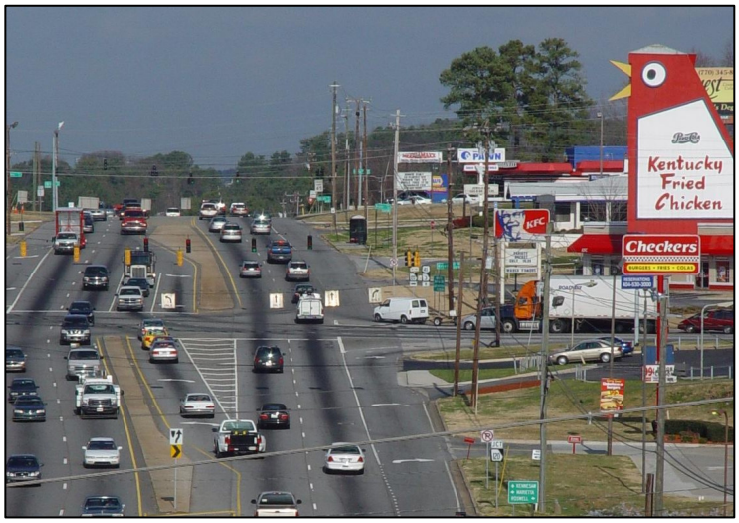
Cobb County...Expect the Best!

Cobb County 2030 Comprehensive Transportation Plan

Partners In Progress

Plan Summary

February 27, 2008



Cobb County Department of Transportation

Carter::Burgess

Cobb County…Expect the Best!

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Cobb County 2030 Comprehensive Transportation Plan

Plan Summary

February 27, 2008

Prepared for:

Cobb County Board of Commissioners

and

Cities of Acworth, Austell, Kennesaw, Marietta, Powder Springs, and Smyrna

Under the Direction of:

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Cobb County 2030 Comprehensive Transportation Plan

Plan Summary

Record of Official Action on Final Report

Cobb County	**Accepted by the Board of Commissioners on February 26, 2008**
City of Acworth	**Approved by the Board of Aldermen on February 21, 2008**
City of Austell	**Approved by the City Council on February 4, 2008**
City of Kennesaw	**Approved by the City Council on March 17, 2008**
City of Marietta	**TBD**
City of Powder Springs	**Adopted by the City Council on February 4, 2008**
City of Smyrna	**TBD**

PLAN SUMMARY

Cobb County is a major center for residential, commercial, and industrial growth within the Metropolitan Atlanta region, as well as an important through route for tourism, freight, and business travel—all of which taxes the county's transportation network capacity. The Comprehensive Transportation Plan (CTP) was prepared to serve as the blueprint for all transportation investments—automobile, transit, freight, pedestrian, and bicycle—by Cobb County and its municipalities for the next 25 years. A long range, multimodal, comprehensive plan, the CTP integrally links land use and transportation within the County and its incorporated areas to efficiently and effectively address traffic congestion and safety concerns on the transportation network through 2030.

Plan Development

Commencing in early spring of 2006, Cobb County and its six partner cities of Acworth, Austell, Kennesaw, Marietta, Powder Springs, and Smyrna undertook a comprehensive planning study of the county's transportation needs and challenges. The CTP systematically reviewed Cobb's transportation program in the context of local land use, economic development, and public expectations and priorities. Preparation of the transportation element of city and county comprehensive plans as required by the State were supported by the CTP consultant team. The various transportation modes were simultaneously analyzed in more detail, both individually and as part of a countywide CTP. Financial considerations, social and environmental impacts, implementation feasibility and other factors were considered in developing a final list of recommended projects, programs and policies to ensure the efficient movement of people and goods on the transportation system over the next 25 years.

The participation of all stakeholders—public and private, elected and appointed officials, representatives of business, faith and community-based groups, representatives of minority, disadvantaged and non-English-speaking populations, and the public at-large—was integral to ensuring that final recommendations reflected shared priorities and a unified transportation strategy. From the outset, public outreach and participation was a critical, ongoing element of the study.

Community Vision, Goals, and Implementation Strategies

The goals, objectives, strategies, and performance measures established for the CTP were designed to meet the county's multimodal transportation needs in a sustainable manner while enhancing economic development, the environment, and citizens' quality of life. The vision statement created through community meetings of Cobb County residents, committee members, and DOT staff reads:

Cobb County's transportation system will be a safe and efficient network providing multimodal service to coordinated land uses throughout the county, including to green space and "live-work-shop-play" communities.

In accordance with the community vision and following input from committee members and Cobb residents, four primary goals were identified and approved for the CTP:

- Improve the overall performance and safety of the transportation system.
- Develop a multimodal system in which each mode is optimized by providing the citizens of Cobb County with attractive and realistic travel alternatives.
- Develop a transportation system that is appropriate to the land uses it serves.
- Ensure that adequate financial resources are available to properly maintain the transportation system and to grow and adapt the system in keeping with changes in land uses.

A number of more specific objectives are associated with each goal, and many are applicable to more than one goal. Strategies provide a framework for implementation of the goals and objectives, while performance measures allow quantification of the transportation goals, thereby giving a sense of the extent to which the program improves the system. Often applicable to multiple goals and objectives, the CTP performance measures include safety, mobility (congestion), multimodal transportation, accessibility, system preservation, and environment and quality of life. Together the goals, objectives, and associated strategies and performance measures create a means of identifying and monitoring county transportation system performance and needs.

Planning Context and Trends

Addressing transportation needs involves understanding area growth patterns and distribution. Overall, Cobb County can be characterized as having a diverse, young and economically stable population. The county's population is expected to grow by over 21 percent between 2000 and 2030, with the greatest population growth projected to occur in the northwest (nearly 50 percent increase). Emerging and existing activity centers in the county include the Cumberland Mall area, the Town Center area, Delk Road, and the municipalities. Cobb County ranks fourth in the state for the total number of jobs, and employment is anticipated to grow 24 percent between 2000 and 2030. In 2000, 60 percent of Cobb's residents worked within the county, and 55 percent of workers in Cobb were also residents. The top three destinations for Cobb residents commuting outside the county to work were Fulton, Cherokee, and Paulding counties, while the top three counties of origin for Cobb workers commuting into the county were Fulton, DeKalb and Gwinnett.

Most Cobb commuters drive alone for work trips in the county (81 percent) as compared to carpooling (12 percent) and transit (1 percent). Between 1990 and 2000, Cobb's average commute travel time grew from 26 minutes to 31 minutes. During this period, the proportion of commuters with travel times less than 30 minutes decreased while those exceeding 30 minutes increased. The greatest percentage of commuters (27 percent) travel to work in 30 to 44 minutes, but the greatest proportional increase was seen in commutes over 45 minutes, which increased from 19 to 25 percent. The portion of the county with the largest employment base and a broad level of access to commute mode options (the southeast) experienced the shortest commute times, while the portion with the smallest employment base and fewer commute alternatives (the southwest) experienced the longest commute times.

Travel Demand Modeling

Travel demand models are an important tool for the identification of transportation needs and evaluation of potential solutions addressing those needs. Travel demand models forecast future vehicular trips and then distribute them countywide based on household and employment growth. The Cobb County travel demand model was adapted specifically for this CTP study from ARC's 20-county metropolitan Atlanta regional model to provide a more precise representation of the highway and transit networks and associated trips.

Future needs were analyzed by considering the limitations of the base 2030 Existing plus Committed (E+C) transportation system, which includes only existing transportation facilities plus near-term projects with committed funding. The E+C system served as the comparative base against which three transportation scenarios of improvements were analyzed, along with the final collection of needs-based projects and improvements. Scenario One considered a limited set of roadway and transit improvements to the E+C scenario. Scenario Two was designed to be a very aggressive plan of transit expansion by adding all new transit projects considered for Cobb County to Scenario One. Scenario Three included the largest set of improvement projects, adding additional roadway improvements to Scenario Two projects to create an "enriched roadway improvement scenario." Utilizing specific performance measures, including Travel Time Index, percent of roadway miles exhibiting a number of hours of congestion, annual congestion cost and transit mode share, progressive and significant improvements in transportation system performance were observed from the initial 2030 E+C scenario to Scenario Three.

Existing Conditions and Future Needs

A vast array of quantitative data, qualitative input, and planning tools such as GIS and the travel demand model were used to undertake analysis of existing conditions and future transportation needs in Cobb County. Numerous local, regional, state and federal sources provided transportation data that included roadway characteristics, accident records, bridge inventory data, pavement conditions, traffic counts, freight movement, railroad information, bicycle and pedestrian facilities, public transportation facility and service characteristics, and airport information. Challenges are present in each mode and no single approach will provide the answer to all of Cobb's transportation needs, but potential solutions are abundant.

Roadways

Cobb County has 2,572 centerline miles of existing roadway network, which is functionally classified based on the roadway's accessibility and mobility. Interstates provide the greatest mobility but least accessibility while local roads offer extensive accessibility but limited mobility. Additionally, Interstates account for the fewest miles of roadway in the county (less than 2 percent) but have the highest average traffic volumes (sometimes exceeding 170,000 vehicles per day). In contrast, local streets comprise 84 percent of the total roadway network but carry an average of just over 1,000 vehicles per day.

Standard measures of roadway congestion include the volume to capacity (v/c) ratio, level of service (LOS) and percent overcapacity. In 2005, 75 percent of the county's streets and roadways function at acceptable levels of service on a daily basis, while 19 percent experience serious delays and 6 percent experience breakdowns of vehicular flow due to daily volumes in excess of capacity. Without significant improvement, the amount of roadways experiencing acceptable levels of daily service will drop to 42 percent in 2030. The majority of roadways will experience unacceptable daily traffic conditions, with serious delays on 32 percent of the network and complete breakdown of traffic flow rising to 27 percent, an amount 4.5 times greater than 2005. Based on the model results, the most significant capacity-based roadway problem in Cobb County is Interstate congestion, particularly on I-75. The existing Interstate network already experiences volumes exceeding its capacity, and continued development in Cobb and neighboring counties will generate additional volume over the next 25 years. The entire lengths of I-75, I-575 and I-20 and a large portion of I-285 in Cobb are all forecast to have volumes well in excess of their capacities in 2030.

Assessing the safety of the roadway system is a critical component of a transportation plan, and incident statistics can help identify key locations where safety improvements would be most beneficial. Between 2004 and 2006, a total of 54,048 traffic incidents were reported in unincorporated Cobb County, involving a total of 106,892 vehicles and resulting in 151 fatalities and 15,888 injuries. Due to the large volume of traffic on Cobb's Interstates, these facilities tend to have the highest number of incidents, though not necessarily the highest rate (obtained by dividing number of incidents by the number of facility users). Collisions often occur in the vicinity of highway entrances and exits due to vehicle weaving movements, or result from rear-end "fender benders" during congested times of day. System-to-system interchanges are also particularly dangerous for motorists. Crashes on surface routes in unincorporated Cobb County tended to occur in the vicinity of activity centers, and along certain key arterial corridors between activity centers. Access management is a primary safety-related concern along congested arterials.

Bridges

Maintaining the bridge network is important for safety as well as to avoid delays created by diversions when bridges are closed or have weight limit postings. The Federal Highway Administration (FHWA) established the National Bridge Inventory (NBI) to monitor the condition of bridges on public roads. NBI standards require that all bridges carrying public roads be inspected and evaluated for safety biennially, receiving a sufficiency rating (on a scale of 0 to 100) indicative of its fitness to remain in service. Cobb County has a total of 499 bridges, of which 205 are roadway bridges locally owned and maintained by Cobb County (another 7 serve railways, bicycles and pedestrians). Ten bridges (5 percent) received a sufficiency rating less than 50, potentially signifying a need for near-term replacement by GDOT standards. Another 122 bridges (58 percent) were in Very Good or Excellent condition, while the remainder had minor deterioration but were structurally sound. The median sufficiency rating of all locally-owned bridges was 83.9. In 2006, approximately 314 (63 percent) of Cobb's 499 bridges were over 25 years old and 125 (25 percent) were over 50 years old.

Freight

According to the Atlanta Regional Commission's (ARC's) *Regional Freight Mobility Plan* needs assessment, 551 million tons of freight moved through the 20-county Atlanta region in 2005, with approximately 87 percent traveling by truck, 12 percent carried on railways, and the small remainder transported via air cargo. Approximately 9.1 percent of the region's freight traveled through Cobb County. Through multiple modes, 50.8 million tons of freight was transported to, from, or through Cobb in 2005, a number expected to increase 88 percent by 2030. On I-75, Cobb's major freight corridor, trucks make up 12 percent of all vehicles.

Specific routes are designated for oversized trucks, and they include all Interstates, federally identified "National Network Truck Routes" and state identified "STAA Access Routes." Designated truck routes in Cobb include Interstates 75, 575, 285 and 20, as well as CH James Parkway (SR 6), Veterans Memorial Highway (US 78/US 278), Atlanta Road (SR 3), and Barrett Parkway. Additionally, all Georgia State Highways are considered de facto truck routes given their generous geometric design standards and purpose of aiding regional mobility. Additional local alternatives identified as part of ARC's Atlanta Regional Strategic Freight Highway Subsystem "grid" include Cobb Parkway (US 41) and Powder Springs Road.

Both crashes and insufficient capacity can obstruct efficient goods movement, and increased commercial activity resulting from overall area growth forces excessive truck/passenger vehicle interactions. A majority of truck routes in Cobb are expected to experience future congestion and currently experience crash rates higher than comparable facilities with lower truck volumes. Approximately one-third of crashes involving commercial vehicles occur at intersections. In Cobb County, key corridors for truck-related safety or bottleneck improvements include SR 5, Cobb Parkway, CH James Parkway at the Austell Intermodal Yard and the Marietta area.

Cobb County has two Class I rail freight operators, CSX Transportation and Norfolk Southern Corporation, and one shortline, Georgia Northeastern Railroad (GNRR). CSX has the greatest rail presence with an estimated 60 to 100 trains per day traveling north-south through the county on its line, with Norfolk Southern close behind on its southern east-west line. Within the county, there are 164 railroad crossings, including 120 at-grade crossings. From 2002 through 2006, 26 crashes, resulting in 1 injury, occurred at at-grade crossings. The two highest crash locations were both in Marietta—at Waverly Way (5 crashes) and Whitlock Avenue (4 crashes), while three locations in Austell—at Spring Street, Powder Springs Road and SR 5—experienced a combined 4 crashes.

In addition to several private facilities serving specific businesses, two intermodal facilties are located in Cobb. Norfolk Southern's Whitaker Intermodal Terminal in Austell is the largest facility of its kind east of the Mississippi River and is completely dedicated to Atlanta region pick-up and delivery service. The Elizabeth Yard just north of Marietta is much smaller, servicing a handful of local industrial businesses and providing the southern terminus of the GNRR shortline.

Access Management

As development increases along a roadway, effective techniques should be implemented manage street access to increase public safety, extend the life of the roadway, reduce congestion, support alternative modes of transportation, and improve roadway character. With the absence of access management, roadways can deteriorate functionally and aesthetically, as well as affect social, economic, physical, and environmental characteristics. Though especially important for roadways classified as arterials, access management techniques can be applied throughout the roadway network. To maintain mobility and safety, Cobb County has a number of design policies governing access management. These policies provide guidance on functional classification designation, sight distance requirements, turning radii, driveway location and spacing, median openings, and authority for further restrictions. As the level of Cobb County traffic intensifies in the future, access management will be an increasingly important tool to preserve countywide mobility.

Intelligent Transportation Systems

The movement of people, goods, and vehicles on the nation's roadways is critically dependent on how effectively that system is managed and operated. As transportation funding dollars dwindle, the need to fully utilize the current infrastructure increases. One way to use existing infrastructure more efficiently is to implement Intelligent Transportation Systems (ITS), which provides a wide range of tools utilizing modern technology to make transportation systems safer and more efficient. Conforming to the National ITS Architecture and Standards, ARC has adopted the Atlanta Regional ITS Architecture, which details a long-range vision and system integration requirements for ITS deployment throughout the Atlanta Region.

An extensive system of closed circuit television (CCTV) cameras is used to monitor road conditions for the purposes of signal control and incident management on Interstates and arterials. Cobb County owns 52 cameras used for traffic control, in addition to GDOT owned cameras in the county. Approximately 60 percent of Cobb's 664 signalized intersections are linked as coordinated signal groups using fiber optic or twisted-pair cables. Additionally, 80 percent of the traffic signals and all of the CCTV devices are connected to the County's Traffic Control Center via fiber optic cable. Fiber optic cables are used along Barrett Parkway, Cobb Parkway, Roswell Road, Windy Hill Road, Spring Road, Cumberland Boulevard, Atlanta Road, Cumberland Parkway, Shallowford Road, and Johnson Ferry Road. Cobb County owns 32 miles of underground fiber optics and 85 miles of aerial fiber optics, for a total of 117 miles of fiber optic cable. Additional fiber optic cable in the county is owned by GDOT.

ITS' potential to improve mobility and safety goes beyond the technologies listed above. FHWA's National ITS Architecture identifies over 60 specific ITS functions. Some, such as tracking the location of transit vehicles, coordinating information on parking garages, and electronic clearance of commercial vehicles, can be implemented in Cobb County. Future conditions, both fiscal and physical, will require the use of an assortment of ITS improvements throughout the transportation system.

Transportation Demand Management

Travel Demand Management (TDM) refers to a series of strategies that increase transportation system efficiency by lessening the number of vehicles using the transportation network, particularly roadways that are already strained beyond their capacity. TDM tactics include programs to increase alternative mode usage, employer-based programs such as flex-time or telecommuting, carpools, vanpools, and economic incentives. TDM strategies have been implemented in several Cobb County locations, and include the Cumberland CID "Commuter Club" Transportation Management Association (TMA), Town Center CID's "Cobb Rides" program, and various circulator shuttles in areas with a high density of employment or commercial land uses.

Transit

The backbone of Cobb's public transportation system, Cobb Community Transit (CCT) has grown to 14 local and 5 express routes operated by 54 buses over 398 route miles within the county. CCT also provides a significant paratransit service throughout much of the county, and numerous other public and private transportation providers also serve specific transit market segments within the county. In 2005, approximately 15,000 total daily passenger boardings used CCT. CTP travel demand model estimates indicate an almost one-third increase to over 22,000 daily transit trips in 2030. There are currently seven park and ride lots at strategic locations throughout the county including Cobb Civic Center, George Busbee Parkway, South Marietta Parkway, Johnson Ferry Road, and Acworth. CCT also has transfer connections at several MARTA heavy rail stations on the North and West lines.

Pedestrian and Bicycle Facilities

Cobb County is in the process of developing an increasingly wide-ranging alternative transportation network, formed by a system of sidewalks, bicycle lanes, and multi use trails (greenways) connecting major areas of the county. This network accommodates pedestrians and bicyclists by providing safe and attractive transportation alternatives to automobile travel, adding connectivity between origins and destinations, and providing better access to regional activity centers. As Cobb County continues to urbanize, continued development of the bicycle and pedestrian network will support increased demand generated from higher-density land uses.

Cobb County's existing multi use trail system includes the Silver Comet and Chattahoochee River National Recreation Area Trails. Further development of the system involves the expansion of bicycle, pedestrian, and multi use trail facilities to provide better connectivity to activity centers and transit stations. Of the 2,535 centerline miles of roadway in Cobb County, only 18 percent have sidewalks. Significant gaps in the vicinity of schools, community centers, and major activity centers will require continued attention under County and City improvement programs. On a countywide basis, the majority of Cobb's roadways are amenable to bicycling; however, it should be noted that functional classification and vehicular volume make a significant difference in the probability of a road being suitable for bicyclists.

Between 2004 and 2006, there were 219 incidents involving pedestrians hit by motor vehicles in unincorporated Cobb County. As a result of these incidents, there were 26 fatalities and an additional 170 injuries. In terms of crash frequency, 9 routes account for 29 percent (63 of 219) of the crashes in unincorporated Cobb and 38 percent (10 of 26) of its fatalities. Because bicycles are typically not insured, crashes involving bicycles are rarely reported to the police or Department of Transportation unless they involve serious personal injury or motor vehicle damage. According to police reports, 118 bicycle incidents occurred between 2004 and 2006, 2 of which were fatal. An additional 88 incidents involved injuries, most likely to the bicyclists.

Airport

Cobb County Airport - McCollum Field is one of eight Federal Aviation Administration designated reliever airports in the Atlanta area offering general aviation aircraft an alternative destination field to Hartsfield-Jackson Atlanta International Airport. The airport is owned by Cobb County and maintained by the Cobb County Department of Transportation. Located on nearly 320 acres of land, McCollum Field has one 6,305-foot runway and a control tower. It is categorized as a Level III Airport within the Georgia Aviation System Plan Update, which classifies it as a Business Airport of Regional Impact. With an average of 350 takeoffs and landings each day, it is the third most trafficked General Aviation airport in Georgia. The airport has over 300 aircraft, and operations split 50/50 between single engine and multi-engine. No major commercial airlines serve the airport and only 1 percent of operations are air taxi, but it does have two major fixed base operators and two flight schools. The airport is mostly limited to general aviation activity and does not provide aviation services to customers in the commercial service or cargo industry.

Over the next 15 years, McCollum Field is anticipated to experience more business related traffic as well as a significant increase in demand for commuter jet service. Forecasts also project increased helicopter service to Hartsfield-Jackson and other sites. Cobb DOT plans to construct a taxiway bridge over McCollum Parkway to the Air National Guard property to the north of the airport. It appears unlikely that large passenger airline jets or freight carrier jets will use the airport, which would require substantial extensions to the runway, taxiways, aprons and hangar services and large land purchases. Increased services will require an increase in staffing for the facility, which is currently below standards for similar airports.

Recommendations

A comprehensive, multimodal "Needs Based Plan" was developed from analysis of the Scenario Three model network and consideration of input received through extensive public outreach and stakeholder involvement. The Plan provides a list of improvements, and associated policy recommendations, for responding to the identified mobility needs in Cobb County through 2030. The following subsections summarize system-wide improvements for implementation over the lifetime of the CTP, and serve to guide Cobb County towards a safe, efficient, multimodal, quality-of-life enhancing, and cost-effective transportation system. The timing of specific implementation actions and project priorities will be finalized by the County and cities, in coordination with state and regional agencies as appropriate, based on available funding.

Roadways

The roadway Needs Based Plan includes all projects intended to improve the functioning of the roadway network via capacity widenings (lane additions), new roadways or extensions/connectors, intersection signal and/or geometric operational improvements, intersection grade separations, new or upgraded interchanges, ITS, and access management. Potential roadway improvement options were individually evaluated and assigned a score based upon their ability to satisfy the following criteria:

- Capacity (percent volume over capacity, Travel Time Index (TTI), daily delay)
- Safety (crash severity index)
- Classification within Cobb DOT's Major Thoroughfare Plan
- Implementation cost relative to its score in terms of capacity/congestion relief, safety, and enhancing the roadway network

A total of 128 roadway projects, at a cost of $4,504,028,866, are included in the Needs Based Plan. The following is a breakdown by type of improvement (Note: Project totals indicated below sum to greater than 128 as some projects include two types of improvement, e.g., widening and major intersection improvements.):

- Capacity (widenings and new location) = 55 projects, totaling $3,228,056,740
- Major intersection/interchange improvements (grade separation, realignment, new interchange) = 28 projects, totaling $798,344,338
- Operational improvements (turn lanes, signalization upgrades, access management, shoulder widening, corridor improvements) = 61 projects, totaling $477,627,788

By jurisdictional location, the recommended roadway projects include 7 in Acworth, 4 in Austell, 8 in Kennesaw, 18 in Marietta, 8 in Powder Springs, 20 in Smyrna, and 114 in unincorporated Cobb.

Transit

Transit projects were evaluated based on estimated ridership; population, employment, and environmental justice populations served; total operating and capital costs; and annual costs per rider. Recommended transit improvements total 17 projects and $1,132,802,542 in capital and operations costs. By service type, the recommended transit projects include:

- US 41 high capacity transit (feasibility study) = 1
- Express bus service = 5
- Limited stop bus service = 5
- Local bus service = 3
- Circulator shuttle service = 3

Additionally, in specific regard to proposed high capacity transit along US 41, the positive findings of the cursory feasibility study performed as part of the CTP and from other related studies suggests premium transit service should continue being considered in the US 41/I-75 corridor. Both a short-term and long-term approach to implementing transit along this corridor is recommended.

Pedestrian and Multi Use Trail Facilities

As with roadway and transit projects, a needs list of pedestrian and multi use trail projects was developed based on a various sources of technical and non-technical input. More specific sources of input pertaining to pedestrian and multi use trail projects included:

- Safety data (pedestrian facilities)
- Relationship with key corridors and Thoroughfare Plan (pedestrian facilities)
- Identifying gaps in existing sidewalk coverage (pedestrian facilities) and trail network (multi use trails) through GIS analyses
- Past studies, including LCIs
- Proximity to schools, parks, and other pedestrian traffic generators
- Professional assessment and field observations

The evaluation of identified pedestrian projects relied primarily on the same criteria used in project identification. Given the significant number of Major Thoroughfare Plan roadways lacking complete pedestrian facilities, specific pedestrian improvements included in the needs list addressed one or more of several key "threshold" factors: key corridor safety and connectivity, specific project recommendations resulting from previous studies, and quarter-mile buffers around schools and activity centers. Multi use trail projects were individually evaluated for inclusion in the needs list based upon connections to existing trails, connections with other proposed projects, whether required right of way falls within proposed roadway widening, and service to defined activity center area.

In total, 81 pedestrian improvements (sidewalk construction, crosswalk and signalization improvements), totaling approximately 41 linear miles, were recommended at a cost of $38,603,000. Of these, 34 were safety and key corridor projects ($18,103,000), 11 addressed activity center connectivity ($7,330,000), and 36 were within a school/activity center buffer ($13,170,000). An additional 44 multi use trail projects, for approximately 168 linear miles, were recommended, totaling $168,856,000. Considering the level of detail addressed in this CTP, pedestrian and multi use trail projects are presented as guidance and recommendations only. More specific decisions pertaining to inclusion and prioritization should be addressed in further planning efforts.

Policies and Procedures

In addition to specific project recommendations, various policies and procedures associated with roadways, access management, freight truck routes, travel demand management (TDM) and bicycle, pedestrian and multi use trail facilities were also recommended. Roadway policies addressed topics ranging from ITS technology infrastructure and access management to "complete streets" and bicycle and pedestrian accommodation. In relation to TDMs, suggestions included expansion and development of Transportation Management Associations (TMAs), requiring TDM plans for new large land developments and confirming the criticality of CIDs (Community Improvement Districts) to TDM implementation.

Strategies and policies suggested to more effectively implement access management improvements along Cobb County roadways included:

- Continue adherence to development standards.
- Form an access review committee.
- Complete corridor specific access management plans, beginning with arterials.
- Require access management plans as part of the concept development process for arterial and major collector widenings and upgrades.
- Incorporate Access Management Overlay Districts (AMODs) within the zoning ordinance.
- Select appropriate access management applications for implementation based upon functional classification typology.

In planning improvements for freight mobility, recommended policies and strategies relate to four primary categories: land use compatibility, operations and design, maintenance, and intermodal facilities. Several representative suggestions include:

- Ensure that industrial and commercial areas have good freight access via routes designed to accommodate oversized vehicles.
- Preserve highly freight-accessible land for industrial and commercial development.
- Improve roadway geometry (turning radii, lane width) where necessary to accommodate large trucks and decrease danger to smaller vehicles on the same facilities.
- Maintain high quality pavement and bridge conditions so as not to restrict truck movement and mobility.
- Ensure that at-grade rail crossings are not degraded over time.
- Provide effective intermodal facility access and egress.

Additionally, specific bicycle, pedestrian and trail policies were also proposed. Because development of a network for bicycles and pedestrians is more cost effective when done in conjunction with other projects, the following policies to ensure inclusion of bicycle and pedestrian facilities in future roadway and land development projects were recommended:

- Strategically target investments for bicycle and pedestrian projects to those corridors and areas best suited to mode shift.
- Incorporate the "complete streets" concept into planning, design and construction of all future roadways to ensure bicycle and pedestrian accommodation are included where ample right-of-way is available.
- Modify guidelines or standards that recommend appropriate crossing facilities and treatments for pathways as they cross at uncontrolled locations to include signage and striping.
- Develop and adopt protocol for roadway re-striping to better accommodate bicyclists on roadway segments where excess pavement width is available.
- Update the zoning code to require that certain residential, commercial and mixed use land development projects include sidewalks, benches, and other amenities.

System Performance Results

System performance measures provide a comparison of the impacts afforded from the improvements according to various levels of investment. The travel demand model was used to compute system performance under the two base scenarios (existing 2005 and 2030 E+C), as well as with the package of improvements included within the Needs Based Plan. The table below summarizes the performance of the transportation system in Cobb County with respect to the following measures: Travel Time Index, percent of model roadway miles exhibiting a number of hours of congestion, annual congestion cost, and transit mode share.

System Performance Results

Performance Measure	Base Scenarios		Needs Based Plan
	2005	2030 E+C	
Travel Time Index	1.43	1.73	1.55
>6 Hrs of Congestion (% of Lane-Miles)	1%	5%	2%
2-6 Hrs of Congestion (% of Lane-Miles)	18%	27%	20%
<2 Hrs of Congestion (% of Lane-Miles)	81%	68%	77%
Annual Congestion Cost (x $1,000,000)	$870.1	$1,908	$1,515
Transit Mode Share	0.6%	0.7%	1.2%

Supplemental Analyses

Two, more detailed analyses related to transportation improvements within specific portions of the study area were undertaken as supplements to the CTP process. The first involved assessing the impact of growth in western Cobb and eastern Paulding on the transportation system, particularly roadways. The second analysis assessed the relative merit of introducing a specific premium transit option along the US 41/I-75 corridor. Respective work efforts and results are summarized in the following paragraphs.

Cobb/Paulding Transportation Working Group

Growth in western Cobb and eastern Paulding counties has created transportation facility demands that cross jurisdictional boundaries. Increasing residential development in Paulding County, partially

fueled by significant employment growth in Cobb, is causing congestion on east-west transportation corridors in the western half of Cobb County. The backbone of the Cobb/Paulding study area's transportation network is composed of several long corridors, most notably SR 120/Whitlock Avenue, Macland Road and Mars Hill Road/Lost Mountain Road, which must satisfy many different travel patterns and experience the lion's share of the area's congestion. Furthermore, alternative routes for the Marietta area are restricted by Kennesaw Mountain and the National Battlefield.

The purpose of the Cobb/Paulding Transportation Working Group (CPWG) was to study the interaction between transportation systems in western Cobb and eastern Paulding counties to address their mutual challenges. The aim of the effort was for CPWG members to work together to develop transportation improvements within the Cobb/Paulding study area that could be mutually supported and implemented. The regional travel demand model was used to evaluate the impact of various proposed improvement alternatives on the transportation network, with additional effort focused within more narrowly defined subareas of the broader CPWG study area, identified as the "Central Cobb Area" and "Marietta Loop Area."

In conclusion, the CPWG members recommended over a dozen roadway capacity and operational projects within the study area for inclusion within the CTP recommendations, many of which serve to direct traffic originating in Paulding and West Cobb towards I-75 and I-20 via paths away from Marietta Square/Whitlock Avenue. Additional recommendations endorsed by the group related to increased limited stop and/or express transit service within the area along several proposed corridors. Consensus was not reached on a supportable proposed solution for one key transportation corridor within the area: SR 120/Whitlock Avenue west of the Marietta Loop through the National Battlefield.

US 41/I-75 Corridor Light Rail Transit

A separate model run was conducted to assess the feasibility of a high capacity transit service—Light Rail Transit (LRT)—along the US 41/I-75 corridor. The test project alignment ran generally from the Town Center area to the Arts Center MARTA station in Midtown Atlanta, and included connections to MARTA heavy rail line, future premium transit service on I-285 connecting to Perimeter Center, the City of Atlanta's Beltline transit concept, and GDOT's proposed Athens to Atlanta line. Feeder bus service was also assumed. This concept was previously considered in GRTA's Northwest Connectivity Study (NWCS) and is currently being studied by the Transit Planning Board (TPB). The purpose of this effort was to quantitatively assess the relative merits of the current GRTA/GDOT I-75/575 HOV/TOL/BRT proposal versus an alternative proposal of LRT service along US 41/I-75 connecting KSU/Town Center to Midtown and/or Downtown Atlanta. One assumption of the analysis was that implementation of new LRT service will spur land development activity of a more intense level along the US 41 corridor.

The positive findings of this cursory feasibility study, in combination with findings from other related studies, suggests premium transit service should continue being considered in the US 41/I-75 corridor. Both a short-term and long-term approach to implementing transit along this corridor is recommended. At a minimum, and in the short-term, efforts to preserve adequate rights of way, implement ITS improvements, and adopt transit supportive land use policies are recommended. In

terms of longer-term implementation of premium transit service, Cobb should continue its active role in advocating improved and expanded regional transit services, which could include LRT along US 41 and I-75.

Financial Analysis

Implementation of the entire package of needs projects would require significant financial investment. The following summarizes projected funding availability into the future, various possible future funding scenarios, and an analysis of the level to which the Needs Plan can be accomplished within those funding parameters.

The total cost of the proposed Needs Based Plan, escalated for inflation, is approximately $5,844,291,000 over the CTP's 23-year lifespan. Project costs were escalated to the CTP midpoint year (12 years) to account for inflation, assuming that one-half of the total project costs would occur in each half of the plan period (2007 to 2030).

Escalated Cost of Recommended Improvements in Needs Based Plan

Project Type	Needs Based Plan Cost
Roadways	$4,504,029,000
Transit (Capital and Operating)	$1,132,803,000
Multi Use Trails	$168,856,000
Pedestrian	$38,603,000
Total	$5,844,291,000

Recent funding levels offer insight into the estimated amount of funding likely to be available into the future, thereby facilitating development of a financially realistic program of projects offering the best potential for full implementation. The Atlanta Regional Commission's (ARC) current Envision 6 2030 Regional Transportation Plan (RTP) and 2008-2013 Transportation Improvement Program (TIP), together with a variety of federal, state and local sources, were researched to estimate and project available funding. Available funding levels were calculated based on an average annual figure determined from review of the 2008-2013 TIP. Although a somewhat conservative approach, the variability associated with funding levels, particularly federal sources, requires a cautious approach.

Three alternative funding scenarios were developed in order to understand the implications associated with various, possible funding arrangements. The three scenarios include the base condition, a scenario in which Cobb's voter-approved SPLOST is continued to 2030, as well as a third scenario which evaluates the implications of limited extensions of the SPLOST combined with a potential new revenue source.

Funding Scenario 1 – Base Condition

This scenario assumes no new funding sources and relies upon the existing funding sources as currently approved. Over the 23-year duration of the CTP (horizon year of 2030), the approximate amount of available federal, state, and local funds under Funding Scenario 1 is **$894,755,000.** The amount of the Needs Based Plan that can be funded, assuming current funding levels and programs continue to the horizon year 2030, is presented below.

Funding Balance to 2030 – Base Condition (Funding Scenario 1)

Estimated 2030 Available Funds		**$894,755,000**
Needs Based Plan Cost		
Roadways	$4,504,029,000	
Multi Use Trails	$168,856,000	
Pedestrian	$38,603,000	
Needs Based Plan Total Cost		$4,711,488,000
Deficit		($3,816,733,000)

Funding Scenario 1 results in a shortfall of approximately **$3,816,733,000** ($894,755,000 – $4,711,488,000) between projected available funding (assuming current funding sources) and the total cost of the Needs Based Plan. Thus, under Funding Scenario 1, only 19 percent of the Needs Based Plan improvements for roadway, multi use trail and pedestrian facilities could be implemented. Under this scenario, no funding would be available for allocation to CTP off-system roadways, transit, multi use trails, or pedestrian projects.

Funding Scenario 2 – Continuous Extension of SPLOST to 2030

Another possible funding scenario was developed that calculates future available revenue should Cobb County voters decide to continuously extend the periodic SPLOST to the CTP horizon year of 2030 instead of expiring in 2011. This scenario recognizes the need for voter approval via a referendum and also assumes the current rate structure continues.

Over the 23-year duration of the CTP (2030 horizon year), the approximate total anticipated available federal, state, and local funds is **$2,690,899,000**—an increase of approximately **$1,796,144,000** over Funding Scenario 1. For the CTP funding projections in this scenario, the same annual level of SPLOST funding is assumed to be available over the 23-year lifetime of the CTP. It should also be noted that $633,933,000 of current SPLOST revenues is already committed to transportation projects in the existing 2005 6-Year County Improvement Program (CIP).

The difference between the amount of funding available and the Needs Based Plan cost assuming the current SPLOST continues through to the plan's horizon year of 2030 is provided below.

Funding Balance to 2030 – Continuous Extension of SPLOST to 2030 (Funding Scenario 2)

Estimated 2030 Available Funds		**$2,690,899,000**
Needs Based Plan Cost		
Roadways	$4,504,029,000	
Multi Use Trails	$168,856,000	
Pedestrian	$38,603,000	
Needs Based Plan Total Cost		$4,711,488,000
Deficit		($1,979,920,000)

Funding Scenario 2 results in a shortfall of approximately **$1,979,920,000** ($2,690,899,000 – $4,711,488,000) between estimated available funding and the total cost of the Needs Based Plan. Thus, under Funding Scenario 2, approximately 57 percent of the Needs Based Plan improvements for roadway, multi use trail and pedestrian facilities only could be implemented. Under this scenario, SPLOST funds would first be allocated to CTP off-system roadway projects, multi use trails and pedestrian facilities, with remaining SPLOST funds then allocated to CTP on-system roadway improvements. No funding would be allocated to CTP transit projects.

Funding Scenario 3 – Limited Extension of SPLOST & New Source

The third funding scenario assumes limited extension of the voter-approved SPLOST in combination with revenue provided by a new, undefined source(s). The SPLOST funding portion assumes revenues are available during approximately one-half of the time frame between the expiration of the current SPLOST and the CTP's 2030 horizon, or 12 years (two 6-year SPLOSTs). Recent history indicates this would be typical. Although a SPLOST would be an obvious source, this amount of revenue could also be raised through other sources. In addition, this scenario assumes the inclusion of $1 billion in revenue provided by the new, undefined source(s).

Over the 23-year duration of the CTP (2030 horizon year), the approximate total anticipated available federal, state, and local funds is **$3,162,615,000**—an increase of approximately **$2,267,860,000** over Funding Scenario 1. The CTP funding projections in this scenario include the limited extension (12 years) of SPLOST revenues ($1,267,860,000) and a new, undefined source(s) ($1,000,000,000). It should also be noted that $633,933,000 of current SPLOST revenues is already committed to transportation projects in the existing 2005 6-Year County Improvement Program (CIP).

The difference between the amount of funding available and the Needs Based Plan cost assuming the limited extension of SPLOST combined with a new source(s) is provided below.

Funding Balance to 2030 – Limited Extension of SPLOST and New Source (Funding Scenario 3)

Estimated 2030 Available Funds		**$3,162,615,000**
Needs Based Plan Cost		
Roadways (RTP & CTP)	$4,504,029,000	
Multi Use Trails	$168,856,000	
Pedestrian	$38,603,000	
Transit	$1,132,803,000	
Needs Based Plan Total Cost		$5,844,291,000
Deficit		**($2,681,676,000)**

Funding Scenario 3 results in a shortfall of approximately **$2,681,676,000** ($3,162,615,000 – $5,844,291,000) between estimated available funding and the total cost of the Needs Based Plan. Thus, under Funding Scenario 3, approximately 54 percent of the Needs Based Plan improvements for roadway, multi use trails, pedestrian facilities, and transit could be implemented. Under this scenario, SPLOST funds would first be allocated to CTP off-system roadway projects, multi use trails and pedestrian facilities, with remaining SPLOST funds then allocated to CTP on-system roadway improvements. The new, undefined revenue source would be allocated to and essentially fully fund all CTP transit projects.

Funding Scenario Summaries and System Performance

The level of improvements that can be funded with each scenario is provided below.

Improvements Funded with Each Scenario

Scenario	On-System Roadways	Off-System Roadways	Multi Use Trail & Pedestrian	Transit
1 – Base Condition	TIP/E+C & RTP	TIP/E+C & RTP		RTP
2 – Continuous Extension of SPLOST to 2030	TIP/E+C & RTP ***and*** **$718,054,000** worth of CTP On-System Projects	TIP/E+C & RTP ***and*** All CTP Off-System Projects	All CTP Multi Use Trail and Pedestrian Projects	RTP

Scenario	On-System Roadways	Off-System Roadways	Multi Use Trail & Pedestrian	Transit
3 – Limited Extension of SPLOST and New Source	TIP/E+C & RTP ***and*** **$212,480,000** worth of CTP On-System Projects	TIP/E+C & RTP ***and*** All CTP Off-System Projects	All CTP Multi Use Trail and Pedestrian Projects	RTP ***and*** All CTP Transit Projects

The funding balance corresponding to the level of improvements included in each funding scenario (shown in previous table) is summarized below.

Funding Scenario Balances

Scenario	Amount Available	Needs Based Plan Cost	CTP Needs Based Plan Balance
1 – Base Condition	$894,755,000	$4,711,488,000	($3,816,733,000)
2 – Continuous Extension of SPLOST to 2030	$2,690,899,000	$4,711,488,000	($2,020,589,000)
3 – Limited Extension of SPLOST & New Source	$3,162,615,000	$5,844,291,000	($2,681,676,000)

System performance measures provide a comparison of the impacts afforded from the improvements according to various levels of investment, which are defined by the alternative funding scenarios. The travel demand model was used to compute system performance based on the portion of Needs Based Plan improvements that could be funded under each funding scenario as described above. The following table summarizes the performance of the transportation system in Cobb County under each scenario with respect to the following measures: Travel Time Index, percent of model roadway miles exhibiting a number of hours of congestion, annual congestion cost, and transit mode share.

Funding Scenario Performance Measures

Performance Measure	2005 Existing	2030 E+C	Needs Based Plan	Funding Scenario 1 Base Condition	Funding Scenario 2 Continuous Extension of SPLOST to 2030	Funding Scenario 3 Limited Extension of SPLOST and New Source
Travel Time Index	1.43	1.71	1.55	1.66	1.55	1.59
*On RSTS**			*1.59*	*1.70*	*1.59*	*1.63*
Off RSTS			*1.44*	*1.54*	*1.43*	*1.46*
>6 hrs of Congestion (% of Lane-Miles)	0.7%	4%	2%	2%	2%	3%

Performance Measure	2005 Existing	2030 E+C	Needs Based Plan	Funding Scenario 1 Base Condition	Funding Scenario 2 Continuous Extension of SPLOST to 2030	Funding Scenario 3 Limited Extension of SPLOST and New Source
2-6 hrs of Congestion (% of Lane-Miles)	18%	28%	20%	25%	20%	24%
<2 hrs of Congestion (% of Lane-Miles)	81%	68%	77%	71%	77%	74%
Annual Congestion Cost (x $1,000,000)	$870	$1,863	$1,515	$1,755	$1,507	$1,599
*On RSTS**			*$1,199*	*$1,366*	*$1,194*	*$1,255*
Off RSTS			*$316*	*$389*	*$313*	*$343*
Transit Mode Share	0.6%	0.7%	1.2%	1.2%	1.2%	1.3%
Total Transit Ridership	15,975	21,538	101,126	89,698	89,788	98,428
LOS F Centerline Miles	86.8 (5.9%)	251.4 (10.9%)	160.0 (6.6%)	232.1 (9.8%)	162.6 (6.8%)	200.8 (8.4%)
LOS E Centerline Miles	287.7 (19.4%)	374.9 (16.2%)	318.9 (13.3%)	357.9 (15.1%)	315.6 (13.2%)	333.8 (13.9%)
LOS D Centerline Miles	385.5 (26.1%)	275.9 (11.9%)	301.3 (12.58%)	313.0 (13.2%)	309.3 (12.9%)	302.0 (12.6%)
LOS A through C Centerline Miles	719.6 (48.6%)	1,414.0 (61.1%)	1,615.1 (67.5%)	1,467.2 (61.9%)	1,607.9 (67.1%)	1,558.7 (65.1%)
Total Centerline Miles	1,480 (100%)	2,316.2 (100%)	2,395.3 (100%)	2,370.2 (100%)	2,395.4 (100%)	2,395.3 (100%)

Transit Funding

Cobb County currently relies on federal, state, and local funds (general revenue funds and business license tax proceeds) and fare revenue to pay for its transit capital and operating needs. Traditional funding sources for CCT expenses are being fully expended to cover costs associated with existing transit services. As all of the transit projects identified within this CTP are additions to existing service, these sources cannot be used towards the aggressive expansion of the CCT system recommended in the CTP. New, much larger sources of revenue must be developed. Several initiatives currently being explored by the Transit Planning Board are promising for near and long-range funding of transit in Cobb. If new or expanded funding sources result, it is recommended that the transit program identified in the CTP be used as the basis for developing project and funding allocation decisions.

Funding Gap

Based upon the calculations above, only a small portion of the roadway, multi use trail, and pedestrian projects—and virtually none of the recommended new transit service—can be funded assuming current funding sources and projections. ARC is warning of worsening trends affecting the financial capacity of the region to fully fund needed transportation plans and programs. These trends include a probable decline in future federal transportation funding for transit and roads, increasing declines in the purchasing power of state motor fuel taxes, and rapid inflation in the construction industry. Obviously, this situation will negatively impact Cobb County and its ability to implement needed transportation improvements.

Future Use of the Plan

The Cobb County CTP assists in developing a strategic vision for implementation by comparing the county's future needs against likely funding assumptions. Additionally, the CTP positions Cobb to most effectively compete for, and be awarded, scarce federal and state transportation dollars. The Plan is periodically updated (approximately every 3-5 years) to ensure land use / transportation connectivity and shifting travel behaviors are monitored, and to reassess and confirm the County's development vision.

The CTP also serves as the "platform" upon which future detailed project concept development efforts will build. County staff and officials use the CTP project recommendations as a resource from which to select specific transportation projects to move forward into the prioritization and funding processes, and ultimately alternatives analysis and detailed concept definition. As integral elements of these processes, County staff and officials will undertake extensive public outreach and thorough technical analyses related to the specific nature of individual improvement projects.