnut Ave to Glenwood	\$0.00	\$0.00	\$335,000.00	\$335,000.00
3.10	Hill Road - Airport Road to Eastbrook Road	\$119,476.00	\$75,000.00	\$0.00	\$194,476.00
3.11	Veterans Dr. Extension (Fleming St. Reconst.)	\$123,950.00	\$1,400,000.00	\$1,807,911.50	\$3,331,861.50
3.12	Brooker Road Ext.	\$183,600.00	\$250,000.00	\$4,920,400.00	\$5,354,000.00
3.13	Place Holder for SR3(NH-082-1(24))				\$0.00
4.1	Waugh Street Bridge - GDOT Rehabilitation Project				\$0.00
4.2	Old Dixie Hwy @ Swamp Creek				\$0.00
4.3	Dunnagan Road	\$116,929.00	\$20,000.00	\$0.00	\$136,929.00
4.4	SR2 @ Coahulla Creek				\$0.00
4.5	SR2 @ Conasauga River				\$0.00
4.6	SR3/US41 @ Little Swamp Creek				\$0.00
4.7	Place Holder for Future Bridge Replacement				\$0.00
5.1	Hurricane Road	\$57,317.00	\$50,000.00	\$628,968.76	\$736,285.76
5.2	SR52 (Walnut Ave) Signal Improvements				\$0.00
5.3	Reed Road	\$77,736.00	\$150,000.00	\$1,753,132.30	\$1,980,868.30
5.4	Cohutta Beaverdale Road (West)- Horizontal Improvements				\$0.00
5.5	Cohutta Beaverdale Road (East)- Horizontal Improvements				\$0.00
5.6	I-75 @ SR52/Walnut Ave. Lighting			\$129,757.00	\$129,757.00
5.7	CR3/Henry Owens Road @ NS719723E				\$0.00
5.8	County/City Safety Improvements Projects	\$590,000.00	\$0.00	\$5,000,000.00	\$5,590,000.00
5.9	Rauschenburg Road Horizontal Improvements	\$19,245.00	\$50,000.00	\$0.00	\$69,245.00
6.1-6.5	Drainage Improvement Projects				\$0.00
7.1	Roadway Resurfacing	\$0.00	\$0.00	\$7,644,000.00	\$7,644,000.00
7.2	Signal Upgrades	\$150,000.00	\$0.00	\$1,393,000.00	\$1,543,000.00
7.3	To be named(maybe pvmt marking, shld build, etc)				\$0.00
8.1	ATMS-GDOT Regional TCC-ITS-Const Center				\$0.00
TOTAL					\$49,245,668.88

4/9/10



Proposed SPLOST Transportation Projects for Whitfield County
Figure 34

B. Alternative Modes of Transportation: In addition to road improvements, the 2035 Long Range Transportation Plan includes the following improvements to other modes of transportation:

- Recommended highway and street improvement strategies.
- Proposed bicycle and pedestrian facilities.
- Rail transportation recommendations and strategies.
- Trucking improvement recommendations and strategies.
- Airport improvements.
- Improvements in intelligent transportation systems (ITS).

C. Highway and Street System Recommendations, Goals and Strategies:

Maintenance and improvement of streets and highways are vital if the travel needs of residents and businesses in Whitfield County are to be met. Efficient streets and highways are essential for the movement of people and goods. To improve the traffic flow in Whitfield County, the City of Dalton is working with the GDOT to upgrade and standardize traffic signals, controllers, and other related equipment. This upgrade effort will replace many of the timed signals with signal equipment that will detect the presence and volume of traffic to provide optimal traffic flow for various times during the day.

The City of Dalton plans to install road signs above the recently installed mast arms supporting traffic signals along Waugh, Hamilton and Pentz Streets to assist motorists in finding their desired destinations. The street network of the county should provide opportunities for economic growth and foster a desirable quality of life for citizens of Whitfield County.

Efficiency recommendations to improve the Highway and Street System:

1. Maintain the existing street network. The existing transportation network must be maintained through annual repaving programs.
2. Monitor the operation of traffic signals at intersections and improve signal timing and/or closed loop systems to improve traffic flow.
3. Employ measures to eliminate deficient areas in the roadway system operating at a level of “C” or less. Measures to eliminate these deficiencies include:
 - Construct new streets and reconstruction of existing streets to improve flow/safety.
 - Add lanes to existing streets where traffic flow is reaching maximum capacity.
 - Reconstruction of curved sections of streets and provision of improved shoulders.
 - Providing transit service along high traffic volume arterials/collector streets.
 - Construct sidewalks (in accordance with ADA standards) to provide easy access and use for wheel chairs and pedestrians.
 - Designate bike routes through signage, shoulder improvements and bike lanes.
 - Increase capacity of intersections through improved traffic signals, left turn bays, exclusive right turn lanes and increased storage capabilities throughout.
4. Identify potential alternative routes to provide more travel options through:
 - Encouraging developers to design road connections in a grid pattern.
 - Encourage the improvement of roads parallel to highly traveled roads to distribute traffic more evenly and efficiently through north-south and east-west corridors.
5. Establish standards for street connectivity:
 - Encourage subdivision regulations to require access roads be in line with existing roads to avoid “dog legs” which create unsafe turning movements and congestion.
 - Encourage standards to enhance street connectivity to high activity areas.
 - Encourage standards to enhance street connectivity to sensitive land uses such as schools, parks, residential areas, medical centers, and social service centers.

- Discourage additional access points/curb cuts on major streets to high activity centers to reduce congestion caused by left turns at mid-block and combine access to high activity centers at existing intersections.
6. Way finding measures:
- Encourage attractive directional signage to help tourists find local points of interest.
 - Encourage street signage campaign to assist emergency responders and tourists.
 - Cultivate tourism through interstate 75 point-of-interest signage.

The following GOALS come from the City of Dalton, 5-Year Transportation Strategic Plan:

DALTON GOAL #1: Street & Intersection Improvements

1. Complete I-75/Rocky Face Interchange improvements.
2. Complete “Round-about” at intersection of College Dr. and Dug Gap Battle Dr.
3. Complete improvements to intersection of N. Dalton Bypass and Cleveland Highway.
4. Complete improvements to intersection of Glenwood Ave. and MLK Jr. Blvd.
5. Complete improvements to intersection of Glenwood Ave. and E. Morris St.
6. Complete improvements to Flemming St. from N. Dalton Bypass to Cleveland Hwy.
7. Complete re-alignment of intersection of Abutment Rd. (formerly Lakeland Rd.) and Callahan Rd.
8. Complete improvements of Fields Ave. Extension from Underwood St. to E. Morris St.
9. Complete Phase I of Underwood St. from Glenwood Ave. to Dantzler St.
10. Complete Relocation of Brooker Drive from Cross Plains Trail @ Heritage Pt to Dawnville Rd.
11. Incorporate “Complete Streets” concept on all future street construction or reconstruction projects.

DALTON GOAL #2: Traffic Signalization & Timing Programs

1. Upgrade remaining twelve (12) signalized intersections with newer 2070 controllers.
2. Complete traffic study and implement new signal timing plan for all signals on West Walnut Ave.
3. Interconnect all major collector streets with fiber optics/radio equipment on all signals including:
(Glenwood Ave., Hamilton St., Waugh St., MLK Jr. Blvd., E. Morris St., Dug Gap Rd. and Pentz St.)
4. Set up computer system in Public Works-Traffic Division Office to monitor all interconnected signals.

D. Proposed Bicycle and Pedestrian Facilities

Tunnel-Spangler-Walsh & Associates, Inc. in partnership with Day Wilburn Associates, Inc. and Jennings Downtown Consulting prepared a Bicycle Plan for the City of Dalton included in the January 23, 2003 City of Dalton Multi-Modal Transportation Study, which was reviewed and found to conform well to the proposed improvements for the various modes of transportation in this report.

Bicycle usage is an increasingly important mode of transportation in communities across the United States, particularly for low and middle-income families. A well-balanced transportation system must include bicycle facilities to provide a range of mobility options. The State of Georgia, Whitfield County, and the City of Dalton have made substantial progress in planning for bicycle facilities in the area.

With existing state bicycle routes going through Whitfield County and the City of Dalton, opportunities exist to build facilities that link to the state routes. The goal of building new bicycle facilities is to create a network that serves the citizen’s commuter and recreational needs. Proposed bicycle facilities include three classes: (***Class I***) off-street greenways and bikeways; (***Class II***) bike lanes along roadway shoulders; and, (***Class III***) street bicycle routes designated by “Share the Road” signs. Whitfield County Proposed Bike Routes are shown in **Figure 35**, which shows on-street bicycle lanes in red; proposed off-street greenways in green; existing state bicycle network in blue; and, proposed scenic byways in yellow.

A majority of the Hispanic population works in the carpet industry and many walk or ride bicycles, creating a need for more facilities. The existing transportation infrastructure provides inadequate

multimodal options. Improving multimodal connectivity will benefit everyone, especially the select population groups who rely on bicycling and walking as their only mode of transportation. A significant strategy in implementing bicycle and pedestrian facilities is to encourage state and local governments to add bicycle facilities like bike lanes and pedestrian facilities like sidewalks in the construction and reconstruction of streets and roads designated on the bikeway and sidewalk plans included in this report.

Local officials and citizen groups provided the following improvements suggestions:

- ✓ Construct bike lanes on Prater's Mill Rd./SR 2 from Prospect Rd. into Murray County to connect to the proposed scenic byway in the northeastern portion of Whitfield County.
- ✓ Link city's bikeway/pedestrian system to the recreational facilities and walking paths in the new Heritage Point Regional Park located off the N. Dalton Bypass.
- ✓ Link the Pinhoti, Blue and Gray and Chieftain trails to the State Bicycle Routes in the county.
- ✓ Consider the Mill Creek flood plain as a possible east/west-connecting trail to the Heritage Point Regional Park, beginning on Dug Gap Rd. and connecting to the state police barracks, the Mill Creek flood plain, the Heritage Point Regional Park and to Park Creek Elementary and Dalton Middle School.
- ✓ Construct sidewalks along: Morris Ave.; Underwood Rd.; Grimes St. in the area of Morris St./Murray St.; Frederick St. from Walnut St. to 5th Ave.; and, Dawnville Rd. surrounding the Amberfield subdivision.
- ✓ The City of Dalton has installed 30 "Share the Road" signs along roads to identify bike routes.

The following Goals, Objectives and Implementation Strategies for the LRTP were created through the public involvement process and are a means to measure the success of this LRTP. In addition, the City of Dalton developed a 5-Year Strategic Plan for all modes of transportation and the Goals from that Strategic Plan are listed in this section as DALTON GOALS.

Bikeway System Goals, Objectives and Implementation Strategies:

GOAL 1: Promote and encourage bicycle travel as a viable form of transportation, as healthy forms of exercise and as a positive benefit to the environment and community.

Objective 1.1: Establish an educational and marketing program that promotes the public health, economic development, and environmental benefits of bicycling.

Strategies:

- A. Work with local governments, health organizations, school systems, local bicycle clubs and other agencies to develop and distribute written, graphic and other materials in multiple languages citing the benefits of bicycling, highlighting the rules of road, biking practices, and the location of existing routes and facilities.
- B. Organize and promote events such as National Bike Month and Bike to Work Week

GOAL 2: Provide a system of bicycle facilities that is safe, convenient and accessible for all users.

Objective 2.1: Develop connecting bicycle routes from major urban centers to State bicycle routes.

Strategies:

- A. Identify secondary roads that connect major urban centers and utilize these for bicycle routes instead of placing them along major roads as is currently done.
- B. Conduct an inventory of abandoned railroad, utility and other public rights-of-way in the region that could be developed into additional multi-use trails.
- C. After routes are approved install signs and publish maps and pamphlets indicating locations.

Objective 2.2: Develop within local jurisdictions a system of bicycle facilities to link residential areas with commercial areas, employment areas, educational centers and cultural and recreational resources.

Strategies:

- A. Encourage developers to install bike lanes along new streets developed in urban areas.

- B. Develop safe bicycle routes to schools for children.
- C. Encourage support facilities like bicycle parking and storage, lighting, signage, pavement markings, benches and other rest areas to increase the utility and safety of the bicycle system.
- D. Encourage maintenance standards and programs that ensure safe and usable bicycle facilities.
- E. Conduct an inventory of abandoned railroad, utility and other public rights-of-way in the region that could be developed into additional multi-use trails.

Objective 2.3: Support education, training and enforcement of regulations to ensure safe and proper use of the bicycle facility system.

Strategies:

- A. Assist local bicycling interest groups in conducting regular training/safety education programs.
- B. Utilize League of American Bicyclists to conduct training sessions on bike safety to the public.
- C. Educate local officials and enforcement officers on biking rules and safety issues.
- D. Encourage local governments to install “Share the Road- It’s the Law” signs on key routes.

GOAL 3: Promote coordinated and continuous bicycle facility planning and development.

Objective 3.1: Encourage and provide assistance to local governments to prepare local plans that assess local bicyclists’ needs and establish new bicycle facilities where needed or desired.

Strategies:

- A. Identify federal and state planning grants and provide information to local governments.
- B. Coordinate the development of local bicycle facility plans to make maximum use of opportunities for joint development of facilities.

Objective 3.2: Establish policies that require the incorporation of bicycle facility design studies in all transportation projects that are identified in the 2035 Dalton-Whitfield County Long Range Transportation Plan

Strategies:

- A. For urban areas, encourage the inclusion of bike lanes in street improvements designated in the 2035 LRTP as streets needing bicycle facilities.
- B. For rural areas, encourage the inclusion of “Share the Road” signs and wider shoulders in road improvements designated in the 2035 LRTP as proposed “Bike Routes.”
- C. Encourage technical assistance for zoning, land use and subdivision regulations, roadway design and public transportation to promote bicycle friendly development.

Objective 3.3: Provide adequate funding to development and maintaining high quality bicycle facility systems.

Strategies:

- A. Identify federal/state grants and provide information to local governments.
- B. Provide technical assistance concerning alternative financing mechanisms for bicycle facilities including local option sales tax programs, user fees for facilities and encourage tax-deductible contribution of funds and property.
- C. Encourage local governments to set aside funding for bicycle facility projects incorporating design, right-of-way acquisition, and construction.
- D. Encourage special events that raise money for bicycle facility projects.

DALTON GOAL #3: Increase Bike Paths & Walking Trails within the City

1. Investigate feasibility/design options for greenway/multi-use trail opportunities to include:
 - a. Around Haig Mill Lake and along Mill Creek (Chattanooga Rd. to Underwood Rd.)
 - b. Rocky Face Mt. above Dalton State College to the Georgia State Patrol.

- c. The Crown Mill neighborhood (rails-to-trails) and adjoining Mt. Rachel area.
 - d. The Westerly Heights neighborhood (on city owned property).
 - e. Connecting Brookwood neighborhoods to Lakeshore and Al Rollins Parks.
2. Develop a system of bike routes throughout the city to connect all neighborhoods to trail heads along the greenway/multi-use trails described above as well as other city parks, schools, downtown and shopping.

In more developed areas, where off-street facilities are difficult to build or not desirable, bicycle lanes are proposed. These lanes are intended to connect with proposed off-street facilities, parks, schools and business centers. The plan calls for north-south and east-west routes to complement the existing east-west Mountain Crossing state bicycle route. One of the biggest issues facing the addition of bike lanes is the funding needed to purchase the Right-of-way needed for the additional widening of the roadway.

One north-south corridor is along Shugart and Tibbs Rds., between the proposed bypass greenway and Walnut Ave. The state's Mountain Crossing bicycle route runs to the west, along Holiday Dr. and Tibbs Rd. west of I-75, but doesn't access as many areas because I-75 is an impenetrable barrier. The route avoiding the I-75 barrier is closer to a cluster of residential subdivisions between I-75 and Tibbs Rd.

Other north-south corridors proposed for bike lanes include Hamilton St. and Fields Ave./Tarver St./5th Ave./Riverbend Rd. The Hamilton St. bike lanes would start north of downtown in the Crown Mill neighborhood at Springdale Rd., where they would connect to a proposed greenway trail. From there they would head south through downtown to the proposed rail spur Threadmill greenway south of Grace St. The other corridor starts at the termination of the proposed Fields Ave. greenway at Underwood St., and heads south to Tarver St., where it heads south on Tarver St., across Murray Ave. to 5th Ave. and finally Riverbend Rd. to the bypass greenway.

East-west corridors proposed for bike lanes include Waugh and Emery Streets. The Waugh St. corridor runs from the proposed Shugart Rd. bike lanes to the proposed Fields Ave. bike lanes. This routing serves Dalton High School, the library and downtown Dalton. The Emery St. corridor runs from the proposed Tibbs Rd. corridor to the central business district. The Emery St. route provides an alternative to Walnut Ave. for accessing the west side of Dalton.

The NorthWest Georgia Regional Commission (NWGRC) has been contracted to complete a Bicycle & Pedestrian Study for the Greater Dalton area, which has an expected completion date of June 30, 2010. The GDMPO staff will review this document upon completion and if the study is comprehensive and includes all communities within Whitfield County, and the County proper, and if the study meets the Goals & Objectives as outlined in this document, this Bicycle & Pedestrian Study will be recommended for adoption by the Policy Committee as the current Bicycle & Pedestrian Plan for the GDMPO. If the new study is not comprehensive to include the entire County, measures will be taken to explore doing an additional study which will add to the NWGRC study, to include all of the communities within the boundaries of the GDMPO Planning Area.

Figure 35 below shows the proposed Bike Routes for Whitfield County, while **Table 25** on the following pages includes more detailed descriptions of each of the proposed bike routes.

Whitfield County Proposed Bike Routes

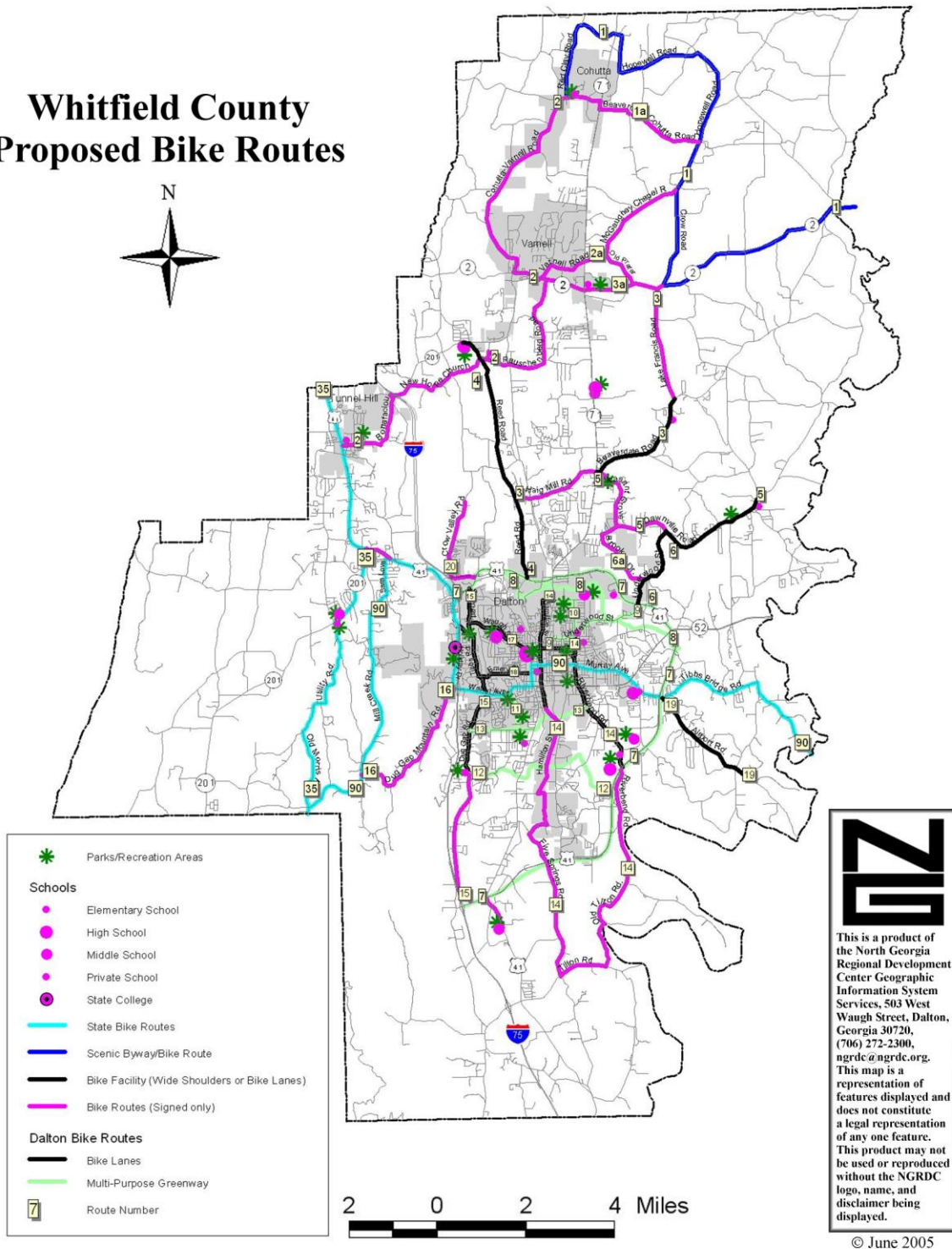


Figure 35

Table 25 - Whitfield County - Proposed Bike Routes

Route #	Name	From	To	Road Segments	Improvement	Comments
1	Cohutta/Beaverdale	Beaverdale-Cohutta Rd.	Beaverdale Community at Murray County Line	Red Clay Rd., Hopewell Rd. Crow Rd., GA Hwy 2	Install Bike Lanes	Designated as the Cohutta-Chattahoochee Scenic Byway
1A	Beaverdale -Cohutta Road	Hopewell Rd.	Red Clay Rd		Install "Share the Road Signs"	
2	Tunnel Hill/Varnell/Cohutta	US 41	Red Clay Rd.	Mountain View Dr.,New Hope Church Rd., Rouschenburg Rd.,Cohutta-Varnell Rd.	Install "Share the Road Signs"	
2A	Varnell to Hopewell Rd	GA 2	Hopewell Rd.	Varnell Rd, Mc Gauhey/Chapel Rd	Install "Share the Road Signs"	
3	Pleasant Grove/St Francis	Reed Road	McGauhey/Chapel Rd.	Haig Mill Rd.,Beaverdale Rd., Lake Francis Rd.,Prater's Mill Rd.	Install "Share the Road Signs" Install Bike Lanes on Beaverdale Rd.	
3A	Prater's Mill Rd. to Varnell	Prater's Mill Rd.	Varnell Rd.	GA 2	Install "Share the Road Signs"	
4	Reed Road Route	N. Dalton Bypass	New Hope Church Rd.	Reed Road	Install Bike Lanes	
5	Dawnville/Pleasant Grove	Dawnville Elementary School	Pleasant Grove Elementary School/Park	Dawnville Rd.,Pleasant Grove Drove	Install "Share the Road Signs" Install Bike Lanes on Dawnville Rd. from Underwood to Co. Line	
6	Dalton City to Pleasant Grove	Waugh St.	Dawnville Rd.	Underwood Rd.	Install "Share the Road Signs"	
6A	Brooker Drive	Underwood Rd	Dawnville Rd.	Brooker Drive	Install "Share the Road Signs"	
7	N. Dalton Bypass/S. Dalton Bypass Greenway	N.Dalton Bypass at N. Thornton	Connector 3 at I-75	Off Road along N. Dalton Bypass and S. Dalton Bypass	Construct and Landscape	For Bicyclists and Pedestrians
8	Mill Creek Greenway	N. Dalton Bypass near Hospital Access Dr.	N. Dalton Bypass near Melrose Dr.	Parallel to Mill Creek	Construct and Landscape	For Bicyclists and Pedestrians
9	Underwood Rd. Greenway	Bypass Greenway	Waugh Street	Parallel to Underwood Rd.	Construct and Landscape	For Bicyclists and Pedestrians
10	Fields Ave./Legion Rd. Greenway	Bypass Greenway	N. Ga. Fairgrounds, John Davis Park, E. Dalton	Runs along NS Railroad, Legion Dr., Fields Ave.	Construct and Landscape	For Bicyclists and Pedestrians
11	Lake Shore Park Greenway	Walnut Ave.	Threadmill Rd.	Runs through Lake Shore Park	Construct and Landscape	For Bicyclists and Pedestrians

Table 25 (Continued) - WHITFIELD COUNTY- PROPOSED BIKE ROUTES

Route #	Name	Termini From	To	Road Segments	Improvement	Comments
12	Drowning Bear Greenway	Dug Gap Rd.	Bypass Greenway	Parallel to Drowning Bear Creek	Construct and Landscape	For Bicyclists and Pedestrians
13	Tar Creek Greenway	Dug Gap Rd.	Riverbend Rd.	Runs along N. Side of Threadmill Rd., Abandoned Rail Spur, undeveloped land	Construct and Landscape	For Bicyclists and Pedestrians
14	Dalton to Tilton Loop	Hamilton St.at Springdale	Tilton Rd.at Five Springs Rd.	Springdale Rd., Legion Dr., Fields Ave., Riverbend Rd. Old Tilton Rd., Five Springs Rd., Hamilton St.	Install Bike Lanes on northern part of loop from Dalton Bypass to Tar Creek Greenway. Install "Share the Road Signs on Southern part of loop	
15	N. Dalton Bypass/Conn. 3	N. Dalton Bypass	Connector 3	Dug Gap Rd., Tibbs Rd., Shugart Rd.	Install Bike lanes from US 41 to Drowning Bear Greenway. Install "Share the Road Signs" south of Greenway	
16	Dug Gap Mt. Rd.	Mill Creek Rd.	Mtn. Crossing Bike Route	Dug Gap Mtn. Rd.	Install "Share the Road Signs"	
17	Waugh Street	Shugart Rd.	Glenwood Drive	Waugh St.	Install bike lanes	
18	Emery Street	Tibbs Rd.	Thornton Street	Emery St.	Install bike lanes	
19	Airport Rd.	Bypass Greenway	Parker Rd.	Airport Rd.	Install Bike Lanes	
20	Crow Valley Rd.	Bypass Greenway	North of Ridgefield Subdvn.	Willowdale Rd., Crow Valley Rd.	Install "Share the Road Signs"	

Pedestrian System Goals, Objectives and Implementation Strategies:

GOAL 1: Promote and encourage pedestrian travel as a viable form of transportation, as healthy forms of exercise, and as a positive benefit to the environment and community.

Objective 1.1: Establish an educational and marketing program that promotes the public health, economic development and environmental benefits of walking.

Strategies:

- A. Work with local governments, health organizations, school systems, local hiking/trails clubs and other agencies to develop and distribute written, graphic and other materials in English/ Spanish citing the benefits of walking, safe walking and hiking practices, and the location of information on existing routes and facilities.
- B. Organize and promote events such as Walk to Work Week and Walk to School Day.
- C. Create walking and hiking clubs to promote wellness.

GOAL 2: Provide a Whitfield County system of pedestrian facilities that is safe, convenient and accessible to all users.

Objective 2.1: Develop a system of sidewalks/greenways/trails to provide safe connections to residential areas, parks, recreational centers, schools, employment, and small commercial areas.

Strategies:

- A. Install sidewalks along streets and roads connecting recreational, residential, educational, employment and small commercial centers to provide safe and convenient use by pedestrians.
- B. Conduct an inventory of abandoned railroad, utility and other public rights-of-way in the region that could be developed into additional multi-use greenways/ trails.
- C. Once greenways/trails have been developed and approved by local governments, install signs and publish maps and pamphlets indicating trail locations.

Objective 2.2: Improve existing and/or install new sidewalks within residential neighborhoods.

Strategies:

- A. Encourage improvement of existing sidewalks in older neighborhoods particularly in neighborhoods within walking distance to stores, schools and parks.
- B. Encourage developers to install sidewalks along subdivision streets.
- C. Encourage safe pedestrian crosswalks and traffic signals within intersections to enhance safe crossing of roads by pedestrians with destinations to schools, parks, recreational centers and small commercial and employment centers.
- D. Encourage design and maintenance standards that ensure safe and usable sidewalks.

Objective 2.3: Support pedestrian safety programs to ensure safe and proper use of sidewalks.

Strategies:

- A. Encourage local organizations and “safe walkway” groups to conduct safety programs.

GOAL 3: Promote coordinated and continuous pedestrian facility planning and development.

Objective 3.1: Encourage plans to assess local pedestrian needs and establish new pedestrians facilities where needed or desired.

Strategies:

- A. Identify federal/state planning grants and provide information to local governments.
- B. Coordinate development of local pedestrian facility plans to maximize use of opportunities for joint development of bicycle and pedestrian facilities.

Objective 3.2: Establish policies that require the incorporation of pedestrian facility design elements in all transportation projects that are identified in the 2035 LRTP.

Strategies:

- A. For urban areas, encourage the inclusion of sidewalks in the street improvement projects designated in the 2035 LRTP as streets needing sidewalk facilities.
- B. Encourage zoning, land use and subdivision regulations, roadway design, public transportation to promote walking as a viable mode of transportation.

Objective 3.3: Provide adequate funding to development and maintaining high quality pedestrian facility systems.

Strategies:

- A. Identify federal/state grants and provide information to local governments.
- B. Provide alternative financing mechanisms for pedestrian facilities including local option sales tax programs; user fees; and, encourage tax-deductible contribution of funds and property.
- C. Encourage local governments to set aside funding for sidewalk facility projects incorporating design, right-of-way acquisition and construction.
- D. Encourage special events that raise money for sidewalk facility projects.

DALTON GOAL #4: Sidewalks

- 1. Improve sidewalk and crosswalk system in Dalton so all neighborhoods will have safe walking access to greenway/multi-use trails, city parks, schools, the downtown and shopping areas.
- 2. Develop and implement a Safe Routes to School Plan that specifically identifies the necessary sidewalk and crosswalk improvements within a half mile of each elementary and middle school.

Figures 36 and 37 on the following pages show the existing and proposed sidewalks for the cities of Dalton, Tunnel Hill, Varnell and Cohutta.

Dalton Area Sidewalks

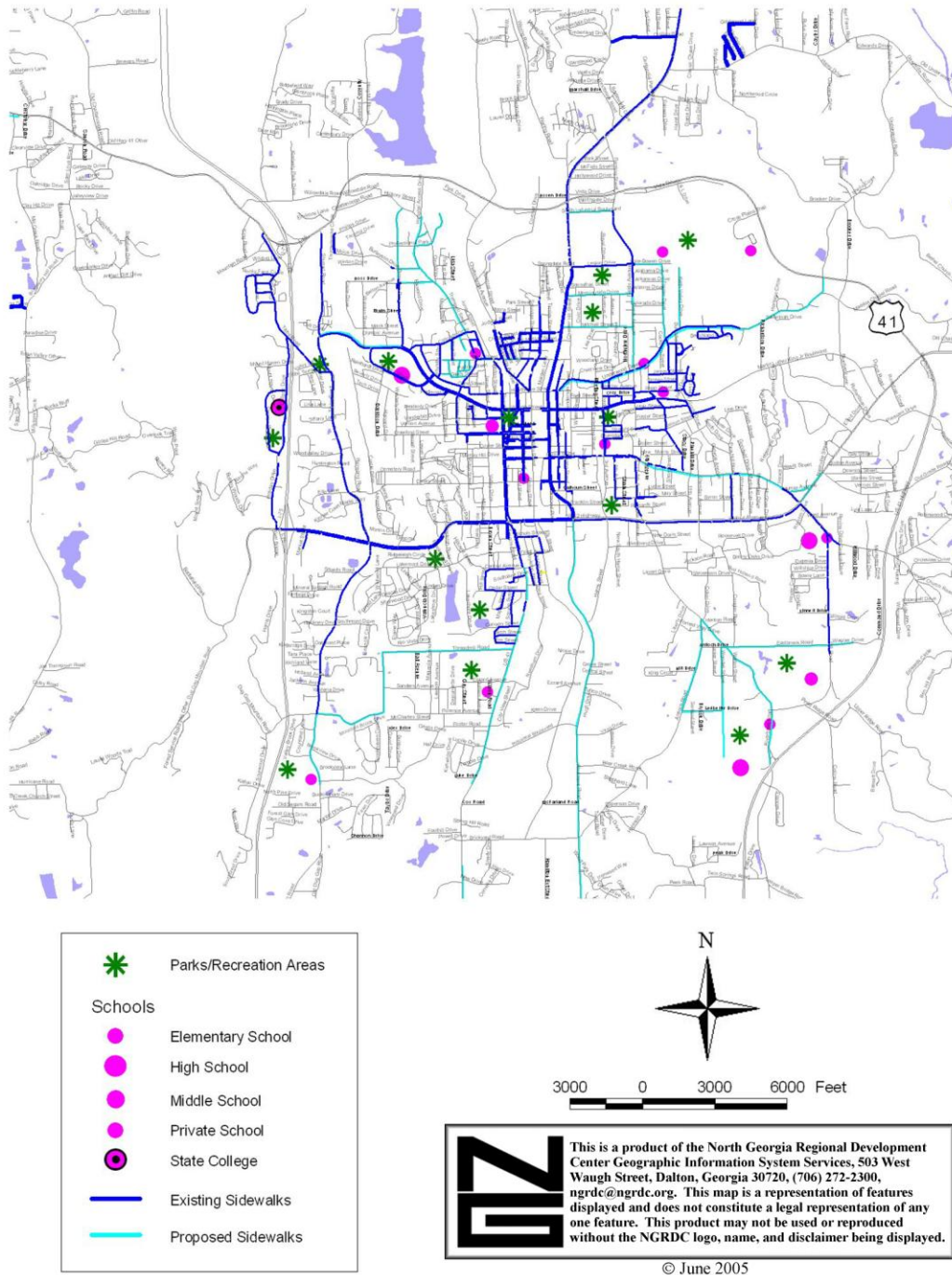


Figure 36

Existing and Proposed Sidewalks in Cohutta, Varnell, and Tunnel Hill

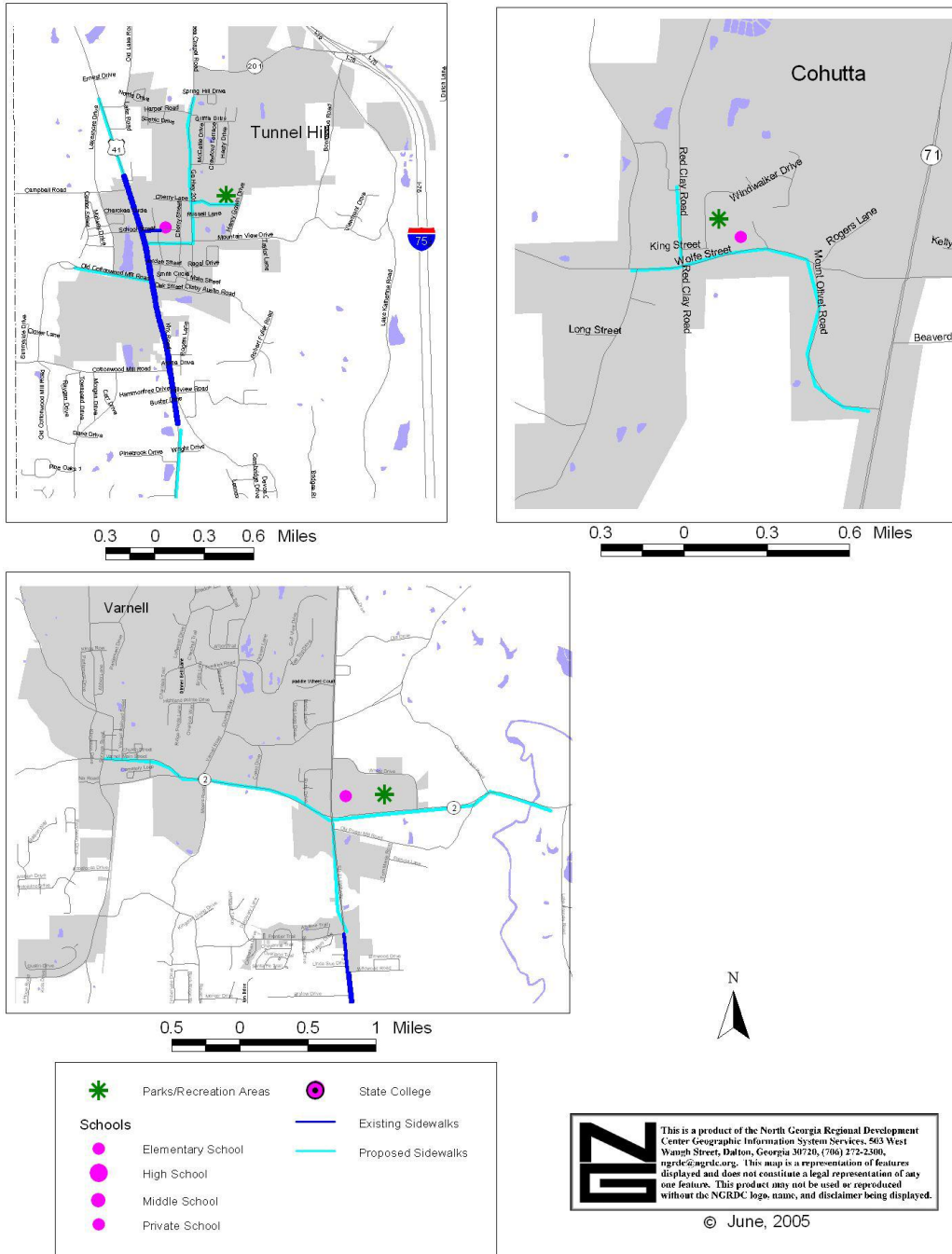


Figure 37

E. Rail Transportation Recommendations, Goals and Strategies:

Norfolk Southern Railroad and CSX Railroad have no long-range plans for the addition of new railroad tracks in Whitfield County. Maintenance of existing rail and replacement of railroad ties are the major activities of both companies in providing quality infrastructure for the operation of rail freight movement. **Table 26** below lists the proposed projects from the 2035 Whitfield County Road Improvement Plan that include improvements at railroad crossings.

Table 26 – Railroad Crossing Improvements				
Project No.	Project Name	Project Description	Funding	Implementation Period
29	County Road 3/Henry Adams Rd at Norfolk R/R	Install Safety Equipment	FHWA/State	Short-Range RIP (1-5 years)
30	County Road 290/Beaver Rd. at CSX R/R	Install Safety Equipment	FHWA/State	Short-Range RIP (1-5 years)
39	Tyler Street Extension from Clark Street to W. Waugh Street and two Railroad Grade Separations	Extension to give connections between Glenwood and Waugh plus R/R grade separations at Tyler near Chattanooga and Tyler near Hamilton	Local	Long-Range Illustrative (11 years to the Horizon Year 2035)

The significance of project 39 is that an extension of Tyler St. from Clark St. to Waugh St. would provide a new east-west connector between Glenwood and Waugh Streets. Also this extension would justify two new grade separations at railroad crossings near Chattanooga Ave. and Hamilton St. (just north of the grade separation at Waugh St. and Hamilton.) This project would improve connectivity to downtown and reduce delays that motorists often experience at railroad crossings that are “at grade” with streets.

Rail Transportation strategies:

- Establish a Goods Movement Task Force. The FY 2011 Unified Planning Work Program of the GDMPO proposes the establishment of a Goods Movement Task Force composed of representatives of major trucking firms, organizations related to the transportation of carpet goods, Norfolk Southern and CSX Railroads. Issues related will be identified and solutions will be explored to enhance the movement of goods.
- Encourage local governments to work with Norfolk Southern and CSX railroads to reduce the amount of time needed for switching operations that cause motorist delays at railroad crossings.
- Explore locations for additional grade separations south of Dalton at the switching station.
- Explore ways to correct the downtown crossing (overlap) of CSX and Norfolk Southern lines.
- Review the level of warning devices for at-grade crossings and upgrade as and where needed.
- Encourage the Construction of the High Speed MagLev Train from Chattanooga to Atlanta.

High-speed rail service from Chattanooga to Atlanta along I-75 through Whitfield County could greatly reduce the volume of traffic on I-75 and would greatly improve the integration and interconnections on a regional basis of a variety of modes of travel, particularly automobile and air travel.

Other benefits of the High-speed MagLev train would include the potential for new business developments and employment opportunities at a yet to be determined, proposed new Dalton Station site and along the corridors to serve passengers and local residents alike. This alternative mode of travel to and through the region would provide transportation choices for citizens of diverse income levels while improving the travel time, comfort and convenience for business travelers and tourists in the region.

F. Trucking Improvement Recommendations, Goals and Strategies:

1. Establish a Goods Movement Task Force. Truck transportation in Whitfield County offers important intermodal linking capability with rail transportation. Because of the impact on the local economy, it is essential the trucking industry continually strive to be efficient in its means of expediting the movement of freight. The FY 2011 Unified Planning Work Program of the GDMPO proposes the establishment of a Goods Movement Task Force composed of representatives of major trucking firms, organizations related to the transportation of carpet goods, Norfolk Southern and CSX Railroads. Issues will be identified and solutions will be explored to enhance the movement of goods. The GDMPO, in developing improvements for streets and highways will consider truck freight hauling needs to provide improved linkages of truck operations to the street and highway system in the area while encouraging dialogue between the trucking industry and local government to create a more integrated transportation system.

2. Encourage Truck Transportation's Role in the Time-specific Transport of Goods. In the past, stockpiled warehouses have been a major competitive disadvantage, hindering efficient manufacturing operations in the United States. In recent years, a manufacturing concept called "just-in-time" delivery service has emerged. To eliminate wasteful and stagnant inventory, "just-in-time" deliveries allow essential materials to arrive at the exact time they are needed in the manufacturing process. This allows for smooth product flow while reducing storage and reshipping costs to the manufacturer and ultimately the consumer. The GDMPO, in developing improvements for streets and highways, will consider the needs of the trucking industry in providing an improved street and highway system area.

3. Explore operational and regulatory solutions to provide for efficient flow of trucks. It is imperative for the GDMPO to explore solutions to the efficient flow of trucks to and from terminal sites in Whitfield County, while reducing traffic congestion in residential, educational and recreational areas through possible restrictions of truck traffic during certain hours of the day. To accomplish a system of time-specific deliveries, drivers must have an adequate highway and street system. The establishment of a truck route system is necessary to maintain residential neighborhood livability, protect public safety, and minimize the cost of maintaining the area's route system.

G. Airport Improvement Goals and Strategies:

DALTON GOAL #5: Proposed Airport Improvements (Source: *City of Dalton 5-YR Strategic Plan*)

1. Replace existing underground storage tanks with 12,000 gallon Avgas and Jet fuel tanks.
2. Purchase properties for Phase I & II of the RPZ/Approach R/W 14 to fulfill safety zone requirements.
3. Complete the Apron Overlay and Rehab project that has been designed by consultant.
4. Construct one 80' x 80' corporate hangar.
5. Design and construct runway rehab overlay project.
6. Construct two (2) each 10 unit T-hangars.

Additional actions required for the Dalton Municipal Airport to maintain Level III status include:

- Update the Master Plan/Airport Layout Plan in 2010 and 2020.
- Adopt Land Use/Zoning Controls.

These improvements will allow the airport to better serve the carpet and other local industries while also attracting additional industries to northwest Georgia. The following list shows the proposed improvement projects provided for by the City of Dalton "Jolly Field" Municipal Airport.

Dalton Municipal Airport
Jolly Field
Dalton, Georgia

Issued 11/24/09 (for review only)

PROJECT	Quantity	FUNDING			
		Federal	State	Local/Private	Total
2010					
1. Land Acquisition Phase 1 (Fee/Easement) RPZ/Approach R/W 14 and Obstruction Removal (Includes Survey/Appraisals)	L.S.	\$250,000	\$6,250	\$6,250	\$262,500
2. Aerial Survey for Rwy 14	L.S.	\$17,100	\$450	\$450	\$18,000
3. Environmental Checklist for Land Acquisition	L.S.	\$4,750	\$125	\$125	\$5,000
4. Apron Overlay/Rehab and New Taxi Lane to T-Hangers	L.S.	\$2,090,000	\$55,000	\$55,000	\$2,200,000
TOTAL 2010		\$2,381,850	\$81,826	\$81,826	\$2,486,600
2011					
1. Land Acquisition Phase 2 (Fee/Easement) RPZ/Approach R/W 14	L.S.	\$400,000	\$10,000	\$10,000	\$420,000
2. Fuel Farm - 12,000 Gal. Avgas	L.S.	\$0	\$0	\$90,000	\$90,000
TOTAL 2011		\$400,000	\$10,000	\$100,000	\$510,000
2012					
1. Land Acquisition Phase 3 (Fee/Easement) RPZ/Approach R/W 14 and obstruction Removal (Includes Survey/Appraisals)	L.S.	\$300,000	\$7,500	\$7,500	\$315,000
2. AOP Update	L.S.	\$61,750	\$1,625	\$1,625	\$65,000
3. 80 x 80 Corporate Hangars	L.S.	\$0	\$0	\$600,000	\$600,000
4. Jet Fuel Farm - 12,000 Gallons	L.S.	\$0	\$0	\$110,000	\$110,000
TOTAL 2012		\$381,760	\$8,126	\$719,126	\$1,090,000
2013					
1. Land Acquisition Phase 4 (Fee/Easement) RPZ/Approach R/W 14 and obstruction Removal (Includes Survey/Appraisals)	L.S.	\$300,000	\$7,500	\$7,500	\$315,000
2. Design (Rehab/Overlay Runway)	L.S.	\$142,500	\$3,750	\$3,750	\$150,000
3. Terminal Expansion/Renovation	L.S.	\$0	\$0	\$100,000	\$100,000
TOTAL 2013		\$442,600	\$11,260	\$111,260	\$566,000
2014					
1. Construct R/W Rehab/Overlay	L.S.	\$1,900,000	\$50,000	\$50,000	\$2,000,000
2. RSA Improvements (Runway Safety Areas)	L.S.	\$114,000	\$3,000	\$3,000	\$120,000
TOTAL 2014		\$2,014,000	\$63,000	\$63,000	\$2,120,000
2015					
1. Land Acquisition Phase 5 (Fee/Easement) RPZ/Approach R/W 14 and obstruction Removal (Includes Survey/Appraisals)	L.S.	\$400,000	\$10,000	\$10,000	\$420,000
2. T-Hangers (2 - 10 Units)	L.S.	\$0	\$0	\$500,000	\$500,000
TOTAL 2015		\$400,000	\$10,000	\$510,000	\$920,000
GRAND TOTAL		\$5,880,100	\$165,200	\$1,566,200	\$7,890,600

H. Intelligent Transportation Systems (ITS):

ITS represents the next generation of a more efficient transportation system with new and widened roads providing improved connectivity and capacity; however, these often generate new traffic that eventually requires additional improvements and increases the cost of infrastructure and negatively impacts the environment. Employment of the communication and information processing through ITS can help improve the management of existing and future traffic on the existing street system.

The goal of a Regional ITS program is to manage and improve the performance of the existing transportation system. Measures of improved management and performance are reduction in traffic congestion and reduced emergency response times. The following are some examples of ITS projects which can improve the management of traffic on the highway and street network:

- **Traffic signal control:** ITS traffic controllers and closed loop equipment can automatically adjust operations of traffic signals to optimize traffic flow in response to changing traffic conditions.
- **Freeway management:** Provision of information to motorists through changeable signage and real-time traffic updates to minimize congestion.
- **Incident management:** Enable authorities to identify and respond to crashes or breakdowns with best emergency response practices in a timely manner, minimizing clean-up and clearance of the roadway while reducing the occurrence of secondary crashes.
- **Railroad crossings:** Coordination of railroad crossings over streets with improved signalization that will notify drivers of approaching trains through advanced warning devices.
- **Regional multi-modal traveler information systems:** Provision of real-time travel information through computerized kiosk centers or internet websites that allow commuters to predict trip times accurately and make informed route and mode choices.

Current ITS Projects:

The City of Dalton installed 18 cameras to observe traffic flow through closed circuit television and make adjustments to signal operations to improve traffic flow and notify emergency responders in the event of accidents or breakdowns. The following list shows where these cameras are located:

I-75 Northbound at Mile Marker 327.37	N. Dalton Bypass at Willowdale Rd.
I-75 Southbound at S. Dalton Bypass	N. Dalton Bypass at Cleveland Hwy/Glenwood
I-75 Southbound at Mile Marker 328.66	Cleveland Ave. at Dawnville Rd.
I-75 Southbound at Mile Marker 330.9	S. Dalton Bypass at Chatsworth Hwy.
I-75 Southbound at West Walnut Ave.	Walnut Ave. at Airport Rd/Murray Ave.
I-75 Southbound at Mile Marker 334.34	Walnut Ave. at Glenwood Ave./Abutment Rd.
I-75 Southbound at Mile Marker 335.73	Walnut Ave. at S. Thornton Ave./S. Dixie Hwy.
I-75 Southbound at Mile Marker 337.58	Walnut Ave. at Tibbs Rd./Dug Gap Rd.
N. Dalton Bypass at Shugart Rd.	S. Dalton Bypass at Lakeland Rd.

Statewide ITS Architecture:

The GDOT is developing a Statewide ITS Architecture known as the Georgia Regional ITS (GRITS) Architecture. GRITS will provide an organized way in which ITS projects for the state can be implemented and evaluated from the point of its completion. The goals for GRITS are as follows:

- Create a unified view of all existing and planned ITS deployments for the State of Georgia.
- Provide a framework to integrate new ITS systems with existing ITS systems statewide.
- Provide a framework that supports interoperability, interchangeability and expandability of ITS systems through the use of national ITS standards.
- Coordinate regional ITS architectures throughout the state and across state borders.
- Create partnerships between the ITS stakeholders from various agencies throughout the state.
- Satisfy US Department of Transportation Final Rule 940 on ITS Architecture and Standards, so agencies across the state can qualify for federal funding for ITS projects.

The Statewide ITS Architecture includes state/local agencies (stakeholders), systems, connections and information flows. Examples of agencies include local engineering offices, transit and emergency response agencies, etc. Systems include activities of agencies like law enforcement receiving incident information or a traffic engineering office receiving information on the operation of traffic signals. Connections include the electronic information and communication equipment employed to provide or receive information. Examples of information flows include data, and information such as traffic flow information, detection of incidents along a highway or warnings given to motorists through changeable message boards.

Transportation Management Control Center:

The GDOT is planning to construct a Transportation Management Control Center which can detect incidents via cameras located along heavily traveled roads and provide information to emergency responders. Detecting incidents via the remote control center can reduce the time of response of emergency agencies and reduce congestion that occurs when traffic must slow or stop due to incidents. This center can also provide advice and warnings to motorists traveling along roads to provide safety, convenience and efficiency in traffic flow.

Incident Management Task Force:

Meetings were held in Dalton to address problems related to traffic incidents occurring along I-75 between Chattanooga and Dalton. Representatives from the TDOT freeway patrol service known as the HELP program, and representatives from the GDOT HERO program have met with state and local persons interested and involved in incident management along the I-75 corridor to share common concerns, and to explore ways in which to cooperate and communicate during incidents along I-75 which affect the traffic flow of both states. It is anticipated these meetings will evolve into an Incident Management Task Force and include representatives of state and local emergency response agencies who will exchange information and practices to improve operations between agencies in responding effectively and quickly to incidents.

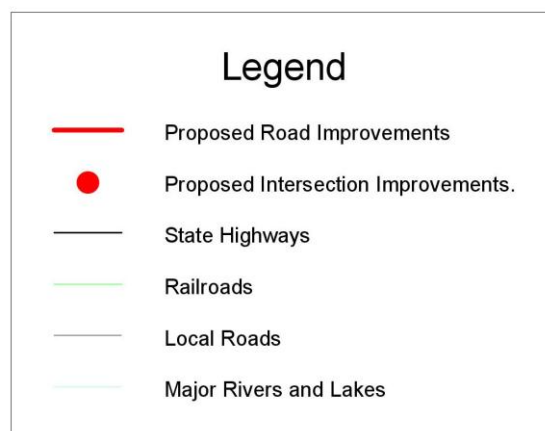
VIII. 2035 ROAD IMPROVEMENT PLAN – PROJECT INFORMATION SHEETS

Dalton- Whitfield County 2035 Long Range Transportation Plan Project Information Sheets Recommended Improvements



The following pages are supplemental to Section VII - Plan Recommendations and include detailed information about each of the recommended projects for the Whitfield County Road Improvement Plan 2010-2035. The local PI numbers on the pages correspond to the numbers on the Whitfield County 2035 Road Improvement Plan map and subsequent tables in Section VII.

The following legend is applicable to the maps on the following project information sheets:



The scale and north arrow are not included on the maps. If you have any question regarding the maps, please contact the Greater Dalton Metropolitan Planning Organization staff.

GREATER DALTON METROPOLITAN PLANNING ORGANIZATION 2035 LONG RANGE TRANSPORTATION PLAN

General Information

Project Name: I-75 at SR3/US 41/Rocky Face Exit – Phase 2 Interchange Reconstruction	PI Num: 0000931	Map Key Num:
Reconstruct interchange	Local PI Num: 1	DOT District: 6
	City: Dalton	Congressional District: 9
Local Rd. Name / Num: N. Dalton Bypass	County: Whitfield	RC: Northwest Georgia
State/US Num: 3/US 41		

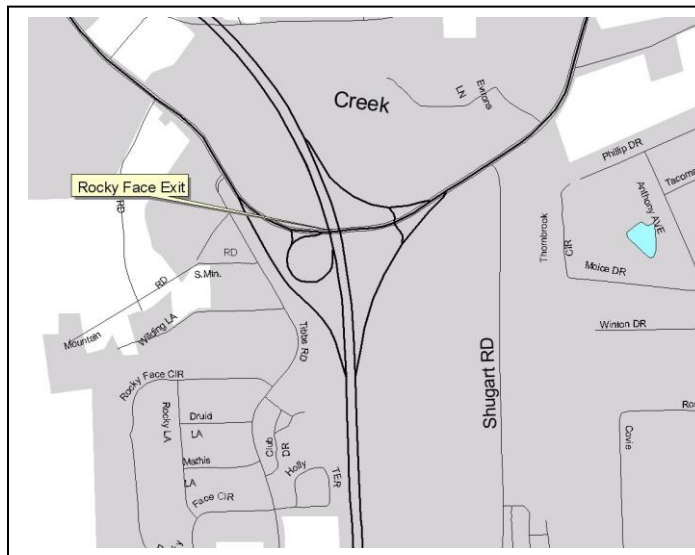
Considerations

Planning Measure and Need: Improve capacity of ramps, improve access and connectivity to US 41.

Funding

Project Phase	\$ Source	Short Range	Mid Range	Long Range	Total
Preliminary Engr (000's)					
Right-of-Way (000's)					
Construction (000's)	L010	\$26,516.75			\$26,516.75
Project Cost (000's)		\$26,516.75			\$26,516.75
Federal/State Cost (000's)		\$26,516.75			\$26,516.75
Local Cost (000's)		\$0.00			\$0.00

Project Description	Purpose and Need: Improve capacity of ramps and connectivity.
Length, Miles: N/A	Logical Termini Locations: I-75 and SR3/ US 41
#of Lanes: N/A	Connectivity/Related Project: I-75 access to SR3/US41
#of Lanes Planned/Modeled: N/A	2006 V/C Ratio: 0.52
2006 Volume, ADT: 28,920	2035 V/C Ratio: 0.75
2035 Volume, ADT: 39,550	Functional Class: Interstate/Principal Arterial
Bike/Pedestrian Additions: None	Comments/Remarks:



Project Map

GREATER DALTON METROPOLITAN PLANNING ORGANIZATION 2035 LONG RANGE TRANSPORTATION PLAN

General Information

Project Name: I-75/Carbondale Exit	PI Num: 610890	Map Key Num:
Widening	Local PI Num: 2	DOT District: 6
	City: Dalton	Congressional District: 9
Local Rd. Name / Num: Carbondale Rd./Connector 3	County: Whitfield	RC: Northwest Georgia
State/US Num: I-75		

Considerations

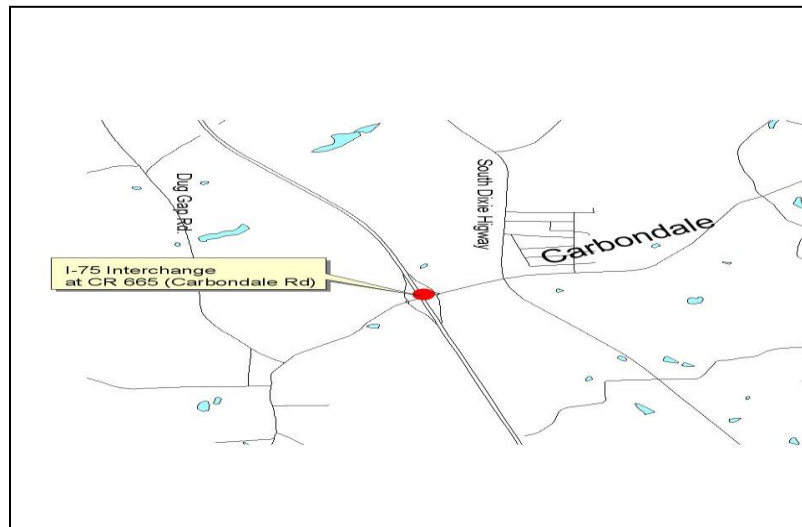
Planning Measure and Need: Improve capacity of ramps

Funding

Project Phase	\$ Source	Short Range	Mid Range	Long Range	Total
Preliminary Engr (000's)					
Right-of-Way (000's)	L010/LY30S	\$26,433.09			\$26,433.09
Utilities (000's)	LOC		\$515.65		\$515.65
Construction (000's)	L010/L200		\$27,490.21		\$27,490.21
Project Cost (000's)		\$26,433.09	\$28,005.86		\$54,438.95
Federal/State Cost (000's)		\$26,433.09	\$27,490.21		\$53,923.30
Local Cost (000's)	LOC	\$0.00	\$515.65		\$515.65

Project Description

Length, Miles: N/A	Interchange Reconstruction.
#of Lanes: N/A	Purpose and Need: Reduce congestion
#of Lanes Planned/Modeled: N/A	Logical Termini Locations: I-75 and
2006 Volume, ADT: 8,650	Carbondale Rd./Connector 3
2035 Volume, ADT: 13,240	2006 V/C Ratio: 1.08
Bike/Pedestrian Additions: None	2035 V/C Ratio: 0.67
	Functional Class: Interstate Principal Arterial
	Comments/Remarks:



Project Map

GREATER DALTON METROPOLITAN PLANNING ORGANIZATION 2035 LONG RANGE TRANSPORTATION PLAN

General Information

Project Name: SR 3 Widening	PI Num: 632670	Map Key Num:
	Local PI Num: 56	DOT District: 6
	City: Dalton	Congressional District: 9
Local Rd. Name / Num:	County: Whitfield	RC: Northwest Georgia
State/US Num: SR 3		

Considerations

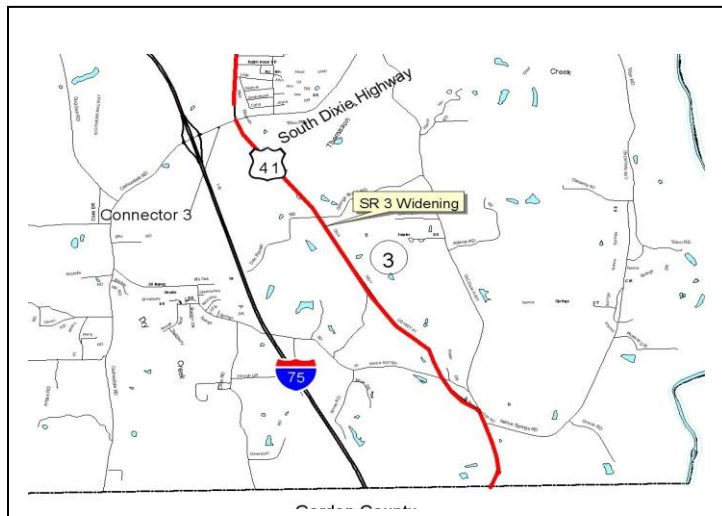
Planning Measure and Need: Reduce congestion

Funding

Project Phase	\$ Source	Short Range	Mid Range	Long Range	Total
SCP (000's)	L200	\$1,725.00			\$1,725.00
Preliminary Engr (000's)	L200		\$1,094.22		\$1,094.22
Right-of-Way (000's)	L200		\$9,969.27		\$9,969.27
Utilities (000's)	L200		\$3,968.92		\$3,968.92
Construction (000's)	L200		\$45,902.47		\$45,902.47
Project Cost (000's)		\$1,725.00	\$60,934.88		\$62,659.88
Federal/State Cost (000's)		\$1,725.00	\$60,934.88		\$62,659.88
Local Cost (000's)		\$0.00	\$0.00		\$0.00

Project Description

Length, Miles: 8.57	Purpose and Need: Reduce congestion
#of Lanes: 2	Logical Termini Locations: SR 136/Resaca N/Gordon to SR 3 Connector
#of Lanes Planned/Modeled: 4	
2006 Volume, ADT: 7,420	2006 V/C Ratio: 0.52
2035 Volume, ADT: 10,050	2035 V/C Ratio: 0.35
Bike/Pedestrian Additions:	Functional Class: Rural Minor Arterial
	Comments/Remarks:



Project Map

GREATER DALTON METROPOLITAN PLANNING ORGANIZATION 2035 LONG RANGE TRANSPORTATION PLAN

General Information

Project Name: N. Dalton Bypass at SR 71/ Cleveland Highway – Intersection Improvement	PI Num: 0008719 Local PI Num: 38	Map Key Num: DOT District: 6
	City: Dalton	Congressional District: 9
Local Rd. Name / Num: Cleveland Hwy	County: Whitfield	RC: Northwest Georgia
State/US Num: SR 71		

Considerations

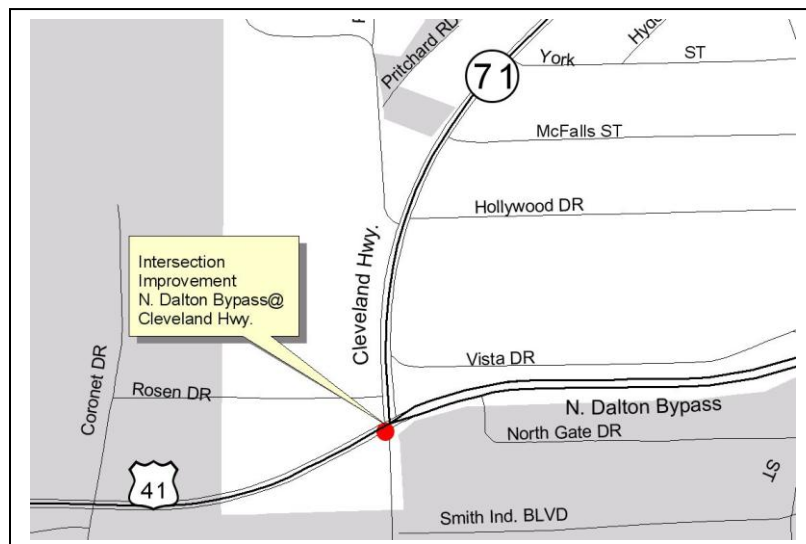
Planning Measure and Need: Provide 2 exclusive left turns lanes for EB to NB movement, eliminate split phasing, add other left & right turn lanes as needed.

Funding

Project Phase	\$ Source	Short Range	Mid Range	Long Range	Total
Preliminary Engr (000's)	LS30	\$257.00			\$257.00
Right-of-Way (000's)	LS30	\$490.00			\$490.00
Construction (000's)	LS30	\$1,100.80			\$1,100.80
Project Cost (000's)		\$1,847.80			\$1,847.80
Federal/State Cost (000's)		\$1,847.80			\$1,847.80
Local Cost (000's)		\$0.00			\$0.00

Project Description

Length, Miles: .5	Purpose and Need: Improve congestion/safety
#of Lanes: N/A	Logical Termini Locations: N/A
#of Lanes Planned/Modeled: N/A	Connectivity/Related Project: N/A
2006 Volume, ADT: 35,920	2006 V/C Ratio: 0.94
2035 Volume, ADT: 44,700	2035 V/C Ratio: 1.21
Bike/Pedestrian Additions: None	Functional Class: SR 71- Urban Minor Arterial N. Dalton Bypass – Urban Principal Arterial
	Comments/Remarks:



Project Map

GREATER DALTON METROPOLITAN PLANNING ORGANIZATION 2035 LONG RANGE TRANSPORTATION PLAN

General Information

Project Name: CR 3/Henry Owens Rd. at Norfolk Southern Railroad – Railroad Crossing Improvements	PI Num: 0004607 Local PI Num: 29 City: Dalton	Map Key Num: DOT District: 6 Congressional District: 9
Local Rd. Name / Num: Henry Owens Rd. State/US Num: N/A	County: Whitfield	RC: Northwest Georgia

Considerations

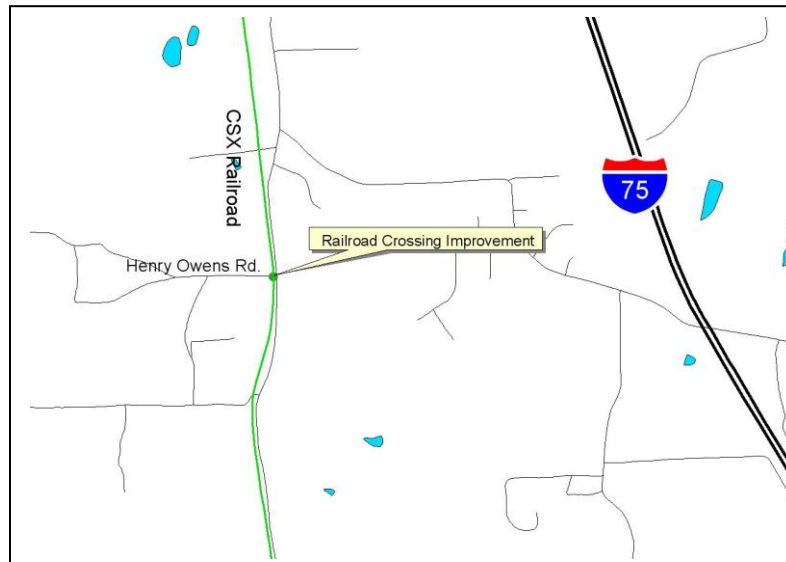
Planning Measure and Need: Improve safety at railroad crossing

Funding

Project Phase	\$ Source	Short Range	Mid Range	Long Range	Total
Preliminary Engr (000's)					
Right-of-Way (000's)					
Construction (000's)	LS50	\$130.00			\$130.00
Project Cost (000's)		\$130.00			\$130.00
Federal/State Cost (000's)		\$130.00			\$130.00
Local Cost (000's)		\$0.00			\$0.00

Project Description

Length, Miles: N/A	Purpose and Need: Improve safety at RR Crossing
#of Lanes: N/A	Logical Termini Locations: Norfolk Southern Rail Crossing at Henry Owens Rd.
#of Lanes Planned/Modeled: N/A	Connectivity/Related Project:
2006 Volume, ADT: N/A (Not in TDM)	Functional Class: N/A
2035 Volume, ADT: N/A	Comments/Remarks:
Bike/Pedestrian Additions:	



Project Map

**GREATER DALTON METROPOLITAN PLANNING ORGANIZATION
2035 LONG RANGE TRANSPORTATION PLAN**

General Information

Project Name: CR 290/Beaver Rd. at CSX R/R Widening/safety.	PI Num:	Map Key Num:
	Local PI Num: 30	DOT District: 6
	City: Dalton	Congressional District: 9
Local Rd. Name / Num:	County: Whitfield	RC: Northwest Georgia
State/US Num: N/A		

Considerations

Planning Measure and Need: Improve safety at railroad crossing

Funding

Project Phase	\$ Source	Short Range	Mid Range	Long Range	Total
Preliminary Engr (000's)					
Right-of-Way (000's)					
Construction (000's)	LS50	\$130.00			\$130.00
Project Cost (000's)		\$130.00			\$130.00
Federal/State Cost (000's)		\$130.00			\$130.00
Local Cost (000's)		\$0.00			\$0.00

Project Description

Length, Miles: N/A	Purpose and Need: Improve safety at railroad
#of Lanes: N/A	Crossing
#of Lanes Planned/Modeled: N/A	Logical Termini Locations: CSX Railroad Crossing
2006 Volume, ADT: N/A (Not in TDM)	at Beaver Road
2035 Volume, ADT: N/A	Connectivity/Related Project:
Bike/Pedestrian Additions:	Functional Class: N/A
	Comments/Remarks:



Project Map

GREATER DALTON METROPOLITAN PLANNING ORGANIZATION 2035 LONG RANGE TRANSPORTATION PLAN

General Information

Project Name: Dawnville Rd. Widening	PI Num:	Map Key Num:
	Local PI Num: 5	DOT District: 6
	City:	Congressional District: 9
Local Rd. Name / Num: Dawnville Rd.	County: Whitfield	RC: Northwest Georgia
State/US Num: N/A		

Considerations

Planning Measure and Need: Improve geometrics, improve connectivity to Dalton via Underwood.

Funding

Project Phase	\$ Source	Short Range	Mid Range	Long Range	Total
Preliminary Engr (000's)		\$972.16			\$972.16
Right-of-Way (000's)	LOC		\$3,979.92		\$3,979.92
Construction (000's)			\$7,199.92		\$7,199.92
Project Cost (000's)		\$972.16	\$11,179.84		\$12,152.00
Federal/State Cost (000's)		\$626.08	\$7,199.92		\$7,826.00
Local Cost (000's)	LOC	\$346.08	\$3,979.92		\$4,326.00

Project Description

Length, Miles: 3.75	Purpose and Need: Improve geomtrcs/Connectivity
#of Lanes: 2	Logical Termini Locations: SR 286 to
#of Lanes Planned/Modeled: 4	Underwood Rd.
2006 Volume, ADT: 8,540	2006 V/C Ratio: 0.84
2035 Volume, ADT: 9,370	2035 V/C Ratio: 0.92
Bike/Pedestrian Additions: Bike Route	Connectivity/Related Project: Underwood Rd.
	Functional Class: Rural Major Collector
	Comments/Remarks:



Project Map

GREATER DALTON METROPOLITAN PLANNING ORGANIZATION 2035 LONG RANGE TRANSPORTATION PLAN

General Information

Project Name: Beaverdale Rd. Widening and realign intersection with Haig Mill Rd.f	PI Num:	Map Key Num:
	Local PI Num: 26	DOT District: 6
	City:	Congressional District: 9
Local Rd. Name / Num: Beaverdale Rd.	County: Whitfield	RC: Northwest Georgia
State/US Num: N/A		

Considerations

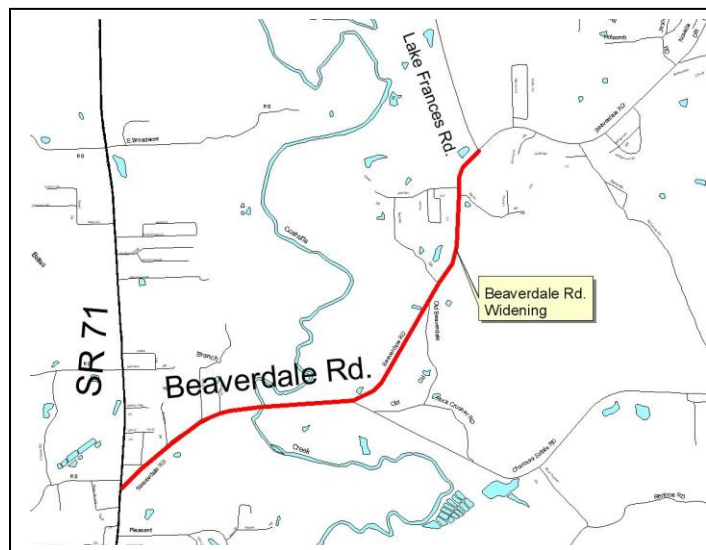
Planning Measure and Need: Improve alignments, improve geometrics, and reduce congestion.

Funding

Project Phase	\$ Source	Short Range	Mid Range	Long Range	Total
Preliminary Engr (000's)		\$1,134.98			\$1,134.98
Right-of-Way (000's)	LOC		\$4,636.80		\$4,636.80
Construction (000's)			\$8,415.49		\$8,415.49
Project Cost (000's)		\$1,134.98	\$13,052.29		\$14,187.27
Federal/State Cost (000's)		\$731.78	\$8,415.49		\$9,147.27
Local Cost (000's)	LOC	\$403.20	\$4,636.80		\$5,040.00

Project Description

Length, Miles: 2.84	Purpose and Need: Improve congestion and safety.
#of Lanes: 2	Termini Locations: SR 71 to Lake Frances Rd.
#of Lanes Planned/Modeled: 4	Connectivity/Related Project: Haig Mill Rd. realignment
2006 Volume, ADT: 9,240	2006 V/C Ratio: 1.03
2035 Volume, ADT: 19,050	2035 V/C Ratio: 0.92
Bike/Pedestrian Additions: On proposed Bike Route Plan	Functional Class: Rural Major Collector
	Comments/Remarks:



Project Map

GREATER DALTON METROPOLITAN PLANNING ORGANIZATION 2035 LONG RANGE TRANSPORTATION PLAN					
General Information					
Project Name: SR 3/US 41 @ Little Swamp Creek - Bridges		PI Num: 0008364		Map Key Num:	
		Local PI Num: 64		DOT District: 6	
		City: Dalton		Congressional District: 9	
Local Rd. Name / Num:		County: Whitfield		RC: Northwest Georgia	
State/US Num: SR 3/US 41					
Considerations					
Planning Measure and Need: Required Maintenance-Improve Safety					
Funding					
Project Phase	\$ Source	Short Range	Mid Range	Long Range	Total
Preliminary Engr (000's)					
Right-of-Way (000's)	LOC	\$50.00			\$50.00
Construction (000's)	L110	\$444.07			\$444.07
Project Cost (000's)		\$494.07			\$494.07
Federal/State Cost (000's)		\$444.07			\$444.07
Local Cost (000,s)	LOC	\$50.00			\$50.00
Project Description					
Length, Miles: .02		Purpose and Need: Bridge Safety/Maintenance			
#of Lanes: 4		Logical Termini Locations: Bridge Work			
#of Lanes Planned/Modeled: 4		Connectivity/Related Project:			
2006 Volume, ADT: 10,970		2006 V/C Ratio: 0.77			
2035 Volume, ADT: 15,270		2035 V/C Ratio: 1.09			
Bike/Pedestrian Additions: None		Functional Class: Arterial			
		Comments/Remarks:			

<p>Bridge Safety & Maintenance work On SR 3/US 41 at Little Swamp Creek</p>

Project Map

**GREATER DALTON METROPOLITAN PLANNING ORGANIZATION
2035 LONG RANGE TRANSPORTATION PLAN**

General Information

Project Name: Airport Road/CR 664	PI Num: 631065	Map Key Num:
Widening	Local PI Num: 23	DOT District: 6
	City: Dalton	Congressional District: 9
Local Rd. Name / Num: Airport Road/CR 664	County: Whitfield	RC: Northwest Georgia
State/US Num: N/A		

Considerations

Planning Measure and Need: Reduce congestion, improve safety, and Improve connectivity to the City of Dalton.

Funding

Project Phase	\$ Source	Short Range	Mid Range	Long Range	Total
Preliminary Engr (000's)					
Right-of-Way (000's)	LOC		\$757.83		\$757.83
Construction (000's)	L200		\$2,331.78		\$2,331.78
Project Cost (000's)			\$3,089.61		\$3,089.61
Federal/State Cost (000's)			\$2,331.78		\$2,331.78
Local Cost (000's)	LOC		\$757.83		\$757.83

Project Description

Length, Miles: 4.1

#of Lanes: 2

#of Lanes Planned/Modeled: 4

2006 Volume, ADT: 7,330

2035 Volume, ADT: 13,710

Bike/Pedestrian Additions: On proposed
Bike Route Plan

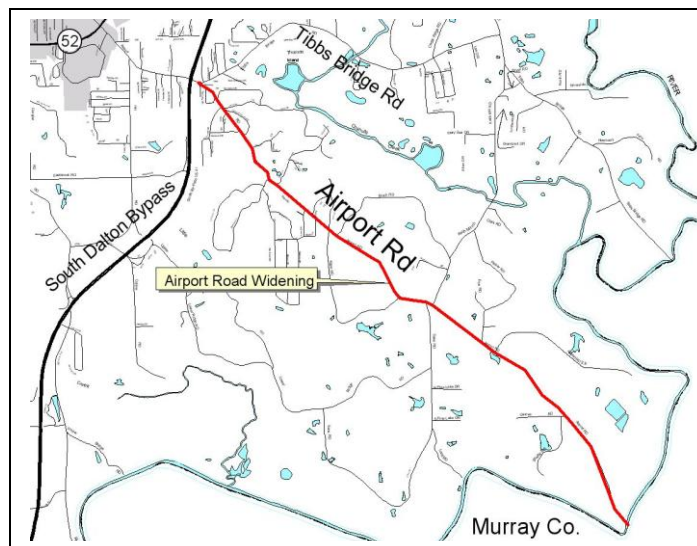
Purpose and Need: Reduce congestion, improve
safety, and improve connectivity to City of Dalton

Termini Locations: Tibbs Bridge Rd. to Murray Co.

2006 V/C Ratio: 0.72

2035 V/C Ratio: 0.69

Functional Class: Urban Minor Arterial
Comments/Remarks:



**GREATER DALTON METROPOLITAN PLANNING ORGANIZATION
2035 LONG RANGE TRANSPORTATION PLAN**

General Information

Project Name: I-75 @ SR 201 Widening of I-75	PI Num: 611180	Map Key Num:
	Local PI Num: 10 & 13	DOT District: 6
	City: Dalton	Congressional District: 9
Local Rd. Name / Num:	County: Whitfield	RC: Northwest Georgia
State/US Num: I-75, SR 201		

Considerations

Planning Measure and Need: Improve capacity of Interstate at SR 201 to reduce congestion.

Funding

Project Phase	\$ Source	Short Range	Mid Range	Long Range	Total
Preliminary Engr (000's)					
Right-of-Way (000's)					
Construction (000's)	L050		\$1,508.37		\$1,508.37
Project Cost (000's)			\$1,508.37		\$1,508.37
Federal/State Cost (000's)			\$1,508.37		\$1,508.37
Local Cost (000's)			\$0.00		\$0.00

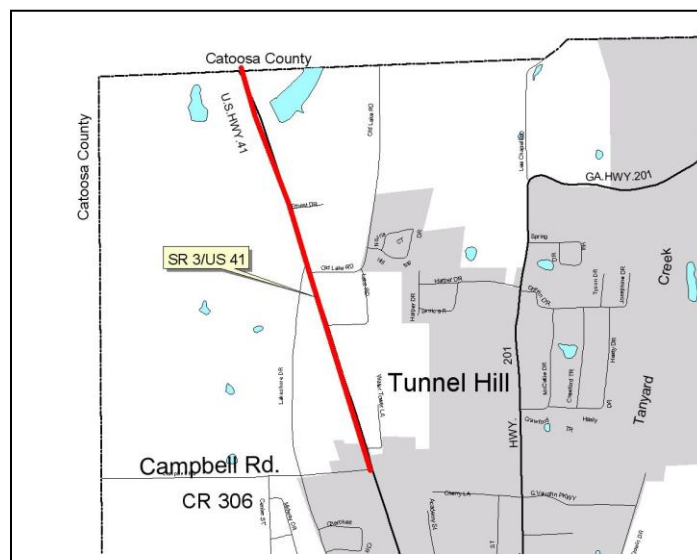
Project Description

Length, Miles:	Purpose and Need: Improve capacity of I-75 at SR
#of Lanes: I-75 – 6 lanes, SR 201-2 lanes	201. 2035 V/C=.83-.85 (I-75)
#of Lanes Planned/Modeled: I-75 – 8 lanes	Logical Termini Locations: I-75 at SR 201
2006 Volume, ADT: 64,940	2006 V/C Ratio: 0.65
2035 Volume, ADT: 69,410	2035 V/C Ratio: 0.6
Bike/Pedestrian Additions: None	Functional Class: Interstate/Rural Major Collector
	Comments/Remarks:



Project Map

GREATER DALTON METROPOLITAN PLANNING ORGANIZATION 2035 LONG RANGE TRANSPORTATION PLAN					
General Information					
Project Name: SR3/US 41 Widening		PI Num: 631360		Map Key Num:	
		Local PI Num: 3		DOT District: 6	
		City: Tunnel Hill		Congressional District: 9	
Local Rd. Name / Num:		County: Whitfield		RC: Northwest Georgia	
State/US Num: SR 3/US 41					
Considerations					
Planning Measure and Need: Widen and enhance safety					
Funding					
Project Phase	\$ Source	Short Range	Mid Range	Long Range	Total
Preliminary Engr (000's)					
Right-of-Way (000's)	L200		\$11,750.69		\$11,750.69
Utilities (000's)	L200		\$801.02		\$801.02
Construction (000's)	L200		\$10,147.53		\$10,147.53
Project Cost (000's)			\$22,699.24		\$22,699.24
Federal/State Cost (000's)			\$22,699.24		\$22,699.24
Local Cost (000's)			\$0.00		\$0.00
Project Description					
Length, Miles: 3.3		Purpose and Need: Widen and enhance safety			
#of Lanes: 2		Logical Termini Locations: Campbell Rd/CR 306 to Catoosa County Line			
#of Lanes Planned: 4 w/14' med.					
2006 Volume, ADT: 9,240		2006 V/C Ratio: 0.23			
2035 Volume, ADT: 9,530		2035 V/C Ratio: 0.24			
		Functional Class: Urban Minor Arterial			
Bike/Pedestrian Additions: None		Comments/Remarks:			



Project Map

GREATER DALTON METROPOLITAN PLANNING ORGANIZATION 2035 LONG RANGE TRANSPORTATION PLAN

General Information

Project Name: Bridge Replacement- SR 2 at Conasauga River	PI Num: 0007058	Map Key Num:
	Local PI Num: 57	DOT District: 6
	City: Dalton	Congressional District: 9
Local Rd. Name / Num:	County: Whitfield	RC: Northwest Georgia
State/US Num: N/A		

Considerations

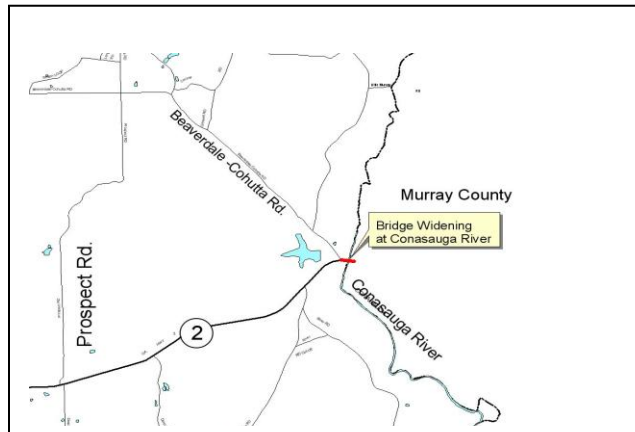
Planning Measure and Need: Improve structural and functional capacity.

Funding

Project Phase	\$ Source	Short Range	Mid Range	Long Range	Total
Preliminary Engr (000's)					
Right-of-Way (000's)	L1C0		\$37.00		\$37.00
Construction (000's)	L1C0		\$497.37		\$497.37
Project Cost (000's)			\$534.37		\$534.37
Federal/State Cost (000's)			\$534.37		\$534.37
Local Cost (000's)			\$0.00		\$0.00

Project Description

Length, Miles:	Purpose and Need: Imprv struct/functional capacity.
#of Lanes:	Logical Termini Locations: Over Conasauga River
#of Lanes Planned/Modeled:	at SR 2 and Beaverdale-Cohutta Rd.
2006 Volume, ADT: 27,280	2006 V/C Ratio: 0.77
2035 Volume, ADT: 29,020	2035 V/C Ratio: 0.82
Bike/Pedestrian Additions: None	Functional Class: Rural Minor Arterial
	Comments/Remarks:



Project Map

GREATER DALTON METROPOLITAN PLANNING ORGANIZATION 2035 LONG RANGE TRANSPORTATION PLAN					
General Information					
Project Name: ATMS-GDOT Regional Transportation Control Center		PI Num: 622120		Map Key Num:	
		Local PI Num: 28		DOT District: 6	
		City: Dalton		Congressional District: 9	
Local Rd. Name / Num:		County: Whitfield		RC: Northwest Georgia	
State/US Num: N/A					
Considerations					
Planning Measure and Need: Provide a facility to enhance ITS services such as to Improve response to incidents on the Interstate.					
Funding					
Project Phase	\$ Source	Short Range	Mid Range	Long Range	Total
Preliminary Engr (000's)					
Right-of-Way (000's)					
Construction (000's)	L050		\$1,872.51		\$1,872.51
Project Cost (000's)			\$1,872.51		\$1,872.51
Federal/State Cost (000's)			\$1,872.51		\$1,872.51
Local Cost (000's)			\$0.00		\$0.00
Project Description					
Length, Miles: N/A		Purpose and Need: Provide a facility for ITS services.			
#of Lanes: N/A					
#of Lanes Planned/Modeled: N/A		Logical Termini Locations: N/A			
2006 Volume, ADT: N/A (Not in TDM)					
2035 Volume, ADT: N/A		Connectivity/Related Project: N/A			
Bike/Pedestrian Additions: N/A		Functional Class: N/A			
		Comments/Remarks:			

Site of Transportation Control Center to be determined.

Project Map

GREATER DALTON METROPOLITAN PLANNING ORGANIZATION 2035 LONG RANGE TRANSPORTATION PLAN

General Information

Project Name: South Dixie Highway Widening	PI Num: 620630	Map Key Num:
	Local PI Num: 11	DOT District: 6
	City: Dalton	Congressional District: 9
Local Rd. Name / Num: South Dixie Highway	County: Whitfield	RC: Northwest Georgia
State/US Num: N/A		

Considerations

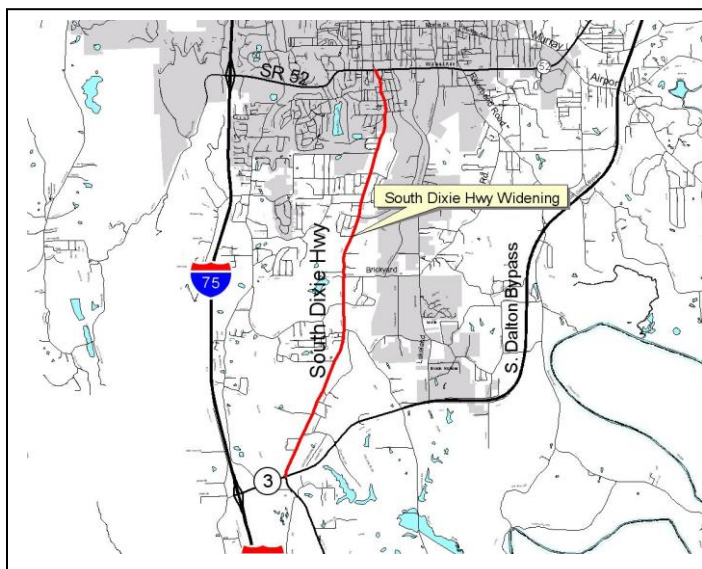
Planning Measure and Need: Improve North-South connectivity to Dalton, Reduce congestion.

Funding

Project Phase	\$ Source	Short Range	Mid Range	Long Range	Total
Preliminary Engr (000's)					
Right-of-Way (000's)	LOC		\$8,037.76		\$8,037.76
Construction (000's)	L200		\$34,770.94		\$34,770.94
Project Cost (000's)			\$42,808.70		\$42,808.70
Federal/ State Cost (000's)			\$34,770.94		\$34,770.94
Local Cost (000's)	LOC		\$8,037.76		\$8,037.76

Project Description

Length, Miles: 5.17	Purpose and Need: Improve connectivity, Reduce
#of Lanes: 2	Logical Termini Locations: SR 52/Walnut Ave. to
#of Lanes Planned/Modeled: 4	South Dalton Bypass
2006 Volume, ADT: 11,260	2006 V/C Ratio: 0.78
2035 Volume, ADT: 18,890	2035 V/C Ratio: 0.67
Bike/Pedestrian Additions: None	Functional Class: Urban Principal Arterial
	Comments/Remarks:



Project Map

GREATER DALTON METROPOLITAN PLANNING ORGANIZATION 2035 LONG RANGE TRANSPORTATION PLAN

General Information

Project Name: US 41 @ Old Chattanooga & Old Lafayette Intersection Improvements	PI Num:	Map Key Num:
	Local PI Num: 21	DOT District: 6
	City:	Congressional District: 9
Local Rd. Name / Num: Old Chattanooga & Old Lafayette	County: Whitfield	RC: Northwest Georgia
State/US Num: US 41		

Considerations

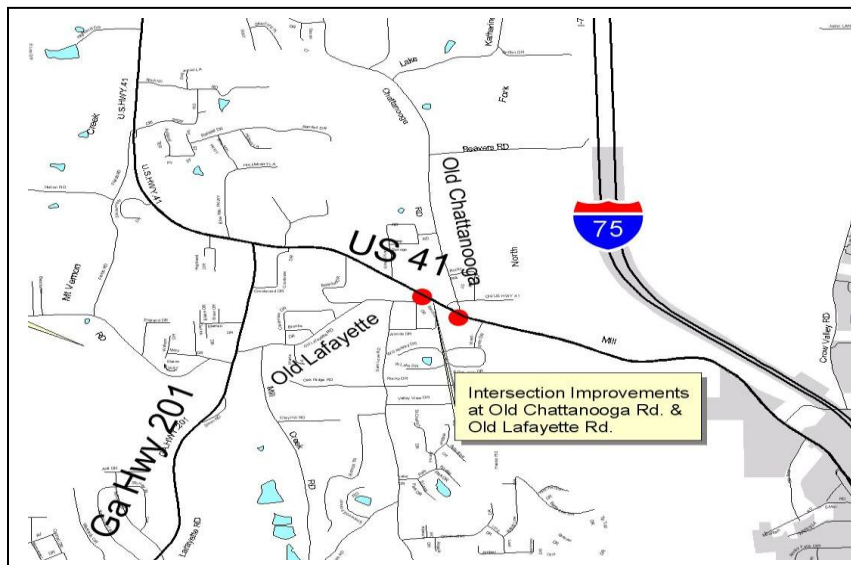
Planning Measure and Need: Intersection Improvements for to improve congestion and safety.

Funding

Project Phase	\$ Source	Short Range	Mid Range	Long Range	Total
Preliminary Engr (000's)			\$156.82		\$156.82
Right-of-Way (000's)			\$71.28		\$71.28
Construction (000's)			\$1,197.50		\$1,197.50
Project Cost (000's)			\$1,425.60		\$1,425.60
Federal/State Cost (000's)			\$712.80		\$712.80
Local Cost (000's)	LOC		\$712.80		\$712.80

Project Description

Length, Miles: N/A	Purpose and Need: Improve congestion & safety.
#of Lanes: N/A	
#of Lanes Planned/Modeled: N/A	Logical Termini Locations: N/A
2006 Volume, ADT: N/A (Not in TDM)	
2035 Volume, ADT: N/A	Connectivity/Related Project: N/A
Bike/Pedestrian Additions: N/A	Functional Class: N/A
	Comments/Remarks:



Project Map

GREATER DALTON METROPOLITAN PLANNING ORGANIZATION 2035 LONG RANGE TRANSPORTATION PLAN

General Information

Project Name: Reed Rd. Widening	PI Num:	Map Key Num:
	Local PI Num: 22	DOT District: 6
	City: Dalton	Congressional District: 9
Local Rd. Name / Num: Lakeland Rd	County: Whitfield	RC: Northwest Georgia
State/US Num: N/A		

Considerations

Planning Measure and Need: Improve access and connectivity to the City of Dalton. Short Term (Implement N. Whitfield Traffic Study)

Funding

Project Phase	\$ Source	Short Range	Mid Range	Long Range	Total
Planning Study (000's)	LOC		\$336.00		\$336.00
Right-of-Way (000's)					
Construction (000's)					
Project Cost (000's)			\$336.00		\$336.00
Federal/State Cost (000's)			\$0.00		\$0.00
Local Cost (000's)	LOC		\$336.00		\$336.00

Project Description

Length, Miles: 5.73	Purpose and Need: Improve access and connectivity to the City of Dalton
#of Lanes: 2	
#of Lanes Planned/Modeled: 3	Logical Termini Locations: N. Dal Bypass - SR 286
2006 Volume, ADT: 4,720	2006 V/C Ratio: 0.79
2035 Volume, ADT: 6,720	2035 V/C Ratio: 0.91
Bike/Pedestrian Additions: On Proposed Bike Route	Functional Class: Urban Collector/Rural Minor Collector
	Comments/Remarks:



Project Map

**GREATER DALTON METROPOLITAN PLANNING ORGANIZATION
2035 LONG RANGE TRANSPORTATION PLAN**

General Information

Project Name: SR 2 & SR 201 Intersection Improvements	PI Num:	Map Key Num:
	Local PI Num: 62	DOT District: 6
	City:	Congressional District: 9
Local Rd. Name / Num:	County: Whitfield	RC: Northwest Georgia
State/US Num: SR 2 & SR 201		

Considerations

Planning Measure and Need: Intersection Improvements to improve congestion and safety.

Funding

Project Phase	\$ Source	Short Range	Mid Range	Long Range	Total
Preliminary Engr (000's)			\$119.44		\$119.44
Right-of-Way (000's)	LOC		\$74.65		\$74.65
Construction (000's)			\$1,298.90		\$1,298.90
Project Cost (000's)			\$1,492.99		\$1,492.99
Federal/State Cost (000's)			\$1,418.34		\$1,418.34
Local Cost (000's)	LOC		\$74.65		\$74.65

Project Description

Length, Miles: N/A	Purpose and Need: Improve congestion & safety.
#of Lanes: N/A	
#of Lanes Planned/Modeled: N/A	Logical Termini Locations: N/A
2006 Volume, ADT: N/A (Not in TDM)	
2035 Volume, ADT: N/A	Connectivity/Related Project: N/A
Bike/Pedestrian Additions: N/A	Functional Class: N/A
	Comments/Remarks:



Project Map

GREATER DALTON METROPOLITAN PLANNING ORGANIZATION 2035 LONG RANGE TRANSPORTATION PLAN

General Information

Project Name: East Morris/Murray Ave.	PI Num:	Map Key Num:
Widening	Local PI Num: 15	DOT District: 6
	City: Dalton	Congressional District: 9
Local Rd. Name / Num: E. Morris/Murray Ave.	County: Whitfield	RC: Northwest Georgia
State/US Num: N/A		

Considerations

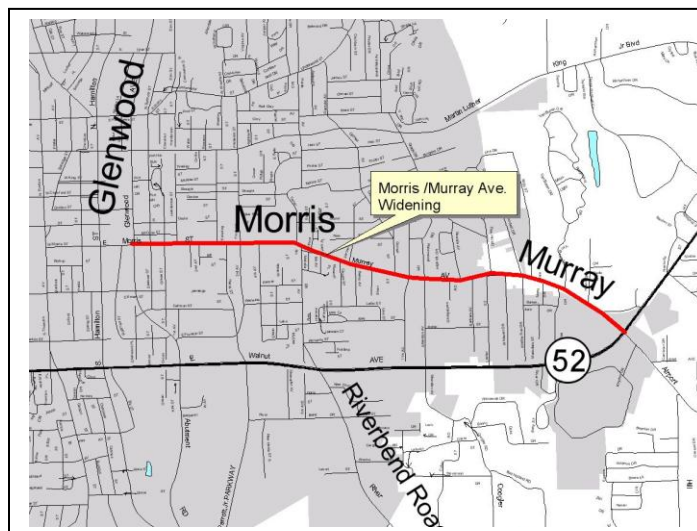
Planning Measure and Need: Provide alternative in accessing CBD, reduce	
Congestion	

Funding

Project Phase	\$ Source	Short Range	Mid Range	Long Range	Total
Preliminary Engr (000's)				\$1,349.03	\$1,349.03
Right-of-Way (000's)	LOC			\$10,177.10	\$10,177.10
Construction (000's)				\$5,336.75	\$5,336.75
Project Cost (000's)				\$16,862.88	\$16,862.88
Federal/State Cost (000's)				\$6,685.78	\$6,685.78
Local Cost (000's)	LOC			\$10,177.10	\$10,177.10

Project Description

Length, Miles: 2.0	Purpose and Need: Improve access/congestion.
#of Lanes: 2	Logical Termini Locations: SR 52 to
#of Lanes Planned/Modeled: 4	Glenwood Ave.
2006 Volume, ADT: 7,240	2006 V/C Ratio: 0.49
2035 Volume, ADT: 16,530	2035 V/C Ratio: 0.56
Bike/Pedestrian Additions: On proposed Bike Route Plan	Functional Class: Urban Minor Arterial Comments/Remarks:



Project Map

GREATER DALTON METROPOLITAN PLANNING ORGANIZATION 2035 LONG RANGE TRANSPORTATION PLAN

General Information

Project Name: Underwood Road Widening	PI Num:	Map Key Num:
	Local PI Num: 6	DOT District: 6
	City: Dalton	Congressional District: 9
Local Rd. Name / Num: Underwood Rd.	County: Whitfield	RC: Northwest Georgia
State/US Num: N/A		

Considerations

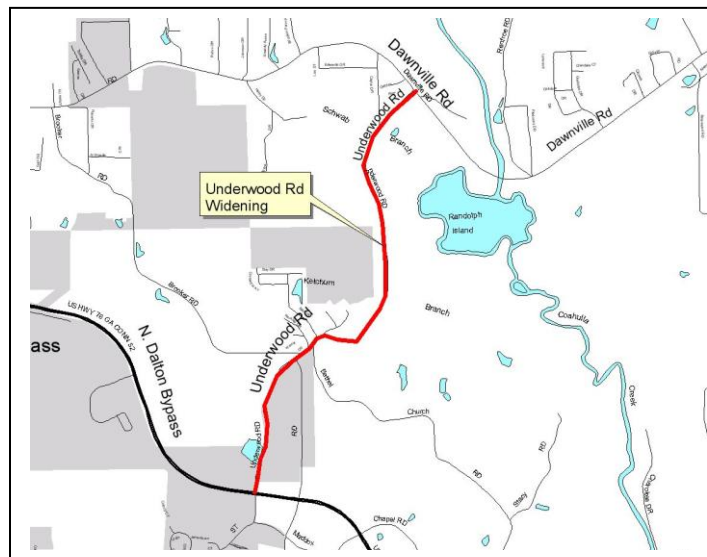
Planning Measure and Need: Reduce congestion

Funding

Project Phase	\$ Source	Short Range	Mid Range	Long Range	Total
Preliminary Engr (000's)				\$1,290.28	\$1,290.28
Right-of-Way (000's)	LOC			\$5,936.45	\$5,936.45
Construction (000's)				\$8,901.72	\$8,901.72
Project Cost (000's)				\$16,128.45	\$16,128.45
Federal/State Cost (000's)				\$10,192.00	\$10,192.00
Local Cost (000's)	LOC			\$5,936.45	\$5,936.45

Project Description

Length, Miles: 2.05	Purpose and Need: Reduce Congestion
#of Lanes: 2	Termini Locations: N. Dal. Bypass to
#of Lanes Planned/Modeled: 4	Dawnville Rd.
2006 Volume, ADT: 6,460	2006 V/C Ratio: 0.95
2035 Volume, ADT: 15,660	2035 V/C Ratio: 1.17
Bike/Pedestrian Additions: On proposed Bike Route Plan	Functional Class: Rural Major Collector Comments/Remarks:



Project Map

**GREATER DALTON METROPOLITAN PLANNING ORGANIZATION
2035 LONG RANGE TRANSPORTATION PLAN**

General Information

Project Name: Dug Gap Battle/Dug Gap Rd.	PI Num:	Map Key Num:
	Local PI Num: 50	DOT District: 6
	City:	Congressional District: 9
Local Rd. Name / Num: Dug Gap Battle/Dug Gap Rd.	County: Whitfield	RC: Northwest Georgia
State/US Num: N/A		

Considerations

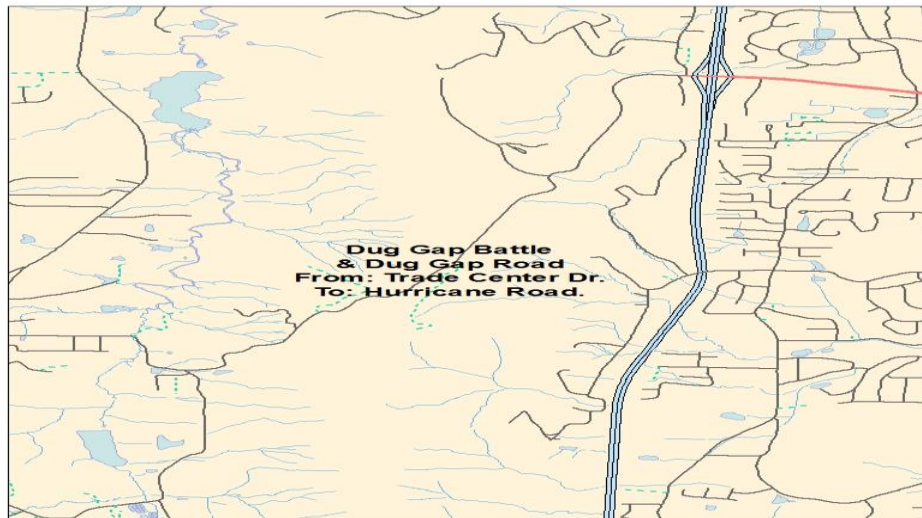
Planning Measure and Need: Reduce traffic congestion and improve safety

Funding

Project Phase	\$ Source	Short Range	Mid Range	Long Range	Total
Preliminary Engr (000's)				\$390.61	\$390.61
Right-of-Way (000's)	LOC			\$1,838.80	\$1,838.80
Construction (000's)				\$2,653.27	\$2,653.27
Project Cost (000's)				\$4,882.68	\$4,882.68
Federal/State Cost (000's)				\$3,043.88	\$3,043.88
Local Cost (000's)	LOC			\$1,838.80	\$1,838.80

Project Description

Length, Miles: 2.5	Purpose and Need: Improve congestion and Safety
#of Lanes: 3 to 4 lanes	Termini Locations: Trade Cntr. Dr. to Hurricane Rd.
#of Lanes Planned/Modeled: Not Coded.	Connectivity/Related Project:
Bike/Pedestrian Additions: On proposed Bike Route Plan	Functional Class: Rural Collector Comments/Remarks:



Project Map

APPENDICES

APPENDIX A. PUBLIC INVOLVEMENT

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APPENDIX A-1 – Public Meetings

A-1-a. PUBLIC MEETING I – May 19, 2009

Agenda:

2035 LRTP Update

Public Involvement Process

Public Meeting No. 1 – Kick-off Meeting

When: May 19, 2009

Where: Dalton City Hall

Time: 6:00 p.m.

Purpose: Inform the public about the 2035 Long Range Transportation Plan and gather input on issues, concerns, and problems related to transportation in the Dalton-Whitfield County area

Agenda:

1. Facilitators set up meeting place
2. Citizens arrive and view stations where maps are on display and handouts and comment sheets are available.
3. Presentation- Powerpoint describing the LRTP update purpose, process, and schedule.
4. Questions and Answer session
5. Adjourn, facilitators remain to answer questions from citizens as they leave.

Advertisement:

See - A-2.a. Article “Plans for 2035 transportation to get under way” under articles.

Sign-In Sheet:

(Next Page)

Minutes:

(No Minutes Available for this meeting from Northwest Georgia Regional Commission)

**Dalton- Whitfield County MPO- 2035 Long Range Transportation Plan
Kick-off Meeting
May 19, 2009**

Name	Address	E-Mail Address
MIKE COWAN	213 LAKEVIEW DR DALTON GA 30721	COWAN3456@aol.com
BILL HAWKINS	1409 DUGGAP RD DALTON GA 30720	
JACKIE HAWKINS	1409 DUGGAP RD DALTON GA 30720	
KEN GOWIN		
KEVIN HERRIT	301 W. Crawford Dalton Ga 30722	HERRIT@whitfieldcountyga.com
Kent Benson	" " " " "	kbenson@whitfieldcountyga.com
Mike Rabb	1837 Old Ringgold Rd., Rocky Ford, GA 30740	mrabb@ " " " " "
Greg Jones	1441 Dogwood Vly Rd Tunnel Hill Ga 30755	gjones@ " " " " "
Rin Hale	301 W. Comfort, Dalton, GA 30722	rhale@ " " " " "
Emily Jester		
Joe Forsee	Public Library 310 Cappel St. 30720	forseej@ngra.org

A-1-b. PUBLIC MEETING II – March 23, 2010

Agenda:

2035 LRTP Update

Public Involvement Process

Public Meeting No. 2 – Progress Report Meeting

When: March 23, 2010

Where: Dalton City Hall

Time: 5:30 p.m.

Purpose: Report on the progress of the development of the Long Range Transportation Plan, share the findings that reveal the location and degree of traffic congestion and to conduct a workshop to receive ideas and proposals to address traffic flow problems and various transportation needs.

Agenda:

1. Presentation – Power point presentation and review of maps showing congested areas.
2. Workshop- Participants are asked to gather around tables and mark on maps where improvements are needed
3. Adjourn, facilitators remain to answer questions from citizens as they leave

Advertisement:

(Next Page)

Sign-In Sheet:

(Page following Advertisement)

Minutes:

(Page following Sign-In Sheet)

PUBLIC MEETING II – ADVERTISEMENT:

March 15, 2010

PUBLIC SERVICE ANNOUNCEMENT

The Whitfield County, Georgia - Greater Dalton Metropolitan Planning Organization (GDMPO) will place the Participation Plan (PP) at eight (8) locations around the county (*Dalton City Library/Dalton City Hall/Whitfield County Courthouse and Administrative Building #1/Chamber of Commerce/Varnell City Hall/Tunnel Hill City Hall/NWGRC Offices*) for public review and input from March 22nd through May 5th, 2010. The public is invited to review the Participation Plan and give their input to Zach Montgomery, GDMPO Transportation Planner at (706) 876-2547 or e-mail their comments to zmontgomery@whitfieldcountyga.com. The PP can also be viewed on-line at the GDMPO web page located at <http://www.whitfieldcountyga.com/engineer/mpo.htm>.

- ALSO -

The GDMPO will also be holding a Public Meeting to review the "Draft" of the 2035 Long Range Transportation Plan (LRTP) at the Dalton City Hall – Council Chambers, located at 114 North Pentz Street, Dalton, Georgia, on Tuesday, March 23rd, 2010, from 5:30 P.M. until 7:00 P.M. to allow the public to give their input and discuss their issues relating to transportation in the Dalton/Whitfield County area. This public notice is required to comply with the Open Meetings Law requirements.

"END"

Submitted by: Zachary P. Montgomery

Approved by: Bill Allen

PUBLIC MEETING II – SIGN-IN SHEET:

[illegible]

PUBLIC MEETING MINUTES

The Greater Dalton Metropolitan Planning Organization (GDMPO) held a second Public Meeting for initial review and discussion on the “DRAFT” 2035 Long Range Transportation Plan (LRTP) to gain public input on transportation related issues in the greater Dalton area.

(The first Public Meeting for the 2035 LRTP Update was held on May 19th, 2009)

This Second Public Meeting was held on:

MARCH 23, 2010 - 5:30 P.M.

City of Dalton – Council Chambers

114 North Pentz Street, Dalton, Georgia 30720

A sign-in sheet was posted and the following five (5) people signed in and attended the meeting:

- | | |
|---|---|
| 1- <i>J. Tyson Ross, Administrator, City of Dalton</i> | 2- <i>Benny Dunn, Director, Dalton Public Works</i> |
| 3- <i>Ron Hale, Finance Director, Whitfield County</i> | 4- <i>Zachary P. Montgomery, GDMPO Staff</i> |
| 5- <i>Bill Allen, GDMPO Consultant & Transportation Planner</i> | |

General: The meeting was started at 5:30 P.M. by Zach Montgomery, the GDMPO Transportation Planner who welcomed everyone, introduced himself to the audience and explained the purpose of tonight’s public meeting, which is to gain public input on any transportation related issues in the cities of Tunnel Hill, Varnell, Dalton or in Whitfield County. Montgomery then explained where the GDMPO staff is currently in the process of updating the 2030 LRTP to come up with the new 2035 LRTP which is required by the Georgia Department of Transportation (GDOT) and the Federal Highway Administration (FHWA). Montgomery then introduced Bill Allen, the GDMPO Transportation Planning Consultant, who will be giving a PowerPoint presentation on the planning process involved in creating a Long Range Transportation Plan.

Long Range Transportation Planning Process Presentation: Bill Allen gave a 30 minute PowerPoint presentation to explain the GDMPO Study Area which includes all of Whitfield County and the cities within the county; the road network of federal interstates and highways; state highways and roads and major county/local roads and streets; a description of all modes of transportation in the GDMPO Study Area; the goals and objectives of the 2035 LRTP; methods for planning and strategies for improving transportation issues; explanation of the GDOT generated Traffic Demand Model; the issues expressed at the first/previous meeting; prepare a draft LRTP; do public and GDMPO Committee meetings where LRTP can be reviewed; make necessary changes to the LRTP; bring the LRTP back before the public and committees for final review and comment; and, get approval and adoption of the 2035 LRTP through the GDMPO Policy Committee.

Discussion ensued about how population and employment projections were established between Ty Ross, Allen and Montgomery and how proposed Volkswagon and Wacker facilities would affect population and employment in Whitfield County. The three new projects were discussed, #61, #62 and #63. It was recommended that a Boat/Canoe/Kayak inputting facility be installed at the Conasauga River at SR 2.

With no further comments or suggestions the meeting ended at 6:19 P.M.

A-1-c. PUBLIC MEETING III – May 11, 2010

Agenda:

2035 LRTP Update

Public Involvement Process

Public Meeting No. 3 - Presentation and Review of the 2035 LRTP “Final Draft”

When: May 11, 2010

Where: Dalton City Hall

Time: 5:30 p.m.

Purpose: To review the “Final Draft” of the 2035 LRTP and receive comments

Agenda:

1. Review of the “Final Draft” 2035 Long Range Transportation Plan.
2. Open House Review of the Road Improvement Plan Map of the 2035 Long Range Transportation Plan.
3. Adjourn and facilitators remain to address comments from citizens viewing the draft document and map displays.

Advertisement:

(Next Page)

Sign-In Sheet:

(Page following Advertisement)

Minutes:

(Page following Advertisement)

PUBLIC MEETING III – ADVERTISEMENT

PUBLIC SERVICE ANNOUNCEMENT: The Whitfield County, GA - Greater Dalton Metropolitan Planning Organization (GDMPO) will place the Fiscal Year 2011-2014 Transportation Improvement Program (TIP) and the “FINAL DRAFT” of the 2035 Long Range Transportation Plan (LRTP) at eight (8) locations around the county (Dalton City Library/Dalton City Hall/Whitfield County Administrative Buildings #1 and #2/Chamber of Commerce/Varnell City Hall/Tunnel Hill City Hall/NWGRC Offices) for public review and input from May 7th, 2010 through June 13th, 2010. The public is invited to review the FY 2011-2014 TIP and 2035 LRTP “FINAL DRAFT” and give their input to Zach Montgomery, GDMPO Transportation Planner at (706) 876-2547 or e-mail their comments about either of these documents to zmontgomery@whitfieldcountyga.com. The FY 2011-2014 TIP and the 2035 LRTP “FINAL DRAFT” can both be viewed on-line at the GDMPO web page located at <http://www.whitfieldcountyga.com/engineer/mpo.htm>. - ALSO - The GDMPO will hold a Public Meeting to review the “FINAL DRAFT” of the 2035 LRTP at the Dalton City Hall – Council Chambers, located at 300 W. Waugh St., Dalton, GA, on Tuesday, May 11th, 2010, from 5:30 P.M. until 7:00 P.M. to allow the public to give their final input on the 2035 LRTP. This public notice is required to comply with the Open Meetings Law requirements.
05/07 # 15 , Published: Thursday, May 6th 2010 05:00:01 PM

The GDMPO will be holding a Public Meeting/Hearing to review the “FINAL DRAFT” of the 2035 Long Range Transportation Plan (LRTP) and for discussion, review and approval of various other documents. This meeting will be held in the First Floor Conference Room at the Whitfield County Administration Building #1, located at 301 West Crawford Street, Dalton, Georgia, on Monday, May 17, 2010, from 10:00 A.M. until 12:00 Noon. This is a Public Meeting/Hearing and is open to the public to allow the public the opportunity to participate in the transportation planning process for the Dalton/Whitfield County area. This public notice is required to comply with the Open Meetings Law requirements.
05/07 # 18 , Published: Thursday, May 6th 2010 05:00:01 PM

PUBLIC MEETING III - 2035 LRTP GREATER DALTON METROPOLITAN PLANNING ORGANIZATION

MEETING PURPOSE: REVIEW/COMMENT ON "FINAL DRAFT" OF 2035 LONG RANGE TRANSPORTATION PLAN

MEETING LOCATION: DALTON CITY HALL - COUNCIL CHAMBERS

DATE: 5-11-2010

TIME: 5:30 P.M.

Sheet # _____ of _____

PUBLIC MEETING MINUTES

(The first Public Meeting for the 2035 LRTP Update was held on May 19th, 2009)
(The Second Public Meeting for the 2035 LRTP Update was held on March 23rd, 2010)

This Third Public Meeting was held on:

May 11, 2010 - 5:30 P.M.

City of Dalton – Council Chambers 114 North Pentz Street, Dalton, Georgia 30720

A sign-in sheet was posted and nobody from the general public attended the meeting:

1-Zachary P. Montgomery, GDMPO Staff

2-Bill Allen, GDMPO Consultant

General: The GDMPO Staff waited (20-minutes) until 5:50 P.M. for anyone to show up to the meeting. When nobody showed, the GDMPO Staff loaded up and left the premises at 5:53 P.M.

The GDMPO Staff will re-evaluate the process through which it undergoes to obtain public participation at the Public Meetings in an attempt to improve participation at future meetings.

A-1-d. PUBLIC MEETING IV (Public Hearing) – June 14, 2010

Agenda:

2035 LRTP Update

Public Involvement Process

Public Meeting No. 4 – (Public Hearing) – Review/Approval of the 2035 LRTP “Final Draft”

When: June 14, 2010

Where: Whitfield County Administration Building #1

Time: 10:00 A.M.

Purpose: To review 2035 LRTP “Final Draft” and receive approval from the Policy Committee.

Agenda:

1. Review of the “Final Draft” 2035 Long Range Transportation Plan
2. Receive comments from attendees
3. Receive Approval for adoption of 2035 Long Range Transportation Plan (PC)
4. Adjourn and facilitators remain to address comments from citizens viewing the draft document and map displays

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Sign-In Sheet:

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Minutes:

(Page following Sign-In Sheet)

PUBLIC MEETING (HEARING) IV – ADVERTISEMENT

TO BE COMPLETED AFTER MEETING TAKES PLACE

PUBLIC MEETING (HEARING) IV – SIGN-IN SHEET

TO BE COMPLETED AFTER MEETING TAKES PLACE

PUBLIC MEETING (HEARING) IV – MINUTES

TO BE COMPLETED AFTER MEETING TAKES PLACE

TO BE COMPLETED AFTER MEETING TAKES PLACE

APPENDIX A.2 – ARTICLES & STORIES

A-2.a. Article “*Plans for 2035 transportation to get under way*”



Plans for 2035 transportation to get under way

SUBMITTED BY THE
NORTH GEORGIA
REGIONAL DEVELOPMENT
CENTER

The Metropolitan Planning Organization (MPO) for Dalton-Whitfield County has initiated the preparation of a Long Range Transportation Plan for the year 2035. Essential to the development of this plan is the collection of opinions, issues and concerns of local citizens regarding traffic flow and other transportation concerns within the metropolitan area.

Before the adoption of the transportation plan, the MPO will hold the first of a series of three public meetings on Tuesday, May 19, at 5:30 p.m. in the Council Chambers of Dalton City Hall.

To effectively inform citizens and obtain citizen input during this approximate one-hour meeting, facilitators will provide map displays, information handouts and survey forms regarding the

plan. After a brief presentation of the purpose and scope of the plan, a question and answer session will be conducted to provide an opportunity for attendees to express their concerns.

This meeting will be followed by a progress report meeting in October 2009 and a public hearing in March 2010 to review a draft of the plan prior to MPO approval in the spring of 2010.

The plan, with a horizon year of 2035, sets a primary goal of promoting the effective movement of people and goods while supporting land use and economic goals of the region. The plan will outline proposed improvements for roads, transit, bike-ways, sidewalks, air transportation and freight movement.

For more information, contact Matt Tucker, transportation planning coordinator, at (706) 272-2300. Information will be available on the NGRDC Web site, www.ngrdc.org, about this meeting.

A-2.b. Article "Transportation planners recalling past lessons"

6A Wednesday, May 20, 2009



MISTY WATSON/The Daily Citizen

Traffic backs up in the east bound lanes of the bypass just before the intersection with Cleveland Highway on Tuesday.

Transportation planners recalling past lessons

BY CHARLES OLIVER
charlesoliver@daltoncitizen.com

Dalton area residents probably won't hear as much talk about widening roads this time as the Dalton-Whitfield County Metropolitan Planning Organization (MPO) develops its latest long-range transportation plan.

When the MPO developed its first plan for the area in 2004 and 2005, initial discussions called for widening Walnut Avenue and Cleveland Highway from the Dalton Bypass to Dawsonville Road to six lanes. But public protests got those projects taken out of the final plan and several other road-widening plans scaled back.

"We are going to be looking more closely at land use and how that relates to transportation needs and also look at how we can preserve what we already have," said Bill Allen, an MPO specialist helping the North Georgia Regional Development Center (NGRDC) devel-

FOR MORE INFO

For more information on the Dalton-Whitfield County Metropolitan Planning Organization and the long-range transportation plan on the Web, go to www.ngrdc.org/mpohome.html.

op the plan. "What I mean by that is instead of immediately saying 'We have to widen a road,' we need to look at other ways to deal with congestion to avoid having to adversely impact property owners."

Allen said that could involve a number of alternatives, such as better coordination of traffic signals.

About a dozen MPO officials, NGRDC employees and local elected officials attended the first public meeting on the plan at Dalton City Hall Tuesday night.

The MPO, which is made up of local officials, must update its 25-year plan every five years to receive federal

transportation money. The NGRDC serves as the staff for the MPO. The MPO was formed after the federal government designated Dalton as an urban area following the 2000 census.

MPO chairman and Tunnel Hill Mayor Kenny Gowin said the organization has learned much in developing its first plan that will help the current process go more smoothly.

"We learned No. 1 how to do it the right way. We've learned who we need to talk to to get things done, and we've learned where we are going to get the money to do these projects," Gowin said.

The MPO is currently gathering information for the new plan, and there are no specific projects on the table yet. Gowin said the projects will probably depend on how much state and federal money is available.

The next public meeting on the plan is scheduled for October. The plan is scheduled to be delivered to federal officials in June 2010.

A-2.c. Article “MPO Committees to meet on Monday”

February 12, 2010

MPO committees to meet on Monday

The Policy Committee and Technical Coordinating Committee for the Greater Dalton Metropolitan Planning Organization (MPO) will have a joint-committee meeting at 1:30 p.m. on Monday at the Whitfield County Administrative Office Building 2, 214 W. King St. in Dalton, Georgia.

The MPO will place the fiscal year 2010-2013 Transportation Improvement Program (TIP) at eight locations around the county (Dalton public library, Dalton City Hall, Whitfield County Courthouse and Administrative Building 1, Chamber of Commerce, Varnell City Hall, Tunnel Hill City Hall, Northwest Georgia Regional Commission offices) for public review and input from Feb. 15 through March 16. The public is asked to give input on the TIP to Zach Montgomery, MPO transportation planner at (706) 876-2547 or e-mail to zmontgomery@whitfieldcountyga.com. The TIP can also be viewed online at the MPO Web page at www.whitfieldcountyga.com/engineer/mpo.htm.

A-2.d. Article “MPO Begins Long Range Transportation Planning, Public Meeting Set”

The Daily Citizen, Dalton, GA

May 8, 2009

MPO begins long range transportation planning, public meeting set

Submitted by the North Georgia Regional Development Center

The Metropolitan Planning Organization (MPO) for Dalton-Whitfield County has initiated the preparation of a Long Range Transportation Plan for the year 2035. Essential to the development of this plan is the collection of opinions, issues and concerns of local citizens regarding traffic flow and other transportation concerns within the metropolitan area.

Before the adoption of the transportation plan, the MPO will hold the first of a series of three public meetings on Tuesday, May 19, at 5:30 p.m. in the Council Chambers of Dalton City Hall.

To effectively inform citizens and obtain citizen input during this approximate one-hour meeting, facilitators will provide map displays, information handouts and survey forms regarding the plan. After a brief presentation of the purpose and scope of the plan, a question and answer session will be conducted to provide an opportunity for attendees to express their concerns.

This meeting will be followed by a progress report meeting in October 2009 and a public hearing in March 2010 to review a draft of the plan prior to MPO approval in the spring of 2010.

The plan, with a horizon year of 2035, sets a primary goal of promoting the effective movement of people and goods while supporting land use and economic goals of the region. The plan will outline proposed improvements for roads, transit, bikeways, sidewalks, air transportation and freight movement.

For more information, contact Matt Tucker, transportation planning coordinator, at (706) 272-2300. Information will be available on the NGRDC Web site, www.ngrdc.org, about this meeting.

A-2.e. Article “Transportation Planners Outline 2011 Goals”

Transportation planners outline 2011 goals

By: Kelly Jackson Wednesday, March 24, 2010

DALTON, Ga. -- Moving goods more efficiently through Whitfield County and mitigating the impact of traffic from new companies in Tennessee are among key goals for the Greater Dalton Metropolitan Planning Organization.

Transportation Planner Zach Montgomery said at a committee meeting Monday that the group hopes to study these and other traffic issues in fiscal year 2011. The members plan to form a "Goods Movement Task Force" of truck drivers, railroad, law enforcement and airport officials, he said.

"(We need to) pick their brains to figure out how we can make the movement of goods easier and better for them because they drive the economy," he said.

By 2035, about 32,206 more people -- many of whom will work for the Volkswagen and Wacker Chemical plants in Tennessee or for ancillary businesses -- are expected to live in Whitfield County, Mr. Montgomery said.

"We would like to do a study to determine which roads coming into the county would be most adversely affected so that we can direct future maintenance and improvements to those roads," he said.

The MPO also plans to examine ways to lessen traffic congestion on Veterans Drive and local impacts associated with the proposed high-speed rail line from Chattanooga to Atlanta, and local greenway corridors.

Dalton City Administrator Ty Ross, chairman of the MPO policy committee, said the studies will "help things move from the conceptual stage to the actual project and funding stage."

These are the first new planning projects since the county took over management of the MPO from the Northwest Georgia Regional Commission in September 2009, Mr. Montgomery said.

County Finance Director Ron Hale said the county wanted more control over its local transportation programs and is paying about \$18,000 a year to manage the MPO in-house. The rest of the MPO's current budget of about \$165,000 comes from state and federal funds, he said.

Urbanized areas where the population is 50,000 or greater are required to have MPOs to access federal transportation funds, said Bill Allen, transportation planning consultant for the Dalton MPO.

ON THE WEB

www.whitfieldcountyga.com/engineer/mpo.htm

"It was set up by the federal government with the idea that decisions should be made on the local level, rather than the state and federal level," he said.

Mr. Montgomery said the Greater Dalton Metropolitan Planning Organization is working now to update the area's Long Range Transportation Plan, which outlines all road projects planned in the area through 2035.

The plan must be updated every five years and is in the public review process, he said.

A-2.f. Article “Transportation Planners look ahead 25 Years”

The Daily Citizen, Dalton, GA

March 28, 2010

Transportation planners look ahead 25 years

Charles Oliver

Dalton Daily Citizen

DALTON — Whitfield County’s latest 25-year transportation plans looks a bit like the one local planners produced five years ago.

Members of the Greater Dalton Metropolitan Planning Organization (MPO) say that’s to be expected. The area’s transportation needs are well known, they say, and big items take years to complete.

The MPO unveiled a draft of the plan at a public meeting earlier this week. They plan to have one more public meeting some time in May before delivering a final plan to state and federal transportation officials on June 30.

Some of the top priorities of the previous long-range plan were redesigns of the I-75 interchanges at Rocky Face and Carbondale Road and the intersection of the Cleveland Highway and the North Dalton Bypass. Those are some of the top priorities in the latest plan draft as well.

MPO Transportation Planner Zach Montgomery said all of those projects are on state or federal roads and are slowly making their way through the state or federal transportation process.

He said, for instance, that the state is slated to begin acquiring right of way later this year and start its final design of the Rocky Face interchange project in May. The schedule calls for actual work on the project to begin in 2013.

For the redesign and reconstruction of the Carbondale interchange, Montgomery said the state plans to start buying right of way in 2011 and to start construction in 2015.

Because transportation projects take so long to complete, many of the projects in the MPO’s road improvement plan are listed in the short-term (one to five years) recommendations, the mid-range (six to 10 years) and long-range (11 to 25 years) recommendations.

“They are phased because these are such large expenditures, and nobody has any money,” he said.

All told, the projected costs of the road improvement plan call for more than \$400 million in state, federal and local spending over 25 years.

The MPO (then known as the Dalton-Whitfield Metropolitan Planning Organization) was formed almost 10 years ago. After the 2000 census, the federal government declared Dalton and Whitfield County to be a urban area. That meant that in the future they would have to have an MPO and a 25-

year plan to qualify for any state or federal transportation funds.

Montgomery says the process may seem like a lot of red tape but it's actually good for a community because it makes sure that a unified local voice is heard in state and federal transportation decisions.

The MPO has an annual budget of about \$180,000. The federal government picks up 80 percent of that costs, and the state and local governments pay 10 percent each. The MPO's policy committee is made up of elected officials from Dalton, Whitfield County, Varnell and Tunnel Hill or their representatives. The Whitfield County public works department provides the staff.

The 25-year transportation plan will not only cover roads. It will also look at the area's needs for rail, bicycle and walking trails and any needed changes at the Dalton Municipal Airport.

The plan calls for additional bicycle lanes and "share the road" signs in the northern part of the county, which is already a popular area for biking, as well as new bicycle lanes in the city of Dalton along Waugh Street, Emery Street and other areas.

To view the Greater Dalton Metropolitan Planning Organization's draft 25-year plan, go to www.whitfieldcountyga.com/engineer/mpo.htm.

A-2.g. Article “*Dalton to study sites for location of Dalton Station*”

Monday, May 24, 2010

Dalton to study site for station By Maggie Behringer Correspondent **Chattanooga Times Free Press**

DALTON, Ga. — While Georgia’s Department of Transportation has yet to decide between high-speed rail and maglev trains for the long-planned high speed route along Interstate 75, Dalton is preparing for either choice by identifying station sites and necessary infrastructure.

“I think it’ll help us get ready for the future,” said Zach Montgomery, the Greater Dalton Metropolitan Planning Organization transportation planner. “This is a definite mode of transportation for the future.”

The idea of a high-speed passenger rail connecting Atlanta and Chattanooga has been discussed for more than a decade. Currently, GDOT is completing an environmental study and continuing to weigh high speed rail against maglev, or magnetic levitation, trains through presentations by expert consultants.

“The hard part is paying for the infrastructure to get it running and all set up,” Mr. Montgomery said.

When completed, Dalton’s Atlanta to Chattanooga High Speed Ground Transportation Study will locate the best site for a station along the I-75 corridor. It will outline the infrastructure needed to operate a station and address how the rail would interact with existing modes of transportation.

WHAT’S NEXT

Three public hearings will be held later this year on plans to locate sites for a high-speed or maglev rail station in Dalton.

Mr. Montgomery indicated the three interstate exits that lead directly into the city could be potential locations.

The study will measure traffic counts; accessibility to public transit, bikes and taxis; the presence of parking areas or the cost of building such areas; and the availability of utilities and land.

“It needs to be a hub of all the modes of transportation without adding chaos to the existing interchanges,” he explained.

The study also will draw heavily on community opinion. Three open meetings will educate the public on the difference between high speed rail and maglev trains, present the preliminary locations and hear feedback on the options and, finally, review the completed study.

Driven by administrative hours, the study will cost \$15,000. A federal grant will cover 80 percent. Mr. Montgomery estimated the state would contribute roughly \$200. The Metropolitan Planning Organization plans to fund the balance. He expects to begin the study in early July.

At the most recent state presentation on May 19, Central Japan Railway Co. officials explained their experience testing and operating maglev trains.

Essentially, choosing between the two trains is a matter of cost saving in the short term or the long term, they said.

Maglev trains are more expensive to build from scratch, while high-speed rail requires more maintenance.

Last September, GDOT successfully petitioned for a \$13.8 million grant from the Federal Railroad Administration for a maglev study. A local match of \$3.5 million is required to draw down the grant, but so far that money hasn’t been put up, officials have said.

According to Mr. Montgomery, state officials are not releasing figures related to the cost of building, operating and maintaining either option. He added that given the regional and national uses for the transportation system, governments at the local, county, state and federal levels will have to contribute to costs.

APPENDIX B – TRAVEL DEMAND METHODOLOGY

**THE TECHNICAL REPORT CREATED FOR THE GDOT BY:
PBS&J CONSULTANTS - EXPLAINING THE DEVELOPMENT METHODOLOGY
FOR THE GDMPO TRAVEL DEMAND MODEL (TDM).**

The Travel Demand Model for the Dalton Area

Prepared for
Georgia Department of
Transportation

By



July 2009
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1.0 Introduction

Transportation system studies are done periodically by the Georgia Department of Transportation and Dalton MPO to determine what types of transportation improvements or investments would best serve the public. Georgia DOT and Dalton MPO are primarily responsible for technical studies pertaining to the roadway system..

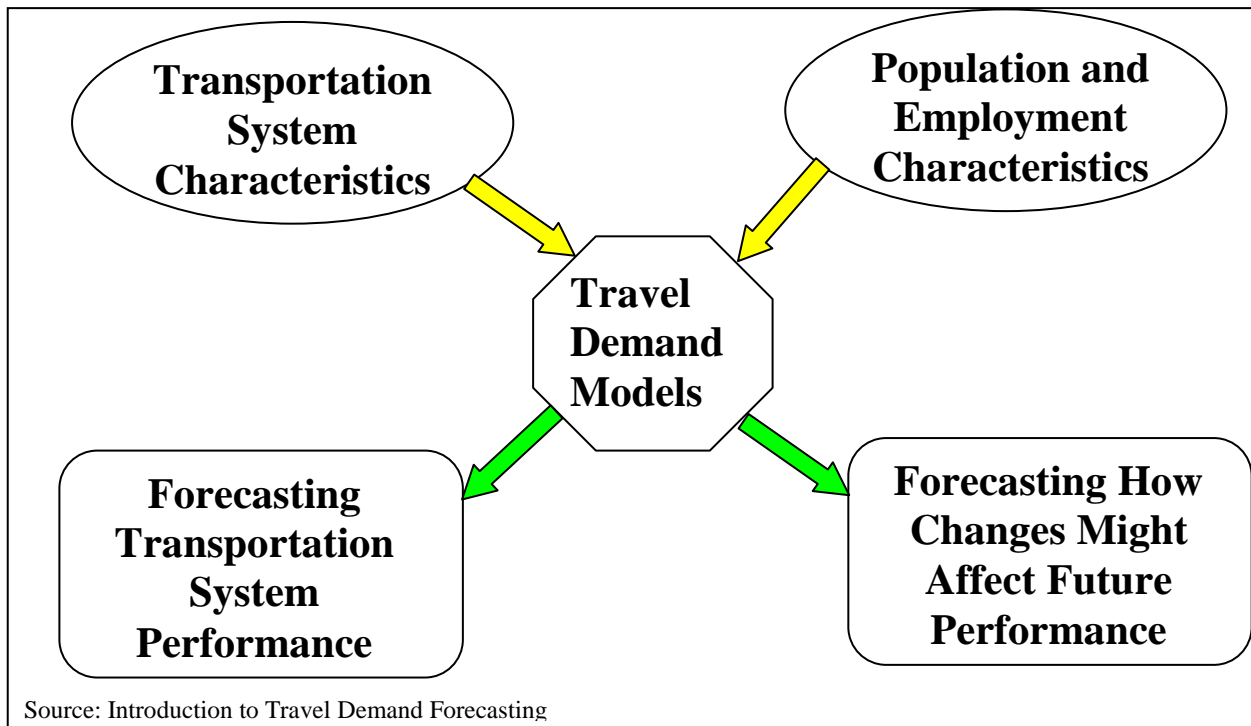
The travel demand model is used to evaluate the performance of the roadway system in and around Dalton area by the Georgia Department of Transportation and Dalton MPO. The Dalton model is a traditional urban area analysis tool that is used to identify where major improvements should be made to its principal thoroughfare system. Since there is usually more than one strategy proposed to address future congestion and safety concerns, the model is frequently used to study which combination of improvements provides the most end-user benefits. The output from the travel demand model is used to estimate mobile source emissions and perform the conformity analysis.

There are two key inputs to the travel demand modeling process, socio-economic data and the transportation system. Socio-economic data such as population, household and employment by type represents land use. Future year projections of socioeconomic data were based on a 2006 inventory of existing land uses including vacant land, as well as region wide forecasts of population, households and employment. Future year forecasts also considered planned major transportation improvements. Allocation of expected growth is then done using known development patterns and proposals as the basis, taking into consideration planned infrastructure improvements (new highways, sewer extensions, etc.). It is in this area of travel model development that land use and community planning are connected to the transportation planning process. Figure 1.1-1 shows the interaction between travel demand models and transportation system characteristics and population and employment characteristics

The other key element of the travel model is referred to as the highway network. The highway network is a computer file containing links and nodes that represent roadway segments and intersections. Each link record in the file contains information describing these items: free-flow travel speed, distance, number of lanes, area type (density of population and employment); facility type (similar to functional classification) and capacity. Node records simply contain positional, two dimensional x and y coordinates to enable the network file to be displayed pictorially.

Georgia DOT is responsible for the development, maintenance and application of the Dalton travel model. GDOT has updated various components of the Dalton travel model to ensure that the model is state-of-the-practice and includes technical procedures that would be needed in developing the 2035 LRTP. A detailed description of the Dalton's travel model is presented in Section 2. It includes explanations for how trips are estimated, how person trips are converted to vehicle trips, what attributes comprise the highway network and how trips are assigned onto the highway network. Each of the modeling steps involved in developing an urban travel model is described. These steps are as follows: Trip Generation; Trip Distribution; Mode Split; and Traffic Assignment.

**Figure 1.1-1
Travel Demand Models**



2.0 Model Update

Several significant changes were made to the Dalton area travel model. These changes are based on the original 2003 model and listed below.

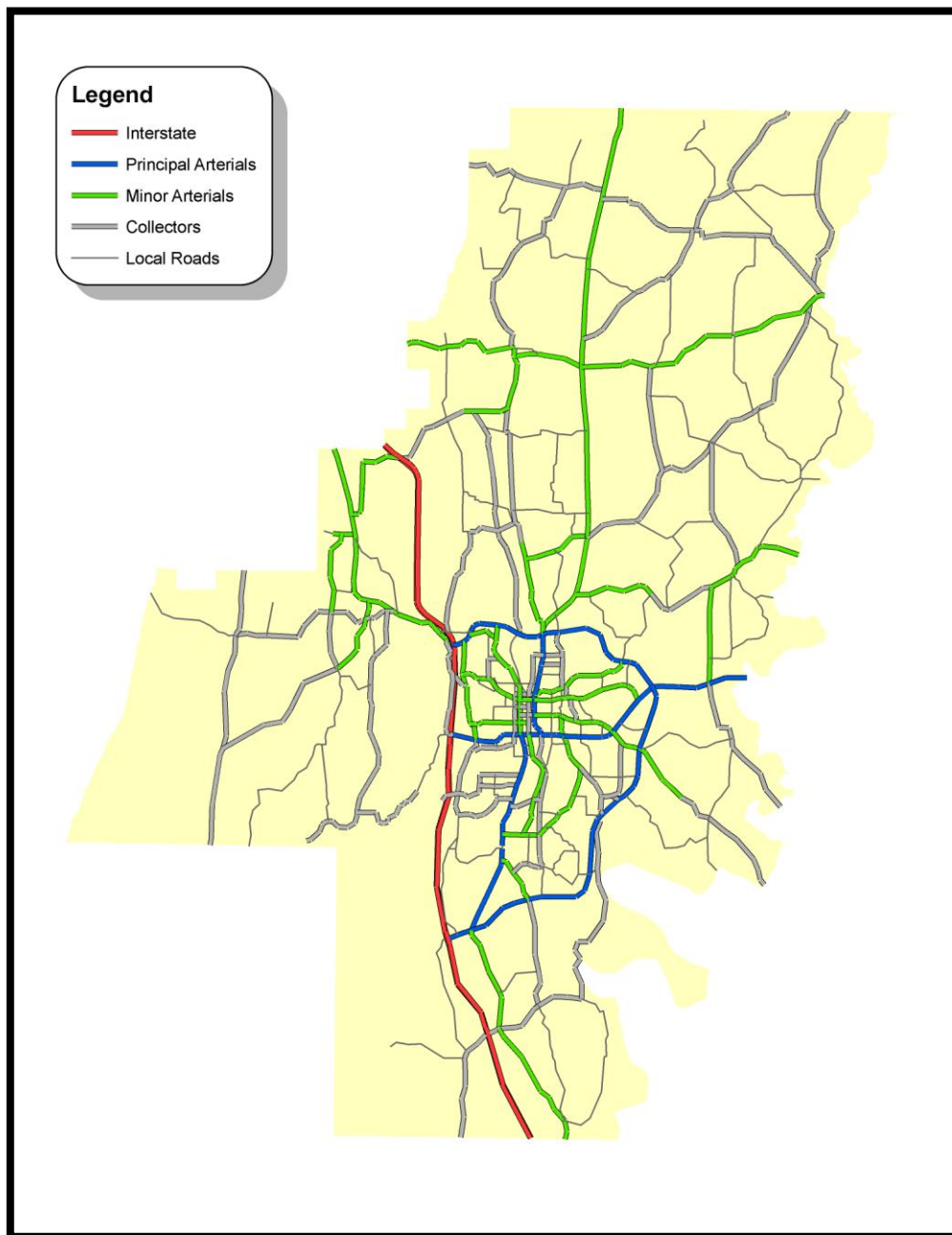
- Updated the 1990 HPMS functional classification code to 2000 HPMS code in the network
- Added revised screenlines and cutlines
- Updated base year highway network and link attribute variables
- Updated traffic count to 2006
- Updated trip generation model and separated total truck purpose into combination and single unit truck purposes
- Updated the trip distribution model
- Updated the traffic assignment procedure
- Revised the existing Traffic Analysis Zones
- Renumbered new zones and external stations
- Updated external travel estimation
- Added the delta matrix post-process procedure to refine the final traffic assignment

The general structure of the Dalton model is standard, in comparison with other travel demand models used in urban areas that are similar in size to Dalton. Descriptions of each principal model element are presented in the subsequent parts of this section.

2.1 Highway Network Coding

The model network was updated to reflect 2006 existing conditions. The 2006 highway network was examined and revised to reflect base year conditions. The purpose of the highway network is to provide accurate routing paths based on the minimum time to travel from one traffic analysis zone to another. In effect, the highway network file is a simulation tool replicating the thoroughfare system in Dalton. A graphical representation of the model highway network by facility type is presented in Figure 2.1-1.

Figure 2.1-1
Dalton 2006 Highway Network
Color Coded by 2000 HPMS Functional Classification



Facility Type and Area Type. Individually and in combination these two link attributes provide the framework for organizing the network into sub-groups so that free-flow speeds and capacities can be assigned. In combination with the distance and number of lanes, these attributes constitute the base layer of highway network data needed to update and apply the travel model. The facility type and area type definitions used in the Dalton highway network and modeling process are shown in the table below.

Table 2.1-1

Dalton Travel Demand Model – Facility and Area Types				
Code	Facility Type		Code	Area Type
1	Interstate		1	High Density Urban
2	Freeway		2	High Density Urban Commercial
3	Expressway		3	Urban Residential
4	Parkway		4	Suburban Commercial
6	Freeway to Freeway Ramp		5	Suburban Residential
7	Freeway Entrance Ramp		6	Exurban
8	Freeway Exit Ramp		7	Rural
11	Principal Arterial – Class I			
12	Principal Arterial – Class II			
13	Minor Arterial – Class I			
14	Minor Arterial – Class II			
15	One Way Arterial			
21	Major Collector			
22	Minor Collector			
23	One Way Collector			
30	Local Road			
32	Centroid Connector			

Capacity. Link capacities for the model network are obtained from a lookup table of per-lane hourly capacities based on facility type and area type. The final link capacity is calculated by multiplying the hourly capacity per lane by the number of lanes. The following table displays hourly capacities per lane:

Table 2.1-2

Dalton Travel Demand Model – Hourly Capacities Per Lane							
Facility Type	Area Type						
	1	2	3	4	5	6	7
Interstate	1900	1950	2000	2050	2100	2060	2020
Freeway	1600	1660	1730	1790	1850	1820	1780
Expressway	1300	1380	1450	1530	1600	1570	1540
Parkway	1170	1240	1310	1370	1440	1410	1380
Freeway to Freeway Ramp	1400	1530	1650	1780	1900	1860	1820
Freeway Entrance Ramp	900	1030	1150	1280	1400	1370	1340
Freeway Exit Ramp	800	810	810	820	820	810	790
Principal Arterial – Class I	1000	1030	1050	1080	1100	1080	1060
Principal Arterial – Class II	900	900	900	900	900	880	860
Minor Arterial – Class I	800	810	810	820	820	810	790
Minor Arterial – Class II	630	630	640	640	640	630	610
One Way Arterial	760	760	770	770	770	760	740
Major Collector	520	530	540	550	560	550	540
Minor Collector	380	390	390	400	400	390	380
One Way Collector	460	470	470	480	480	470	460

Speeds. Link speeds in the model network are derived from a speed lookup table based on facility type and area type. Assumed free-flow speed are approximately 5 mph faster than typical speed limits for the various roadway classes and area types, taking into consideration control for delay (i.e. traffic signals) if applicable. Peak and off-peak free-flow speeds were evaluated using observed speeds obtained from a travel time study conducted in the Augusta area. Based on the initial study of the speeds, a revised speed table was developed. An analysis of the Augusta data determined that Augusta's characteristics and data results are appropriate for use in the Dalton model since the travel dynamics for these urban areas are similar. Final free-flow calibrated speeds are shown in the matrix below.

Table 2.1-3

Dalton Travel Demand Model – Speed Matrix							
Facility Type	Area Type						
	1	2	3	4	5	6	7
Interstate	55	60	60	60	60	70	70
Freeway	50	55	55	55	55	60	60
Expressway	50	50	50	50	55	55	55
Parkway	45	50	50	50	50	55	55
Freeway to Freeway Ramp	55	55	55	55	55	55	55
Freeway Entrance Ramp	45	50	50	50	50	55	55
Freeway Exit Ramp	22	23	30	31	34	40	48
Principal Arterial – Class I	22	28	33	34	37	47	52
Principal Arterial – Class II	23	26	31	32	35	45	49
Minor Arterial – Class I	22	23	30	31	34	40	47
Minor Arterial – Class II	21	22	27	30	32	38	45
One Way Arterial	23	26	30	32	35	42	48
Major Collector	17	18	21	27	29	34	42
Minor Collector	14	15	18	24	26	30	40
One Way Collector	17	18	21	27	29	34	42
Local Road	14	14	17	18	22	28	35
Centroid Connector	14	14	17	18	22	28	35

Network Link Attributes. All input network link attributes are included in the following table. While most of them are not directly involved in the model process, they provide assistance in link attributes summary for post model result processing and for model calibration and validation.

Table 2.1-4

Dalton Travel Demand Model – Input Network Link Attributes	
Attribute Name	Description
Distance	Roadway Link Length in miles
County	County FIPS Code
Roadname	Roadway Name
Ftype	Facility Type
Lanes	Number of Lanes
Lanesam	Number of Lanes in AM Peak Direction
Lanespm	Number of Lanes in PM Peak Direction
HPMS2000	HPMS Functional Classification Code, 2000 Census Geography
Cstation	Traffic Count Station Number
Tcount03	2003 AADT - Two Way
Tcount06	2006 AADT - Two Way (from GDOT QA/QC Database)
Count03	2003 AADT - One Way
Count06	2006 AADT - One Way
Screenline	Screenline ID
Cutline	Cutline ID
GDOT_PI	GDOT Project Identification Number
Local_PI	Local Project Identification Number
Open_date	Model Year Open to Traffic – Construction Completed

Network Nodes Attributes. The network node contains no attribute.

2.2 Trip Generation

Trip generation is the first step in the traditional four-step modeling process. It estimates the number of trips that will begin and end in each individual traffic analysis zone (TAZ). These are referred to as “trip ends”. Trip ends generated by households are referred to as productions. Trip ends calculated from employment or school enrollment figures are referred to as attractions. This process is accomplished by establishing relationships between trips and socioeconomic variables. The process estimates the number of trip ends, or productions and attractions, for each traffic zone by various trip purposes. Trip generation does not determine the origin and destination of each trip, only the total trips generated by each TAZ's socioeconomic characteristics.

In 1997, GDOT contracted with a consulting firm to assist in developing a new standardized trip generation process for the state's urbanized areas outside of Atlanta. The Trip Generation Update Project included a household travel survey and external travel survey in the Augusta metropolitan area. Household travel behavior by household size and income group is homogeneous from one urban area to another if transportation choices and land-use patterns are similar. The Augusta survey information was used to formulate and recommend a trip generation process that is considered transferable to the State's other urbanized areas.

The new trip generation process includes trip production and trip attraction sub-models. For all trips that have origins and destinations inside the Dalton MPO region, excluding trucks, the trip production sub-model applies trip rates through a cross-classification of household size (1,2,3,4+) and automobiles available (0,1,2,3+). Aggregated household data for each traffic analysis zone is disaggregated into

sixteen cross-classified cells using a household stratification model. The household stratification model is also a product of the Trip Generation Update Project. This model breaks out the total number of Dalton households into cross-classification cells using zonal income, Dalton area specific data from the Census Transportation Planning Package (CTPP), and data from the Augusta household survey. The trip production sub-model applies regression equations for other trip purposes. The trip attraction sub-model applies regression equations for all trip purposes.

Typically, there are three types of trips that travel demand models include: (1) Internal-Internal (I-I) trips whose origin and destination are inside the study area boundary; (2) Internal-External (I-E) trips that have exactly one trip end inside the study area; and (3) External-External (E-E) trips that have both trip ends outside of the study area. I-I trips follow the production and attraction logic of trip formulation. They are commonly grouped into trip purposes so their characteristics can be reproduced by the chain of sub-models in the four-step process. I-E and E-E trips are developed separately using a different methodology that is heavily dependent on traffic counts observed on the principal roads leading into and out of the region.

2.2.1 Trip Purposes

Eight trip purposes were included in the trip generation process. These purposes are summarized below:

- **Home Based Work (HBW):** All I-I travel for the purpose of work beginning/ending at home.
- **Home Based Other (HBO):** Any I-I trip with one end at home except for purpose of work/shopping.
- **Home Based Shopping (HBS):** I-I trips for purpose of shopping which begins/ends at home.
- **Non Home Based (NHB):** Any I-I trip that neither begins nor ends at home.
- **Internal-Internal Combination Truck (IICT):** Internal truck trips primarily by freight movement.
- **Internal-Internal Single-unit Truck (IIST):** Internal truck trips by commercial vehicles.
- **Internal-External Passenger Car (IEPC):** Internal trips beginning/ending outside modeled area, including commercial trucks.
- **Internal-External Truck (IET):** Internal combination truck trips beginning/ending outside modeled area.

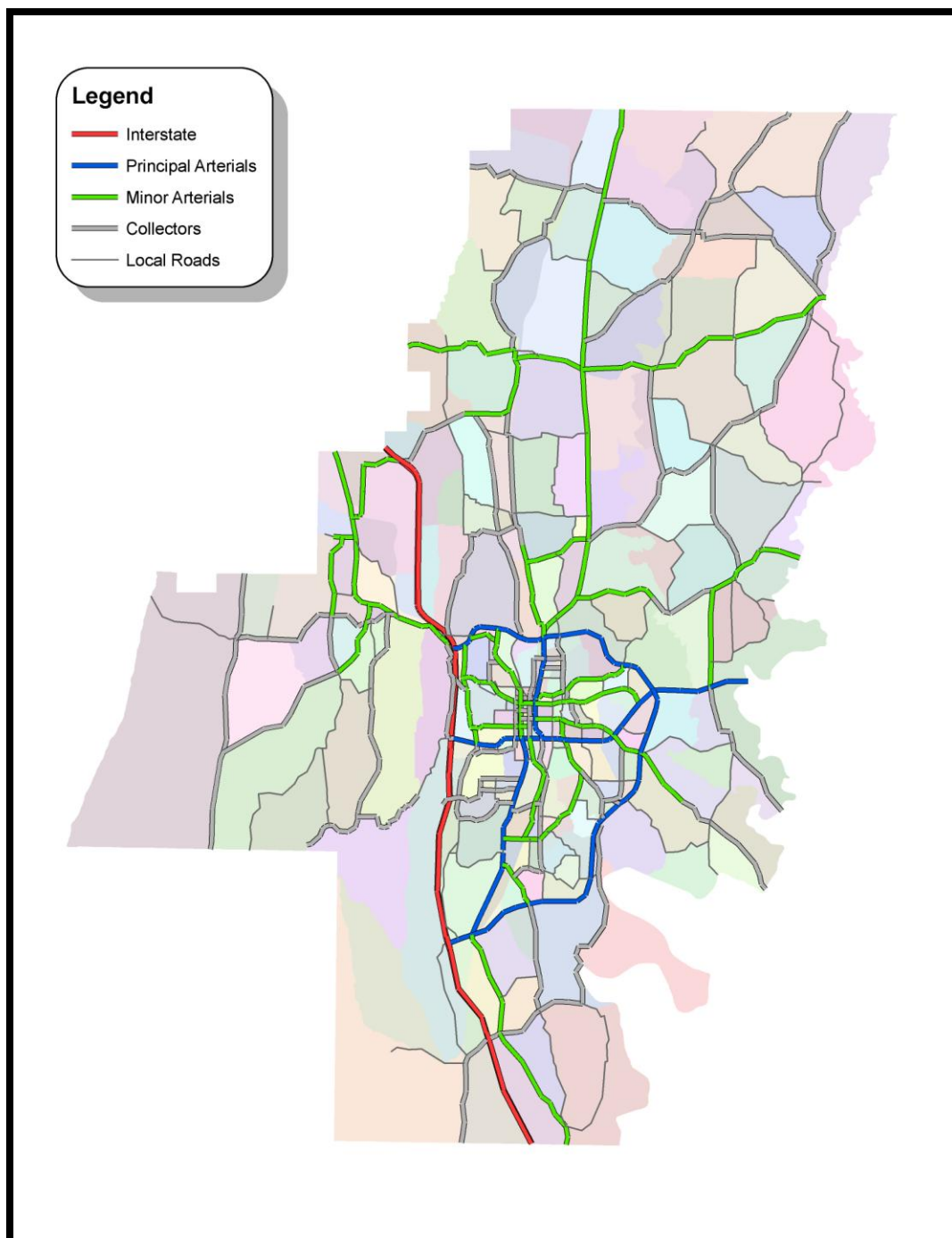
2.2.2 Socioeconomic Data

The Dalton MPO provided 2006 Base Year socioeconomic data for the model. For each of the 233 TAZ's the following socioeconomic variables were collected for use in the trip generation model:

- **Population:** The total number of individuals in each traffic zone.
- **Retail Employment:** Number of employees working for retail businesses in a given traffic analysis zone where the business is located.
- **Industrial Employment:** Number of employees working for industrial based businesses in a given traffic analysis zone where the business is located
- **Service Employment:** Number of employees working for service based businesses in a given traffic analysis zone where the business is located.
- **Total Employment:** The total number of employed persons in those traffic zones with employment.
- **Income:** Average household income in TAZ in 2000 dollars (per 2000 Census).
- **Total Households:** Total number of occupied households in a given traffic analysis zone.
- **School Enrollment:** The total number of enrolled students in zones with educational facilities.
- **Acres:** Area of TAZ in acres.

Appendix A contains the zonal level socioeconomic data used in the travel demand model for 2006. An illustrative picture of the zone boundary map is presented in Figure 2.2.2-1. There are 233 internal zones in the Dalton model with 18 additional zones called external stations. The external station zones represent the key facilities where travel in and out of the Dalton region occurs such as Interstate 75, US-76, and State Route 71.

Figure 2.2.2-1
Map of Traffic Analysis Zones



2.2.3 Household Stratification Model

The household stratification model subdivides the total number of households by TAZ into sixteen household strata defined by household size and the number of automobiles available. Stratification is done using zonal income, Dalton area specific data from the Census Transportation Planning Package (CTPP), and data from the Augusta household survey. The model distributes the total households in a TAZ to each cross-classification cell by calculating a relative¹ probability that a household will be a particular size with a particular number of automobiles. The relative probability is calculated with the following equation:

$$P(i,j) = S * I * CF, \text{ where}$$

- $P(i,j)$ = Relative probability that a household will be size i and own j autos
- S = Household size factor from CTPP lookup table
- I = Income factor from CTPP lookup table
- CF = Composite household factor from Augusta household survey lookup table.

An estimate of the number of households in a particular cross-classification cell is then calculated by multiplying the total number of households in the TAZ by the corresponding relative probability. The final number of households in each cross-classification cell is calculated by applying an adjustment factor to each calculated value. The adjustment factor is applied to insure that the sum of the resulting disaggregated households equals the original aggregate number of households. This process is represented mathematically with the following equations:

$$HH_{ij}(\text{est.}) = HH * P(i,j), \text{ where}$$

- $HH_{ij}(\text{est.})$ = Estimated number of households of size i that own j autos
- HH = Total number of households in the TAZ

$$HH_{ij} = HH_{ij}(\text{est.}) * F, \text{ where}$$

- HH_{ij} = Final number of households² of size i that own j autos
- F = $HH / \sum HH_{ij}(\text{est.})$, control total adjustment factor.

The three lookup tables used in the household stratification model are shown on the following pages.

¹ The term relative probability is used because the value is not technically a statistical probability.

² Not rounded to an integer value to eliminate problems with round off errors.

Table 2.2.3-1

Dalton 2000 Household Size CTPP Distribution						
Computed Persons/HH Ranges			HOUSEHOLD SIZES			
			1	2	3	4+
0.0	to	1.0	1.0000	0.0000	0.0000	0.0000
1.0	to	1.2	0.7812	0.2056	0.0133	0.0000
1.2	to	1.4	0.6898	0.2568	0.0331	0.0203
1.4	to	1.6	0.5752	0.3128	0.0687	0.0433
1.6	to	1.8	0.4839	0.3511	0.1021	0.0630
1.8	to	2.0	0.4141	0.3537	0.1279	0.1043
2.0	to	2.2	0.3487	0.3563	0.1464	0.1486
2.2	to	2.4	0.2872	0.3471	0.1689	0.1968
2.4	to	2.6	0.2389	0.3274	0.1879	0.2458
2.6	to	2.8	0.1939	0.3140	0.1985	0.2935
2.8	to	3.0	0.1553	0.2947	0.2076	0.3424
3.0	to	3.2	0.1253	0.2749	0.2074	0.3924
3.2	to	3.4	0.1152	0.2489	0.1996	0.4363
3.6	to	3.8	0.1119	0.2116	0.1932	0.4832
3.8	to	4.0	0.1038	0.2042	0.1688	0.5232
4.0	to	4.2	0.1028	0.2032	0.1608	0.5332

Table 2.2.3-2

Dalton 2000 CTPP Household Income Distributions					
TAZ-Level Median HH Income		Income Group 1	Income Group 2	Income Group 3	Income Group 4
		< \$20,000	\$20,000 - \$39,999	\$40,000 - \$59,999	> \$60,000
\$0	\$2,499	0.8835	0.1165	0.0000	0.0000
\$2,500	\$4,999	0.8549	0.1168	0.0232	0.0050
\$5,000	\$7,499	0.8300	0.1318	0.0300	0.0081
\$7,500	\$9,999	0.7585	0.1468	0.0427	0.0521
\$10,000	\$12,499	0.6933	0.1826	0.0718	0.0523
\$12,500	\$14,999	0.6311	0.2131	0.0802	0.0756
\$15,000	\$17,499	0.5771	0.2465	0.0894	0.0870
\$17,500	\$19,999	0.5031	0.2938	0.1046	0.0985
\$20,000	\$22,499	0.4326	0.3321	0.1257	0.1096
\$22,500	\$24,999	0.3927	0.3387	0.1449	0.1236
\$25,000	\$27,499	0.3316	0.3581	0.1702	0.1401
\$27,500	\$29,999	0.3071	0.3488	0.1824	0.1617
\$30,000	\$32,499	0.2734	0.3395	0.1945	0.1926
\$32,500	\$34,999	0.2399	0.3356	0.2152	0.2093
\$35,000	\$37,499	0.2108	0.3322	0.2254	0.2316
\$37,500	\$39,999	0.1825	0.3143	0.2418	0.2615
\$40,000	\$42,499	0.1655	0.2840	0.2612	0.2893
\$42,500	\$44,999	0.1501	0.2688	0.2676	0.3134

Dalton 2000 CTPP Household Income Distributions					
TAZ-Level Median HH Income		Income Group 1	Income Group 2	Income Group 3	Income Group 4
		< \$20,000	\$20,000 - \$39,999	\$40,000 - \$59,999	> \$60,000
\$45,000	\$47,499	0.1391	0.2550	0.2663	0.3396
\$47,500	\$49,999	0.1207	0.2387	0.2649	0.3758
\$50,000	\$52,499	0.1188	0.2142	0.2569	0.4101
\$52,500	\$54,999	0.1016	0.2012	0.2566	0.4407
\$55,000	\$57,499	0.0945	0.1894	0.2480	0.4682
\$57,500	\$59,999	0.0901	0.1853	0.2256	0.4990
\$60,000	\$62,499	0.0844	0.1684	0.2102	0.5371
\$62,500	\$64,999	0.0766	0.1598	0.2025	0.5612
\$65,000	\$67,499	0.0688	0.1510	0.1948	0.5854
\$67,500	\$69,999	0.0653	0.1416	0.1926	0.6004
\$70,000	\$72,499	0.0601	0.1271	0.1833	0.6295
\$72,500	\$74,999	0.0535	0.1218	0.1698	0.6549
\$75,000	\$77,499	0.0512	0.1087	0.1636	0.6765
\$77,500	\$79,999	0.0485	0.1042	0.1551	0.6922
\$80,000	\$82,499	0.0446	0.0991	0.1465	0.7099
\$82,500	\$84,999	0.0405	0.0939	0.1455	0.7202
\$85,000	\$87,499	0.0364	0.0889	0.1359	0.7387
\$87,500	\$89,999	0.0350	0.0839	0.1238	0.7573

Table 2.2.3-3

Household Size/Income/Auto Ownership Distribution (Augusta Household Travel Survey)					
Income Group	Persons Per Household	Autos Available			
		0	1	2	3+
1	1	0.3063	0.6689	0.0248	0.0000
	2	0.0978	0.6578	0.2222	0.0222
	3	0.0733	0.6909	0.1628	0.0730
	4	0.1000	0.5694	0.1765	0.1541
2	1	0.2548	0.4776	0.2259	0.0417
	2	0.0400	0.2140	0.6320	0.1140
	3	0.1111	0.1256	0.6033	0.1600
	4	0.0900	0.1080	0.5942	0.2078
3	1	0.1833	0.6056	0.1578	0.0533
	2	0.0274	0.1677	0.6343	0.1707
	3	0.0900	0.1050	0.5033	0.3017
	4	0.0600	0.0438	0.3862	0.5100
4	1	0.0577	0.6654	0.2000	0.0769
	2	0.0694	0.1044	0.5322	0.2939
	3	0.0200	0.0581	0.5098	0.4121
	4	0.0189	0.0405	0.5405	0.4000

2.2.4 Trip Production

The routine for computing trip productions uses cross-classified data from the household stratification model and applies trip rates to calculate Home Based Work, Home Based Other, Home Based Shopping, and Non Home Based Productions. Trip rates for each purpose are shown below.

Table 2.2.4-1

Dalton Trip Generation Trip Rates					
Household Size	Autos Available	HBW	HBO	HBS	NHB
1	0	0.520	0.918	0.486	0.676
	1	0.800	1.605	0.555	1.040
	2	0.800	1.872	0.288	1.040
	3+	0.800	1.600	0.560	1.040
2	0	1.056	1.834	0.758	1.152
	1	1.474	2.444	1.174	1.608
	2	1.782	3.401	0.973	1.944
	3+	1.848	3.612	0.924	2.016
3	0	1.406	3.947	0.197	1.850
	1	1.748	4.521	0.631	2.300
	2	2.014	5.295	0.641	2.650
	3+	2.261	5.537	1.127	2.975
4+	0	1.800	5.600	0.400	2.200
	1	2.160	6.224	0.976	2.640
	2	2.520	7.673	0.727	3.080
	3+	2.880	8.294	1.306	3.520

Trip end productions for other purposes are calculated using the following regression equations:

I-I Single Unit Truck Productions = $0.35*hh + 1.14*retail + 1.18*(manuf + whole) + 0.51*service$

I-I Combination Truck Productions = $0.04*hh + 0.07*retail + 0.10*(manuf + whole) + 0.01*service$

I-E Passenger Car & Single Unit Truck Productions = $0.331*Households + 0.724*Total\ Employment$

I-E Combination Truck Productions = $0.078*Retail\ Employment + 2.149*Wholesale\ Employment + 0.228*Manufacturing\ Employment$.

2.2.5 Trip Attraction Sub-model

The trip attraction routine to compute the estimated number of trips attracted to each TAZ uses the following regression equations:

Home Based Work Attractions = $1.196*Total\ Employment$

Home Based Other Attractions = $0.5077*Population + 0.967*Total\ Employment + 1.5258*School\ Enrollment$

Home Based Shopping Attractions = $2.655*Retail\ Employment$
Non-Home Based Attractions = $0.293(Population) + 2.82108*(Retail\ Employ + Wholesale\ Employ) + 0.6984*Service\ Employment$

Internal Single Unit Truck Attractions = Internal Single Unit Truck Productions

Internal-External Passenger Car & Single Unit Truck Attractions = Based on counts and EE% (internal zones=0)

Internal-External Combination Truck Attractions = Based on counts, EE%, and Truck% (internal zones=0)

The total number of Internal-External (I-E) trips for each station is calculated by subtracting the estimated number of E-E trips (based on an assumed percentage) from the station's daily traffic volumes. Then the total I-E trips are separated into I-E combination truck trips and other I-E trips (passenger car & single unit truck) based on an assumed truck percentage at each external station. The following table displays the percentages used to calculate I-E and E-E Attractions at each external station for truck and passenger cars.

Table 2.2.5-1

Dalton Proportion of External-Internal Trips by External Station										
2003 External Number	2006 External Number	County	Count Station	2006 Count	Percent EE	Percent Combo Trucks	PCs & Single Unit Trucks		Combo Trucks	
							EE	IE	EE	IE
162	234	Bradley (TN)	51	4,905	30%	10%	27%	63%	3%	7%
163	235	Bradley (TN)	54	599	0%	2%	0%	98%	0%	2%
164	237	Murray	169	1,740	30%	10%	27%	63%	3%	7%
165	238	Murray	152	5,050	20%	10%	18%	72%	2%	8%
166	239	Whitfield	204	27,300	35%	7%	33%	61%	2%	4%
167	241	Whitfield	272	5,000	20%	7%	19%	75%	1%	5%
168	242	Gordon	136	5,900	0%	10%	0%	90%	0%	10%
169	243	Gordon	112	68,400	65%	18%	53%	29%	12%	6%
170	245	Walker	181	2,820	20%	7%	19%	75%	1%	5%
171	247	Catoosa	174	800	0%	7%	0%	93%	0%	7%
172	248	Whitfield	343	5,000	0%	10%	0%	90%	0%	10%
173	249	Whitfield	116	73,300	65%	18%	53%	29%	12%	6%
174	250	Catoosa	41	3,500	30%	10%	27%	63%	3%	7%
175	251	Catoosa	n/a	*500	0%	2%	0%	98%	0%	2%
176	236	Bradley (TN)	n/a	*500	0%	2%	0%	98%	0%	2%
177	240	Whitfield	633	3,100	10%	7%	9%	84%	1%	6%
178	244	Whitfield	118	2,100	0%	7%	0%	93%	0%	7%
179	246	Whitfield	n/a	*500	0%	2%	0%	98%	0%	2%

*Estimated number based on the engineering judgment.

2.2.6 External-External Trips

Two external-external (E-E) trip tables were estimated for 2006 calibration; (passenger cars plus single unit trucks) and (combination trucks). The tables were developed based on the revised 2003 E-E trip patterns. A matrix summarizing the distance in miles between all external stations was developed using the 2006 network with illogical movements eliminated. This distance matrix serves as a "seed" to develop the tables. The theory behind using distance between external stations to predict E-E trips is the greater the distance between stations, the more likely there will be E-E trips between external stations. Typically, the distance between two stations on either end of an interstate facility would be longer and, the number of trips that will travel between the two stations on either end of the interstate would be higher. The final 2006 external trip tables were estimated by applying the FRATAR procedure on the distance matrix to match the estimated E-E trips at each external station. Because E-E traffic volumes on collectors and local streets are relatively low, it is assumed these movements were negligible.

2.2.7 Special Trip Purpose

Special trip purposes are used for zones, activity centers, or certain traveling groups having trip rates and characteristics not represented well by the standard trip generation and distribution processes. The carpet industry in the Dalton area generates a good amount of heavy truck traffic, especially the combination trucks that ship products in and out of Dalton. To reflect the different travel patterns exhibited by single unit and combination trucks, a separate trip purpose was established for the single unit truck. It was assumed single unit truck trips were local delivery/service trips, usually short internal trips. External trips for this purpose are negligible. It was also assumed there are no external-external single unit truck trips and the internal-external single unit truck trips are included in the internal-external passenger car trips.

2.2.8 Balancing Productions and Attractions

A TP+ script was developed for the trip generation process. Using 2006 socioeconomic data, the script calculates and balances the productions and attractions, writes the productions and attractions to a file, builds the E-E trip table, calculates Fratar factors, and applies the Fratar model to adjust the E-E table so traffic volumes at external stations closely match traffic counts. These are shown in Appendix B.

For most trip purposes in the Dalton model, production and attraction trip ends are computed separately. As such, the sum of productions across all zones does not necessarily equal the sum of attractions. In reality though, each trip has two trip ends; one is a production/origin and one is an attraction/destination. In theory, it makes sense to equalize the sum of productions with the attractions across all zones which, in effect, “balances” the two types of trip ends. This balancing or reconciliation is performed in the trip generation script. The script uses the process listed below.

Balancing Productions and Attractions

1. Productions and Attractions are calculated for all internal TAZs by purpose.
2. Zonal attractions for each trip purpose are proportionally adjusted so the total attractions equal the total productions by purpose (i.e. attractions balanced to productions) for all internal zones.
3. Special generator productions and attractions are added/subtracted.
4. Non-home based productions are set equal to non-home based attractions (NHB trip productions were generated in the “home” zone, but by definition, NHB trips do not begin or end at the home. Therefore, the assumption is that the attraction variables are a better indicator of total trips than home based characteristics).
5. Attractions are balanced to productions for all internal zones (except NHB).
6. Internal-External Attractions (including trucks) are calculated for external stations.
7. I-E productions (including trucks) are balanced to the calculated attractions (assumes since I-E attractions are based on traffic counts or E station projections, they provide the best controls).
8. The I-E productions and attractions are appended to the I-I trip end file to produce the final productions and attractions.

2.3 Trip Distribution

Trips are calculated for persons, by trip purpose, from the production and attraction trip ends. The trip distribution step uses the gravity model process, which is commonly used for this purpose in urban models. The estimated number of trips between any two origin-destination zones will, in general, be proportional to the number of trip ends (mass) and inversely proportional to the travel time. The gravity model computes trips such that the resulting distribution matches an observed distribution of trips by travel time for each of the trip purposes.

Minimum time paths for the network were calculated using the TP+ Hwyload function. These times include all turn prohibitory and turn penalties. The minimum times were then adjusted to include the intrazonal times and terminal times. Intrazonal times, the average time it takes to make a trip inside a particular TAZ, were created by the TP+ Matrix function using travel time to the nearest four TAZ's. Terminal times were assigned based on the employment density of the origin and destination TAZ's. At the trip origin, terminal time generally refers to the walk from one's residence to their car. At the destination end, it generally represents the time it takes to go from one's car to their destination. The following table summarizes the terminal time criteria:

Table 2.3-1

Dalton Terminal Time Criteria						
Zone	Employment Density (Total Employees per Acre)					
	0-3.00	3.01-15.00	15.01-25.00	25.01-50.00	50.01-75.00	>75.00
Origin	1 minute	1 minute	2 minutes	2 minutes	2 minutes	2 minutes
Destination	1 minute	2 minutes	2 minutes	3 minutes	4 minutes	5 minutes

Average trip travel times are displayed in the following table. These are typical trip travel times, found in urban areas the size of Dalton. Home Based Work trips have the longest trip travel time at 16.8 minutes while Non Home Based trips have the shortest travel time at 12.3 minutes. The comparison of the model results with the target values is shown in Appendix C.

Table 2.3-2

Dalton Average Trip Travel Times	
Trip Purpose	Average Trip Travel Time (Time)
Home Based Work	16.8
Home Based Other	14.9
Home Based Shopping	14.4
Non Home Based	12.3
Trucks	14.4

Gravity model input consists of a set of travel time impedance factors (friction factors), plus production trip ends, attraction trip ends and minimum time skim. These parameters force the gravity model to produce sets of trips by trip purpose, whose distributions approximate an observed travel time distribution.

2.4 Mode Split

The mode split process determines what mode of travel is used for trips between zones. With no transit service available in the study area, the Dalton model doesn't include a transit model component.

The internal trips (HBW, HBO, HBS, and NHB) developed from the Gravity model are person trips. Person trips have to be converted to vehicle trips for the trip purposes. Average auto occupancy rates by purpose from various sources such as the Census Journey-to-Work data and other national travel surveys were used to estimate the Dalton average auto occupancy rate. The other trip tables, internal truck and I-E and E-E passenger car and truck trips were calculated in terms of vehicle trips at their inception. Conversion to vehicle trip table enables comparison to vehicle counts and capacity analyses.

The following trip table factors or vehicle occupancy rates were used in the Dalton model:

Table 2.4-1

Dalton Vehicle Occupancy Rates	
Trip Purpose	Occupancy Rate
Home Based Work	1.11
Home Based Other	1.67
Home Based Shopping	1.44
Non Home Based	1.66
Internal Trucks	No adjustment – already vehicle trips
Internal-External	No adjustment – already vehicle trips
Internal-External Trucks	No adjustment – already vehicle trips

2.5 Traffic Assignment

The last step in the modeling sequence is the assignment or simulation of the trip tables to logical routes in the highway network. Trip assignment for the Dalton model was accomplished using the equilibrium assignment technique. The traffic assignment algorithm is iterative, running through successive applications until equilibrium occurs. Equilibrium occurs when no trip can be made by an alternate path without increasing the total travel time of all trips in the network. The equilibrium assignment is an iterative process that reflects travel demand assigned to minimum time paths as well as the effects of congestion. In each iteration, traffic volumes are loaded onto network links and travel times are adjusted in response to the volume to capacity relationships. Final assigned volumes are derived by summing a percentage of the loadings from each iteration. The percentages reflect congested conditions that usually influence motorists' path selection for a portion of the day, not the entire day.

During the model run, additional network link attributes are attached to the input network to store assignment results as well as values used in the traffic assignment. These additional attributes provide volumes, travel time, speed, and so on for each link, and can be used to summarize network-wide link statistics. A list of these attributes is shown in Table 2.5-1.

Table 2.5-1

Dalton Travel Demand Model – Output Network Attributes	
Attribute Name	Description
Taz	Nearest Taz ID
Atype	Area Type
Hcap	Hourly Capacity (Vehicles per Hour)
Capacity	Daily Capacity (Vehicles per Day)
Hcapam	AM Peak Hourly Capacity (Vehicles per Hour)
Hcappm	PM Peak Hourly Capacity (Vehicles per Hour)
Speed	Freeflow Speed in Mile per Hour (Miles per Hour)
Time_ff	Free Flow Travel Time (Minutes)
Time_op	Off-peak Travel Time (Minutes)
Linkclass	Link Classification Used in Assignment
V_1	Daily Volume (One-way)
Time_1	Congested Link Travel Time
Vc_1	Daily Volume over Capacity Ratio
Cspd_1	Congested Speed (Miles per Hour)

Dalton Travel Demand Model – Output Network Attributes	
Attribute Name	Description
Vht_1	Vehicle Hour of Travel
Vt_1	Daily Volume (Two-way)
Count	Base Year Traffic Count (One-way)
V_hbw	Daily Volume (Home Based Work)
V_hbo	Daily Volume (Home Based Other)
V_hbs	Daily Volume (Home Based Shopping)
V_nhb	Daily Volume (Non Home Based Shopping)
V_trk	Daily Volume (Truck)
V_ie	Daily Volume (Internal-external Passenger Cars)
V_ietrk	Daily Volume (Internal-external Trucks)
V_eepc	Daily Volume (External-external Passenger Cars)
V_eetrk	Daily Volume (External-external Trucks)
V_Totalpc	Daily Volume (Total Passenger Cars)
V_tottrk	Daily Volume (Total Trucks)
Vmt_1	Total Daily Vehicle Mile of Travel
Vcnt	Daily Volume over Base Year Count Ratio
Duration	Duration of Congestion (Hours)

2.5.1 Model Calibration

GDOT requires refinements to the model until the base year (2006) replicates 2006-level travel patterns. The was checked by the percent error of assigned volumes to ground counts and by checking the model's Vehicle-Miles Traveled (VMT) statistics. Also, the model was tested along screenlines to indicate if there were any broad areas where trips appeared to be consistently overestimated or underestimated. Results from each of these tests are presented in the following tables and figures.

Georgia DOT requires multiple validation checks to each of the major steps in the travel demand modeling process. Output modeled volumes are validated against traffic counts at several levels – regional, corridors (screenlines & cutlines) and link-by-link. Regional evaluations include VMT, Root Mean Squared Error (RMSE) and R-Squared calculations. Corridor evaluations are primarily screenline and cutline comparisons. Nationally recognized maximum desirable deviation standards are applied to analyze model performance at the link level. These include FHWA's "*Calibration & Adjustment of System Planning Models*", 1990 and the NCHRP Report 365: "*Travel Estimation Techniques for Urban Planning*", 1998.

One of many steps in the validation process involves screenlines. Screenlines are defined by features such as railroads, creeks, and rivers. Since all roadways are not reflected in the travel demand model, these types of features serve to funnel traffic into corridors so that all trips can be analyzed where crossing of these features is possible. Cutlines are imaginary lines drawn perpendicular to roadways to assist with analyzing traffic flow between geographic areas, such as north to south, east to west, etc. Figure 2.5.1-1 and 2.5.1-2 depict the locations of screenlines and cutlines used during the validation process. Each screenline or cutline crosses a roadway can be identified by following the color coded links across the Dalton area.

Figure 2.5.1-1
Dalton Screenline Locations

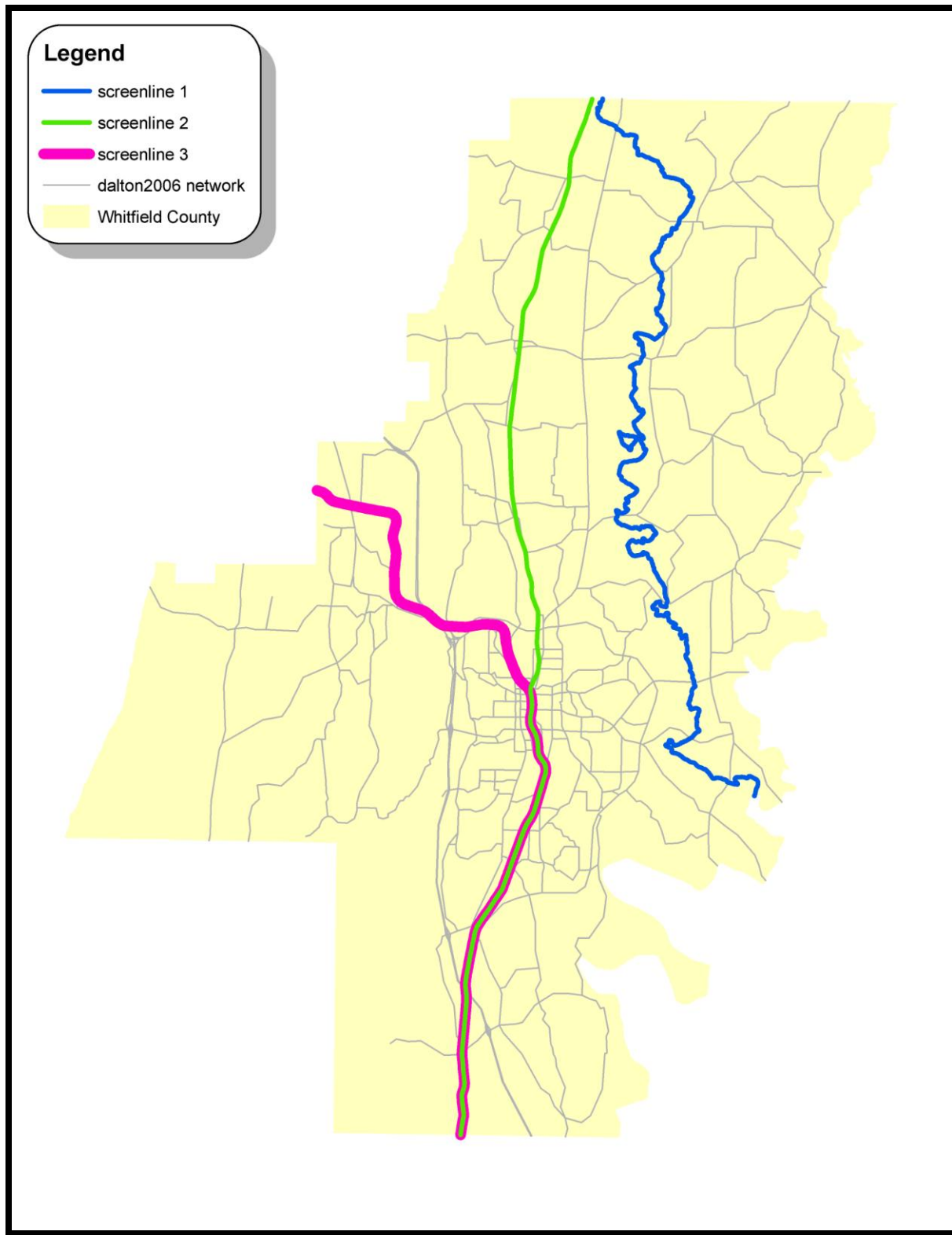


Figure 2.5.1-2
Dalton Cutline Locations

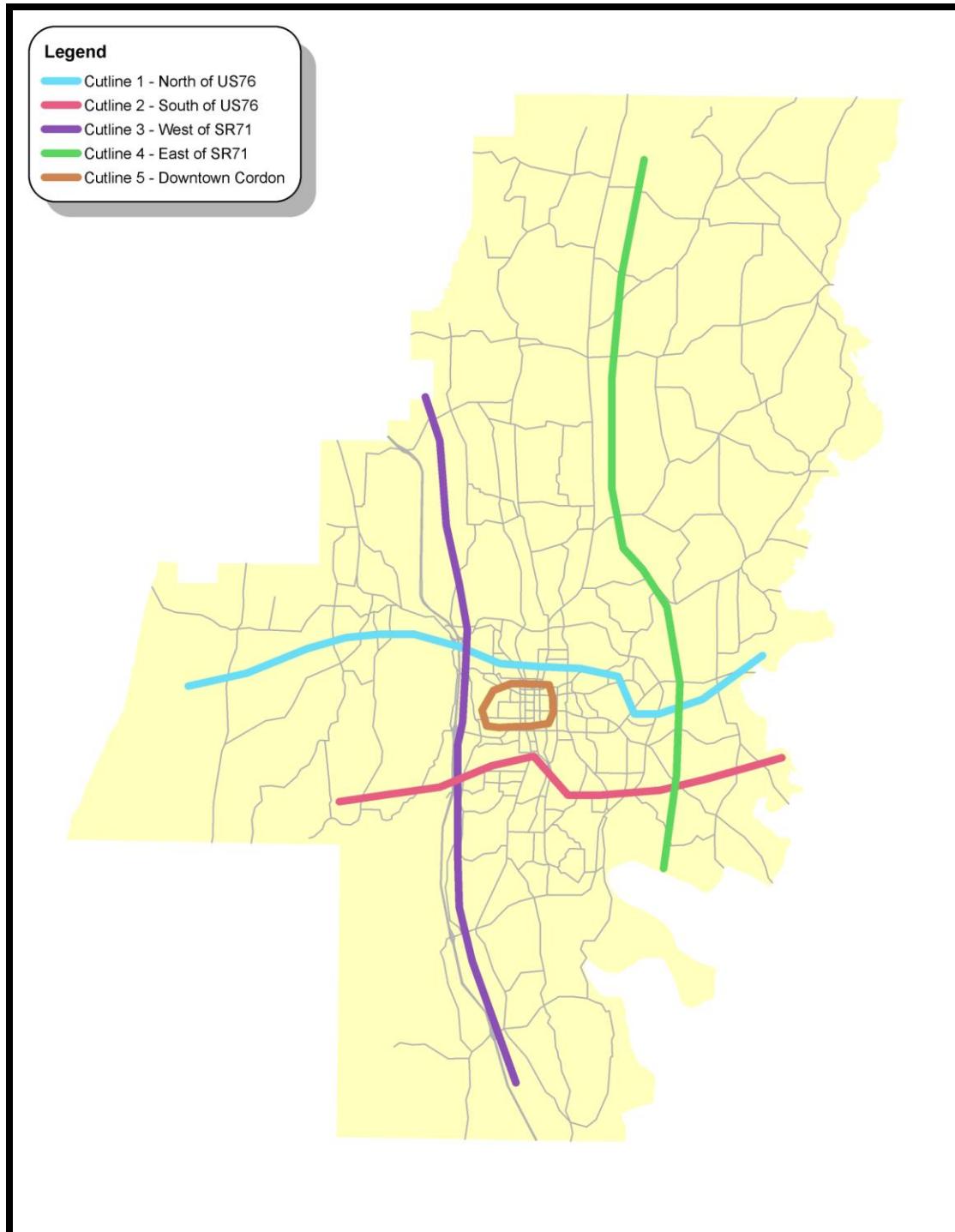


Table 2.5.1-1 and 2.5.1-2 list the results of the screenline and cutline analysis. All of the model volumes for the screenlines and cutlines are well within the acceptable range of error when compared to the observed traffic volumes.

Table 2.5.1-1

Dalton Summary of the Screenlines		
Screenlines	Target Range / Value	Dalton 2006 Model
All Counts	+/- 13 %	-3 %
1 Coahuilla Creek	+/- 30 %	4 %
2 Southern Railway & Louisville RR	+/- 18 %	-4 %
3 Louisville and Nashville RRRiver	+/- 16 %	-4 %

Table 2.5.1-2

Dalton Summary of the Cutlines		
Cutlines	Target Range / Value	Dalton 2006 Model
All Counts	+/- 12 %	-3 %
1 North of US76	+/- 19 %	-4 %
2 South of US76	+/- 21 %	1 %
3 West of SR71	+/- 23 %	2 %
4 East of SR71	+/- 29 %	-3 %
5 Downtown Cordon	+/- 22 %	-10 %

Table 2.5.1-3 and 2.5.1-4 list the results of the comparison between the Dalton model assigned volumes and the observed volumes for each link within each screenline and cutline. In most cases, the largest differences between the model and observed counts occur on the less traveled facilities.

Table 2.5.1-3

Dalton 2006 Screenline Results					
Screenline 1: Coahuilla Creek					
Road Name	2006 Assign Volume	2006 Observed Count	Volume /Count Ratio	Percent Deviation From	Maximum Desirable Deviation
CLEVELAND AVE.	5,450	5,500	0.99	-1.00%	50.00%
BEAVERDALE RD.	7,680	6,100	1.26	26.00%	47.00%
OLD PRATER MILL RD.	5,100	3,800	1.34	34.00%	58.00%
UPPER DAWNVILLE RD.	8,500	7,700	1.1	10.00%	43.00%
S THORNTON AVE.	33,210	35,900	0.93	-7.00%	22.00%
BEAVERDALE COHUTTA	2,290	1,700	1.35	35.00%	83.00%
TIBBS BRIDGE RD.	1,490	700	2.13	113.00%	122.00%
Total	63,720	61,400	1.04	4.00%	30.00%

Dalton 2006 Screenline Results					
Screenline 2: Southern Railway & Louisville and Nashville Rail Road					
Road Name	2006 Assign Volume	2006 Observed Count	Volume /Count Ratio	Percent Deviation From	Maximum Desirable Deviation
CARBONDALE RD.	6,540	5,100	1.28	28.00%	51.00%
S DIXIE HWY.	8,880	10,800	0.82	-18.00%	37.00%
S Dalton Bypass	17,720	17,800	1	0.00%	30.00%

Popular Spring Road	4,850	3,000	1.62	62.00%	65.00%
Brickyard Rd	5,710	5,800	0.98	-2.00%	49.00%
FIVE SPRINGS RD.	1,920	2,400	0.8	-20.00%	71.00%
OLD DIXIE HWY.	30,880	38,900	0.79	-21.00%	21.00%
W Industrial Blvd	1,660	4,700	0.35	-65.00%	53.00%
VARNELL MAIN ST.	5,850	7,400	0.79	-21.00%	44.00%
CHATTANOOGA RD.	29,540	34,000	0.87	-13.00%	22.00%
W MORRIS ST.	8,950	4,700	1.9	90.00%	53.00%
S HAMILTON ST.	2,720	4,500	0.6	-40.00%	54.00%
WAUGH ST.	12,910	10,900	1.18	18.00%	37.00%
MADDOX CHAPEL	6,700	7,300	0.92	-8.00%	44.00%
WARING CUT-OFF	1,990	1,500	1.33	33.00%	88.00%
I-75 SB	36,090	34,450	1.05	5.00%	22.00%
I-75 NB	36,010	34,450	1.05	5.00%	22.00%
Total	218,920	227,700	0.96	-4.00%	18.00%
Screenline 3: Louisville and Nashville Rail Road					
OLD DIXIE HWY.	5,000	5,000	1	0.00%	52.00%
CEMETERY ST.	4,060	3,400	1.19	19.00%	61.00%
I-75 SB	36,280	37,800	0.96	-4.00%	21.00%
I-75 NB	37,850	37,800	1	0.00%	21.00%
OLD HAIG MILL RD.	4,200	3,000	1.4	40.00%	65.00%
CARBONDALE RD.	6,540	5,100	1.28	28.00%	51.00%
OLD DIXIE HWY.	27,510	32,300	0.85	-15.00%	23.00%
S DIXIE HWY.	8,880	10,800	0.82	-18.00%	37.00%
HOSPITAL ACCESS	8,080	13,000	0.62	-38.00%	34.00%
S Dalton Bypass	17,720	17,800	1	0.00%	30.00%
Brickyard Rd	5,710	5,800	0.98	-2.00%	49.00%
FIVE SPRINGS RD.	1,920	2,400	0.8	-20.00%	71.00%
W Industrial Blvd	1,660	4,700	0.35	-65.00%	53.00%
CHATTANOOGA RD.	29,540	34,000	0.87	-13.00%	22.00%
W MORRIS ST.	8,950	4,700	1.9	90.00%	53.00%
S HAMILTON ST.	1,570	5,100	0.31	-69.00%	51.00%
WAUGH ST.	12,910	10,900	1.18	18.00%	37.00%
I-75 SB	36,090	34,450	1.05	5.00%	22.00%
I-75 NB	36,010	34,450	1.05	5.00%	22.00%
Total	290,480	302,500	0.96	-4.00%	16.00%

Table 2.5.1-4

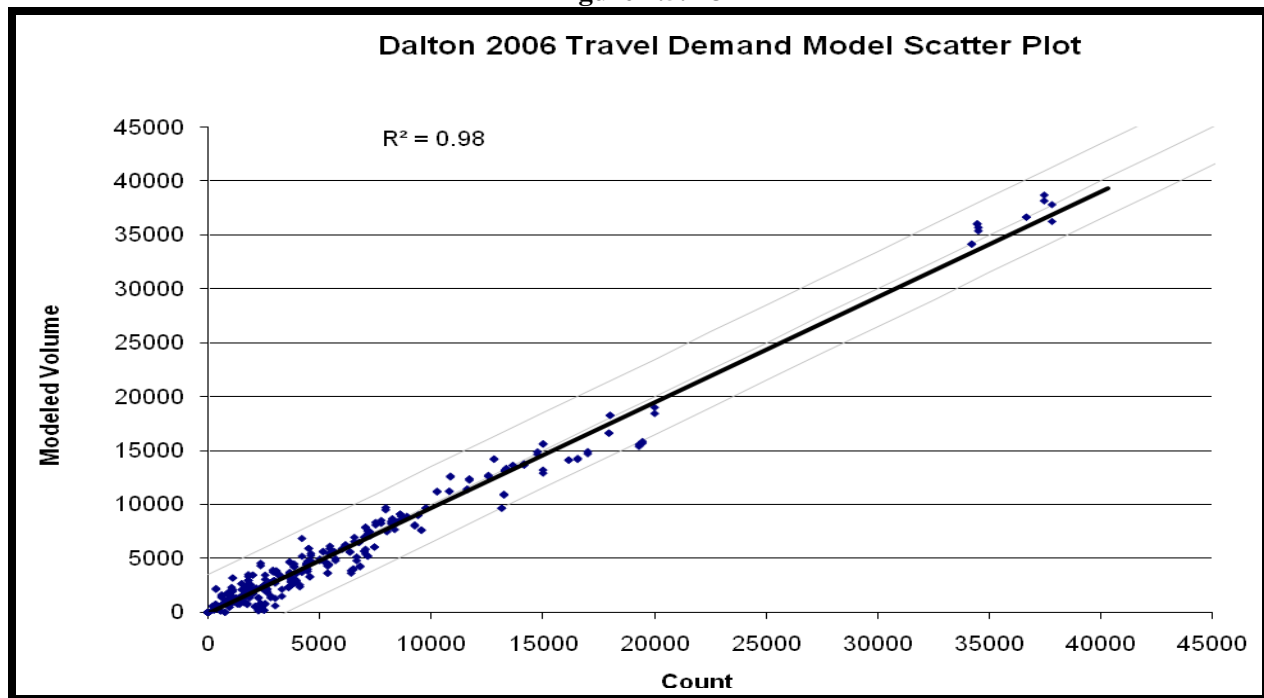
Dalton 2006 Cutline Results					
Cutline 1: North of US76					
Road Name	2006 Assign Volume	2006 Observed Count	Volume /Count Ratio	Percent Deviation From	Maximum Desirable Deviation
OLD RINGGOLD RD.	1,490	640	2.33	133.00%	127.00%
COTTONWOOD MILL RD.	1,930	2,200	0.88	-12.00%	74.00%
TUNNEL HILL VARNEL	5,460	7,700	0.71	-29.00%	43.00%
I-75 SB	38,170	37,450	1.02	2.00%	22.00%
I-75 NB	38,680	37,450	1.03	3.00%	22.00%
SHUGART RD.	17,170	15,000	1.14	14.00%	32.00%

BROADRICK DR.	3,820	6,600	0.58	-42.00%	46.00%
CHATTANOOGA RD.	8,690	10,700	0.81	-19.00%	37.00%
GRACE ST.	1,070	4,200	0.25	-75.00%	56.00%
DIXIE HWY.	25,150	21,700	1.16	16.00%	27.00%
E HAWTHORNE ST.	6,700	6,500	1.03	3.00%	46.00%
E WAUGH ST.	7,720	6,300	1.23	23.00%	47.00%
WALNUT AVE.	19,390	26,300	0.74	-26.00%	25.00%
S Dalton Bypass	17,340	16,500	1.05	5.00%	31.00%
CEDAR RIDGE RD.	4,880	3,500	1.39	39.00%	60.00%
COLLEGE DR	5,560	6,000	0.93	-7.00%	48.00%
Sam Love Rd	1,040	1,900	0.55	-45.00%	79.00%
Total	204,260	210,640	0.97	-3.00%	19.00%
Cutline 2: South of US76					
WOODS DR.	1,880	2,700	0.7	-30.00%	68.00%
DUG GAP MOUNTAIN	4,550	3,300	1.38	38.00%	62.00%
TIBBS RD.	8,770	7,700	1.14	14.00%	43.00%
CHATTANOOGA RD.	11,220	12,700	0.88	-12.00%	34.00%
GRACE ST.	7,170	6,200	1.16	16.00%	47.00%
ABUTMENT RD.	18,210	17,200	1.06	6.00%	30.00%
Antioch Rd	9,230	9,200	1	0.00%	40.00%
S Dalton Bypass	16,790	17,000	0.99	-1.00%	30.00%
AIRPORT RD.	4,710	7,200	0.65	-35.00%	44.00%
TIBBS BRIDGE RD.	1,490	700	2.13	113.00%	122.00%
TIBBS BRIDGE RD.	3,100	3,100	1	0.00%	64.00%
I-75 SB	35,380	34,500	1.03	3.00%	22.00%
I-75 NB	35,720	34,500	1.04	4.00%	22.00%
Total	158,220	156,000	1.01	1.00%	21.00%
Dalton 2006 Cutline Results					
Cutline 3: West of SR71					
<u>Road Name</u>	<u>2006 Assign Volume</u>	<u>2006 Observed Count</u>	<u>Volume /Count Ratio</u>	<u>Percent Deviation From</u>	<u>Maximum Desirable Deviation</u>
CHURCH ST.	12,080	8,400	1.44	44.00%	41.00%
OLD HAIG MILL RD.	4,200	3,000	1.4	40.00%	65.00%
WALNUT AVE.	31,200	30,000	1.04	4.00%	24.00%
S DALTON BYPASS	22,450	20,500	1.1	10.00%	28.00%
CHATTANOOGA RD.	37,300	40,000	0.93	-7.00%	21.00%
TILTON RD.	11,250	14,100	0.8	-20.00%	33.00%
Total	118,480	116,000	1.02	2.00%	23.00%
Cutline 4: East of SR71					
BEAVERDALE RD.	7,680	6,100	1.26	26.00%	47.00%
OLD PRATER MILL RD.	5,100	3,800	1.34	34.00%	58.00%
UPPER DAWNVILLE RD.	8,500	7,700	1.1	10.00%	43.00%
S THORNTON AVE.	33,210	35,900	0.93	-7.00%	22.00%
HILL RD.	1,830	3,200	0.57	-43.00%	63.00%
AIRPORT RD.	4,710	7,200	0.65	-35.00%	44.00%
BEAVERDALE COHUTTA	2,290	1,700	1.35	35.00%	83.00%
Total	63,320	65,600	0.97	-3.00%	29.00%

cutline 5: Downtown Cordon					
W WAUGH ST.	14,200	13,100	1.08	8.00%	34.00%
JONES ST.	2,450	1,900	1.29	29.00%	79.00%
JONES ST.	1,590	2,600	0.61	-39.00%	69.00%
GLENWOOD AVE.	9,370	10,500	0.89	-11.00%	37.00%
S THORNTON AVE.	15,780	16,700	0.94	-6.00%	31.00%
GRACE ST.	4,940	8,200	0.6	-40.00%	42.00%
S HAMILTON ST.	1,570	5,100	0.31	-69.00%	51.00%
CHATTANOOGA RD.	16,110	18,500	0.87	-13.00%	29.00%
WAUGH ST.	12,910	10,900	1.18	18.00%	37.00%
S DIXIE HWY.	26,350	26,600	0.99	-1.00%	25.00%
MADDOX CHAPEL RD.	6,700	7,300	0.92	-8.00%	44.00%
W MORRIS ST.	6,590	9,100	0.72	-28.00%	40.00%
W EMORY ST.	3,560	4,000	0.89	-11.00%	57.00%
Total	122,120	134,500	0.91	-9.00%	22.00%

Another way of viewing link validation is through the use of a scatter plot that depicts the relationship between traffic counts and modeled volumes. The following graphic depicts this relationship for the Dalton 2006 network. The graphic indicates that the majority of modeled volumes are consistent with the traffic counts. It should be noted that it is normal to have outliers, both high and low. The R^2 value of 0.98 indicates the model successfully replicates base year travel characteristics.

Figure 2.5.1-3



The modeled traffic volumes summarized by facility type are shown in Table 2.5.1-5. The HPMS VMT is based on the GDOT Data “445” report as well as on the 2006 RC database. The HPMS VMT numbers represent the average annual daily VMT for the year 2006 for Whitfield County.

The highway network and trip table are considered to provide a good representation of travel conditions on the existing system if the total percent error region-wide is less than +/-5 percent. For the Dalton model, the total percent error region-wide is less than 1.0% excluding the local streets. Calculating the percent error by facility type indicates whether the model is loading trips in a reasonable manner. The Dalton model is performing very well estimating traffic volumes for all of the facility types except for local roads. This is not surprising since most of the local roads in an urban area are usually not included in a regional travel demand model. These volumes are provided below for informational purposes only.

Table 2.5.1-5

Dalton Model Area VMT Statistics				
Facility Type	VMT		Between Model and HPMS	
	Model	HPMS	Difference	Percent
Freeway	1,321,106	1,332,854	-11,784	-1%
Principal Arterials	637,498	626,626	10,872	2%
Minor Arterials	736,478	674,789	61,689	8%
Collectors	464,604	526,963	-62,359	-13%
Total excluding Local Roads	3,161,232	3,159,686	-1,546	0%
Local	218,984	142,552	76,327	35%
Total including Local Roads	3,378,670	3,303,784	75,549	2%

Comparing the deviation of assigned link volumes with maximum desirable deviation is a method for validation/calibration check. The higher the link traffic count, the smaller the maximum desired deviation allowed. Models should be able to replicate traffic volumes on higher facilities more accurately than those on lower facilities. Higher facilities have higher usage and are focuses of policy making. Therefore, how well the model assigns trips on these facilities is an indicator for how well the model is validated and how useful the model would be. Figure 2.5.1-4 shows the comparison of the maximum desired deviation curve and the model assigned volumes. Figure 2.5.1-5 illustrates trip-loaded network. The model performed very well system-wide with almost all major facilities within the maximum desired deviation allowed.

Figure 2.5.1-4

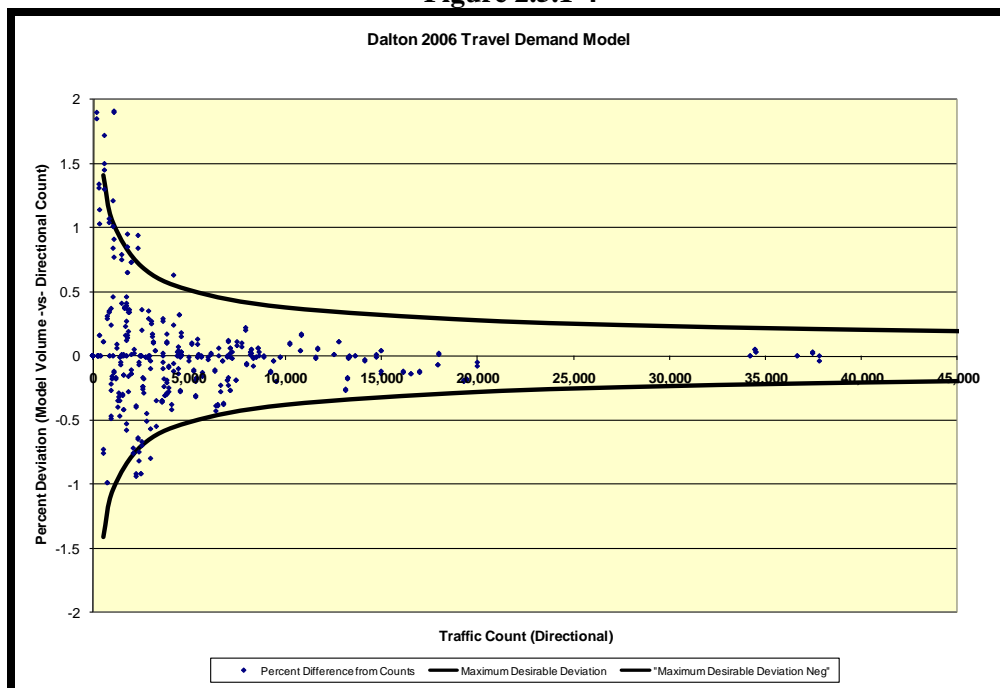
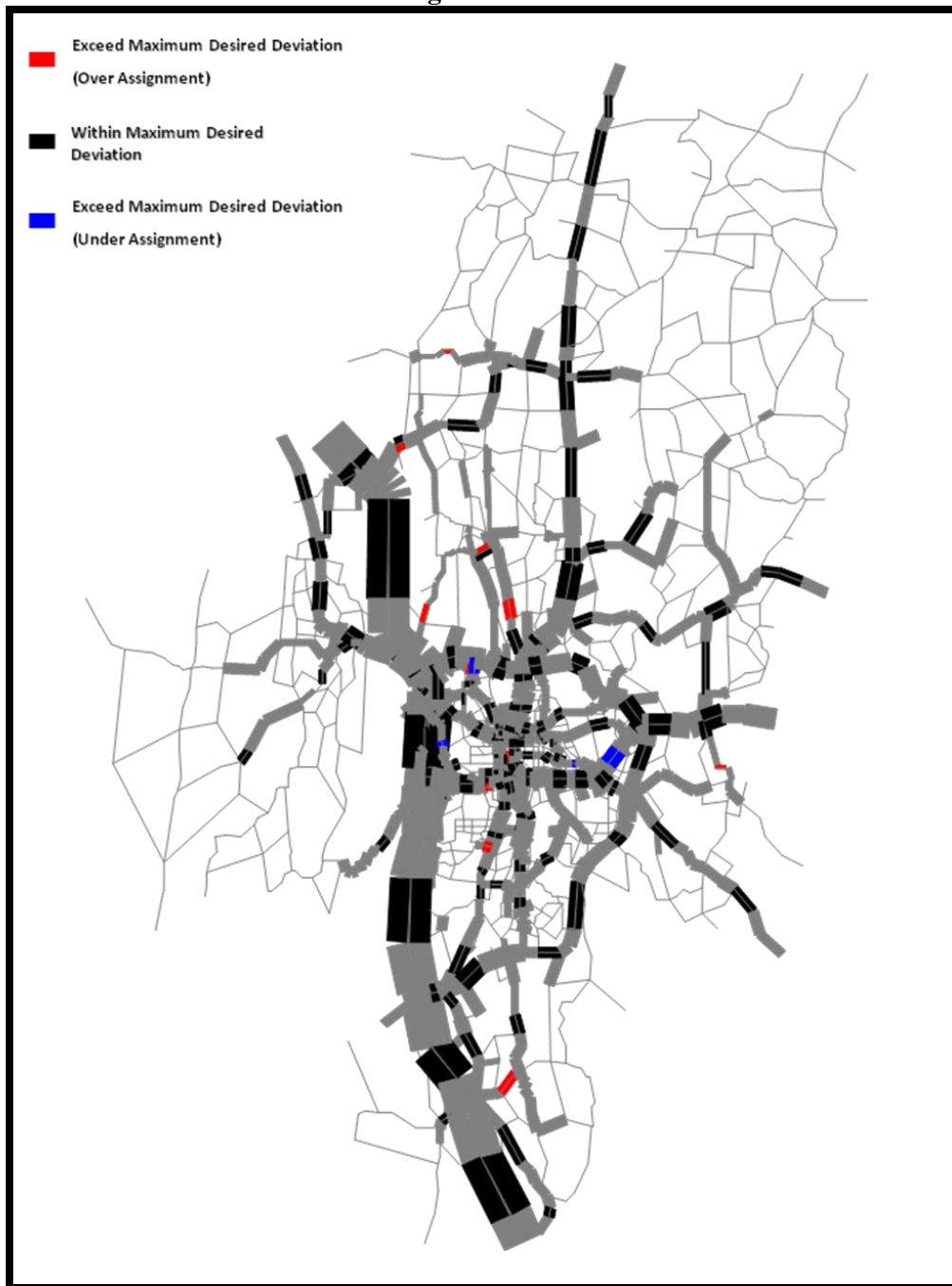


Figure 2.5.1-5



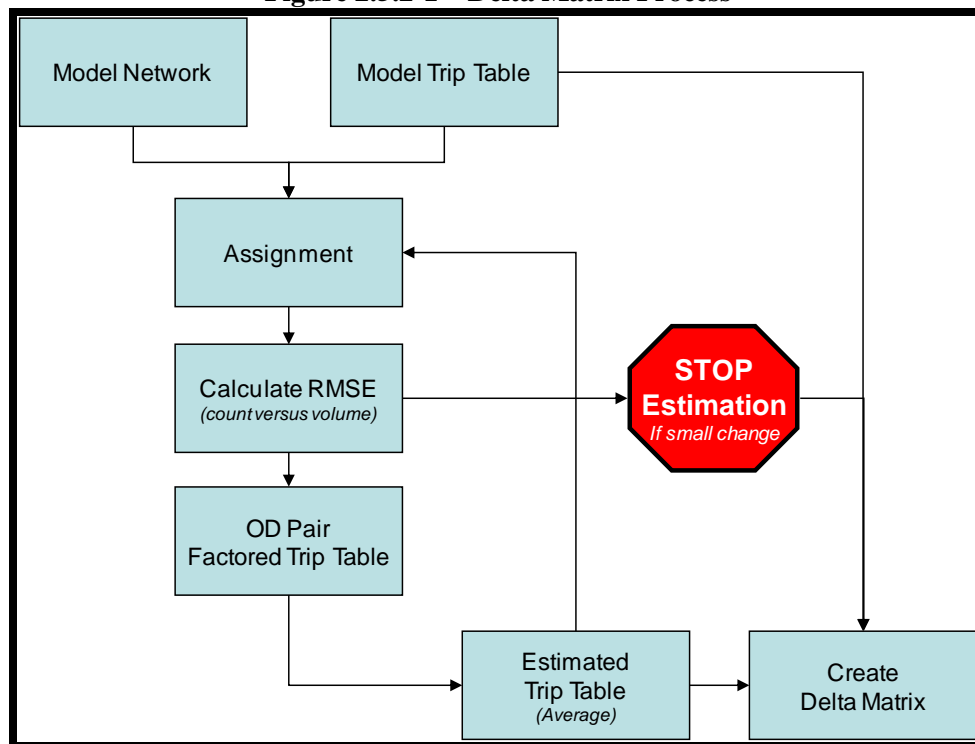
2.5.2 Delta Matrix Process

Due to the many variables involved, estimated traffic volumes from travel demand models will inevitably differ from observed traffic counts. As a result, it is usually necessary to post-process modeled volumes for use in traffic studies. National Cooperative Highway Research Program (NCHRP) Report 255 outlines a widely used methodology for post-processing model results, but like many approaches to refining travel demand models, the procedures are intended for specific projects or corridors and are not easily applied to an entire region.

Matrix estimation techniques to post-process travel demand model volumes for an entire region have been developed for the GDOT MPO areas. This region level post-processing is done by developing a delta matrix, which is a trip table that is combined with the normal travel demand model trip table to produce traffic assignments that closely replicate observed traffic counts.

Figure 2.5.2-1 outlines how a delta matrix is developed. The delta matrix process uses the travel demand model trip table as a seed for a matrix estimation process. The matrix estimation process attempts to closely replicate observed traffic counts, while also controlling the trip ends and trip lengths implied in the seed matrix. This is accomplished by iteratively assigning a trip table, adjusting the origin-destination trips within a reasonable range to match traffic counts along the origin-destination path. Once a trip table is produced that sufficiently matches the traffic counts, a delta matrix is produced by subtracting the initial seed trip table from the estimated trip table.

Figure 2.5.2-1 – Delta Matrix Process



Conceptually the resulting delta matrix represents the localized factors that the regional travel demand modeling process does not reproduce well. Future travel demands are post-processed by applying the same local corrections that are represented in the delta matrix without adjustment since similar localized issues cannot be identified for future conditions. Therefore, the delta matrix is simply added to future trip tables before assigning the trips.

Appendix A: Socio-Economic Variables By Zone for 2006

Traffic Zone			Enrollment	Employment						
	Household	Population	School	Retail	Service	Manufacture	Wholesale	Total	Acres	Income
1	178	510	0	119	330	0	62	511	132	44,342
2	547	1,568	0	93	454	0	49	596	420	44,342
3	3	9	0	19	53	0	10	81	87	32,196
4	102	294	0	56	246	0	29	330	61	32,196
5	78	223	0	126	510	31	66	732	273	32,196
6	490	1,404	512	34	400	0	17	451	198	62,032
7	260	745	0	5	63	9	3	81	90	30,184
8	46	131	0	8	55	24	4	91	30	30,184
9	2	6	0	33	115	224	17	388	123	34,255
10	510	1,461	0	24	96	417	12	549	251	34,255
11	0	0	0	19	55	0	10	85	15	34,255
12	0	0	0	33	94	0	17	145	30	34,255
13	67	192	0	32	103	183	16	334	90	34,255
14	61	175	0	11	39	7	6	63	29	34,255
15	5	15	0	10	29	6	5	52	13	34,255
16	3	10	0	15	49	33	8	105	25	34,255
17	11	32	0	9	37	0	5	52	19	34,255
18	0	1	0	11	31	0	6	48	12	34,255
19	2	5	0	14	62	0	7	84	26	34,255
20	2	5	0	22	72	0	12	105	28	34,255
21	1	2	0	26	75	10	14	125	33	34,255
22	2	6	0	17	69	26	9	120	26	34,255
23	24	68	0	36	113	7	19	175	42	34,255
24	25	72	0	47	150	48	25	270	59	34,255
25	27	87	0	23	70	180	12	285	78	43,357
26	185	585	0	40	137	0	21	198	756	43,357
27	341	1,081	0	5	14	21	3	42	836	37,979
28	271	858	0	70	267	0	37	373	1,351	39,074
29	0	0	0	24	69	46	13	152	70	43,357
30	0	0	0	14	39	501	8	563	126	43,357
31	48	152	1,312	33	384	671	17	1,105	407	43,357
32	1	3	0	47	159	208	25	439	71	28,256
33	38	120	0	5	15	0	3	24	43	28,256
34	31	99	0	1	9	0	1	11	29	28,256
35	6	19	0	10	34	0	5	49	38	28,256
36	121	385	0	1	22	0	0	23	48	28,256
37	20	62	0	27	115	95	14	251	62	28,256
38	209	662	0	3	25	16	2	46	97	28,256
39	156	493	0	28	92	2	15	137	55	19,724
40	133	420	0	0	2	0	0	2	36	19,724
41	164	519	553	0	170	445	0	615	362	28,256
42	52	165	0	2	12	0	1	16	20	19,724
43	507	1,608	595	1	53	47	0	101	268	25,644
44	78	247	0	14	62	0	7	83	179	39,074
45	19	61	352	13	279	0	7	300	208	39,074
46	227	747	0	52	196	61	27	337	102	31,947
47	129	426	444	10	94	0	5	110	61	31,947
48	186	614	0	28	92	26	15	161	97	48,235
49	188	619	0	16	62	0	9	87	110	48,235
50	99	326	367	18	91	28	10	147	142	31,690
51	107	353	0	97	326	11	51	485	318	31,690
52	67	221	0	32	111	12	17	172	176	31,690

Traffic Zone			Enrollment	Employment						
	Household	Population	School	Retail	Service	Manufacture	Wholesale	Total	Acres	Income
53	54	193	0	24	71	442	12	550	114	30,633
54	167	592	0	21	64	94	11	190	78	30,633
55	233	827	0	58	179	187	30	454	131	30,633
56	226	802	0	51	145	75	27	299	120	31,683
57	0	0	0	40	113	0	21	174	35	31,683
58	20	72	0	2	9	22	1	35	14	41,264
59	205	730	0	22	72	429	12	534	239	41,264
60	95	336	0	73	209	56	38	376	292	31,683
61	133	474	724	147	504	0	77	728	230	31,683
62	32	113	1,430	1	123	0	1	125	203	31,683
63	0	0	0	24	68	42	13	146	30	32,766
64	26	85	0	23	68	1	12	105	27	32,766
65	4	14	0	16	55	72	9	152	51	32,766
66	16	53	0	26	74	192	14	306	61	32,766
67	4	15	0	130	526	117	67	840	153	32,766
68	25	83	0	2	7	16	1	26	32	32,766
69	34	113	0	11	133	869	5	1,019	278	32,766
70	170	563	0	65	354	922	35	1,377	375	32,492
71	11	36	0	58	162	695	30	944	282	32,766
72	140	463	0	23	90	275	12	401	238	32,766
73	152	503	1,413	4	26	104	2	137	327	48,073
74	67	221	0	27	109	770	14	921	320	32,492
75	16	53	0	27	97	265	14	404	104	32,492
76	36	120	0	16	46	272	9	343	91	32,766
77	65	214	0	3	10	4	2	19	127	48,073
78	37	122	0	0	1	646	0	647	289	48,073
79	64	213	0	21	109	105	11	246	185	32,492
80	1	3	0	17	47	368	9	441	131	49,070
81	0	0	0	4	17	723	2	745	140	49,070
82	43	141	0	3	29	417	1	450	97	49,070
83	179	593	0	20	60	481	10	572	242	49,070
84	142	469	0	9	26	11	5	50	323	48,073
85	68	226	0	45	123	222	23	413	242	49,070
86	24	78	0	37	103	841	20	1,001	289	49,070
87	121	400	0	52	146	757	27	983	364	49,070
88	281	914	0	2	152	0	1	155	1,519	32,321
89	35	116	0	0	4	0	0	4	86	51,277
90	111	353	0	12	183	384	7	585	214	51,277
91	255	843	0	19	128	73	10	229	1,395	51,277
92	61	201	0	0	0	0	0	0	874	32,381
93	53	176	0	0	0	0	0	0	712	51,277
94	104	286	0	144	426	0	75	645	165	64,178
95	246	675	0	3	33	0	1	37	198	64,178
96	48	133	0	20	56	0	10	86	59	81,915
97	474	1,300	0	4	64	0	2	71	549	81,915
98	104	284	0	0	2	0	0	2	75	34,702
99	145	397	421	23	129	2	12	166	88	34,702
100	243	667	0	9	57	66	5	137	196	34,702
101	49	133	0	0	0	0	0	0	69	34,441
102	56	153	0	30	85	37	16	167	103	34,441
103	368	1,010	0	7	144	0	4	155	334	62,553
104	182	499	0	17	92	50	9	167	98	34,441
105	201	550	62	47	242	0	25	314	364	114,660

Traffic Zone			Enrollment	Employment						
	Household	Population	School	Retail	Service	Manufacture	Wholesale	Total	Acres	Income
106	0	0	1,576	0	194	0	0	194	51	61,891
107	666	1,819	0	3	66	0	1	70	502	61,891
108	100	272	0	0	70	0	0	70	39	37,400
109	0	0	837	3	50	0	2	54	14	37,400
110	203	555	0	2	7	0	1	10	133	37,400
111	30	81	0	14	80	0	8	102	31	37,400
112	273	746	0	5	67	0	3	74	259	80,639
113	33	90	0	6	17	0	3	26	25	80,639
114	119	330	652	120	455	0	63	639	1,739	58,156
115	14	38	0	0	21	0	0	21	475	61,920
116	164	456	0	9	25	0	5	39	1,121	61,920
117	240	668	0	15	73	33	8	130	1,039	58,156
118	77	213	0	1	10	46	0	57	801	61,920
119	441	1,228	48	82	341	58	43	524	1,581	56,382
120	14	39	0	0	0	343	0	343	719	56,382
121	189	544	0	0	23	1,384	0	1,407	1,535	51,489
122	209	601	0	7	41	0	4	52	2,243	48,461
123	31	90	0	0	0	0	0	0	588	48,461
124	216	622	0	30	642	7	16	695	1,578	51,489
125	92	265	653	17	118	0	9	144	822	48,461
126	123	355	0	1	21	0	0	22	1,128	49,646
127	108	312	0	35	172	15	18	240	1,409	48,461
128	330	950	0	7	68	0	4	80	1,431	49,646
129	52	149	0	7	27	0	3	37	1,639	48,255
130	26	75	0	1	17	0	1	19	1,493	47,850
131	93	268	0	0	21	0	0	21	2,417	47,850
132	65	186	0	0	14	0	0	14	2,614	47,850
133	42	122	0	18	50	0	9	77	1,523	48,255
134	17	47	0	0	19	0	0	19	852	48,255
135	156	446	0	0	5	0	0	5	880	47,850
136	72	207	0	0	0	0	0	0	1,728	47,850
137	77	221	0	0	29	0	0	29	2,101	48,255
138	10	28	0	0	7	0	0	7	410	48,255
139	37	106	0	0	0	0	0	0	1,119	47,850
140	8	24	0	0	20	0	0	20	1,967	47,850
141	146	420	0	22	67	71	12	172	737	48,255
142	95	274	543	6	193	0	3	202	1,726	47,850
143	41	118	0	0	19	0	0	19	2,242	47,850
144	171	491	0	48	150	0	25	223	2,559	52,810
145	46	133	387	20	409	0	10	439	1,592	52,810
146	118	339	0	38	120	0	20	177	4,705	52,810
147	34	98	0	2	25	0	1	28	1,157	52,810
148	244	724	0	93	272	7	49	421	335	36,638
149	167	497	0	59	179	4	30	271	188	50,886
150	174	516	0	45	171	0	24	240	883	50,886
151	259	768	0	7	35	11	4	57	577	50,886
152	143	424	0	14	53	0	8	75	1,307	47,935
153	237	705	0	22	125	0	12	158	1,076	34,457
154	111	328	0	1	13	0	1	16	666	34,457
155	98	292	0	3	9	0	2	14	472	47,935
156	66	195	0	0	32	0	0	32	1,154	47,935
157	149	441	484	41	263	0	22	326	411	53,021
158	309	914	0	35	112	82	19	248	869	53,021

Traffic Zone			Enrollment	Employment						
	Household	Population	School	Retail	Service	Manufacture	Wholesale	Total	Acres	Income
159	366	1,085	0	150	444	108	79	780	1,453	55,809
160	94	279	0	72	207	428	38	745	286	34,596
161	18	53	0	7	21	0	4	31	221	34,596
162	0	0	0	10	28	58	5	101	80	34,596
163	10	29	0	33	93	1,390	17	1,533	373	42,253
164	46	136	996	75	356	0	39	470	726	47,253
165	86	256	0	91	286	915	48	1,340	1,001	47,253
166	26	76	0	0	0	0	0	0	447	34,596
167	71	276	0	103	293	569	54	1,020	2,417	34,596
168	187	506	0	0	10	16	0	27	2,436	34,596
169	137	404	0	14	41	603	7	665	660	47,253
170	241	714	0	24	94	8	12	138	1,341	49,674
171	143	423	0	37	113	42	19	211	1,070	49,674
172	246	729	0	41	367	1,604	21	2,032	4,087	49,674
173	121	325	0	4	20	0	2	25	316	56,298
174	48	128	0	19	53	0	10	81	95	56,298
175	138	372	0	44	230	0	23	297	700	90,468
176	582	1,565	0	30	98	0	16	144	3,467	50,239
177	533	1,433	4,308	190	1,273	0	100	1,564	1,728	50,239
178	226	608	755	4	93	0	2	100	2,216	50,902
179	247	665	0	4	21	0	2	27	2,869	37,799
180	213	573	0	215	649	1,176	113	2,152	4,289	71,886
181	21	55	0	0	1	0	0	1	2,810	71,886
182	112	301	0	0	5	0	0	5	5,896	43,501
183	47	125	0	112	325	0	59	496	327	71,886
184	306	822	0	30	105	0	16	151	1,711	43,501
185	328	936	0	2	9	0	1	12	11,567	46,636
186	60	172	0	0	0	0	0	0	799	46,636
187	271	775	0	2	83	0	1	86	1,533	51,507
188	115	328	0	45	176	42	24	287	2,490	46,636
189	115	329	0	13	36	0	7	56	819	53,974
190	215	615	570	5	47	0	3	55	525	53,974
191	179	511	0	30	190	0	16	235	3,938	43,750
192	173	494	0	0	33	0	0	33	1,913	43,750
193	186	529	0	33	104	0	18	154	568	36,241
194	191	545	349	118	417	0	62	597	561	55,188
195	338	965	0	97	325	43	51	517	1,801	55,188
196	74	213	0	24	75	0	13	112	383	36,241
197	105	300	0	17	54	26	9	105	716	55,188
198	214	610	0	34	100	7	18	158	524	34,822
199	358	1,023	0	41	200	0	22	263	763	63,500
200	18	52	0	0	0	0	0	0	415	63,500
201	129	354	0	33	102	0	17	152	389	62,032
202	105	289	0	71	220	0	37	329	1,184	62,032
203	21	58	0	0	0	0	0	0	500	62,032
204	73	199	0	1	31	0	1	33	402	62,032
205	123	336	0	10	29	0	5	45	127	37,395
206	0	0	0	0	0	0	0	0	653	62,032
207	79	216	0	0	14	0	0	14	896	62,032
208	530	1,451	0	169	728	656	89	1,641	2,130	56,555
209	60	164	0	3	12	0	2	17	227	37,395
210	88	241	0	23	77	880	12	993	511	37,395
211	0	0	0	21	59	76	11	166	32	37,395

Traffic Zone			Enrollment	Employment						
	Household	Population	School	Retail	Service	Manufacture	Wholesale	Total	Acres	Income
212	0	0	0	9	26	190	5	229	72	56,955
213	56	159	1,869	11	102	0	6	118	1,049	51,160
214	89	254	1,150	2	306	53	1	362	444	51,160
215	64	181	0	9	25	51	5	89	422	51,160
216	473	1,347	0	4	19	0	2	24	1,375	48,777
217	391	1,112	0	36	112	0	19	167	978	66,276
218	217	617	0	14	43	0	7	65	869	48,777
219	34	98	0	14	39	29	7	90	134	66,276
220	708	2,015	0	36	105	152	19	313	707	51,864
221	372	1,059	629	73	253	0	39	365	575	57,660
222	61	185	0	24	129	0	12	165	953	47,500
223	66	201	0	0	0	0	0	0	1,382	47,500
224	85	261	260	7	334	0	4	344	1,108	47,500
225	58	178	0	0	1	0	0	1	1,622	72,840
226	66	201	0	54	192	288	28	563	1,116	47,500
227	130	398	0	6	28	0	3	38	1,044	47,500
228	130	397	0	2	14	0	1	17	2,035	72,840
229	210	641	0	142	407	2	75	625	1,236	72,840
230	617	1,884	0	54	280	0	28	363	2,191	72,840
231	139	425	0	3	17	0	2	22	1,425	53,286
232	295	901	0	42	143	0	22	207	1,584	53,286
233	503	1,536	0	66	243	0	34	343	2,136	44,830

Appendix B: Production and Attraction Trip Ends By Zone for 2006

Traffic Zones	Productions								Attractions							
	HBW	HBO	HBS	NHB	Combo Trucks	Single Unit Trucks	IE PC & Single Unit Trucks	IE Combo Trucks	HBW	HBO	HBS	NHB	Combo Trucks	Single Unit Trucks	IE PC & Single Unit Trucks	IE Combo Trucks
1	377	943	171	808	25	439	682	136	445	725	465	808	25	439	0	0
2	1,158	2,898	526	1,067	38	587	975	107	519	1,322	364	1,067	38	587	0	0
3	6	16	3	110	3	62	95	22	71	80	74	110	3	62	0	0
4	213	532	98	451	13	259	434	64	288	451	219	451	13	259	0	0
5	162	404	74	873	27	546	884	152	638	791	493	873	27	546	0	0
6	1,052	2,637	475	757	28	434	777	37	393	1,859	133	757	28	434	0	0
7	538	1,342	248	258	13	143	230	8	71	440	20	258	13	143	0	0
8	95	236	44	100	6	86	129	14	79	149	31	100	6	86	0	0
9	4	11	2	202	28	381	448	86	338	364	129	202	28	381	0	0
10	1,064	2,656	487	541	66	761	901	117	478	1,226	94	541	66	761	0	0
11	0	0	0	109	3	62	98	22	74	79	74	109	3	62	0	0
12	0	0	0	187	5	106	167	37	126	135	129	187	5	106	0	0
13	140	349	64	239	26	347	420	75	291	405	125	239	26	347	0	0
14	127	318	58	115	5	69	105	15	55	144	43	115	5	69	0	0
15	11	27	5	61	2	41	63	12	45	56	39	61	2	41	0	0
16	7	18	3	93	6	92	123	25	92	103	59	93	6	92	0	0
17	23	58	11	68	2	39	66	11	45	64	35	68	2	39	0	0
18	0	0	0	63	2	35	55	13	42	45	43	63	2	35	0	0
19	4	9	2	94	2	57	98	15	73	81	55	94	2	57	0	0
20	4	9	2	134	4	77	122	26	92	100	86	134	4	77	0	0
21	2	4	1	150	5	97	145	33	109	117	102	150	5	97	0	0
22	4	11	2	112	5	97	139	25	105	115	66	112	5	97	0	0
23	50	124	23	230	7	138	214	43	153	196	141	230	7	138	0	0
24	52	131	24	298	13	225	324	65	235	287	184	298	13	225	0	0
25	61	158	27	157	23	298	342	66	248	308	90	157	23	298	0	0
26	289	743	127	398	14	205	325	46	173	471	156	398	14	205	0	0
27	529	1,360	232	317	17	161	228	11	37	568	20	317	17	161	0	0
28	421	1,082	185	671	22	354	572	81	325	767	274	671	22	354	0	0
29	0	0	0	138	8	132	175	38	132	142	94	138	8	132	0	0
30	0	0	0	81	52	636	648	127	491	524	55	81	52	636	0	0
31	108	277	47	411	77	1,062	1,298	183	963	3,032	129	411	77	1,062	0	0
32	2	5	1	286	28	410	506	100	383	410	184	286	28	410	0	0
33	83	213	37	62	2	30	48	7	21	81	20	62	2	30	0	0
34	68	175	30	37	2	18	29	2	10	59	4	37	2	18	0	0
35	13	34	6	65	2	37	60	11	43	55	39	65	2	37	0	0
36	266	683	118	119	5	55	90	0	20	210	4	119	5	55	0	0
37	43	110	19	194	15	225	300	51	219	264	106	194	15	225	0	0
38	458	1,175	203	205	11	111	163	8	40	367	12	205	11	111	0	0
39	334	854	152	299	11	154	240	33	119	369	110	299	11	154	0	0
40	285	727	129	113	5	48	72	0	2	207	0	113	5	48	0	0
41	359	921	160	246	53	669	795	97	536	1,640	0	246	53	669	0	0
42	112	285	51	59	2	28	46	2	14	96	8	59	2	28	0	0
43	1,105	2,832	493	463	26	261	383	10	88	1,755	4	463	26	261	0	0
44	174	448	76	159	5	83	137	15	72	198	55	159	5	83	0	0
45	30	77	13	244	5	172	356	15	261	827	51	244	5	172	0	0
46	509	1,319	222	525	23	343	508	73	294	679	203	525	23	343	0	0
47	289	751	126	211	7	110	195	11	96	963	39	211	7	110	0	0
48	427	1,111	184	331	14	192	283	39	140	450	110	331	14	192	0	0

Traffic Zones	Productions								Attractions							
	HBW	HBO	HBS	NHB	Combo Trucks	Single Unit Trucks	IE PC & Single Unit Trucks	IE Combo Trucks	HBW	HBO	HBS	NHB	Combo Trucks	Single Unit Trucks	IE PC & Single Unit Trucks	IE Combo Trucks
49	431	1,121	186	268	10	126	199	20	76	384	63	268	10	126	0	0
50	222	575	97	216	10	146	221	28	128	836	70	216	10	146	0	0
51	240	622	105	679	21	387	615	114	423	624	379	679	21	387	0	0
52	150	390	66	254	9	151	233	40	150	268	125	254	9	151	0	0
53	124	330	53	188	50	618	662	123	479	607	94	188	50	618	0	0
54	384	1,015	164	280	19	239	307	45	166	467	82	280	19	239	0	0
55	535	1,417	228	558	37	495	646	107	396	827	227	558	37	495	0	0
56	520	1,378	222	504	24	332	463	76	261	671	199	504	24	332	0	0
57	0	0	0	228	6	128	200	46	152	162	156	228	6	128	0	0
58	47	125	20	33	3	41	51	7	31	68	8	33	3	41	0	0
59	480	1,275	203	327	55	654	723	120	465	854	86	327	55	654	0	0
60	218	578	93	506	20	334	483	96	328	515	286	506	20	334	0	0
61	307	813	130	1,018	28	562	909	169	634	1,974	575	1,018	28	562	0	0
62	74	194	31	113	3	76	161	2	109	2,274	4	113	3	76	0	0
63	0	0	0	138	8	127	168	38	127	136	94	138	8	127	0	0
64	58	151	25	155	5	85	135	27	92	139	90	155	5	85	0	0
65	9	24	4	103	10	143	177	35	132	148	63	103	10	143	0	0
66	36	94	16	163	24	316	361	72	267	311	102	163	24	316	0	0
67	9	25	4	841	33	635	970	173	732	790	508	841	33	635	0	0
68	56	146	25	34	3	35	43	6	23	65	8	34	3	35	0	0
69	77	199	33	155	91	1,124	1,192	200	888	1,005	43	155	91	1,124	0	0
70	382	993	167	630	111	1,443	1,676	277	1,200	1,558	254	630	111	1,443	0	0
71	25	64	11	337	79	1,008	1,093	217	823	897	227	337	79	1,008	0	0
72	315	817	137	270	37	460	536	86	349	600	90	270	37	460	0	0
73	349	909	151	165	17	196	238	27	119	2,451	16	165	17	196	0	0
74	150	390	66	233	84	1,035	1,096	198	803	966	106	233	84	1,035	0	0
75	36	93	16	180	31	415	474	88	352	402	106	180	31	415	0	0
76	81	211	35	125	31	386	414	79	299	378	63	125	31	386	0	0
77	149	388	64	76	4	38	56	5	17	122	12	76	4	38	0	0
78	85	221	37	33	66	776	765	141	564	662	0	33	66	776	0	0
79	144	375	63	207	17	239	317	47	214	333	82	207	17	239	0	0
80	2	6	1	97	39	489	508	100	384	412	66	97	39	489	0	0
81	0	0	0	26	73	869	858	162	649	694	16	26	73	869	0	0
82	99	256	43	66	44	526	541	93	392	488	12	66	44	526	0	0
83	412	1,073	178	272	58	695	753	127	499	823	78	272	58	695	0	0
84	326	848	141	177	8	92	132	13	44	276	35	177	8	92	0	0
85	157	408	68	312	32	427	512	99	360	495	176	312	32	427	0	0
86	55	142	24	232	91	1,119	1,166	227	872	971	145	232	91	1,119	0	0
87	278	724	120	401	88	1,101	1,196	224	857	1,111	203	401	88	1,101	0	0
88	437	1,129	191	347	13	179	327	2	135	591	8	347	13	179	0	0
89	81	210	35	33	1	14	23	0	3	60	0	33	1	14	0	0
90	252	649	110	258	46	607	732	99	510	718	47	258	46	607	0	0
91	409	1,064	176	379	21	274	398	38	200	626	74	379	21	274	0	0
92	95	247	42	53	2	21	32	0	0	98	0	53	2	21	0	0
93	85	222	37	47	2	19	28	0	0	86	0	47	2	19	0	0
94	218	539	100	906	26	506	798	165	562	741	563	906	26	506	0	0
95	514	1,273	236	210	10	108	172	2	32	365	12	210	10	108	0	0
96	102	253	46	148	5	80	124	22	75	145	78	148	5	80	0	0
97	999	2,474	456	401	20	205	331	4	62	702	16	401	20	205	0	0

Traffic Zones	Productions								Attractions							
	HBW	HBO	HBS	NHB	Combo Trucks	Single Unit Trucks	IE PC & Single Unit Trucks	IE Combo Trucks	HBW	HBO	HBS	NHB	Combo Trucks	Single Unit Trucks	IE PC & Single Unit Trucks	IE Combo Trucks
98	210	518	98	77	4	37	57	0	2	141	0	77	4	37	0	0
99	294	724	137	277	10	159	268	27	145	968	90	277	10	159	0	0
100	493	1,217	230	249	18	208	286	25	119	454	35	249	18	208	0	0
101	99	243	46	35	2	17	26	0	0	65	0	35	2	17	0	0
102	113	279	53	212	10	160	222	43	146	230	117	212	10	160	0	0
103	769	1,903	353	388	17	215	372	9	135	638	27	388	17	215	0	0
104	369	910	172	257	15	200	288	31	146	400	66	257	15	200	0	0
105	409	1,006	191	484	16	277	468	55	274	653	184	484	16	277	0	0
106	0	0	0	123	2	99	223	0	169	2,497	0	123	2	99	0	0
107	1,387	3,427	637	535	28	271	431	2	61	955	12	535	28	271	0	0
108	203	499	94	117	5	71	133	0	61	198	0	117	5	71	0	0
109	0	0	0	44	1	31	62	4	47	1,281	12	44	1	31	0	0
110	413	1,018	192	160	8	78	118	2	9	281	8	160	8	78	0	0
111	61	149	28	128	4	77	133	17	89	135	55	128	4	77	0	0
112	574	1,419	262	261	12	139	229	7	64	434	20	261	12	139	0	0
113	69	171	32	58	2	31	47	7	23	68	23	58	2	31	0	0
114	174	431	79	844	24	485	799	138	557	1,715	469	844	24	485	0	0
115	20	50	9	23	1	16	32	0	18	38	0	23	1	16	0	0
116	240	597	110	173	8	86	131	11	34	259	35	173	8	86	0	0
117	351	873	160	283	15	187	276	25	113	448	59	283	15	187	0	0
118	112	279	51	65	8	87	106	10	50	157	4	65	8	87	0	0
119	645	1,602	295	862	37	541	836	107	457	1,159	321	862	37	541	0	0
120	20	51	9	10	35	410	402	75	299	339	0	10	35	410	0	0
121	281	705	127	159	146	1,711	1,720	301	1,226	1,577	0	159	146	1,711	0	0
122	310	776	140	214	10	107	170	9	45	342	27	214	10	107	0	0
123	46	116	21	24	1	11	16	0	0	44	0	24	1	11	0	0
124	321	806	145	690	19	464	914	37	606	952	117	690	19	464	0	0
125	137	342	62	212	7	122	214	20	126	1,224	66	212	7	122	0	0
126	183	459	83	110	5	55	90	0	19	194	4	110	5	55	0	0
127	161	403	73	327	12	204	333	43	209	376	137	327	12	204	0	0
128	490	1,229	222	324	15	163	266	9	70	539	27	324	15	163	0	0
129	77	192	35	82	3	43	70	7	32	107	27	82	3	43	0	0
130	39	97	17	36	1	20	36	2	17	54	4	36	1	20	0	0
131	138	346	62	85	4	43	73	0	18	151	0	85	4	43	0	0
132	96	240	44	58	3	30	50	0	12	104	0	58	3	30	0	0
133	63	157	28	133	4	71	111	20	67	131	70	133	4	71	0	0
134	25	61	11	25	1	16	31	0	17	41	0	25	1	16	0	0
135	230	576	105	122	6	57	88	0	4	223	0	122	6	57	0	0
136	107	267	48	55	3	25	38	0	0	101	0	55	3	25	0	0
137	114	285	52	77	3	42	74	0	25	135	0	77	3	42	0	0
138	15	36	7	12	0	7	13	0	6	20	0	12	0	7	0	0
139	55	137	25	28	1	13	19	0	0	52	0	28	1	13	0	0
140	12	31	5	19	1	13	27	0	17	30	0	19	1	13	0	0
141	216	542	98	241	16	208	275	42	150	366	86	241	16	208	0	0
142	141	353	64	218	6	142	283	7	176	1,120	23	218	6	142	0	0
143	61	152	28	43	2	24	43	0	17	75	0	43	2	24	0	0
144	254	637	115	412	14	221	347	55	194	448	188	412	14	221	0	0
145	69	172	31	371	8	259	530	22	383	1,043	78	371	8	259	0	0
146	175	440	79	314	11	169	266	44	154	331	149	314	11	169	0	0

Traffic Zones	Productions								Attractions							
	HBW	HBO	HBS	NHB	Combo Trucks	Single Unit Trucks	IE PC & Single Unit Trucks	IE Combo Trucks	HBW	HBO	HBS	NHB	Combo Trucks	Single Unit Trucks	IE PC & Single Unit Trucks	IE Combo Trucks
147	51	127	23	50	2	28	50	2	24	74	8	50	2	28	0	0
148	363	917	164	728	25	396	613	109	367	746	364	728	25	396	0	0
149	365	923	163	473	16	257	400	67	236	496	231	473	16	257	0	0
150	264	667	118	422	14	228	368	53	209	476	176	422	14	228	0	0
151	392	992	175	254	13	134	202	11	50	429	27	254	13	134	0	0
152	216	546	97	203	8	102	162	17	65	277	55	203	8	102	0	0
153	352	889	159	353	13	186	307	26	138	492	86	353	13	186	0	0
154	164	414	74	100	5	48	77	2	14	175	4	100	5	48	0	0
155	148	376	66	96	4	45	68	4	12	156	12	96	4	45	0	0
156	99	251	45	72	3	39	72	0	28	125	0	72	3	39	0	0
157	226	571	101	445	14	259	454	48	284	1,231	160	445	14	259	0	0
158	468	1,183	209	452	26	324	448	59	216	678	137	452	26	324	0	0
159	557	1,408	249	1,155	48	746	1,091	197	680	1,257	587	1,155	48	746	0	0
160	140	352	63	487	57	770	908	177	649	830	282	487	57	770	0	0
161	27	67	12	56	2	30	45	9	27	55	27	56	2	30	0	0
162	0	0	0	56	7	100	116	24	88	94	39	56	7	100	0	0
163	21	53	10	195	144	1,749	1,771	340	1,336	1,442	129	195	144	1,749	0	0
164	69	175	31	553	15	329	566	86	410	1,968	293	553	15	329	0	0
165	130	329	58	605	109	1,416	1,589	305	1,168	1,373	356	605	109	1,416	0	0
166	38	96	17	20	1	9	14	0	0	37	0	20	1	9	0	0
167	117	314	49	661	75	1,027	1,212	242	889	1,085	403	661	75	1,027	0	0
168	262	643	123	141	9	89	130	3	24	273	0	141	9	89	0	0
169	206	520	92	187	68	805	838	147	580	817	55	187	68	805	0	0
170	365	921	163	341	14	183	286	28	120	478	94	341	14	183	0	0
171	216	546	97	327	16	222	318	51	184	403	145	327	16	222	0	0
172	372	941	166	585	179	2,238	2,470	395	1,771	2,249	160	585	179	2,238	0	0
173	173	425	80	114	6	59	93	4	22	182	16	114	6	59	0	0
174	68	167	32	142	5	77	119	22	71	138	74	142	5	77	0	0
175	193	474	91	416	13	243	415	50	259	459	172	416	13	243	0	0
176	828	2,035	384	596	28	307	472	35	126	900	117	596	28	307	0	0
177	1,089	2,678	505	1,929	57	1,170	2,082	219	1,363	8,490	743	1,929	57	1,170	0	0
178	322	791	149	236	10	133	234	4	87	1,500	16	236	10	133	0	0
179	346	850	162	205	11	104	161	4	24	350	16	205	11	104	0	0
180	307	756	141	1,402	159	2,172	2,591	504	1,876	2,285	841	1,402	159	2,172	0	0
181	30	73	14	15	1	8	12	0	1	28	0	15	1	8	0	0
182	158	388	74	83	5	42	65	0	4	152	0	83	5	42	0	0
183	67	165	31	676	19	380	596	129	432	523	438	676	19	380	0	0
184	432	1,060	201	403	17	214	335	35	132	543	117	403	17	214	0	0
185	483	1,207	220	262	13	123	187	2	10	469	8	262	13	123	0	0
186	89	222	40	46	2	21	32	0	0	84	0	46	2	21	0	0
187	401	1,004	182	266	12	141	242	2	75	459	8	266	12	141	0	0
188	169	423	77	375	16	259	391	62	250	428	176	375	16	259	0	0
189	171	427	77	161	7	82	125	15	49	213	51	161	7	82	0	0
190	319	799	145	214	10	108	177	7	48	1,190	20	214	10	108	0	0
191	263	657	120	374	13	213	365	35	205	469	117	374	13	213	0	0
192	254	635	116	152	7	77	129	0	29	272	0	152	7	77	0	0
193	269	672	124	337	13	177	275	39	134	402	129	337	13	177	0	0
194	284	709	128	869	26	487	788	136	520	1,336	462	869	26	487	0	0
195	502	1,256	227	841	33	506	773	121	451	954	379	841	33	506	0	0

Traffic Zones	Productions								Attractions							
	HBW	HBO	HBS	NHB	Combo Trucks	Single Unit Trucks	IE PC & Single Unit Trucks	IE Combo Trucks	HBW	HBO	HBS	NHB	Combo Trucks	Single Unit Trucks	IE PC & Single Unit Trucks	IE Combo Trucks
196	108	270	49	199	7	107	168	28	98	209	94	199	7	107	0	0
197	156	390	71	180	9	125	176	25	92	245	66	180	9	125	0	0
198	310	773	142	358	14	194	295	41	138	446	133	358	14	194	0	0
199	534	1,338	241	560	21	300	491	48	229	745	160	560	21	300	0	0
200	27	68	12	14	1	6	9	0	0	25	0	14	1	6	0	0
201	187	464	86	287	10	155	243	37	132	315	129	287	10	155	0	0
202	153	379	70	492	15	274	434	81	287	448	278	492	15	274	0	0
203	31	76	14	15	1	7	11	0	0	28	0	15	1	7	0	0
204	106	261	49	78	3	44	76	2	29	128	4	78	3	44	0	0
205	174	429	81	146	6	75	117	11	39	206	39	146	6	75	0	0
206	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
207	115	283	53	66	3	35	58	0	12	119	0	66	3	35	0	0
208	767	1,895	352	1,507	115	1,629	2,169	338	1,430	2,238	661	1,507	115	1,629	0	0
209	85	209	39	64	3	33	51	4	15	96	12	64	3	33	0	0
210	179	442	83	202	95	1,149	1,190	218	865	1,043	90	202	95	1,149	0	0
211	0	0	0	119	11	157	191	41	145	155	82	119	11	157	0	0
212	0	0	0	52	20	254	264	52	200	213	35	52	20	254	0	0
213	83	206	38	150	5	91	165	13	103	2,935	43	150	5	91	0	0
214	132	329	60	269	12	253	464	14	316	2,152	8	269	12	253	0	0
215	94	235	43	100	9	111	136	22	78	171	35	100	9	111	0	0
216	697	1,742	317	385	20	182	277	4	21	681	16	385	20	182	0	0
217	583	1,458	263	507	21	257	398	42	146	699	141	507	21	257	0	0
218	319	798	145	245	11	122	189	15	57	362	55	245	11	122	0	0
219	51	128	23	104	6	90	122	22	78	132	55	104	6	90	0	0
220	1,503	3,756	683	743	49	544	733	75	273	1,277	141	743	49	544	0	0
221	794	1,985	360	728	26	388	616	85	318	1,783	286	728	26	388	0	0
222	93	237	41	223	7	129	222	26	144	244	94	223	7	129	0	0
223	101	258	45	53	3	23	35	0	0	98	0	53	3	23	0	0
224	131	334	58	309	8	213	441	9	300	830	27	309	8	213	0	0
225	91	232	40	48	2	21	32	0	1	88	0	48	2	21	0	0
226	101	258	45	385	40	555	683	124	491	623	211	385	40	555	0	0
227	200	510	89	147	6	70	112	7	33	230	23	147	6	70	0	0
228	203	519	89	122	6	56	88	2	15	210	8	122	6	56	0	0
229	328	837	144	983	30	534	830	165	545	896	555	983	30	534	0	0
230	964	2,461	424	888	34	453	743	61	316	1,260	211	888	34	453	0	0
231	215	548	95	136	6	63	99	4	19	228	12	136	6	63	0	0
232	456	1,162	202	494	18	250	394	48	180	634	164	494	18	250	0	0
233	771	1,964	342	818	31	415	660	75	299	1,071	258	818	31	415	0	0
234	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,105	329
235	0	0	0	0	0	0	0	0	0	0	0	0	0	0	585	14
236	0	0	0	0	0	0	0	0	0	0	0	0	0	0	488	12
237	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,101	117
238	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,651	389
239	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16,571	1,174
240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,604	186
241	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,735	265
242	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,334	566
243	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19,631	4,309
244	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,961	139

Traffic Zones	Productions								Attractions							
	HBW	HBO	HBS	NHB	Combo Trucks	Single Unit Trucks	IE PC & Single Unit Trucks	IE Combo Trucks	HBW	HBO	HBS	NHB	Combo Trucks	Single Unit Trucks	IE PC & Single Unit Trucks	IE Combo Trucks
245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,107	149
246	0	0	0	0	0	0	0	0	0	0	0	0	0	0	488	12
247	0	0	0	0	0	0	0	0	0	0	0	0	0	0	746	54
248	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,520	480
249	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21,037	4,618
250	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,216	235
251	0	0	0	0	0	0	0	0	0	0	0	0	0	0	488	12

Appendix C: Travel Demand Model Validation Sample Report

Travel Demand Model Validation Report		
Calibration Measure		Target Range / Value
Socio-Economic Data		
Persons / Household		2 - 4
Workers / Household		1 - 3
Trip Generation		
Person Trips Per Household		8.5 - 9.2
Person Trips Per Person		3 - 4
HBW Trips / Employee		< 2
Shopping Trips / Retail Employment		-
P/A Ratio Before Balancing (HBW)		0.9 - 1.1
P/A Ratio Before Balancing (HBO)		0.9 - 1.1
P/A Ratio Before Balancing (HBShop)		0.9 - 1.1
P/A Ratio Before Balancing (NHB)		0.9 - 1.1
Trip Distribution		
Average Trip Length (HBW)		15.2 - 16.8
Average Trip Length (HBO)		13.7 - 15.1
Average Trip Length (HBShop)		13.2 - 14.6
Average Trip Length (NHB)		11.2 - 12.3
Average Trip Length (Truck)		N/A
% Intrazonal Trips		< 10%
Trip Assignment		
VMT-Interstate		1,332,854
VMT-Arterials		1,301,415
VMT-Collectors		526,963
VMT-Total		3,161,232

Travel Demand Model Validation Report		
Calibration Measure	Target Range / Value	Dalton 2006 Model
VTM / Household	100.1	100.1
VTM / Person	34.0	34.0
<u>Screenlines</u>		
All Counts	+/- 13 %	-3%
Coahulla Creek	+/- 30 %	4%
Southern Railway & Louisville RR	+/- 18 %	-4%
Louisville and Nashville RR	+/- 16 %	-4%
<u>Cutlines</u>		
All Counts	+/- 12 %	-2%
North of US76	+/- 19 %	-3%
South of US76	+/- 21 %	1%
West of SR71	+/- 23 %	2%
East of SR71	+/- 29 %	-3%
Downtown Cordon	+/- 22 %	-9%
RMSE = Root Mean Squared Error (Vol)	< 30%	18%
% RMSE (0-5K)	< 100%	41%
% RMSE (5K-10K)	< 75%	16%
% RMSE (10K-15K)	< 50%	10%
% RMSE (15K-20K)	< 30%	14%
% RMSE (>30K)	< 30%	3%

APPENDIX C - Financial Summaries and Support

- 1. Estimated Federal and State Funding and Maintenance Estimates.**
- 2. Historical Projects, Funding Assumptions & Expenditures.**
- 3. Resolution Adopting 2006 as Base Year for Traffic Demand Model.**
- 4. GDMPO Staff for Development of the 2035 LRTP.**

1. Estimated Federal and State Funding and Maintenance Estimates.

From: Mote, Kyle

Sent: Tuesday, February 02, 2010 12:47 PM

To: 'Zach Montgomery'

Cc: 'Bill Allen'; Fowler, Matthew; Peevy, Phillip M.

Subject: Anticipated Federal and State project and maintenance funding estimates

Zach:

As the GDMPO continues the development of the 2035 LRTP, please note the figures below regarding the subject matter for the GDMPO's use.

Note – The Department is providing multiple approaches regarding Fed / State anticipated revenue as discussed below.

Fed / State anticipated revenue funding range-

Low end

- **\$74,750,000** – This anticipated revenue estimate methodology was calculated by dividing the total 2000 census population in the MPO by the total 2000 census population of the entire state. The result was then multiplied by the total state Obligation Authority for PE, ROW and CST costs averaged over the years 2006, 2007 & 2008. This result was then used to calculate the estimates for the years 2010-2035 with 2.5% being added each year for inflation. The results were then added together to get the total anticipated / estimated funding for the years 2010-2035.

High end

- **\$248,025,680** – This anticipated revenue estimate methodology was based on historical funding from 1999 to 2008. Using these estimates, GDOT's Office of Financial Management (OFM) extrapolated a curve/line to the year 2035. These estimates include an inflation factor of 2.5% per year. In order to calculate the total funds for 2010-2035, calculate the area under the curve from 2010-2035 or find each year's estimated funding for each year and sum up estimated funding between 2010 and 2035.

Maintenance–

Low end

- **\$36,400,000** – This anticipated maintenance estimate was calculated by dividing the state route lane miles located within the MPO by the total state route lane miles for the entire state of Georgia. The result was then multiplied by the total state Obligation Authority for maintenance costs averaged over the years 2006, 2007 & 2008. This result was then used to calculate the estimates for the years 2010-2035 with 2.5% being added each year for inflation. The results were then added together to get the total estimated funding for the years 2010-2035.

High End

- **\$39,502,293** – This anticipated maintenance estimate was based on historical funding from 1999 to 2008. Using these estimates, OFM extrapolated a curve/line to the year 2035. These estimates include an inflation factor of 2.5% per year. In order to calculate the total funds for 2010-2035, calculate the area under the curve from 2010-2035 or find each year's estimated funding for each year and sum up estimated funding between 2010 and 2035.

Please let me know if you have any questions or comments.

Thanks

KYLE MOTE

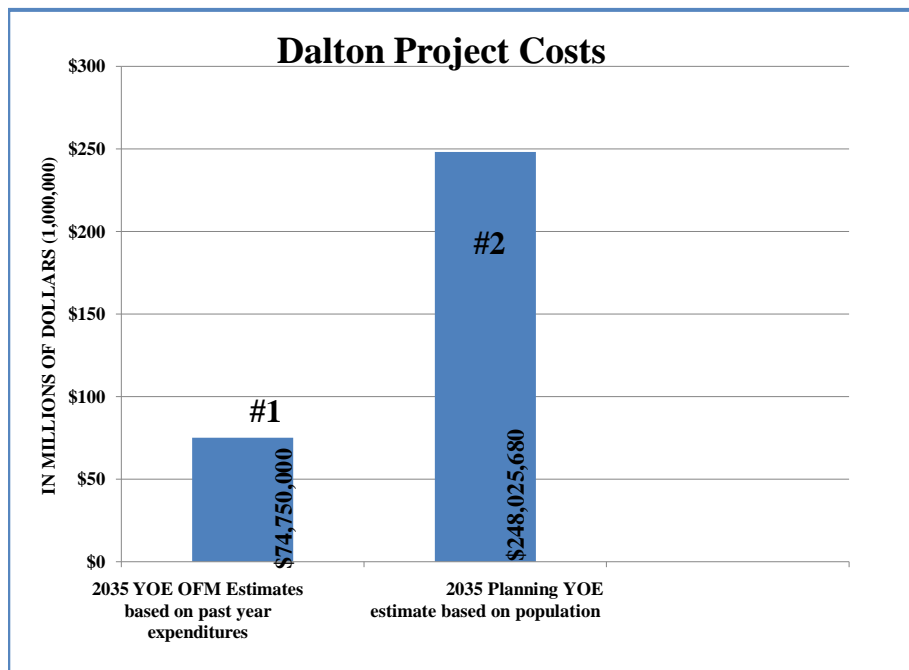
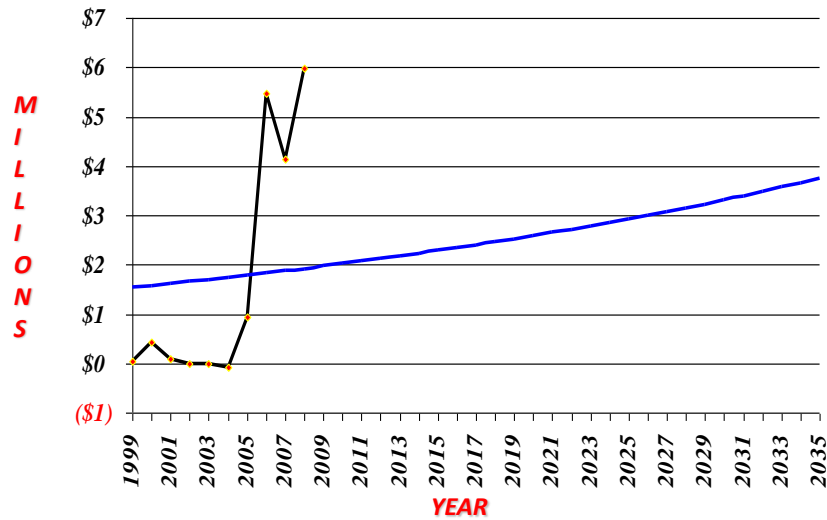
Urban Planning Engineer II
GA Dept. of Transportation, Office of Planning
One Georgia Center
600 West Peachtree St., NW
5th Floor, Office 566
Atlanta, GA 30308
Phone: 404-631-1811
Fax: 404-631-1957

APPENDIX C.

2. Historical Projects, Funding Assumptions & Expenditures.

**OFFICE OF FINANCIAL MANAGEMENT TOTAL PROJECTED
PROGRAMMING EXPENDITURES FOR DALTON 1999-2035**

(INCLUDES PE, ROW, & CST MONEY)



**LOCAL FINANCIAL DATA PLACED HERE WHEN RECEIVED FROM
WHITFIELD COUNTY FINANCE DIRECTOR**

APPENDIX C.

3. Resolution Adopting 2006 as Base Year for Traffic Demand Model.

Greater Dalton Metropolitan Planning Organization (GDMPO)

GDMPO Policy Committee RESOLUTION

Adoption of the Base Year (2006) travel demand model

WHEREAS, the Governor of Georgia designated the GDMPO for the Greater Dalton/Whitfield County Urbanized Area; and

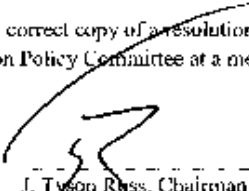
WHEREAS, it is necessary to project the long term population growth patterns and resulting traffic volumes using existing traffic counts for 2006 for the purpose of calibrating with findings for the traffic model for the year 2035.

NOW, THEREFORE BE IT RESOLVED that the GDMPO Policy Committee approves the endorsement of the base year traffic model for the GDMPO region as developed by the GDMPO and the Georgia Department of Transportation as it was presented before the GDMPO Policy Committee on March 22, 2010.

BE IT FURTHER RESOLVED that the GDMPO Policy Committee finds that the requirements of the laws and regulations regarding urban transportation planning have been met and authorizes its chairman to execute a certification of this fact.

CERTIFICATION

Thereby certify that the above is a true and correct copy of a resolution adopted by the Greater Dalton Metropolitan Planning Organization Policy Committee at a meeting held on March 22, 2010.



J. Tyson Ross, Chairman
GDMPO Policy Committee

APPENDIX C.

4. GDMPO & Whitfield County Staff for Development of the 2035 LRTP.

2010 Greater Dalton Metropolitan Planning Organization Staff

Zach Montgomery	GDMPO Transportation Planner
Bill Allen	Transportation Planning Consultant
Robert McLeod	Whitfield County Administrator
Kent Benson	Whitfield County Engineer
Kevin Herrit	City/County Planner
Jess Hansen	GIS Director
Jean Garland	City/County Assistant Planner