The Capital Area Congestion Management System

A CMS Synopsis

The following report provides background information regarding the ongoing activities of the MPO and supporting agencies. This includes detailing past, current, and future actions that the Capital Area MPO and its partners have taken to towards obtaining a fully functional congestion management system. The congestion management system or CMS in the Triangle Area is difficult to define; this can be attributed to the multi-nodal nature of the planning arena in the area. There are many organizations that, from an outsider's perspective, appear to be operating independently from one another. In reality there is increasing coordination between the stakeholders in the region in attempts to improve the efficiency and reliability of the transportation network. The North Carolina Department of Transportation has taken a lead role in the deployment of Intelligent Transportation Systems as well as providing real time traffic information to the public. The Triangle Transit Authority and Capital Area Transit have spearheaded the provision of public transportation to Wake County residents; in the future there will be an increasing reliance on transit to alleviate the congestion experienced in the Greater Raleigh Area. Individual municipalities have also aided in the Capital Area MPO by taking steps towards improving local roadways and signal systems.

I. Monitoring Congestion

The Capital Area MPO along with NCDOT, the City of Raleigh, the Town of Cary, the Durham-Chapel Hill-Carrboro MPO, the Triangle Transit Authority and others have multiple ways of measuring congestion in the Triangle Region. The Capital Area MPO conducts annual VOR counts that illuminate trends in vehicle occupancy ratios for the Triangle Area. Travel time studies have been conducted throughout the area by TTA and ITRE in order to better understand the deficiencies of the highway network in future years. NCDOT and the City of Raleigh conduct yearly traffic and turn counts that inform the development of the Triangle Regional Model. It should be noted that the Capital Area MPO, Durham-Chapel Hill-Carrboro MPO, North Carolina Department of Transportation, and Triangle Transit Authority work in conjunction with the Institute for Transportation Research and Education toward the continued development of the Triangle Regional Model (TRM). The TRM is a travel demand forecasting model that that is used to identify future traffic volumes by using information such as traffic counts, transit ridership, and population and employment growth projections obtained from local planning agencies and based on current land use plans and trends. The end result of the efforts by the TRM model team can be found in figure 3-2 in the 2030 LRTP, entitled "CAMPO/DCHC LRTP Performance Measures." In this figure the outputs of the TRM are displayed including congestion statistics for the 2002 base year, a "no-build 2030 scenario" and for the planned 2030 network. The Regional Traffic Management Center utilizes surveillance cameras located throughout the area on heavily traveled roadways. The area also has a very active media that monitors traffic throughout both the morning and evening peak hour periods. NCDOT has good working relationships with local radio and television stations that broadcast real time footage of backups and informing the public of congested sections of the Wake and Durham County road network. Programs such as the Interstate Motor Assistance Patrol (IMAP) respond to congestion causing incidents and report them to the appropriate authorities.

II. Identifying Needs

Congestion has been addressed via the long range planning process adhered to during the drafting of the 2030 Long Range Transportation Plan. In the spring of 2004 the Capital Area MPO conducted two rounds of three district meetings with local planning departments. During these meetings local planners requested changes to the LRTP adopted on April 17, 2002. Alterations were required due to changes in alignments and comments garnered since the last LRTP update. Priorities were voiced by local planners due to recent influxes in congestion and accidents on certain segments. Local **knowledge** was utilized to begin the prioritization of projects in the MPO area as a whole. This prioritization process was augmented by a round of evaluation that occurred during the summer of 2004 after model runs were complete showing areas of the network where current and future volumes exceeded the physical capacity of roadways. MPO staff identified road projects in the 2030 LRTP where V/C (Volume/Capacity) ratios greatly exceeded acceptable levels. Projects that were supported by municipalities and projects in the existing LRTP were ranked accordingly. Projects that were shown to relieve the network of the most congestion were given a 2020 completion date, projects that had less impact were to have a completion date of 2030. Projects with 2010 completion dates were composed of TIP projects that were under construction and others that individual municipalities were completing by 2010.

In addition to roadway needs, research by CAMPO staff has resulted in the identification of corridors that currently or in the future will experience unacceptable congestion. Preliminary mitigating strategies have been devised and will be studied further on a corridor by corridor basis beginning with the US 1 corridor study scheduled to begin in the summer of 2005.

Congested Segment/Corri dor	Potential Strategies	Recommended Strategy	Implementation Schedule
I 40 (US 64/US 1 to Durham)	 HOV/HOT Lanes Express Bus Service Ramp Metering 	 HOV/HOT to be utilized by express bus Ramp Metering to studied jointly by NCDOT and CAMPO 	NCDOT to conduct a Financial Feasibility Study to build HOV lanes; Ramp Metering locations will be studied by the newly established regional ITS working group
US 70 (Duraleigh Rd to Durham County)	 Limit Access (Convert intersections to interchanges) Express Bus Service 	 Limit Access Implement express bus service between Durham/Raleigh and Briar Creek 	Funded as a LRTP project with a 2020 completion date; Initial express bus service beginning in the fall of 05 pending on a NCDOT Job Access Reverse Commute Grant (JARC)
US 70 (South from Raleigh to Garner)	 Upgrade signal system along corridor Express Bus Service Potential commuter rail to Clayton 	 Upgrade signal system Study Transit Options 	Garner signal system upgrade to be complete by end of 2006; Transit options to be studied during Regional Transit Vision Plan, to be completed 2006-2007
US 401 (South	Upgrade signal	Upgrade signal	Signal system through

III. Identification of Strategies

from Raleigh to Fuquay Varina)	 system along corridor Express Bus Service Potential commuter rail to Clayton Add physical capacity 	 system Study Transit Options Add physical capacity 	Garner to be upgraded by 2006; Transit options to be studied, addition of physical capacity planned for 2020 completion
US 1 (I 440 to Wake Forest)	 Limit Access (Convert intersections to interchanges) Express Bus Service HOV Lanes Extend TTA Rail to Durant Road or Wake Forest 	Conduct corridor study to determine feasibility of HOV lanes and access management options	US 1 Corridor Study funded and scheduled to begin this year
Poole Road (Hodge Road to I 440)	 Construct Knightdale Bypass Add physical capacity 	 Construct Knightdale Bypass Add physical capacity 	Knightdale Bypass to be complete by spring of 2005; Poole Road scheduled to be widened in 2030
Buffaloe Road (Forestville Road to US 1)	 Add physical capacity Construct Eastern Wake Freeway 	Construct Eastern Wake Freeway	I 540 to be complete between US 1 and US 64 by 2008
NC 54 (I 40 to Durham County)	 Add physical capacity 	Add physical capacity	Scheduled to be widened by 2020 and some sections by 2030
NC 55 Corridor	 Conduct corridor study Add physical capacity Study commuter rail feasibility to Apex 	 Conduct corridor study Add physical capacity 	NC 55 to be widened by 2010; Western Wake Freeway to be complete by 2020; Corridor study planned
US 64 East Corridor	 Complete Knightdale Bypass Build on EastTRANS study Express Bus Service 	 Construct Knightdale Bypass Study transit options 	Knightdale Bypass to be complete by spring of 2005; Transit options to be studied during Regional Transit Vision Plan

IV. Safety

An **accident analysis study** was conducted during the latest iteration of LRTP updates. Sections of roadways that were scheduled to be widened were evaluated for safety concerns, crash rates were derived from data within the NCDOT Traffic Engineering Accident Analysis System (TEAAS). In the future the MPO will utilize this information when evaluating the merit and benefits gained from supporting projects. It has been found that there is a clear linkage between accidents and congestion, accordingly, projects that are intended to improve segments of roadways with safety concerns will be among CAMPO's highest priority projects. Information Regarding this aspect of the Capital Area MPO CMS can be found in **the "Safety" section of the 2030 LRTP**.

V. Capacity Expansion

The cosmetic cure for congestion is adding physical capacity to corridors in the transportation network that are overloaded with traffic. This can be done by adding new highways, widening existing highways, making provisions for more transit service, including rail, and incorporating bicycle and pedestrian accommodations to enhance opportunities for the public to utilize alternative modes. In the Capital Area MPO 2030 Long Range Transportation Plan there are plans for increased support for transit agencies, 325 miles of incidental bicycle accommodations, and plans for 197 miles of new roadways and 528 miles of widenings. The majority of these projects are funded and expected to be complete by 2030, due to the current funding structures, high growth rates, and the increasing needs of the region, the Capital Area MPO also has identified approximately \$1.6 billion dollars in unmet needs for the regions highway network. These unmet needs appear in the roadway portion 2030 LRTP in the form of 2040 projects that are not fiscally constrained and also in the transit section in the form of TIP projects that are currently "unfunded". A large number of the 2040 road projects are minor improvements in the form of turn lanes and the addition of wide lanes/shoulders to accommodate bicyclists. The current TIP funding structure does not lend itself to the funding of these minor projects, therefore CAMPO has elected to identify these projects with a 2040 completion year with the hopes that some may be completed sooner as additional funding is secured.

CAMPO 2030 LRTP: S	Summary of Road Pr	ojects
New Location LRTP Roadway Projects	Length (FT)	Length (Miles)
2-3 Lane	109,604	21
4-5 Lane	479,229	91
Controlled Access	393,688	75
Partially Controlled Access (Watershed)	59,449	11
Total Length of New Location Roadways	1,041,970	197
Widening LRTP Roadway Projects	Length (FT)	Length (Miles)
2-3 Lane	468,657	89
4-5 Lane	1,823,550	345
6 Lane	179,456	34
Conversion to Freeway	71,773	14
Conversion to Expressway	30,033	6
Freeway Widening	104,244	20
HOV/HOT Lane	111,817	21
Total Length of Widenings	2,789,530	528

NCDOT is currently initiating a **financial feasibility study of constructing HOV lanes** on Interstate 40 between Durham and Raleigh. In the Capital Area MPO 2030 LRTP HOV lanes are shown to be complete throughout Wake County by 2030. When completed the HOV lanes on I 40 will increase the efficiency of the facility by providing an incentive for commuters to carpool; thereby increasing vehicle occupancy ratios and reducing congestion experienced by those in the single occupancy vehicle lanes. The planned high occupancy vehicle lanes will also be open to public transportation vehicles. This will increase the speeds at which buses and vans are able to operate on what is projected to be a roadway experiencing significant congestion with volume/capacity ratios approaching 1.5 by 2030.

VI. Transit

The construction and operation of a commuter rail line by the Triangle Transit Authority is being planned to service communities in the Capital Area MPO and the Durham-Chapel Hill-Carrboro MPO. When completed the rail will operate in the existing CSX rail corridor between Ninth Street in Durham and Government Center in downtown Raleigh. When the **TTA Rail Phase One** project is complete trains will operate on 28 miles of track and visit twelve stations every fifteen minutes during peak hours of travel. The Capital Area MPO supports TTA, CAT, CTRAN, NCSU, and Wake County in their respective endeavors to provide the citizens of the CAMPO planning area public transportation. The five year expansion plans of CAT, TTA, and Wolfline are supported by CAMPO as well as the capital and operating needs as they appear in the 2004-2010 TIP that are necessary to carry out the plans. Current funding levels for transit in Wake County are inadequate, CAMPO recognizes this and has built in an increase in public transportation funding over the next twenty five years that correlates with projected population growth. To supplement the need for more transit funding the Transportation Advisory Committee has approved a portion (\$2.25 million) of STP-DA funds to be spent on bicycle, pedestrian and transit projects between 2010 and 2012. There is a need for improved cooperation between transit agencies and the MPO, as well as a need for a unified transit plan that forecasts priorities farther than the short range plans of the individual transit agencies. CAMPO plans to complete a **Regional Transit Vision Plan** within the next two years, this plan will have a twenty five year horizon and will identify and coordinate expansion plans.

VII. Bicycle and Pedestrian Support

The Capital Area MPO promotes a **Bicycle and Pedestrian Stakeholders Group** that consists of local citizens and planners working together to execute the adopted Bicycle and Pedestrian Plan (adopted by the Transportation Advisory Committee on March 19, 2003). The BPSG meets monthly and works to identify bicycle and pedestrian needs in the region as well as promote bicycle safety and education. The Capital Area Bicycle and Pedestrian Stakeholders Group recently participated as a stakeholder in the drafting of section 3-4-17 of the Wake County UDO. This section entitled "Pedestrian, Bicycle and Trail Improvements" greatly improved upon the previous requirements by calling for the incorporation of sidewalks and bicycle facilities where appropriate. In addition to maintaining a stakeholders group, the Capital Area MPO has allotted \$92k in CMAQ monies to complete sidewalks through downtown Holly Springs and \$2.25 million in STP-DA funding toward bicycle, pedestrian, and transit projects. Also, the Bike Element of the 2030 LRTP outlines CAMPO's support for bicycle accommodations by calling for the completion of incidental bicycle projects on 325 miles of roadway.

VIII. Increasing Efficiency and Operational Improvements

The most cost effective way to relieve congestion is to improve the efficiency of the current highway network. The Capital Area MPO has numerous approaches to this strategy. One of the approaches to improve highway efficiency is to enhance traffic signal timing along the regional highway network. The traffic signal systems for Cary and Garner are both in the process of being upgraded and should be complete by 2006. CMAQ funding for an upgrade of the **Raleigh signal system** and it's over 500 signals was recently approved by the Transportation Advisory Committee of the Capital Area MPO. The previously mentioned **IMAP** program allows faster, more anticipatory responses to traffic accidents in the area. CAMPO meets regularly with NCDOT regarding present and planned **ITS deployments**. CAMPO is currently discussing the possibility of using data gleaned from NCDOT's remote sensing framework to aid in the calibration of the Triangle Regional Model. Also it is recognized that a concerted effort needs to be made to better use overhead message signs to alleviate burdening congested routes with traffic that, if prompted, will use alternative paths. The restriction of turns at some key intersections is planned along with the conversion of some streets to one-way

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operations. One example is the newly approved **CMAQ allotment to fund the conversion of Cates Avenue** on the campus of North Carolina State University from a two-way facility to a one-way facility in order to help ease congestion on street system that is congested from campus traffic. It should also be noted that a recent trip to San Diego, California was taken by business and political leaders, as well as professional transportation staffers from throughout the Triangle in order to study the effectiveness of congestion management methods such as metered freeways, transit only express lanes, and reversible commuter lanes and how they could be applied by the Capital Area MPO to reduce congestion in the Triangle area.

IX. Travel Demand Management

The most far reaching approach to congestion management involves the encouragement of travel and land use patterns that help ease the congestion of an area's system. The Capital Area MPO also has made many efforts in this field of congestion management. The Triangle J Council of Government has established two programs that that are intended to encourage transportation demand management operation, which are called the "Triangle Best Workplace for Commuters" and the "Livable Cities Incentive Fund". The Triangle Best Workplace for Commuters program is conducted by TJCOG with the help of TTA and is used to promote transit use, carpooling, and vanpooling as ways to get to and from work. Participants in this program include the state and local governments in the congested downtown area and many large employers located in the Research Triangle Park. The Livable Communities Incentive Fund is used to encourage communities to work towards transit oriented development in select locations along the proposed major transit corridors of the region. In January, 2005 the Capital Area MPO Transportation Advisory Committee approved CMAQ funding to be reserved for these two programs. The Capital Area MPO has funded a Travel Demand Management Coordinator position since 2002. In addition to efforts by the Capital Area MPO, TTA, and TJCOG there exist ongoing privately funded TDM efforts in the Triangle. The Smart **Commute Incentive Fund** offers financial aid to those who purchase homes in areas where they can commute to work by way of walking, bicycling, or riding a bus. The program provided financial incentives based on the premise that automobile operation and maintenance costs will be lowered. Partners include the Greater Triangle Regional Council, Chapel Hill-Carrboro Chamber of Commerce, Chapel Hill Transit, Triangle Transit Authority, Chapel Hill Board of Realtors, local lenders and Fannie Mae (FNM/NYSE). The North Carolina Department of Environment and Natural Resources coordinates with local businesses and government organizations during the summer through the Triangle Air Awareness Program. Triangle Air Awareness is an outreach and education effort meant to inform commuters about the effects of driving and refueling on high ozone days. The program encourages carpooling, bicycling, walking, and riding transit to reduce vehicle miles traveled and inherently, air pollution.

Road Projects

Following are maps and a comprehensive listing of the Draft 2030 CAMPO LRTP Road Projects; these projects were compiled in coordination with the help of local planning departments within Wake County. Projects are separated into four categories based on anticipated date of completion. 2010 projects are projects already underway with full funding and an expected completion date of 2010. The 2020 and 2030 projects are composed of projects supported by municipalities through TIP requests or sections of roads forecasted by the Triangle Regional Model to be beyond capacity in the near future. Due to anticipated funding constraints the initial plan extending to the 2030 horizon was altered to include projects that had merit but could not be completed in the coming twenty-five years with forecasted revenue. These 2040 projects are not part of our fiscally constrained plan and shown on a separate map. Each project has a segment identifier that is shown on the Draft 2030 LRTP Road Project Map. Included in the following project list is the project extent, length, present and future lanes, funded completion year, and cost estimation. In addition projects that will intersect endangered aquatic species habitat, minority populations, and natural heritage sites are identified in Appendix B.

CAMPO Fiscally Constrained Roadway Projects

Road Type

- - - · 2-3 Lane - NL ■ ■ • 4-5 Lane - NL 6-8 Lane Upgrade to Expressway Upgrade to Freeway === Freeway- NL Widen Existing Freeway ◆ Multi-Lane HOV/HOT
- ••• Overlapping Freeway Upgrade & HOV
- Watershed Protection Measures Watershed Protection - NL
- **Completion Date**



Interchange

- Existing
- Proposed











2010 Pro	jects											
Segment dentifier	Facility Name	Segment From	Segment To	Length (miles)	2004 Number of Lanes	Future Number of Lanes	Funded Completion Year	2005 Cost Estimates	TIP ID	Revised Regionally Significant	Exempt?	Funding Source
A123b	Garner Road	Walnut Creek Bridge	Martin Luther King Jr.	0.77	2	3	2008	\$2,123,600		Ν	Y	L/R
A18	Newton Road	Falls of Neuse	Six Forks	1.2	2	3	2008	\$3,119,800		N	Y	L/R
A197a	Main Campus Drive Connector	Main Campus Drive	Main Campus Drive	0.68	0	4	2009	\$4,720,900		Ν	Ν	L/R
A199	Pullen Road	Western Blvd.	Centennial Pkwy	0.4	0	4	2010	\$2,528,300		Ν	Ν	F/S
A235a	US 1A	U.S. 1	Ligon Mill Road	0.53	2	4	2010	\$1,568,500	R-3600	Ν	Ν	F/S
A24	Edwards Mill Road Extension - part I	Trinity Road	Chapel Hill Road	0.7	0	4	2008	\$2,329,100		Y	Ν	L/R
A27d	Louis Stephens Drive Ext (part NL)	Morrisville Parkway	High House Road	1.62	0	2	2009	\$6,802,900		N	Ν	L/R
A28a	Davis Drive	Morrisville-Carp	Farm Pond Road	5.15	2	4	2008	\$24,274,000		N	Ν	F/S
A29	High House Road	Davis Drive	NC 55	1.38	2	4	2009	\$10,336,000		N	Ν	PD-L/R
A2b	Southall Road	Southall Road (Existing)	Hedingham Boulevard	0.28	0	4	2009	\$2,629,500		N	Ν	PD-L/R
A31	NC 54	Trinity Road	Maynard Road	0.8	2	4	2008	\$2,550,000	U-2908	Y	Ν	F/S
438a	Tryon Road	Keisler	Cary Parkway	1.1	2	4	2009	\$5,032,100		N	Ν	L/R
438b	Tryon Road	Cary Parkway	Jones Franklin Road	1.3	2	4	2009	\$3,770,200		N	Ν	L/R
A38c	Tryon Road	Jones Franklin Road	Dillard Drive	0.95	2	4	2009	\$2,427,500		N	Ν	L/R
A431	Wake Forest Road	Six Forks Road	I 440	0.5	5	7	2009	\$3,781,800		Y	Ν	L/R
A450	South Loop Road	Louis Stephens Drive	Davis Drive	1.45	0	4	2010	*	U-4410	N	Ν	F/S
445b	Tryon Road	Gorman Street	Lake Wheeler Road	1.5	2	4	2008	\$8,492,800		N	Ν	L/R
A46b	Tryon Road	Norfolk Southern Rail	Existing Tryon Road Alignm	0.5	0	4	2010	\$5,668,000	U-4432	Ν	Ν	PD-L/R
A46c	Tryon Road	New Tryon Road Alignment	S. Wilmington Street	0.4	2	4	2009	\$3,003,500	U-4432	Ν	Ν	PD-L/R
A47	Sunnybrook Road	Poole Road	New Bern Avenue	1.29	2	4	2008	\$4,918,700		N	Ν	L/R
A49a	Poole Road	Maybrook Dr.	Barwell Road	1	2	4	2010	\$4,254,700		Ν	Ν	L/R
A4b	Rogers Lane Extension (NL)	End of Existing Rogers Lane	Rogers Lane/New Hope	0.27	0	4	2008	\$1,775,700		Ν	Ν	L/R
453	Davis Drive	Morrisville-Carp	Durham County Line	3.8	2	4	2009	\$28,566,000	U-4026	N	Ν	F/S
A54	Pleasant Valley Road	Duraleigh Road	Glenwood Avenue	0.34	2	4	2009	\$548,540		Ν	Ν	L/R
A55	Perry Creek Road	US 1	US 401	1.61	2	4	2010	\$9,992,600		N	Ν	L/R
456b	NC 98 Bypass	US 1A	US 1	1.39	0	4	2008	\$27,040,000	R-2809	Y	Ν	F/S
A74a	Piney Plains Road	Dillard Drive Ext	Tryon Road	1.13	2	4	2009	\$1,391,300		N	Ν	L/R
474b	Piney Plains Road	Tryon Road	Cary Parkway	0.5	2	3	2009	\$1,640,100		N	Y	L/R
A75a	County Line Road	North of O'Kelly Chapel	Yates Store Road	1.62	0	4	2009	\$8,796,300		N	Ν	PD-L/R
A85a	Leesville Road	Lynn Road	Millbrook	0.81	2	4	2008	\$10,122,000		N	Ν	L/R
491	Jones Sausage Road	Rock Quarry Rd	I-40	1.5	2	4	2008	\$7,030,000		N	Ν	L/R
A93a	NC 55	Carpenter Fire Station Road	Durham County Line	3.42	2	4	2008	\$17,056,000	R-2906	Y	Ν	F/S
493b	NC 55	Carpenter Fire Station Road	High House Road	2.46	2	4	2008	\$13,221,000	R-2906	Y	Ν	F/S
A93c	NC 55	High House Road	US 64	2.76	2	4	2008	\$13,560,000	R-2906	Y	Ν	F/S
495	NC 55	Holly Springs Bypass	SR 1108 (Wake Chapel Roa	3.3	2	4	2008	\$13,333,000	R-2907	Y	Ν	F/S
A97b	Airport Blvd	Mc Crimmon Parkway	NC 54	0.71	2	4	2009	\$4,583,600	U-3344	N	Ν	F/S
F1a	I-540 (Northern Wake Expressway)	Triangle Town Blvd.	US 64 (Knightdale)	7	0	6	2008	\$180,180,000	R-2000	Y	Ν	F/S
F2	I-540 (Eastern Wake Expressway)	US 64	US 64 Bypass	2.1	0	6	2008	*	R-2641	Y	Ν	F/S
F4a	I-540 (Northern Wake Expressway)	I 40	NC 55 (Morrisville/Cary)	4	0	6	2008	*	R-2000	Y	Ν	F/S
F8	US 70 (Clayton) Bypass	I-40 (South)	US 70 Business	9.5	0	4	2010	\$135,120,000	R-2552	Y	Ν	F/S
F9	US 1 - 64	US 64	Walnut Street	2.6	4	6	2008	\$27,446,000	U-3101	Y	N	F/S
2010 Total	e	1						\$605 734 040				

2020 Pro	ojects											
Segment Identifier	Facility Name	Segment From	Segment To	Length (miles)	2004 Number of Lanes	Future Number of Lanes	Funded Completion Year	2005 Cost Estimates	TIP ID	Regional Sig.	Exempt?	Funding Source
486	Proposed Grade Separation	Blue Ridge Road	TTA Rail Line	NA	4	4	2020	\$960.000	U-4437	N	Y	F/S
A100	Strickland Road Extension	Westgate Road	Leesville Road	1.1	0	4	2020	\$3,715,100	U-2918	Y	N	F/S
A101	US 70	Duraleigh Road	Lumley Road	3.3	4	6	2020	\$19,600,000	U-2823	Y	N	F/S
A102	Edwards Mill Road Extension - part II	Chapel Hill Road	Western Blvd Ext	0.7	0	4	2020	\$23,600,000	U-3817	N	N	F/S
A104	Morrisville Parkway	Realigned Green Level To Durh	Carpenter Upchurch Rd.	2.11	0	4	2020	\$26,192,000	0 0011	N	N	L/R
A114	Ten Ten Road	Holly Springs Rd	US 1	3 47	2	4	2020	\$38,914,000		Y	N	F/S
A119	McCrimmon Parkway	Airport Boulevard	Town Hall Drive	1.3	2	4	2020	\$19,920,000		N	N	F/S
A12	Falls of Neuse Road	Raven Ridge Rd	Fonville Road	1.3	2	4	2020	\$6,473,600		N	N	F/S
A120	Tryon Road Extension	Garner Road	Rock Quarry Road	2.9	0	4	2020	\$17,450,000	U-3111	Ν	N	F/S
A130	Mitchell Mill Road (West)	US 401	Jonesville Road	3	2	4	2020	\$19.349.000		N	N	L/R
A133	Burlington Mills Road	US 1	US 401	4.77	2	4	2020	\$24,133,000		N	N	L/R
A138a	Timber Dr./Jones Sausage Connecto	US 70	Timber Drive Extension	0.65	0	4	2020	\$6,117,000		N	N	PD-L/R
A138b	Timber Dr / Jones Sausage Connecto	Jones Sausage Road	US 70	0.28	0	4	2020	\$2,316,000		N	N	I/R
A13b	New Falls of Neuse Boulevard	Falls of Neuse Rd	Waterlow Park Lane	0.83	0	4	2020	\$9,810,000		N	N	E/S
A142b	Timber Drive East	White Oak Road	New Rand Road	1.00	0	4	2020	\$7,700,000	U-4703	N	N	I/R
A15	Blue Bidge Boad	Duraleigh Road	Glen Eden Drive	0.95	2	4	2020	\$6 123 900	0 1100	N	N	L/R
A155a	T W Alexander Drive	LIS 70	Leesville Road	19	0	4	2020	\$26,406,000		N	N	E/N
A162	Buffaloe Road	Southall Boad	1-540	2.42	2	4	2020	\$14 275 000		N	N	L/R
A163a	Holly Springs Road	Sunset Lake Rd	Old Holly Springs Apex	3.58	2	4	2020	\$16 511 000		N	N	E/R F/S
A165	Airport Blvd, Extension	NC 54	Davis Drive	1.4	0	4	2020	\$45,206,000		×	N	170
A166	Center Street/1010	US 1	Apex Peakway	1.4	2	4	2020	\$5,405,000		N	N	F/S
A167	Wendell Northern Bypass	US 64 Bus(east)	LIS 64 Bus (west)	2.49	0	2	2020	\$12 223 000		N	N	F/S
A197h	Centenial Campus Connector & Inter	Main Campus Drive Connector	I-40/I-440	0.38	0	4	2020	\$79,596,000		N	N	F/S
A20	Hillsborough Street Safety & Enhance	Gorman Street	Woodburn Road	1.4	4	2	2020	\$27 199 000	11-4447	Y	Y	F/S
Δ207a	ludd Parkway NE (part NI)	Existing Judd Parkway	NC 55 (Broad Street)	1.7	0	- 3	2020	\$6,901,900	0 1111	N	N	F/S
A207b	Judd Parkway West (part NL)	Wilbon Road	Existing Judd Parkway	2	0	3	2020	\$19 511 000		N	N	F/S
Δ217	Sunset Lake Road Connector	NC 55	Optimist Farm Road	34	2	4	2020	\$13,943,000		N	N	F/S
A221	NC 54	NW Maypard Rd	South of Cary Parkway	1 1/	2	4	2020	\$14,700,000		×		F/S
A2222	NC 54	McCrimmon Parkway	Durbam County Line	1.14	2	4	2020	\$54,955,000		 		F/S
Δ231	Tripity Road	Edwards Mill Boad Extension	Trenton Road	1.00	2	4	2020	\$2 234 600		N	N	I/R
A232	S W Maynard Road	W Chatham Street	Kildaire Farm Road	1.1	2	4	2020	\$2,528,800		N	N	L/R
A232		Ligon Mill Rood		0.52	2	4	2020	\$4,040,200	P 2600	N	N	E/R
A2330	Old Apex Road	High House Rd	Cary Parkway	2.1	2	4	2020	\$8,670,400	11-3000	N		1/S
A26	McCrimmon Parkway	Airport Blvd	Aviation Parkway	1.14	0	4	2020	\$7,896,400	11-3620	N		E/R E/S
A20		Allport Bivd		1.44	0	4	2020	\$7,890,400	0-3020	N	N	F/3
A200	Morrisvillo Barkway (part NL)		NC 55	1.1	2	4	2020	\$7,412,000		N		F/3
A30 A25		NW Maypard Pd	Dypacty Drivo	1.37	2	4	2020	\$9,500,000		N	N	
A35 A36	West Chethem Street		Old Apox Bood	1.55	2	4	2020	\$7,234,000		N	N	
A30	Kildeire Form Bood	Swift Crook		1.57	2	4	2020	\$7,674,500		N		
A4020		Boolo Bood		2 15	2	4	2020	¢12 500 000		N		
A405a			03 64	3.15	2	4	2020	\$12,590,000		N N		PD-L/R
A412	Laka Whasler Bood			2.71	4	0	2020	\$20,274,000		T N	N N	F/3
A43		1-40/1-440 Strickland Dood Extension		1.3	2	4	2020	⇒∠0,698,000	11 2010			
A407	Truen Dood		Norfolk Southarn Dail	1.4	2	4	2020	\$0,0∠0,400 €000,040	0-2918	ľ		F/3
A40d	LIS 404(South)		Foot Disus (EV)	1.3	2	4	2020	\$802,240	0-4432	IN N	N N	F/S
A480	Creithfield Deed	Carrientan Drive	East PKWy (FV)	9.85	4	0	2020	\$02,405,000	11.0444	T N		F/3
IGA		Carnington Drive	FUIESIVIIIE KOad	1.17	۷ ک	4	2020	ა ზ,400,000	0-3441	IN	IN	F/3

* Projects to be complete by end of 2005 ** Exempt projects are "moving ahead" type projects adding intermittent turn lanes and shoulder widenings where needed to increase safety for cars and cyclists.

A56a	NC 98 Bypass	US 1	NC 98	1.44	0	4	2020	\$14,440,000	R-2809	Y	N	F/S
A57	Sandy Forks Road	Falls of Neuse	Six Forks Road	1.31	2	3	2020	\$10,616,000		N	Y	L/R
A63	Cary Parkway Extension	Harrison Avenue	Trinity Road	1.2	0	2	2020	\$5,980,100		N	N	L/R
A64b	Aviation Parkway	Crabtree Lake Park	Western Edge of Lake Crab	0.4	2	4	2020	\$3,461,600	U-3343	N	N	F/S
A73c	Jones Franklin Road	I 440	Western Boulevard	0.95	2	4	2020	\$4,497,100		N	N	L/R
A85b	Leesville Road	Westgate Road	Lynn Road	2.31	2	4	2020	\$16,215,000		N	N	L/R
A89a	US 401 Widening	Ligon Mill Road	Forestville Road	1.23	2	4	2020	\$4,913,900	R-2814	Y	N	F/S
A90a	US 401 Widening	Forestville Road	US 401 Rolesville Bypass	1.00	2	4	2020	\$4,167,200	R-2814	Y	N	F/S
A90b	US 401 Rolesville Bypass	US 401	US 401	4.50	0	4	2020	\$19,635,000	R-2814	Y	N	F/S
A90c	US 401 Widening	US 401 Rolesville Bypass	Franklin County	1.56	2	4	2020	\$6,040,000	R-2814	Y	N	F/S
A9	Strickland Road	Leesville Road	Creedmoor Road	2.73	2	4	2020	\$16,515,000		Y	N	L/R
A96a	NC 55	Olive Chapel Road	US 64	1.16	2	4	2020	\$7,500,000	R-2906	Y	N	F/S
A96b	NC 55	Apex Peakway (south)	Olive Chapel Road	1.67	2	3	2020	\$10,488,000	U-2901	Y	Y	F/S
F10	I-440 Widening	US 1/64	Wade Avenue	3.5	4	6	2020	\$77.300.000	U-2719	Y	N	F/S
F11	US 1 (Upgrade to Freeway)	1-540	NC 98	8.8	4	6	2020	\$188.740.000		Y	N	F/S
F12	Triangle Parkway	1-540	Durham County Line	3.5	0	6	2020	\$97 692 000		Y	N	F/S
F16	1-40	US 1-64	Wade Avenue	3.89	4	6	2020	\$23,045,000	1-4744	Y	N	F/S
F44a	I-40 (South)	1-440		44	4	8	2020	\$52 133 000		Y	N	F/S
F44b	I-40 (South)	US 70	NC 42	63	4	8	2020	\$165,110,000		v v	N	F/S
F4b	1-540 (Western Wake Expressway)	NC 55 (Morrisville/Carv)		10.0		6	2020	\$221 680 000	P-2635	V	N	F/S
F40	1-540 (Western Wake Expressway)		NC 55 Rypacs	22	0	6	2020	\$40,525,000	P 2625	V I	N	E/9
2020 Total	1-540 (Western Wake Expressway)	031	INC 55 Bypass	2.3	0	0	2020	\$40,525,000 \$1,758,200,000	R-2035	1	IN	F/3
2020 10181	15							\$1,756,500,000				
2030 Dr	niects											
2030110											1	
Segment				Longth	2004	Future	Funded	2005 Cost		Revised	Exempt2	Funding
Identifier	Facility Name	Segment From	Segment To	(miles)	Number of	Number of	Completion	Estimates	TIP ID	Regionally	**	Source
laonanoi				(111100)	Lanes	Lanes	Year	Estimatos		Significant		Course
A1	Southall Road (1 mile NL)	US 401	Buffaloe Road	3.24	2	4	2030	\$18,340,000		N	N	L/R
A10	Old Wake Forest Road	Litchford Road	Capital Blvd	1.2	2	4	2030	\$6,238,300		N	N	L/R
A110	Green Level West Road	White Oak Ch Rd	NC 55	2.9	2	4	2030	\$29,468,000		N	N	L/R
A111	Reedy Creek Road	N F Maynard Rd	Harrison Avenue	1 18	2	3	2030	\$4 634 000		N	Y	L/R
Δ112	Smithfield Road	Poole Road	LIS 64 Bypass	1.10	2	4	2030	\$24,856,000		N	N	E/N
Δ113	Ten Ten Road	Holly Springs Pd	Bells Lake Road	1.0	2	4	2030	\$5,692,800		N	N	I/P
A117	New Hope Read	Old Boolo Bood	Book Quarry Road	1.14	2	4	2030	\$3,032,000		N	N	E/R
A110	NC 55	NC 42	Harpott County	1.0	2	4	2030	\$10,808,000	P 2540	N	N	F/3
A100	Helly Springe Read	NC 42 Support Loko Rd	Kildeire Form Bood	4.4	2	4	2030	\$22,555,000	K-2040	N	N	F/3
A122	Northeide Leen (Lerrie Deed)			0.91	2	0	2030	\$19,102,000		IN N	IN N	
A124a	Northside Loop (Harris Road)	OS IA	NG 09 (Make Ferent Durges	1.27	0	3	2030	\$7,727,200		IN N	IN N	
A1240	Farrate illa Dand		NC 96 (Wake Forest Bypass	1.03	0	3	2030	\$5,559,700		IN N	IN N	
A125a	Forestville Road	Honon Ru.		10.9	2	4	2030	\$36,512,000		IN N	IN N	F/3
A126a	Ligon Mill Road	Burlington Millis Ra.	USTA	2.32	2	3	2030	\$9,712,100		N	Ý	L/R
A1260			Burlington Millis Rd.	2.57	2	3	2030	\$10,705,000		N	Y	L/R
A127a	Ligon Mill Road Connector	US 1A	NC 98 Bypass	0.96	2	4	2030	\$4,788,500		N	N	L/R
A128	Rogers Road (Part NL)	US 401 Bypass	Rogers Rd.	1.1	0	3	2030	\$6,299,900		N	N	PD-L/R
A134	West Young Street (improvements)	N. Main Street	Jones Dairy Road	1.74	2	3	2030	\$7,066,300		N	Y	L/R
A137a	Old Stage Road	US 401	Ten Ten Road	4.19	2	4	2030	\$12,535,000		N	N	L/R
A138c	Timber Dr./Jones Sausage Connecto	White Oak Road	I-40 (South)	1.59	2	4	2030	\$30,705,000		N	N	L/R
A1/0a								*- - - - - - - - - -		1 51		
A140a	Vandora Springs Road & Ext.	Timber Drive	Old Stage Road	1.01	2	4	2030	\$5,019,500		N	N	L/R
A140a A142a	Vandora Springs Road & Ext. Timber Drive East	Timber Drive US 70	Old Stage Road White Oak Road	1.01 2.05	2 0	4	2030 2030	\$5,019,500 \$19,075,000		N N	N N	E/R F/S
A140a A142a A143	Vandora Springs Road & Ext. Timber Drive East White Oak Road	Timber Drive US 70 US 70	Old Stage Road White Oak Road NC 42 (Johnston Co.)	1.01 2.05 7.32	2 0 2	4 4 4	2030 2030 2030	\$5,019,500 \$19,075,000 \$65,048,000		N N N	N N N	F/S F/S

* Projects to be complete by end of 2005 ** Exempt projects are "moving ahead" type projects adding intermittent turn lanes and shoulder widenings where needed to increase safety for cars and cyclists.

A148	Eagle Rock Road	US 64 Bypass	Bissette Rd. (Johnston Co.)	5.95	2	3	2030	\$16,511,000	N	Y	PD-L/R
A149a	Poole Road	I-540	Knightdale-Eagle Rock Rd.	7.64	2	4	2030	\$55,953,000	N	Ν	F/S
A149b	Poole Road	Knightdale-Eagle Rock Rd.	Wendell Blvd.	1.94	2	4	2030	\$25,068,000	N	Ν	F/S
A150	NC 98	NC 98 Bypass	Durham County Line	8.86	2	4	2030	\$5,692,800	N	Ν	F/S
A151	Aviation Parkway Extension	Brier Creek Parkway	US 70	1.79	0	4	2030	\$54,044,000	Y	Ν	F/S
A154	Triangle Pkwy-NC54 Connector	Triangle Pkwy	Morrisville Carpenter Road	1.34	0	4	2030	\$8,935,600	N	Ν	F/S
A157	Eastern Parkway	US 401	US 401	7.39	0	4	2030	\$63,220,000	N	Ν	F/S
A158	Hilltop-Needmore Extension (Part NL	NC 55 (Broad Street)	US 401	5.7	0	3	2030	\$30,491,000	N	Ν	L/R
A159	Western Parkway (Fuquay Varina)	NC 55	US 401	5.56	0	4	2030	\$46,870,000	N	Ν	F/S
A16	Rock Quarry Road	Old Birch Road	New Hope Road	2	2	4	2030	\$8,236,000	N	Ν	L/R
A161	Skycrest Drive	Southall Road	Forestville Road	3.4	0	4	2030	\$35,156,000	N	Ν	L/R
A168a	Green Level To Durham	Green Level West	Jenks Road	1.8	2	4	2030	\$9,675,300	N	Ν	F/S
A168b	Green Level To Durham	Green Level West	Durham County Line	4.7	0	4	2030	\$26,994,000	N	Ν	F/S
A169	NC 231 (Southern Wendell) Bypass	NC 231	US 64 Bypass	5.61	0	2	2030	\$52,670,000	N	Ν	F/S
A172	Kelly Road	Jenks Rd.	Old US 1	5.23	2	4	2030	\$27,250,000	N	Ν	L/R
A176a	Dillard Drive	Jones Franklin Road	Walnut Street	0.61	2	4	2030	\$3,067,600	N	Ν	L/R
A176b	Dillard Drive	Tryon Road	Jones Franklin Road	0.71	2	4	2030	\$3,657,300	N	Ν	L/R
A178a	Olive Chapel Road	Kelly Road	NC 55	1.93	2	4	2030	\$12,746,000	N	Ν	L/R
A187	Apex Peakway	NC 55	NC 55	6.19	0	4	2030	\$51,264,000	N	Ν	L/R
A192	Bells Lake Road	Ten Ten Road	Johnson Pond Road	2.66	2	4	2030	\$27,439,000	N	Ν	L/R
A193a	Sunset Lake Road	US 401	Hilltop-Needmore Road	2.58	2	4	2030	\$15,545,000	N	Ν	L/R
A193b	Sunset Lake Road	Hilltop-Needmore Road	Optimist Farm Road	2.69	2	4	2030	\$16,194,000	N	Ν	L/R
A2a	Southall Road	Buffaloe Road	Skycrest Drive	1.54	2	4	2030	\$9,607,100	N	Ν	L/R
A200	Creech/Jones Sausage Connector	Creech Road	Jones Sausage Rd	1.09	0	4	2030	\$6,170,300	N	Ν	L/R
A201a	Rock Quarry Road	New Hope Road	Battle Bridge Road	1.4	2	4	2030	\$6,676,200	N	Ν	L/R
A202	East Garner Road	Rock Quarry Rd	Shotwell Road	3.22	2	4	2030	\$16,098,000	N	Ν	L/R
A204	Bethlehem Road	Smithfield Road	Grasshopper Road	3.44	2	4	2030	\$9,592,000	N	Ν	L/R
A21	Lake Boone Trail Extension	Blue Ridge Road	Edwards Mill Ext.	0.28	0	4	2030	\$1,895,700	N	Ν	L/R
A214	Garner Road	Tryon Road	Rock Quarry Road	7.16	2	3	2030	\$10,515,000	N	Y	L/R
A218a	Old Holly Springs Apex Road	Holly Springs Road	Jessie Drive	2.52	2	4	2030	\$24,505,000	N	Ν	F/S
A218b	Jessie Drive (part NL)	Ten Ten Road	Old Holly Springs Road	3.5	2	4	2030	\$18,463,000	N	Ν	F/S
A219a	McCrimmon Parkway Extension	Townhall Drive	Louis Stevens Road	1.74	2	4	2030	\$30,170,000	N	Ν	F/S
A219b	McCrimmon Parkway Extension	Louis Stevens Raod	NC 55	0.97	0	4	2030	\$4,866,500	N	Ν	F/S
A219c	McCrimmon Parkway Extension	NC 55	1 540	0.92	2	4	2030	\$5,196,600	N	Ν	F/S
A219d	McCrimmon Parkway Extension	I 540	Green Level To Durham	0.41	0	4	2030	\$2,343,100	N	Ν	F/S
A219e	McCrimmon Parkway Extension	Green Level To Durham	County Line Road	0.81	0	2	2030	\$2,717,600	N	Ν	F/S
A220a	Morrisville Carpenter Road	NC 54	Davis Drive	1.39	2	4	2030	\$28,340,000	N	Ν	F/S
A220b	Morrisville Carpenter Road	Davis Drive	NC 55	1.67	2	4	2030	\$11,352,000	N	Ν	F/S
A222b	NC 54	Cary Parkway	McCrimmon Pkwy	3.24	2	4	2030	\$17,970,000	Y	Ν	F/S
A223a	Kit Creek Road	NC 55	Green Level To Durham/Als	0.22	0	4	2030	\$1,883,600	N	Ν	PD
A223c	Kit Creek Road	Davis Drive	NC 54	1.34	2	3	2030	\$11,352,000	N	Ν	PD
A224	Johnson Pond Road	US 401 North	Bells Lake Road	3.52	2	3	2030	\$8,129,600	N	Y	L/R
A234	Western Boulevard	Gorman Street	Avent Ferry Road	1.21	4	6	2030	\$13,471,000	Y	Ν	L/R
A236	NC 54	NE Maynard Road	NW Maynard Road	2.12	2	4	2030	\$11,558,000	Y	Ν	F/S
A27a	Louis Stephens Drive Ext (part NL)	Durham County Line	O'Kelly Chapel Road	2.24	2	4	2030	\$12,765,000	N	Ν	F/S
A3	Spring Forest Road Extension	US 401	Buffaloe Road	1.54	0	4	2030	\$11,202,000	N	Ν	F/S
A37	Walnut Street	Maynard Road	Macedonia Road	1.07	4	6	2030	\$6,685,300	N	Ν	L/R
A4c	Rogers Lane	US 64	Rogers Lane NL	1.13	3	4	2030	\$4,412,400	N	Ν	L/R
A402a	Buffaloe Road-Riley Hill Connector	1540	Forestville Road	1.9	2	4	2030	\$8,334,100	N	Ν	L/R
A403b	Hodge Road Extension	US 64	Old Milburnie Road	1.3	0	4	2030	\$6,935,600	N	N	PD-L/R

A404	South Franklin Street (part NL)	NC 98 (Wake Forest Bypass)	Rogers Rd.	1.1	2	4	2030	\$4,719,500		N	Ν	L/R
A41	Kildaire Farm Road	Ten Ten Road	Kildaire Farm Connector	1.67	2	4	2030	\$8,861,300		N	Ν	L/R
A410	Lake Pine Drive/Old Raleigh Road	Cary Parkway	Apex Peakway	1.7	2	4	2030	\$6,689,700		N	Ν	L/R
A42	Penny Road	Ten Ten Road	Holly Springs Rd.	3.05	2	4	2030	\$14,271,000		N	Ν	L/R
A426	NC 55 (Main Street)	Holly Springs Road	Bobbitt Road	2.96	2	4	2030	\$12,221,000		Y	N	F/S
A427a	Avent Ferry Road	NC 55 Bypass	Cass Holt	1.03	2	4	2030	\$5,143,100		N	Ν	L/R
A444	NC 50	I 540	NC 98	5.06	3	4	2030	\$8,666,900		Y	N	F/S
A49b	Poole Road	Barwell Road	I-540	1.57	2	4	2030	\$6,986,200		N	N	F/S
A52	Smithfield Road	US 64 Bypass	Carrington Drive	2.21	2	4	2030	\$37,294,000		N	Ν	F/S
A59a	N.E. Regional Center	Old Wake Forest Road	I 540	2.4	0	4	2030	\$12,791,000		N	Ν	L/R
A64d	Aviation Parkway	Evans Road	NC 54	0.93	2	4	2030	\$13,432,000	U-3343	N	Ν	F/S
A65	Trinity Road	Trenton Road	NC 54	0.9	2	4	2030	\$4,463,000		N	Ν	L/R
A69	Holly Springs Road	Cary Parkway	Penny Road	2.17	2	6	2030	\$9,320,700		N	Ν	F/S
A70	Holly Springs Road	Penny Road	Ten Ten Road	1.14	2	6	2030	\$5,185,900		N	Ν	F/S
A71	Holly Springs Road	Ten Ten Road	Kildaire Farm Road Connec	1.59	2	6	2030	\$7,277,700		N	N	F/S
A73a	Jones Franklin Road	I-40	Macedonia Road	0.88	2	4	2030	\$7,176,300		N	Ν	L/R
A80b	New Hope Road	US 64	North of Rogers Lane	1.19	2	4	2030	\$5,091,800		N	Ν	F/S
A81	Western Boulevard Extension	Existing Western Blvd	Existing Western Blvd	1.5	0	4	2030	\$8,259,900		N	Ν	L/R
A82	Trinity Road Extension	NC 54	Cary Towne Blvd.	1.08	0	4	2030	\$18,530,000		N	Ν	L/R
A88	New Rand Road	NC 50	Old Garner Road	1.63	2	3	2030	\$5,750,000	U-3607	N	Y	F/S
F13	Triangle Parkway (south of I-540)	I-540	McCrimmon Pkwy	1.6	0	4	2030	\$13,792,000		Y	Ν	F/S
F3	I-540 (Eastern Wake Expressway)	I-40 (South)	US 64 Bypass	10.8	0	6	2030	\$151,200,000		Y	N	F/S
F40	I-40 HOV/HOT Project	Durham County Line	I-440/ US 1-64	9.2	8	8	2030	\$164,920,000		Y	Ν	F/S
F41	I-40 HOV/HOT Project	I-440/ US 1-64	Johnston County	17.29	8	8	2030	\$103,220,000		Y	Ν	F/S
F5	I-540 (Southern Wake Expressway)	NC 55 Bypass	US 401 (South)	7.8	0	6	2030	\$155,590,000		Y	N	F/S
F6	I-540 (Southern Wake Expressway)	US 401 (South)	I-40 (South)	8.7	0	6	2030	\$100,480,000		Y	Ν	F/S
2030 Total	s							\$2,222,500,000				

2040+ Unfunded Projects

Segment Identifier	Facility Name	Segment From	Segment To	Length (miles)	2004 Number of Lanes	Future Number of Lanes	Expected Completion Year	2005 Cost Estimates	TIP ID	Revised Regionally Significant	Exempt?	Funding Source
	Grade Separation (Pedestrian											
801	Tunnel)	Avent Ferry Road	Western Boulevard	0.1			2040	\$8,300,000	U-4417	N	Y	F/S
A125b	Heritage Lake Road	Rogers Rd.	End of Existing Heritage Lak	0.94	2	4	2040	\$5,697,900		N	Ν	PD
A125c	Heritage Lake Road	End of Existing Heritage Lake F	NC 98 (Wake Forest Bypass	0.8	0	4	2040	\$5,089,000		N	Ν	PD
A127b	Ligon Mill Road Connector	NC 98 Bypass	NC 98	1.18	2	4	2040	\$6,289,400		N	Ν	L/R
A127c	Ligon Mill Road Connector	NC 98	Stadium Drive	0.78	2	4	2040	\$3,884,200		N	Ν	PD
A131	NC 96	US 64	NC 98	11.27	2	3	2040	\$65,129,000		N	Y	F/S
A132	Peebles Road Extension	US 401 North	US 401 South	2.6	0	2	2040	\$13,411,000		N	Ν	PD-L/R
A136a	Lake Wheeler Road	US 401	Hilltop-Needmore Road	0.57	2	3	2040	\$2,266,600		N	Y	L/R
A136b	Lake Wheeler Road	Hilltop-Needmore Road	SR 1010	3.43	2	4	2040	\$19,510,000		N	Ν	L/R
A136c	Lake Wheeler Road	SR 1010	Simpkins Road	2.39	2	3	2040	\$10,146,000		N	Y	L/R
A136d	Lake Wheeler Road	Simpkins Road	Tryon Road	3	2	3	2040	\$12,112,000		N	Y	L/R
A137b	Old Stage Road	Ten Ten Road	Rock Service Statoin	1.49	2	4	2040	\$7,959,000		N	Ν	L/R
A137c	Old Stage Road	Rock Service Station	NC 42	3.27	2	4	2040	\$17,089,000		N	Ν	L/R
A14	Ray Road	Leesville Road	Strickland Road	3.24	2	3	2040	\$13,176,000		N	Y	L/R
A140b	Vandora Springs Road & Ext.	Old Stage Road	US 401	1.63	2	4	2040	\$9,539,000		N	Ν	F/S
A140c	Vandora Springs Road & Ext.	US 401	Lake Wheeler Road	0.98	2	4	2040	\$6,321,200		N	N	F/S
A144	NC 50	Timber Drive	US 70	1.5	2	3	2040	\$28,263,000		Y	Y	F/S

* Projects to be complete by end of 2005 ** Exempt projects are "moving ahead" type projects adding intermittent turn lanes and shoulder widenings where needed to increase safety for cars and cyclists.

A146b	NC 96 Bypass	NC 96	Shepard School	1.78	2	4	2040	\$10,488,000	N	N	F/S
A146c	NC 96 Bypass	Shepard School	County Line	2.3	2	4	2040	\$34,352,000	N	Ν	F/S
A153	Norwood Road	Leesville Road	Creedmoor Road	3.5	2	3	2040	\$13,697,000	N	Y	L/R
A155b	T.W. Alexander Drive	US 70	Aviation Parkway	1.02	4	6	2040	\$7,465,700	N	N	L/R
A163b	Holly Springs Road	Old Holly Springs Apex	New Hill Holleman	5.08	2	3	2040	\$23,552,000	N	Y	L/R
A173	NC 751/New Hill Rd.	US 1 (South)	Chatham Co.	5.3	2	4	2040	\$52,233,000	N	N	F/S
A178b	Olive Chapel Road	Richardson Road	Kelly Road	1.82	2	3	2040	\$7,128,900	N	Y	L/R
A178c	Olive Chapel Road	NC 751	Richardson Road	1.32	2	3	2040	\$6,001,600	N	Y	L/R
A179	Richardson Road	US 64 (West)	Humie Olive Road	4.2	2	4	2040	\$31,427,000	N	N	L/R
A181a	Old US 1	NC 751	Humie Olive Road	2.38	2	3	2040	\$9,318,400	N	Y	L/R
A181b	Old US 1	Humie Olive Road	Apex Peakway	2.53	2	4	2040	\$27,851,000	N	Ν	L/R
A184	Apex Barbecue Road	Old US 1	Olive Chapel Road	1.32	2	3	2040	\$7,481,700	N	Y	L/R
A186	Friendship Road	New East-West	Woods Creek Road	2.39	2	3	2040	\$19,576,000	N	Y	L/R
A188	Humie Olive Road	Old US 1	NC 751	2.23	2	4	2040	\$8,759,200	N	N	L/R
A189	Honeycutt East West Connector (par	Western Parkway	Avent Ferry Road	2.9	2	4	2040	\$16,545,000	N	N	L/R
A190	New Hill Holleman Road	US 1	Sherron Harris Road	3.65	2	3	2040	\$37,304,000	N	Y	L/R
A195	Creedmoor Road	Glenwood Ave	Strickland Road	4.11	4	6	2040	\$24,868,000	Y	N	F/S
A201b	Rock Quarry Road	Battle Bridge Road	East Garner Road	3.3	2	4	2040	\$30.614.000	N	N	L/R
A203	Auburn-Knightdale Road	Grasshopper Road	White-Oak Road	7.58	2	4	2040	\$59.044.000	N	N	F/S
A205	Six Forks Extension	Atlantic Avenue	Capital Blvd	0.56	0	4	2040	\$4,485,900	N	N	L/R
A208	Carv Pkwv/Gorman Connector	Holly Springs Road	Tryon Road	2.92	0	4	2040	\$22,686,000	N	N	L/R
A215	Jones Dairy Road	NC 98 (Wake Forest Bypass)	Averette Road	2 74	2	4	2040	\$10,515,000	N	N	L/R
A216a	Jones Dairy Road Extension	Averette Road	US 401	2.87	2	4	2040	\$11,203,000	N	N	L/R
A216h	Jones Dairy Road Extension		NC 96	1.05	0	4	2040	\$4 905 100	N	N	L/R
A218c	Old Holly Springs Apex Road	Tingen Road	Jessie Drive	1.00	2	3	2040	\$4 478 400	N	Y	L/R
A226	Optimist Farm Road	Bells Lake Rd	Lake Wheeler Road	21	2	4	2040	\$11,323,000	N	N	L/R
A228	NC 50	NC 42	Timber Drive	6.87	2	4	2040	\$52,001,000	Y	N	E/N
A27h	Louis Stephens Drive Ext (part NL)	O'Kelly Chapel Road	Morrisville Carpenter Road	2.5	2	4	2040	\$13,553,000	N	N	L/R
Δ27c	Louis Stephens Drive Ext (part NL)	Morrisville Carpenter Road	Morrisville Parkway	0.81	2	4	2040	\$4 709 800	N	N	L/R
A400a	Ten-Ten Rd	Bells Lake Rd	Old Stage Road	5.1	2	4	2040	\$20,184,000	N	N	L/R
A400b	Ten Ten Road	Old Stage Road	NC 50	3.43	2	4	2040	\$13 584 000	N	N	L/R
A402b	Buffaloe Road-Riley Hill Connector (r	Forestville Road	Rolesville Road	3.70	2	4	2040	\$13,887,000	N	N	L/R
A4020	Buffaloe Road-Riley Hill Connector (Polesville	Riley Hill Road	<u> </u>	0	4	2040	\$16,743,000	N	N	L/R
A4020	Hodge Road	Poole Road	Auburn-Knightdale Road	19	2	4	2040	\$7 698 000	N	N	L/R
A406	Shotwell Rd	Fast Garner Rd		0.86	2	4	2040	\$4 934 600	N	N	L/R
Δ407a	NC 42		Old Stage Road	4 1	2	4	2040	\$16,280,000	N	N	E/R E/S
Δ407h	NC 42	Old Stage Road	NC 50	5.42	2	4	2040	\$22,117,000	N	N	F/S
A407c	NC 42		140	2.72	2	4	2040	\$9,625,400	N	N	F/S
A4070	NC 54	Corporate Conter Drive	Hillsborough Street	1.22	2	4	2040	\$9,023,400	N N	N	E/S
A413	Kildaira Earm Connector	Support Lake Road	Holly Springs Road	0.0	0	4	2040	\$0,030,300	N	N	
A414	Milburnia Bood	Hedge Bood Extension	Forestville Bood	0.9	0	4	2040	\$5,590,000	N	N N	
A415		Rodge Road Extension		1.5	2	4	2040	\$5,961,500	N N	IN N	
A416	Pox Road	Spring Forest	05 401	2.06	2	4	2040	\$8,871,100	N	IN N	
A417	Spring Forest Road		05 401	0.67	3	4	2040	\$3,202,400	N	IN N	L/R
A418	NC 96 Bypass (Youngsville)		NC 96	1.68	0	4	2040	\$7,277,900	N	N	F/S
A419	Knightdale Eagle Rock Rd.	First Avenue	US 64/Knightdale Bypass	2.7	2	4	2040	\$11,092,000	N	N	F/S
A420	Intersection Realignment @ Mitchell	IVIIII/KIIEY HIII/Old Milburnie/Role	sville	NA	2	3	2040	\$1,647,900	N	Y	F/S
A421	Barwell Road	Kock Quarry Rd	Poole Road	2.35	2	3	2040	\$5,413,800	N	Y	L/R
A423	Humie Olive Extension	Humie Olive Road	Friendship Road	0.64	0	3	2040	\$2,415,000	N	N	L/R
A427b	Avent Ferry Road	Cass Holt	New Hill Holleman Road	3.75	2	4	2040	\$18,624,000	N	N	L/R
A429	Leesville Road/I-540 Connector	Westgate Road	Leesville Rd.	1.23	0	4	2040	\$6,202,700	N	N	L/R

A430	Ray Road	Norwood Road	Strickland Road	1.93	2	3	2040	\$5,169,200		Ν	Ν	L/R
A432	Skycrest Drive	Brentwood Road	Trawick Road	0.95	3	4	2040	\$4,177,800		Ν	Ν	L/R
A433	Trawick Road	Skycrest Road	New Bern Avenue	0.93	3	4	2040	\$4,478,200		Ν	Ν	L/R
A434	Sunnybrook Road	Poole Road	Rock Quarry Road	1.81	3	4	2040	\$9,445,800		Ν	Ν	L/R
A435	Battle Bridge Road	Rock Quarry Rd	Auburn-Knightdale Road	1.85	2	3	2040	\$4,228,500		Ν	Y	L/R
A436	Hammond Road	I 40	Chapanoke Road	1.45	4	6	2040	\$7,231,700		Ν	Ν	F/S
A437	Lake Wheeler Road	Centenial Parkway	South Saunders Street	1.2	3	4	2040	\$9,271,100		Ν	Ν	L/R
A438	Blue Ridge Road	Glen Eden	Crabtree Valley Avenue	1.01	3	4	2040	\$4,422,300		Ν	Ν	L/R
A439	Buck Jones Road	I 40	Western Boulevard	1.39	2	3	2040	\$6,512,700		Ν	Y	L/R
A440a	Carpenter Fire Station Road	NC 55	County Line Road	2.16	2	4	2040	\$10,172,000		Ν	Ν	L/R
A440b	Carpenter Fire Station Ext.	NC 55	Morrisville Carpenter Road	0.45	0	4	2040	\$4,696,300		Ν	Ν	L/R
A441a	Beaver Crk/Green Level Connector	Green Level Church Road	Zeno Road	0.25	0	3	2040	\$2,044,500		Ν	Ν	PD
A441b	Zeno Road	Beaver Creek/Green Level Chu	Kelly Road	0.7	0	3	2040	\$5,110,300		Ν	Ν	PD
A443	Jenks Road	I 540	US 64	1.64	2	4	2040	\$4,433,500		Ν	Ν	L/R
A446	Glenwood Avenue	Womans Club Drive	Oberlin Road	1.07	4	6	2040	\$18,641,000		Y	Ν	L/R
A447	New Bern Avenue	Raleigh Blvd.	Sunnybrook Road	1.67	4	6	2040	\$21,652,000		Y	Ν	L/R
A448	Six Forks Road	Millbrook Road	Rowan Street	1.04	4	6	2040	\$17,933,000		Y	Ν	L/R
A449	Apex Peakway/Jessie Drive Connect	Apex Peakway	Jessie Drive	1.1	0	4	2040	\$27,468,000		Ν	Ν	PD-L/R
A481	Existing Timber Drive Widening	US 70	New Rand Road	4.02	2	4	2040	\$44,167,000		Ν	Ν	L/R
A502	Wendell Boulevard Widening	US 64 Bypass	Little River	6	2	4	2040	\$27,678,000		Y	Ν	L/R
A66a	O'Kelley Chapel Road	Alston Avenue	Louis Stevens Road	1	0	4	2040	\$4,541,800		Ν	Ν	L/R
A66b	O'Kelley Chapel Road	Alston Avenue	NC 751	0.8	2	4	2040	\$3,288,200		Ν	Ν	L/R
A73b	Jones Franklin Road	I-40	I-440	0.96	2	4	2040	\$26,759,000		Ν	Ν	L/R
A75b	County Line Road	Yates Store Road	Green Level Church Road	2.4	2	4	2040	\$11,555,000		Ν	Ν	PD-L/R
A75c	County Line Road	Green Level Church Road	White Oak Church Road	0.81	2	4	2040	\$3,783,500		Ν	Ν	PD-L/R
A75d	County Line Road	White Oak Church Road	Green Level West	0.8	0	4	2040	\$3,725,600		Ν	Ν	PD-L/R
A75e	Wimberley Road	Green Level West	Jenks Road	2	2	4	2040	\$9,342,600		Ν	Ν	PD-L/R
A76	Optimist Farm Road	Bells Lake Rd.	Sunset Lake Road	2.3	2	4	2040	\$12,106,000		Ν	Ν	L/R
A77	West Lake Road	Ten Ten Road	Optimist Farm Road	1.51	2	4	2040	\$7,839,800		Ν	Ν	L/R
A78	Pierce Olive Road	Optimist Farm Road	Holly Springs Road	1.8	2	4	2040	\$8,939,500		Ν	Ν	L/R
A79	Glenwood Ave\Crabtree Ave Conn (p	Glenwood Ave	Crabtree Avenue	1.55	0	3	2040	\$18,479,000		Ν	Ν	F/S
A90d	US 401 Widening	Franklin County	NC 39 (Louisburg)	10.5	2	4	2040	\$43,578,000	R-2814	Y	Ν	F/S
A99	Arthur Pierce Road	Kildaire Farm	Holly Springs Road	1.5	2	3	2040	\$5,855,500		Ν	Y	L/R
F15a	US 64 West Conversion to Expressw	US 1/64	1-540	5.7	4	6	2040	\$101,030,000		Y	N	F/S
F15b	US 64 West Conversion to Freeway	I-540	NC 752	3.2	4	6	2040	\$96,196,000		Y	N	F/S
2040 Total	s							\$1,605,700,000			-	

Regionally Significant Projects

Regional significance was determined on a project by project basis. Generally those projects determined as being "regionally significant" are major commuter routes that are integral parts of the transportation network. All interstate and US routes fall under this classification as well as NC routes that have no parallel alternative. In addition, projects along routes that could be classified as principal arterials providing interregional movement are classified as regionally significant. Transit projects that result in anything greater than a routine expansion of service are also classified as regionally significant projects are identified for air quality purposes according to federal law. Changes in scope or the completion date of these projects may result in repercussions in terms of air quality, consequently in the event of such a change CAMPO will have to demonstrate conformity to air pollution regulations even if a conformity demonstration is not scheduled.



Segment Identifier	Facility Name	Segment From	Segment To	Length (miles)	2004 Number of Lanes	Future Number of Lanes	Funded Completio n Year	2005 Cost Estimates	TIP ID	Revised Regionally Significant	Exempt?	Funding Source
A100	Strickland Road Extension	Westgate Road	Leesville Road	1.1	0	4	2020	\$3,715,100	U-2918	F/S	N/A	N/A
A101	US 70	Duraleigh Road	Lumley Road	3.3	4	6	2020	\$19,600,000	U-2823	F/S	0.48	3.7
A114	Ten Ten Road	Holly Springs Rd	US 1	3.47	2	4	2020	\$38,914,000		F/S	0	4.62
A118	NC 55	NC 42	Harnett County	4.4	2	4	2030	\$22,535,000	R-2540	F/S	5.36	0.00
A144	NC 50	Timber Drive	US 70	1.5	2	3	2040	\$28,263,000		F/S	0.00	3.95
A151	Aviation Parkway Extension	Brier Creek Parkway	US 70	1.79	0	4	2030	\$54,044,000		F/S	N/A	N/A
A165	Airport Blvd. Extension	NC 54	Davis Drive	1.4	0	4	2020	\$33,766,000			N/A	N/A
A195	Creedmoor Road	Glenwood Ave	Strickland Road	4.11	4	6	2040	\$24,868,000		F/S	0.00	2.88
A20	Hillsborough Street Safety & Enhancement Project	Gorman Street	Woodburn Road	1.4	4	2	2020	\$27,199,000	U-4447	F/S	2.83	2.56
A221	NC 54	N.W. Maynard Rd	South of Cary Parkway	1.14	2	4	2020	\$14,700,000		F/S	0	3.99
A222a	NC 54	McCrimmon Parkway	Durham County Line	1.55	2	4	2020	\$54,955,000		F/S	0	5.51
A222b	NC 54	Cary Parkway	McCrimmon Pkwy	3.24	2	4	2030	\$17,970,000		F/S	3.85	0.00
A228	NC 50	NC 42	Timber Drive	6.87	2	4	2040	\$52,001,000		F/S	0.00	3.89
A234	Western Boulevard	Gorman Street	Avent Ferry Road	1.21	4	6	2030	\$13,471,000		L/R	3.21	0.00
A236	NC 54	NE Maynard Road	NW Maynard Road	2.12	2	4	2030	\$11,558,000		F/S	3.19	0.00
A24	Edwards Mill Road Extension - part II	Trinity Road	Chapel Hill Road	0.7	0	4	2008	\$2,329,100	U-3817	L/R	N/A	N/A
A31	NC 54	Trinity Road	Maynard Road	0.8	2	4	2008	\$2,550,000	U-2908	F/S	0.00	3.40
A412	US 70	Lumley/Westgate Road	Aviation Parkway	2.71	4	6	2020	\$20,274,000		F/S	0.86	3.51
A413	NC 54	Corporate Center Drive	Hillsborough Street	1.33	3	4	2040	\$8,658,500		F/S	5.31	5.33
A426	NC 55 (Main Street)	Holly Springs Road	Bobbitt Road	2.96	2	4	2030	\$12,221,000		F/S	2.87	0.00
A431	Wake Forest Road	Six Forks Road	I 440	0.5	5	7	2009	\$3,781,800		L/R	0.00	3.12
A444	NC 50	1 540	NC 98	5.06	3	4	2030	\$8,666,900		F/S	4.21	1.97
A446	Glenwood Avenue	Womans Club Drive	Oberlin Road	1.07	4	6	2040	\$18,641,000		L/R	0	2.8
A447	New Bern Avenue	Raleigh Blvd.	Sunnybrook Road	1.67	4	6	2040	\$21,652,000		L/R	0	3.94
A448	Six Forks Road	Millbrook Road	Rowan Street	1.04	4	6	2040	\$17,933,000		L/R	0	2.79
A457	Westgate Road	Strickland Road Extension	US 70	1.4	2	4	2020	\$8,620,400	U-2918	F/S	0	5.7
A480	US 401(South)	US 70	East Pkwy (FV)	9.85	4	6	2020	\$62,465,000		F/S	2.63	3.88
A56a	NC 98 Bypass	US 1	NC 98	1.44	0	4	2020	\$14,440,000	R-2809	F/S		
A56b	NC 98 Bypass	US 1A	US 1	1.39	0	4	2020	\$27,040,000	R-2809	F/S		
A89a	US 401 Widening	Ligon Mill Road	Forestville Road	1.23	2	4	2020	\$4,913,900	R-2814	F/S		
A9	Strickland Road	Leesville Road	Creedmoor Road	2.73	2	4	2020	\$16,515,000		L/R	0	4.55
A90a	US 401 Widening	Forestville Road	US 401 Rolesville Bypass	1.00	2	4	2020	\$4,167,200	R-2814	F/S		
A90b	US 401 Rolesville Bypass	US 401	US 401	4.50	0	4	2020	\$19,635,000	R-2814	F/S		
A90c	US 401 Widening	US 401 Rolesville Bypass	Franklin County	1.56	2	4	2020	\$6,040,000	R-2814	F/S		
A90d	US 401 Widening	Franklin County	NC 39 (Louisburg)	10.5	2	4	2040	\$43,578,000	R-2814	F/S	N/A	N/A
A93a	NC 55	Carpenter Fire Station Road	Durham County Line	3.42	2	4	2009	\$17,056,000	R-2906	F/S	0.00	7.12
A93b	NC 55	Carpenter Fire Station Road	High House Road	2.46	2	4	2009	\$13,221,000	R-2906	F/S	2.11	5.52
A93c	NC 55	High House Road	US 64	2.76	2	4	2009	\$13,560,000	R-2906	F/S	2.32	4.05
A95	NC 55	Holly Springs Bypass	SR 1108 (Wake Chapel Road)	3.3	2	4	2009	\$13,333,000	R-2907	F/S	0.00	3.13
A96a	NC 55	Olive Chapel Road	US 64	1.16	2	4	2020	\$7,500,000	R-2906	F/S	0	3.06
A96b	NC 55	Apex Peakway (south)	Olive Chapel Road	1.67	2	3	2020	\$10,488,000	U-2901	F/S	0	4.15
F10	I-440 Widening	US 1/64	Wade Avenue	3.5	4	6	2020	\$77,300,000	U-2719	F/S	1.28	4.16
F11	US 1 (Upgrade to Freeway)	1-540	NC 98	8.8	4	6	2020	\$188,740,000		F/S	1.32	4.17
F12	Triangle Parkway	I-540	Durham County Line	3.5	0	6	2020	\$97,692,000		F/S	N/A	N/A
F13	Triangle Parkway (south of I-540)	I-540	McCrimmon Pkwy	1.6	0	4	2030	\$13,792,000		F/S	N/A	N/A
F15a	US 64 West Conversion to Expressway	US 1/64	I-540	5.7	4	6	2040	\$101,030,000		F/S	N/A	N/A
F15b	US 64 West Conversion to Freeway	1-540	NC 752	3.2	4	6	2040	\$96,196,000		F/S	N/A	N/A
F16	1-40	US 1-64	Wade Avenue	3.89	4	6	2020	\$23,045,000	I-4744	F/S	0.03	3.53
F1a	I-540 (Northern Wake Expressway)	Triangle Town Blvd.	US 64 (Knightdale)	7	0	6	2008	\$180,180,000	R-2000	F/S	N/A	N/A
F2	I-540 (Eastern Wake Expressway)	US 64	US 64 Bypass	2.1	0	6	2008	*	R-2641	F/S	N/A	N/A
F3	I-540 (Eastern Wake Expressway)	I-40 (South)	US 64 Bypass	10.8	0	6	2030	\$151,200,000		F/S	N/A	N/A
F40	I-40 HOV/HOT Project	Durham County Line	I-440/ US 1-64	9.2	8	8	2030	\$164,920,000		Y	N	F/S
F40	I-40 HOV/HOT Project	Durham County Line	I-440/ US 1-64	9.2	8	8	2030	\$164,920,000		F/S	N/A	N/A
F41	I-40 HOV/HOT Project	I-440/ US 1-64	Johnston County	17.29	8	8	2030	\$103,220,000		F/S	N/A	N/A
F44a	I-40 (South)	1-440	US70	4.4	4	8	2020	\$52,133,000		F/S	0	3.68
F44b	I-40 (South)	US 70	NC 42	6.3	4	8	2020	\$165,110,000		F/S	0	3.4
F4a	I-540 (Northern Wake Expressway)	140	NC 55 (Morrisville/Cary)	4	0	6	2008	*	R-2000	F/S	N/A	N/A
F4b	I-540 (Western Wake Expressway)	NC 55 (Morrisville/Cary)	US 1	10.1	0	6	2020	\$221,680,000	R-2635	F/S	N/A	N/A
F4c	I-540 (Western Wake Expressway)	US 1	NC 55 Bypass	2.3	0	6	2020	\$40,525,000	R-2635	F/S	N/A	N/A
F5	I-540 (Southern Wake Expressway)	NC 55 Bypass	US 401 (South)	7.8	0	6	2030	\$155,590,000		F/S	N/A	N/A
F6	I-540 (Southern Wake Expressway)	US 401 (South)	I-40 (South)	8.7	0	6	2030	\$100,480,000		F/S	N/A	N/A
F8	US 70 (Clayton) Bypass	I-40 (South)	US 70 Business	9.5	0	4	2010	\$135,120,000	R-2552	F/S	N/A	N/A
F9	US 1 - 64	US 64	Walnut Street	2.6	4	6	2008	\$27,446,000	U-3101	F/S	1.15	3.72

<u>Safety Element</u>

The safety element of the LRTP is very important in our efforts to best serve the public. In order to do so, our LRTP looks to address dangerous roads and intersections so that safety will enter the equation of project prioritization. The safety of our roads and intersections not only applies to motorists but also bicyclists and pedestrians. According to NCDOT studies, accidents can cost much more than one would think. When cost factors such as medical, emergency services, work loss, employer costs, traffic delay, and property damage are taken into account, the average wreck in NC can have a monetary cost anywhere from \$3,494 (property damage only) to \$1,108,838 (fatal injury). When non-monetary factors such as pain, suffering, and the effect of a death or injury to a family's quality of life are considered, the comprehensive costs of these wrecks can increase greatly.

For the first time, the adopted LRTP includes a number of "Moving Ahead" type projects that are planned on roadways that need additional turn lanes and wider shoulders to decrease congestion and increase safety. These projects are low cost solutions to existing problems on roads that cannot accommodate four lanes of traffic due to right of way issues or environmental constraints. In other cases these improvements are needed as an intermediate step to a four lane widening that is not needed in the time horizon of this plan or cannot be afforded due to financial constraints.

CAMPO staff utilized the Traffic Engineering Accident Analysis System (TEAAS) provided by the NCDOT. TEAAS is a computer program that allows the retrieval of accident data for specified stretches of roadway and intersections over a set amount of time. TEAAS uses the input from all accident reports filed across the state. TEAAS uses this data to determine information such as the crash rate, severity rate, fatality rate, and object struck, just to name a few. This set of data is very useful in the analyses of roadways and identification of hazardous locations.

The analysis undertaken during the LRTP development process involved taking the specified portions of roadways listed in the LRTP and using TEAAS to generate the required data necessary to properly analyze them from a safety standpoint. We then reviewed the crash rate data for the different types of roadway facilities. Any of the LRTP roadway projects that exceeded the normal crash rate for the road type were then noted. Also noted were any projects that had a high number of accidents involving bicycles and/or pedestrians.

One drawback of the NCDOT's TEAAS system and accessible accident database lies in the way accidents are geo-located along the roadway network. The database relies on a mile-posting system instead of a spatially accurate coordinate system. The system currently in use does not enable accidents to be mapped in a GIS environment; as a result identifying high hazard locations is time consuming. Another drawback is that due to the reliance on the milepost system human error may result in accidents located incorrectly. The Capital Area MPO hopes that in the future NCDOT will assign a latitude/longitude, Universal Transverse Mercator (UTM), or some spatial coordinate to the accident so that the process is GIS compatible, more accurate, and more efficient.

Furthermore, the Capital Area MPO should initiate and complete a study to identify unsafe intersections with high incidences of automobile and/or pedestrian and bicycle accidents; engineer solutions, and costs in future Unified Planning Work Programs. The outcome should be a set of recommended improvements, costs, and implementation schedule for adding these intersections to the Transportation Improvement Program.



2010 Projects

2010 Pro	ojects															
Segment Identifier	Facility Name	Segment From	Segment To	Length (miles)	2004 Number of Lanes	Future Number of Lanes	Funded Completion Year	2005 Cost Estimates	TIP ID	Crash Rates (MVMT)	Fatal Crash Rates	Severity Index	Pedestr ians Hit	Byclists Hit	Road Type	Safety Concerns
A123b	Garner Road	Walnut Creek Bridge	Martin Luther King Jr.	0.77	2	3	2008	\$2,123,600		722.60	0.00	5.10	0	N/A	US	1.17 tines normal crash rate
A235a	US 1A	U.S. 1	Ligon Mill Road	0.53	2	4	2010	\$1,568,500	R-3600	861.07	13.67	5.05	1	N/A	RS	2.27 times normal crash rate; high fatality rate; 1 struck pedestrian
A431	Wake Forest Road	Six Forks Road	I 440	0.5	5	7	2009	\$3,781,800		2238.96	0.00	3.12	8	N/A	UP	7 times normal crash rate; high number (8) of pedestrians struck
A46c	Tryon Road	New Tryon Road Alignment	S. Wilmington Street	0.4	2	4	2009	\$3,003,500	U-4432	3355.89	0.00	3.79	0	N/A	US	5.44 times normal crash rate
A47	Sunnybrook Road	Poole Road	New Bern Avenue	1.29	2	4	2008	\$4,918,700		1919.11	0.00	3.84	4	N/A	US	3.11 times normal crash rate; 4 pedestrians struck
A93c	NC 55	High House Road	US 64	2.76	2	4	2008	\$13,560,000	R-2906	609.28	2.32	4.05	3	N/A	UP	1.91 times normal crash rate; 3 pedestrians struck
2010 Tota	ls							\$605,734,040								
2020 Pro	ojects				0001				-		5					
Segment Identifier	Facility Name	Segment From	Segment To	Length (miles)	2004 Number of Lanes	Future Number of Lanes	Funded Completion Year	2005 Cost Estimates	TIP ID	Crash Rate	Fatal Crash Rate	Severity Index	ians Struck	Bicyclists Hit	Road Type	Safety Concerns
A133	Burlington Mills Road	US 1	US 401	4.77	2	4	2020	\$24,133,000		592.815	0	4.4	N/A	N/A	RS	1.56 times normal crash rate
A15	Blue Ridge Road	Duraleigh Road	Glen Eden Drive	0.95	2	4	2020	\$6,123,900		649.84	0	2.23	N/A	N/A	US	1.05 times normal crash rate
A20	Hillsborough Street S	Gorman Street	Woodburn Road	1.4	4	2	2020	\$27,199,000	U-4447	1681.25	2.83	2.56	15	10	UP	5.26 times normal crash rate; high number of pedestrians (15) and bicyclists (10) struck
A221	NC 54	N.W. Maynard Rd	South of Cary Parkway	1.14	2	4	2020	\$14,700,000		429.37	0	3.99	N/A	N/A	UP	1.34 times normal crash rate
A403a	Hodge Road (Wideni	Poole Road	US 64	3.15	2	4	2020	\$12,590,000		505.93	0	4.43	2	N/A	RS	1.33 times normal crash rate; 2 pedestrians struck
A43	Lake Wheeler Road	I-40/I-440	Tryon Road	1.3	2	4	2020	\$20,698,000		682.8	0	3.58	2	N/A	US	1.11 times normal crash rate; 2 pedestrians struck
A480	US 401(South)	US 70	East Pkwy (FV)	9.85	4	6	2020	\$62,465,000		531.52	2.63	3.88	10	6	UP	1.66 times normal crash rate; high number of pedestrians (10) and bicyclists (6) struck
A51	Smithfield Road	Carrington Drive	Forestville Road	1.17	2	4	2020	\$6,400,000	U-3441	3677.74	0	2.9	2	N/A	RS	9.68 times normal crash rate; 2 pedestrians struck
A73c	Jones Franklin Road	I 440	Western Boulevard	0.95	2	4	2020	\$4,497,100		869.36	0	2.59	3	N/A	RS	2.29 times normal crash rate; 3 pedestrians struck
A96a	NC 55	Olive Chapel Road	US 64	1.16	2	4	2020	\$7,500,000	R-2906	587.73	0	3.06	2	N/A	UP	1.84 times normal crash rate; 2 pedestrians struck
A96b	NC 55	Apex Peakway (south)	Olive Chapel Road	1.67	2	3	2020	\$10,488,000	U-2901	469.52	0	4.15	4	N/A	UP	1.47 times normal crash rate; 4 pedestrians struck
2020 Tota	ls							\$1,757,900,000								
2030 Pro	ojects															1
Segment	-			Length	2004	Future	Funded	2005 Cost		Crash	Soverity	Fatal	Padastr			

Segment Identifier	Facility Name	Segment From	Segment To	Length (miles)	2004 Number of Lanes	Future Number of Lanes	Funded Completion Year	2005 Cost Estimates	TIP ID	Crash Rates (MVMT)	Severity Index	Fatal Crash Rates	Pedestr ians Hit	Byclists Hit	Road Type	Safety Concerns
																5.86 times normal crash rate; 2 pedestrians
A122	Holly Springs Road	Sunset Lake Rd.	Kildaire Farm Road	0.91	2	6	2030	\$19,102,000		2224.19	N/A	0.00	2	0	RS	struck
A125a	Forestville Road	Horton Rd.	Rogers Rd.	10.9	2	4	2030	\$56,512,000		404.12	5.24	1.98	0	0	RS	1.06 times normal crash rate
A126a	Ligon Mill Road	Burlington Mills Rd.	US 1A	2.32	2	3	2030	\$9,712,100		687.61	5.49	0.00	0	0	RS	1.81 times normal crash rate
																1.86 times normal crash rate; 2 pedestrians
A126b	Ligon Mill Road	US 401	Burlington Mills Rd.	2.57	2	3	2030	\$10,705,000		706.65	5.56	0.00	2	0	RS	struck
A134	West Young Street (in	N. Main Street	Jones Dairy Road	1.74	2	3	2030	\$7,066,300		436.49	2.17	0.00	0	0	RS	1.15 times normal crash rate
A138c	Timber Dr./Jones Sau	White Oak Road	Garner Road	1.59	2	4	2030	\$30,705,000		1201.06	6.78	0.00	0	0	UN	2.23 times normal crash rate
																1.92 times normal crash rate; 2 pedestrians
A143	White Oak Road	US 70	NC 42 (Johnston Co.)	7.32	2	4	2030	\$65,048,000		729.68	3.38	0.00	2	0	RS	struck

A172	Kelly Road	Jenks Rd.	Old US 1	5.23	2	4	2030	\$27,250,000)	978.60	4.78	0.00	0	0	RS	2.58 times normal crash rate
A176a	Dillard Drive	Jones Franklin Road	Walnut Street	0.61	2	4	2030	\$3,067,600)	954.49	4.36	0.00	0	0	UN	1.78 times normal crash rate
A204	Bethlehem Road	Smithfield Road	Grasshopper Road	3.44	2	4	2030	\$9,592,000)	444.24	4.10	0.00	0	0	RS	1.17 times normal crash rate
A218a	Old Holly Springs Ap	Holly Springs Road	Jessie Drive	2.52	2	4	2030	\$24,505,000)	638.10	3.64	0.00	0	0	UN	1.19 times normal crash rate
A224	Johnson Pond Road	US 401 North	Bells Lake Road	3.52	2	3	2030	\$8,129,600)	819.40	5.19	0.00	0	0	RS	2.16 times normal crash rate
A234	Western Boulevard	Gorman Street	Avent Ferry Road	1.21	4	6	2030	\$13,471,000)	400.06	3.21	0.00	4	6	UP	struck; 6 bicylists struck
																2.05 times normal crash rate; 4 pedestrians
A37	Walnut Street	Maynard Road	Macedonia Road	1.07	4	6	2030	\$6,685,300)	1266.57	3.05	0.00	4	0	US	struck
A4c	Rogers Lane	US 64	Rogers Lane NL	1.13	3	4	2030	\$4,412,400)	654.87	1.74	0.00	0	0	US	1.06 times normal crash rate
A42	Penny Road	Ten Ten Road	Holly Springs Rd.	3.05	2	4	2030	\$14,271,000)	664.07	4.77	0.00	0	0	US	1.08 times normal crash rate
A49b	Poole Road	Barwell Road	I-540	1.57	2	4	2030	\$6,986,200)	561.48	4.72	6.35	3	3	RS	struck; 3 bicyclists struck
																1.02 times normal crash rate; 2 pedestrians
A70	Holly Springs Road	Penny Road	Ten Ten Road	1.14	2	6	2030	\$5,185,900)	398.06	5.17	6.55	2	N/A	RS	struck
A71	Holly Springs Road	Ten Ten Road	Kildaire Farm Road Conne	1.59	2	6	2030	\$7,277,700)	572.53	0	2.73	N/A	N/A	RS	1.51 times normal crash rate
A88	New Rand Road	NC 50	Old Garner Road	1.63	2	3	2030	\$5,750,000	U-3607	769.91	0	3.37	N/A	N/A	UN	1.43 times normal crash rate
2030 Tot	als							\$2,222,500,000)							

2040+ U	nfunded Projects															
Segment Identifier	Facility Name	Segment From	Segment To	Length (miles)	2004 Number of Lanes	Future Number of Lanes	Expected Completion Year	2005 Cost Estimates	TIP ID	Crash Rates (MVMT)	Fatal Crash Rates	Severity Index	Pedestr ians Hit	Byclists Hit	Road Type	Safety Concerns
A131	NC 96	US 64	NC 98	11.27	2	3	2040	\$65,129,000		588.72	10.51	6.32	0	0	RS	1.55 times normal crash rate
A136a	Lake Wheeler Road	US 401	Hilltop-Needmore Road	0.57	2	3	2040	\$2,266,600		428.37	0.00	10.80	0	0	RS	1.13 times normal crash rate
A136b	Lake Wheeler Road	Hilltop-Needmore Road	SR 1010	3.43	2	4	2040	\$19,510,000		409.33	0.00	7.80	0	0	RS	1.08 times normal crash rate
A137b	Old Stage Road	Ten Ten Road	Rock Service Statoin	1.49	2	4	2040	\$7,959,000		506.43	0.00	3.33	0	0	RS	1.33 times normal crash rate
A144	NC 50	Timber Drive	US 70	1.5	2	3	2040	\$28,263,000		927.42	0.00	3.95	2	0	UP	2.91 times normal crash rate; 2 pedestrians struck
A153	Norwood Road	Leesville Road	Creedmoor Road	3.5	2	3	2040	\$13,697,000		983.07	0.00	5.25	0	0	RS	2.59 times normal crash rate
A181a	Old US 1	NC 751	Humie Olive Road	2.38	2	3	2040	\$9,318,400		594.25	0.00	4.33	0	0	RS	1.56 times normal crash rate
A181b	Old US 1	Humie Olive Road	Apex Peakway	2.53	2	4	2040	\$27,851,000		386.26	0.00	2.68	0	0	RS	1.02 times normal crash rate
A203	Auburn-Knightdale Ro	Grasshopper Road	White-Oak Road	7.58	2	4	2040	\$59,044,000		381.71	3.10	3.96	0	0	RS	1.01 times normal crash rate
A215	Jones Dairy Road	NC 98 (Wake Forest Bypass)	Averette Road	2.74	2	4	2040	\$10,515,000		458.41	13.10	4.86	0	0	RS	1.21 times normal crash rate
A400a	Ten-Ten Rd.	Bells Lake Rd.	Old Stage Road	5.1	2	4	2040	\$20,184,000		424.85	4.88	4.71	0	0	RS	1.12 times normal crash rate
A406	Shotwell Rd.	East Garner Rd.	US 70	0.86	2	4	2040	\$4,934,600		748.8	0	5.06	N/A	N/A	RS	1.97 times normal crash rate
A407c	NC 42	NC 50	1 40	2.28	2	4	2040	\$9,625,400		974.29	3.73	4.25	3	N/A	RS	2.57 times normal crash rate; 3 pedestrians struck
A415	Milburnie Road	Hodge Road Extension	Forestville Road	1.5	2	4	2040	\$5,981,500		537.21	0	3.31	N/A	N/A	RS	1.41 times normal crash rate
A416	Fox Road	Spring Forest	US 401	2.06	2	4	2040	\$8,871,100		1242.38	0	3.41	2	N/A	UN	2.31 times normal crash rate; 2 pedestrians struck
A417	Spring Forest Road	Fox Road	US 401	0.67	3	4	2040	\$3,202,400		1088.45	0	3.54	N/A	2	US	1.76 times normal crash rate
A421	Barwell Road	Rock Quarry Rd	Poole Road	2.35	2	3	2040	\$5,413,800		772.52	15.42	6.84	N/A	2	RS	2.04 times nromal crash rate; 2 bicyclists struck
A433	Trawick Road	Skycrest Road	New Bern Avenue	0.93	3	4	2040	\$4,478,200		1423.21	0	2.88	N/A	N/A	US	2.31 times normal crash rate
A434	Sunnybrook Road	Poole Road	Rock Quarry Road	1.81	3	4	2040	\$9,445,800		1176.23	0	2.54	N/A	N/A	US	1.91 times normal crash rate
A439	Buck Jones Road	I 40	Western Boulevard	1.39	2	3	2040	\$6,512,700		881.53	0	2.55	2	N/A	US	1.43 times normal crash rate
A440a	Carpenter Fire Station	NC 55	County Line Road	2.16	2	4	2040	\$10,172,000		431.31	0	7.24	N/A	N/A	RS	1.16 times normal crash rate
A447	New Bern Avenue	Raleigh Blvd.	Sunnybrook Road	1.67	4	6	2040	\$21,652,000		700.57	0	3.94	4	2	UP	struck; 2 bicyclists struck
A448	Six Forks Road	Millbrook Road	Rowan Street	1.04	4	6	2040	\$17,933,000		671.03	0	2.79	5	2	UP	struck; 2 bicyclists struck
A481	Existing Timber Drive	US 70	New Rand Road	4.02	2	4	2040	\$44,167,000		962.85	0	4.16	N/A	2	US	1.56 times normal crash rate
A76	Optimist Farm Road	Bells Lake Rd.	Sunset Lake Road	2.3	2	4	2040	\$12,106,000		577.18		2.67	N/A	N/A	RS	1.52 times normal crash rate
A77	West Lake Road	Ten Ten Road	Optimist Farm Road	1.51	2	4	2040	\$7,839,800		784.15	0	3.77	N/A	N/A	RS	2.06 times normal crash rate
2040 Tota	ls							\$1,578,000,000								

<u>Transit Element</u>

Expansion Plans

The expansion plans of Triangle Transit Authority (TTA), Capital Area Transit (CAT), Cary Transit (CTRAN), and North Carolina State University's Wolfline, are supported by the Capital Area Metropolitan Planning. The Transit Element Map is a compilation of approved short range transit plans provided by local transit providers. The table that follows is an excerpt from the 2004-2010 MTIP showing transit projects. The Capital Area MPO supports the funding of these projects, as funds become available, to facilitate the necessary expansions and improvements as outlined in the CAT and TTA five year plans. CAT plans for minor expansions in routes and vehicles, in addition there will be increased coordination between CAT and TTA resulting in route modifications that will better serve the TTA Rail Phase I after its completion.

The CAT five year plan can be view at <u>www.raleigh-nc.org/transit/</u>. The TTA five year plan is currently being finalized, staff is currently working with CAT and CTRAN to ascertain the exact route alterations and expansions that will be needed to compliment the TTA Rail project that is anticipated to be open by 2008. Wolfline maintains an extensive expansion plan that will be implemented in tandem with the growth of North Carolina State University.

A synopsis of short-range planning efforts undertaken by TTA, CAT, and CTRAN as well as an update on the inter-agency Bus-Rail Interface Plan is located in the letter from TTA immediately following this introduction.

Funding

The Capital Area MPO has coordinated with local transit systems to develop a fiscally restrained transit plan projecting additional funding to be allotted to public transportation projects as overall trip growth increases. This will allow for a continuation of current operations and maintenance as well as minor expansions in fleets and routes. A portion of the projected funding will be in the form of a federal grant covering half of the cost of the TTA Rail Project, additional local and state funding is also included in the projections. In addition to traditional transit funding and monies appropriated for the TTA Rail, the Capital Area MPO has assumed a substantial amount of alternative revenues of which 30 percent will be destined to help accomplish transit expansion plans.

On December 20th, 2004 the Capital Area MPO Transportation Advisory Committee voted to approve a STP-DA funding proposal that allocated \$750,000 annually (beginning in FY 2006) toward transit, bicycle and pedestrian projects.



Figure 4-8.1: Projected Transit Revenue

Transit Vision Plan

A need for an improved transit vision plan for the region is recognized by the Capital Area MPO. In the near future Capital Area MPO staff plans to coordinate with Capital Area Transit, Triangle Transit Authority, North Carolina State University's Wolfline, Cary, Wake County, NCDOT, DCHC, and all other relevant agencies in order to draft a comprehensive transit plan. It is hoped that a combined effort with all transit providers will result in a plan outlining necessary expansions in transit services. Once these new service needs are identified, a region wide analysis can occur that will result in short term plans allocating funding according to the greatest rider benefits and improvements in air quality.



February 24, 2005

Ed Johnson Director Capital Area MPO The Professional Building - Suite 406 127 West Hargett St. Raleigh, NC 27601

Dear Mr. Johnson,

The Triangle Transit Authority staff provides you with this letter as documentation of the process through which bus-rail interface planning activities have been taking place since 1997. The following information is a synopsis of these activities. It is our understanding that the Federal Transit Administration has requested this information from you as part of the MPO's Triennial Review.

Bus-Rail Interface Planning for Regional Rail Environmental Impact Statement

Staff from Triangle Transit Authority has collaborated with Durham Area Transit Authority, City of Raleigh Transit Division, Town of Cary, Town of Morrisville, Chapel Hill Transit, Orange County Transportation Department, and NC State University in the development of preliminary feeder bus networks for the Environmental Impact Statement process. This included detailed analysis of land use patterns and projections, ridership estimates, and capital and operations and maintenance costs for each jurisdiction. All the parties approved of the final networks, which were used as assumptions in the Triangle Regional Model for forecasting ridership for the Environmental Impact Statement. This work was initiated in late 1997 and largely completed by June 2001 with the completion of the Draft Environmental Impact Statement. The steps included:

Step 1	Establish Partnerships	(Fall 1997)
Step 2	Gather and Map Data	(Winter/Spring 1998)
Step 3	Sketch Service Alternatives	(Winter/Spring 1998)
Step 4	Preliminary Alternative for EIS Modeling	(Summer 1998)
Step 5	Impact Assessment	(Summer/Fall 1998)
Step 6	Operations and Maintenance (O&M) Cost Estimates	(Winter/Spring 1999)
Step 7	Alternative Refinement	(2000 – June 2001)

Local Short-Range Transit Plan Development

Since that time, the Durham Area Transit Authority, the Raleigh Transit Authority, and the Town of Cary have developed short-range transit plans.

Durham Area Transit Authority

In 2001, the <u>Durham Area Transit Authority</u> began development of its Short-Range Transit Plan covering the period from FY2003 through FY2007. This plan incorporated the new services identified for DATA in the in the EIS Regional Feeder Bus Network, and included additional service improvements developed through their planning process. The Durham Area Transit Authority Board adopted this plan in February 2002.

Raleigh Transit Authority

In 2002, the <u>Raleigh Transit Authority</u> initiated development of its Five-Year Transit Plan covering the period from FY2004 through FY2008. This plan incorporated the new services identified for CAT in the EIS Regional Feeder Bus Network, and included additional service improvements. Raleigh's Five-Year Transit Plan actually anticipates greater levels of services in FY2008 than the EIS network anticipated for FY2025. The Raleigh Transit Authority adopted this plan in June 2003, and the Raleigh City Council endorsed the plan in December 2003.

Town of Cary

In 2004, the <u>Town of Cary</u> developed a three-year transit plan, which recommends the creation of three new fixed-routes all serving the Downtown Cary Rail Station location. The Cary Town Council will likely consider this plan in February 2005.

TTA's Bus Fleet Management Plan Development

In August 2004, TTA submitted its revised Bus Fleet Management Plan, which incorporated TTA's planned bus services through the horizon year of the regional rail project. The comments received from the Project Management Oversight Consultant on September 22, 2004 recommended several changes, all related to information about TTA services. Subsequent to those comments, staff from the Federal Transit Administration requested that documentation of the other local transit providers' commitments of bus services in the opening year of the regional rail project and the horizon year of the project be incorporated into the Bus Fleet Management Plan.

To that end, TTA met with representatives from CAT, DATA, CAMPO, DCHC, and NCDOT on December 3, 2005 to clarify two issues: what the local transit agencies could <u>commit</u> in services for the opening year of the regional rail project, and what the MPO's could confirm is in the fiscally-constrained long-range transportation plans for 2025. Following this meeting, TTA drafted an update to the Bus Fleet Management Plan for FTA's review on December 7th. TTA received further comments from the Project Management Oversight Consultant on December 28th.

TTA is still in process of finishing the final draft of the update to the Bus Fleet Management Plan which incorporates all agencies' bus-rail interface commitments. Upon completion of the final draft, the local agencies and the MPOs will be requested to review and comment on the document. All parties will need to sign a letter indicating that they endorse the document prior to re-submitting it to FTA.

TTA staff anticipates that the final draft of the Bus Fleet Management Plan will be ready for review by March 31st. Please feel free to contact me with any questions you have about this chronology, or about the Bus Fleet Management Plan document.

Sincerely,

John D. Tallmadge Director of Commuter Resources



		See	e below fo	or Public	: Transportati	on Section of 2004-2010 MTIP with	Exe	emption	and R	egionally Significa	ance		
AMTRAK	P-2908	NO	YES	126-B-10	RAIL TRANSIT OPERATING	CAPITAL AND OPERATIONS COST OF TRAIN 79/80 BETWEEN CHARLOTTE AND ROCKY MOUNT.		39657	17049	OPERATIONS	S(5)	22608	SFY 04 05 06 07 08 09
					ASSISTANCE					IN PROGRESS			
AMTRAK	P-2918	NO	YES	126-B-10	RAIL TRANSIT OPERATING	TRAIN 73/74 OPERATIONS BETWEEN CHARLOTTE AND RALEIGH AND CAPITAL YARD MAINTENANCE		57940	25182	OPERATIONS	S(5)	12392	SFY 04 05 06 07 08 09
					ASSISTANCE	FACILITY.				OPERATIONS	T2001	20366	SFY 04 05 06 07 08 09
										IN PROGRESS			
APEX	Y-2940A	NO	YES	126-A-1	RR-HIGHWAY XING	EAST THOMPSON STREET AT CSX TRANSPORTATION CROSSING 630 691Y. INSTALL AUTOMATIC WARNING DEVICES. RAIL PASSENGER CROSSING.		78	78	FUNDED - CONSTRUCTION NOT AUTHORIZED			
KNIGHTDALE	Z-4005	NO	YES	126-A-1	RR-HIGHWAY XING	SR 2500 (ROBERTSON STREET) AT NORFOLK SOUTHERN RAILWAY CROSSING 465 680H. SAFETY IMPROVEMENTS.		75	75	FUNDED - CONSTRUCTION NOT AUTHORIZED			
RALEIGH	P-3803	YES	NO	126-B-11/B	CONSTRUCTION OF	TRACK AND STATION CONSTRUCTION.		4300	2300	CONSTRUCTION	CMAQ	2000	FFY 04
				7	TRACK AND STATION FACILITY					IN PROGRESS			
WAKE COUNTY	TJ-4791	NO	YES	126	OPERATING ASSISTANCE	PROVIDE OPERATING ASSISTANCE TO COUNTIES AND COMMUNITY TRANSPORTATION SYSTEMS TO MEET WORK FIRST AND EMPLOYMENT TRANSPORTATION NEEDS.		48		OPERATIONS	OAWF	48	FFY 04
WAKE COUNTY	TJ-4891	NO	YES	126	OPERATING ASSISTANCE	PROVIDE OPERATING ASSISTANCE TO COUNTIES AND COMMUNITY TRANSPORTATION SYSTEMS TO MEET WORK FIRST AND EMPLOYMENT TRANSPORTATION NEEDS.		54		OPERATIONS	OAWF	54	FFY 05
WAKE COUNTY	TL-4791	NO	YES	126	OPERATING ASSISTANCE	PROVIDE OPERATING ASSISTANCE FOR ADDITIONAL TRANSPORTATION SERVICES TO THE ELDERLY AND DISABLED		161		OPERATIONS	EDTAP	161	FFY 04
WAKE COUNTY	TL-4891	NO	YES	126	OPERATING ASSISTANCE	PROVIDE OPERATING ASSISTANCE FOR ADDITIONAL TRANSPORTATION SERVICES TO THE ELDERLY AND		156		OPERATIONS	EDTAP	156	FFY 05
WAKE COUNTY	TR-4791	NO	YES	126	OPERATING ASSISTANCE	PROVIDE MAINTENANCE ASSISTANCE FOR COMMUNITY TRANSPORTATION SYSTEMS TO SERVE THE RURAL GENERAL PUBLIC.		93		OPERATIONS	RGP	93	FFY 04
WAKE COUNTY	TR-4891	NO	YES	126	OPERATING ASSISTANCE	PROVIDE MAINTENANCE ASSISTANCE FOR COMMUNITY TRANSPORTATION SYSTEMS TO SERVE THE RURAL GENERAL PUBLIC.		75		OPERATIONS	RGP	75	FFY 05
CARY	TA-4809	NO	YES	126	OPERATING AS.	3 - EXPANSION BUSES		179		UNFUNDED PROJECT	FED/S/L	179	FFY 04
CARY	TA-4810	NO	YES	126	OPERATING AS.	1 - EXPANSION BUS		58		UNFUNDED PROJECT	FED/S/L	58	FFY 05
CARY	TA-4811A	NO	YES	126	OPERATING AS.	1 - REPLACEMENT BUS		58		UNFUNDED PROJECT	FED/S/L	58	FFY 07
CARY	TA-4811B	NO	YES	126	OPERATING AS.	2 - EXPANSION BUSES		118	_	UNFUNDED PROJECT	FED/S/L	118	FFY 07
CARY	TA-4812	NO	YES	126	OPERATING AS.	2 - REPLACEMENT BUSES		118		UNFUNDED PROJECT	FED/S/L	118	FFY 08
	TA-4813	NO	VES	120	OPERATING AS.			28			FED/S/L	38	FFY 08
CARY	TA-4815	NO	YES	120	OPERATING AS	3 - REPLACEMENT BUSES		239			FED/S/L	239	FFY 110
CARY	TG-4819	NO	YES	126	ROUTINE CAPITAL	ROUTINE CAPITAL EQUIPMENT		16		UNFUNDED PROJECT	FED/L	16	FFY 06
CARY	TG-4820	NO	YES	126	ROUTINE CAPITAL	ROUTINE CAPITAL EQUIPMENT		11		UNFUNDED PROJECT	FED/L	11	FFY 07
CARY	TG-4824	NO	YES	126	ROUTINE CAPITAL	ROUTINE CAPITAL EQUIPMENT		48	1	UNFUNDED PROJECT	FED/L	48	FFY 08
CARY	TG-4825	NO	YES	126	ROUTINE CAPITAL	ROUTINE CAPITAL EQUIPMENT		48		UNFUNDED PROJECT	FED/L	48	FFY 09
CARY	TM-4716A	NO	YES	126	CONTRACTING	CAPTIAL COST OF CONTRACTING		1400		UNFUNDED PROJECT	FUZ/L	1400	FFY 04
CARY	TM-4716B	NO	YES	126	CONTRACTING	CAPTIAL COST OF CONTRACTING		1600		UNFUNDED PROJECT	FUZ/L	1600	FFY 05
CARY	TM-4716C	NO	YES	126	CONTRACTING	CAPTIAL COST OF CONTRACTING		1700		UNFUNDED PROJECT	FUZ/L	1700	FFY 06
CARY	IM-4716D	NU	YES	126	CONTRACTING			2000			FUZ/L	2000	FFY 0/
	TM 4716E	NO	VES	120				2400	_		FUZ/L	2400	FFT US
CARY	TM-4716C	NO	YES	120	CONTRACTING			2400			FUZ/L	2400	FEY 10
RALEIGH	TA-4785	NO	YES	126		14 - REPLACEMENT BUSES		5115		UNFUNDED PROJECT	FED/S/I	5115	FFY 07
RALEIGH	TA-4786	NO	YES	126		9 - REPLACEMENT BUSES		2100	1	UNFUNDED PROJECT	FED/S/L	2100	FFY 09
RALEIGH	TA-4787	NO	YES	126				1	1				

RALEIGH	TA-4788	NO	YES	126	CAPITAL	ROUTINE CAPITAL ITEMSPREVENTIVE MAINTENANCE, SHOP EQUIPMENT, OFFICE EQUIPMENT, FACILITY IMPROVEMENT, RADIOS, BUS SHELTERS, BENCHES, TRASH RECEPTACLES, SIGNAGES, POLES, COMPUTER EQUIPMENT AND SOFTWARE, SERVICE VEHICLES REPLACEMENT	3500	CAPITAL	FUZ/L	3500	FFY 04
RALEIGH	TA-4789	NO	YES	126	CAPITAL	ROUTINE CAPITAL ITEMSPREVENTIVE MAINTENANCE, SHOP EQUIPMENT, OFFICE EQUIPMENT, FACILITY IMPROVEMENT, RADIOS, BUS SHELTERS, BENCHES, TRASH RECEPTACLES, SIGNAGES, POLES, COMPUTER EQUIPMENT AND SOFTWARE, SERVICE VEHICLES REPLACEMENT	3130	CAPITAL	FUZ/L	3130	FFY 05
RALEIGH	TG-4790	NO	YES		CAPITAL	ROUTINE CAPITAL ITEMSPREVENTIVE MAINTENANCE, SHOP EQUIPMENT, OFFICE EQUIPMENT, FACILITY IMPROVEMENT, RADIOS, BUS SHELTERS, BENCHES, TRASH RECEPTACLES, SIGNAGES, POLES, SERVICE VEHICLES REPLACEMENT	2717	CAPITAL	FUZ/L	2717	FFY 06
RALEIGH	TG-4791	NO	YES		CAPITAL	ROUTINE CAPITAL ITEMSPREVENTIVE MAINTENANCE, SHOP EQUIPMENT, OFFICE EQUIPMENT, FACILITY IMPROVEMENT, RADIOS, BUS SHELTERS, BENCHES, TRASH RECEPTACLES, SIGNAGES, POLES, SERVICE VEHICLES REPLACEMENT	2955	CAPITAL	FUZ/L	2955	FFY 07
RALEIGH	TG-4792	NO	YES		CAPITAL	ROUTINE CAPITAL ITEMSPREVENTIVE MAINTENANCE, SHOP EQUIPMENT, OFFICE EQUIPMENT, FACILITY IMPROVEMENT, RADIOS, BUS SHELTERS, BENCHES, TRASH RECEPTACLES, SIGNAGES, POLES, SERVICE VEHICLES REPLACEMENT	2852	CAPITAL	FUZ/L	2852	FFY 08
RALEIGH	TG-4793	NO	YES		CAPITAL	ROUTINE CAPITAL ITEMSPREVENTIVE MAINTENANCE, SHOP EQUIPMENT, OFFICE EQUIPMENT, FACILITY IMPROVEMENT, RADIOS, BUS SHELTERS, BENCHES, TRASH RECEPTACLES, SIGNAGES, POLES, COMPUTER EQUIPMENT AND SOFTWARE	2897	CAPITAL	FUZ/L	2897	FFY 09
RALEIGH	TG-4794	NO	YES		CAPITAL	ROUTINE CAPITAL ITEMSPREVENTIVE MAINTENANCE, SHOP EQUIPMENT, OFFICE EQUIPMENT, FACILITY IMPROVEMENT, RADIOS, BUS SHELTERS, BENCHES, TRASH RECEPTACLES, SIGNAGES, POLES, SERVICE VEHICLES REPLACEMENT	2940	CAPITAL	FUZ/L	2940	FFY 10
RALEIGH	TM-4727	NO	YES			AUTOMATIC PASSENGER COUNTERS	497		FED/L	497	FFY 04
RALEIGH	TM-4728	NO	YES	-		REGIONAL SIGNAL PREEMPTION PRIORITY	180	↓ ↓	FED/L	180	FFY 05
KALEIGH	1P-4739	NU	YES		00504704045	PLANNING PROGRAM (SECTION 5303) TO SUPPORT MPO PLANNING ACTIVITIES	94		FED/S/L	94	FFY 04
RALEIGH	TA-4797	NO	YES		OPERATING AS.	20 - REPLACEMENT BUSES. TOTAL PROJECT COST SHOWN.	4800	UNFUNDED PROJECT	FED/S/L	4800	FFY 06
RALEIGH	TA-4808	NO	YES		OPERATING AS.	6 - REPLACEMENT BUSES		UNFUNDED PROJECT	FED/S/L	_	
RALEIGH	TA-4809	NO	YES		OPERATING AS.	3 - EXPANSION BUSES		UNFUNDED PROJECT	FED/S/L		
	TA-4810	NO	YES		OPERATING AS.				FED/S/L		
	TA-4811A	NO	VES		OPERATING AS.	2 - EXPANSION RUSES	1		FED/S/L	-	
RALEIGH	TA-4812	NO	YES		OPERATING AS	2 - REPLACEMENT BUSES		UNFUNDED PROJECT	FED/S/L		
RALEIGH	TA-4813	NO	YES		OPERATING AS.	1 - EXPANSION BUS	1	UNFUNDED PROJECT	FED/S/L	1	
RALEIGH	TA-4814	NO	YES		OPERATING AS.	2 - REPLACEMENT BUSES	1	UNFUNDED PROJECT	FED/S/L	1	
RALEIGH	TA-4815	NO	YES		OPERATING AS.	3 - REPLACEMENT BUSES	1	UNFUNDED PROJECT	FED/S/L		
RALEIGH	TA-4818	NO	YES		OPERATING AS.	20 - REPLACEMENT BUSES. TOTAL PROJECT COST SHOWN.	5600	UNFUNDED PROJECT	FED/S/L	5600	FFY 05
RALEIGH	TA-4819	NO	YES		OPERATING AS.	15 - REPLACEMENT BUSES. TOTAL PROJECT COST SHOWN.	4200	UNFUNDED PROJECT	FED/S/L	4200	FFY 09

RALEIGH	TD-4727	NO	YES		EXPANSION OF MAINTENANCE FACILITY	1340	UNFUNDED PROJECT	FED/S/L	1340	FFY 04
		NO	YES							
RALEIGH	TD-4729				RENOVATION OF TRANSIT MAINTENANCE FACILITY		UNFUNDED PROJECT			
		YES	NO		INTERMODAL CENTERDESIGN, LAND ACQUISITION					
RALEIGH	TD-4730	_			AND CONSTRUCTION		UNFUNDED PROJECT			
		YES	NO		PHASE I REGIONAL RAIL SERVICE. TOTAL PROJECT	750000		FFGA	750000	FFY 05
RAI FIGH	TE-4705A				COST SHOWN		UNFUNDED PROJECT			
TO LE LIGHT	12 1100/1	YES	NO		PHASE REGIONAL RAIL SERVICE TOTAL PROJECT					
RALEIGH	TE-4705B	120	110		COST SHOWN		UNFUNDED PROJECT			
TO LE LIGHT	12 11002	YES	NO		PHASE REGIONAL RAIL SERVICE TOTAL PROJECT					
RAI EIGH	TE-4705C	. 20			COST SHOWN		LINELINDED PROJECT			
TULLEIOIT		VES	NO		PHASE REGIONAL RAIL SERVICE TOTAL PROJECT					
	TE-4705D	120	NO		COST SHOWN					
RALLION	12-47030	VES	NO				ON ONDED I NOSECT			
	TE 4705E	1113	NO		COST SHOWN					
RALLIGH	1L-4703L	VEC	NO		DHASE L RECIONAL RAIL SERVICE TOTAL PROJECT		UNFUNDED FROJECT			
	TE 4705E	1113	NO		COST SHOWN					
	TE 4703F	NO	VEC			2740		-	2740	EEV OG
RALEIGH	TE-4707A	NO	YES			2749			2749	FFY 00
RALEIGH	1E-4707B	NO	YES	CADITAL	AIRPORT RAIL PROJECTPLANNING/PE/DEIS	2749			2749	
	TO 4000	NO	TES	CAPITAL	ROUTINE CAPITAL ITEMS-SHOP EQUIPMENT,	100	CAPITAL		100	FFY 04
RALEIGH	TG-4809		1/50	0401741	SPARE PARTS. TOTAL PROJECT COST SHOWN.					
		NO	YES	CAPITAL	ROUTINE CAPITAL TIEMS-SHOP EQUIPMENT,	171	CAPITAL		171	FFY 05
RALEIGH	IG-4810				SPARE PARTS. TOTAL PROJECT COST SHOWN.					
		NO	YES	CAPITAL	ROUTINE CAPITAL ITEMSSHOP EQUIPMENT,	171	CAPITAL		171	FFY 06
RALEIGH	TG-4811				SPARE PARTS. TOTAL PROJECT COST SHOWN.					
		NO	YES	CAPITAL	ROUTINE CAPITAL ITEMSSHOP EQUIPMENT,	171	CAPITAL		171	FFY 07
RALEIGH	TG-4812				SPARE PARTS. TOTAL PROJECT COST SHOWN.					
RALEIGH	TG-4819	NO	YES		ROUTINE CAPITAL EQUIPMENT		UNFUNDED PROJECT			
RALEIGH	TG-4820	NO	YES		ROUTINE CAPITAL EQUIPMENT		UNFUNDED PROJECT			
		NO	YES	CAPITAL	ROUTINE CAPITAL ITEMSSHOP EQUIPMENT,	171	CAPITAL		171	FFY 08
RALEIGH	TG-4821				SPARE PARTS. TOTAL PROJECT COST SHOWN.					
		NO	YES	CAPITAL	ROUTINE CAPITAL ITEMSSHOP EQUIPMENT,	171	CAPITAL		171	FFY 09
RALEIGH	TG-4822				SPARE PARTS. TOTAL PROJECT COST SHOWN.					
		NO	YES	CAPITAL	ROUTINE CAPITAL ITEMSSHOP EQUIPMENT,	171	CAPITAL		171	FFY 10
RALEIGH	TG-4823				SPARE PARTS. TOTAL PROJECT COST SHOWN.					
		NO	YES		93 - REPLACEMENT FAREBOXES. TOTAL PROJECT	1162		FED/S/L	1162	FFY 04
RALEIGH	TM-4715				COST SHOWN.		UNFUNDED PROJECT			
		NO	YES	PLANNING	PLANNING ASSISTANCEUPWP. TOTAL PROJECT	1326			1326	FFY 04
RALEIGH	TP-4722				COST SHOWN.		PLANNING			
		NO	YES	PLANNING	PLANNING ASSISTANCEUPWP. TOTAL PROJECT	1326			1326	FFY 05
RALEIGH	TP-4723				COST SHOWN.		PLANNING			
		NO	YES	PLANNING	PLANNING ASSISTANCEUPWP. TOTAL PROJECT	1326			1326	FFY 06
RALEIGH	TP-4724				COST SHOWN.		PLANNING			
		NO	YES	PLANNING	PLANNING ASSISTANCEUPWP. TOTAL PROJECT	1326			1326	FFY 07
RALEIGH	TP-4725				COST SHOWN.		PLANNING			
		NO	YES	PLANNING	PLANNING ASSISTANCEUPWP. TOTAL PROJECT	1326			1326	FFY 08
RALEIGH	TP-4732				COST SHOWN.		PLANNING			
		NO	YES	PLANNING	PLANNING ASSISTANCEUPWP. TOTAL PROJECT	1326			1326	FFY 09
RALEIGH	TP-4733	-			COST SHOWN.		PLANNING	1		
		NO	YES	PLANNING	PLANNING ASSISTANCEUPWP. TOTAL PROJECT	1326			1326	FFY 10
RALEIGH	TP-4734	1			COST SHOWN.		PLANNING	1		

<u>Bike Element</u>

The bike element of the LRTP contains incidental bike accommodation projects that were chosen by identifying where inadequate bike routes and future road projects overlap. To be in accordance with TEA-21 and the Capital Area MPO Bicycle and Pedestrian Plan (adopted on March 19, 2003) bicycle accommodations should be incorporated, where appropriate, into the design and construction of the associated road projects. In the spirit of TEA-21 CAMPO has identified 325 miles of bicycle facilities to be completed as incidental projects.

The cost estimations of the road projects associated with these incidental bicycle projects have included within them the funding necessary to construct bicycle accommodations (i.e. four foot shoulders, bike lanes, wide outside lanes, etc.). The Capital Area Bike and Pedestrian Stakeholders Group will continue to annually submit TIP requests for bike and pedestrian accommodations for roads and streets; including the additions of independent bike lanes, sidewalks, and stand alone greenways. It is hoped that additional funding will be secured specifically for bike and pedestrian projects so that a fixed annual percentage of expenditures by the MPO will be available for the numerous projects that do not have the opportunity to be completed in tandem with road projects and/or fail to receive TIP monies.

In addition to incidental projects, the Capital Area MPO has approved a portion of STP-DA funding to be allocated towards bicycle, pedestrian, and transit projects. Beginning in FY 2006 \$750,000 will be dispersed annually on a merit based system between alternative transportation projects; thereby facilitating the increased multi-modal interconnectivity within the Capital Area.

The Capital Area MPO has begun utilizing the NCDOT Traffic Engineering Accident Analysis System (TEAAS) to identify roadways which have unusually high rates of motor vehicles involving pedestrians and bicyclists. In the near future the Capital Area MPO hopes to work with NCDOT to improve the capability of the crash report system so that safety concerns for bicycles and pedestrians can be easily identified and addressed.



Figure 4-10 CAMPO 2030 Incidental Bike Project List

Segment No.	Condition	Road Name	Road Project ID	Description	Completion Date	Length
B10	Improvement Needed	Old Wake Forest Road	A10	WOL-Bike Lane-WOS	2030	1.1
B100	Recommended	Strickland Rd. Ext.	A100	NL Opportunity	2020	1.1
B101	Needs Improvement (US HWY)	US 70	A101	WOL-Bike Lane-WOS	2020	4.0
B111	Improvement Needed	Reedy Creek Rd	A111	WOL-Bike Lane-WOS	2030	1.2
B113	Improvement Needed	Ten Ten Road	A113	WOL-Bike Lane-WOS	2030	2.0
B114	Improvement Needed	Ten Ten Road	A114	WOL-Bike Lane-WOS	2020	3.6
B117	Improvement Needed	New Hope Road Ext.	A117	WOL-Bike Lane-WOS	2030	1.7
B119	Part New Location	McCrimmon Parkway	A119	WOL-Bike Lane-WOS	2020	0.8
B12	Improvement Needed	Falls of Neuse Road	A12	WOL-Bike Lane-WOS	2020	1.3
B122	Improvement Needed	Holly Springs Road	A122	WOL-Bike Lane-WOS	2030	0.9
B123b	Improvement Needed	Old Garner Road	A123b	WOL-Bike Lane-WOS	2010	0.7
B125a	Improvement Needed	Forestville Road	A125a	WOL-Bike Lane-WOS	2030	10.8
B130	Improvement Needed	Mitchell Mill Road	A130	WOL-Bike Lane-WOS	2020	2.9
B131	Improvement Needed	NC 96	A131	WOL-Bike Lane-WOS	2040	11.3
B134	Improvement Needed	West Young Street	A134	WOL-Bike Lane-WOS	2030	1.2
B136b	Improvement Needed	Lake Wheeler Road	A136b	WOL-Bike Lane-WOS	2040	3.4
B136c	Improvement Needed	Lake Wheeler Road	A136c	WOL-Bike Lane-WOS	2040	2.4
B136d	Improvement Needed	Lake Wheeler Road	A136d	WOL-Bike Lane-WOS	2040	3.0
B138c	Improvement Needed	Timber Dr/Jones Sausage Coni	A138c	WOL-Bike Lane-WOS	2030	1.6
B14	Improvement Needed	Ray Road	A14	WOL-Bike Lane-WOS	2040	3.2
B143	Improvement Needed	White Oak Road	A143	WOL-Bike Lane-WOS	2030	7.3
B149a	Improvement Needed	Poole Road	A149a	WOL-Bike Lane-WOS	2030	7.1
B149b	Improvement Needed	Poole Road	A149b	WOL-Bike Lane-WOS	2030	1.9
B150	Improvement Needed	NC 98	A150	WOL-Bike Lane-WOS	2030	8.5
B153	Needs Improvement	Norwood Road	A153	WOL-Bike Lane-WOS	2040	3.5
B155a	Recommended	TW Alexander Drive	A155a	WOL-Bike Lane-WOS	2020	1.9
B155b	Recommended	TW Alexander Drive	A155b	WOL to be added w/repaving	2040	1.0
B158	Recommended	Hilltop-Needmore Road	A158	WOL-Bike Lane-WOS	2030	1.6
B16	Improvement Needed	Rock Quarry Road	A16	WOL-Bike Lane-WOS	2030	1.9
B162	Improvement Needed	Buffaloe Road	A162	WOL-Bike Lane-WOS	2020	2.4
B163a	Improvement Needed	Holly Springs Road	A163a	WOL-Bike Lane-WOS	2020	3.5
B163b	Improvement Needed	Holly Springs Road	A163b	WOL-Bike Lane-WOS	2040	5.0
B165	Recommended	Airport Blvd. Ext.	A165	WOL-Bike Lane-WOS	2020	0.8
B166	Improvement Needed	Center Street	A166	WOL-Bike Lane-WOS	2020	1.0
B168b	Needs Improvement	Alston Ave./Grn Level to Durha	A168b	Incidental WOL	2030	2.4
B181a	Improvement Needed	Old US 1	A181a	WOL-Bike Lane-WOS	2040	2.4
B181b	Improvement Needed	Old US 1	A181b	WOL-Bike Lane-WOS	2040	2.7
B195	Improvement Needed	Creedmore Road	A195	WOL-Bike Lane-WOS	2040	4.9
B20	Improvement Needed	Hillsborough Street	A20	WOL-Bike Lane-WOS	2020	1.5
B201a	Improvement Needed	Rock Quarry Road	A201a	WOL-Bike Lane-WOS	2030	1.4
B201b	Improvement Needed	Rock Quarry Road	A201b	WOL-Bike Lane-WOS	2040	3.3
B202	Improvement Needed	Rock Quarry Road	A202	WOL-Bike Lane-WOS	2030	3.2
B204	Improvement Needed	Bethlehem Road	A204	WOL-Bike Lane-WOS	2030	3.4

Figure 4-10 CAMPO 2030 Incidental Bike Project List

Segment No.	Condition	Road Name	Road Project ID	Description	Completion Date	Length
B214	Improvement Needed	Garner Road	A214	WOL-Bike Lane-WOS	2030	7.1
B220a	Improvement Needed	Morrisville Carpenter Road	A220a	WOL-Bike Lane-WOS	2030	1.4
B220b	Needs Improvement	Morrisville Carpenter Road	A220b	WOL	2030	1.7
B221	Improvement Needed	NC 54	A221	WOL-Bike Lane-WOS	2020	1.2
B223c	New Location	Kit Creek Road	A223c	WOL	2030	1.3
B224	Improvement Needed	Johnson Pond Road	A224	WOL-Bike Lane-WOS	2030	3.5
B232	Needs Improvement	SW Maynard Road	A232	WOL-Bike Lane-WOS	2020	1.2
B234	Improvement Needed	Western Boulevard	A234	WOL-Bike Lane-WOS	2030	1.2
B236	Improvement Needed	NC 54	A236	WOL-Bike Lane-WOS	2030	2.1
B26	New Location	McCrimmon Pkwy	A26	WOL	2020	1.4
B27a	Improvement Needed	Louis Stephens Drive	A27a	WOL	2030	1.4
B27b	Improvement Needed	Louis Stephens Drive	A27b	WOL	2040	0.3
B27c	Improvement Needed	Louis Stephens Road	A27c	WOL-Bike Lane-WOS	2040	0.2
B27d	Part New Location	Louis Stephens Drive	A27d	WOL	2010	0.8
B28a	Improvement Needed	Davis Drive	A28a	WOL-Bike Lane-WOS	2010	4.0
B28b	Improvement Needed	Davis Drive	A28b	WOL-Bike Lane-WOS	2020	1.1
B29	Improvement Needed	High House	A29	WOL-Bike Lane-WOS	2010	1.4
B30	Part New Location	Morrisville Parkway	A30	WOL	2020	0.6
B31	Improvement Needed	NC 54	A31	WOL-Bike Lane-WOS	2010	0.7
B35	Improvement Needed	Evans Road	A35	WOL-Bike Lane-WOS	2020	0.9
B38b	Improvement Needed	Tryon Road	A38b	WOL-Bike Lane-WOS	2010	1.4
B38c	Improvement Needed	Tryon Road	A38c	WOL-Bike Lane-WOS	2010	1.0
B400a	Improvement Needed	Ten Ten Road	A400a	WOL-Bike Lane-WOS	2040	5.1
B400b	Improvement Needed	Ten Ten Road	A400b	WOL-Bike Lane-WOS	2040	3.4
B402a	Improvement Needed	Buffaloe Rd/Riley Hill Conn.	A402a	WOL-Bike Lane-WOS	2030	1.9
B407a	Improvement Needed	NC 42	A407a	WOL-Bike Lane-WOS	2040	4.1
B407b	Improvement Needed	NC 42	A407b	WOL-Bike Lane-WOS	2040	5.4
B412	Needs Improvement (US HWY)	US 70	A412	WOL-Bike Lane-WOS	2020	2.7
B413	Improvement Needed	NC 54	A413	WOL-Bike Lane-WOS	2040	1.3
B416	Improvement Needed	Fox Road	A416	WOL-Bike Lane-WOS	2040	2.0
B417	Improvement Needed	Spring Forest Road	A417	WOL-Bike Lane-WOS	2040	0.7
B420	Improvement Needed	Rolesville/Riley Hill Road	A420	WOL-Bike Lane-WOS	2040	0.1
B426	Improvement Needed	NC 55	A426	WOL-Bike Lane-WOS	2030	2.8
B43	Improvement Needed	Lake Wheeler Road	A43	WOL-Bike Lane-WOS	2020	1.3
B430	Improvement Needed	Ray Road	A430	WOL-Bike Lane-WOS	2040	1.9
B431	Improvement Needed	Wake Forest Road	A431	WOL-Bike Lane-WOS	2010	0.4
B432	Improvement Needed	Skycrest Drive	A432	WOL-Bike Lane-WOS	2040	0.9
B433	Improvement Needed	Trawick Road	A433	WOL-Bike Lane-WOS	2040	0.9
B434	Improvement Needed	Sunnybrook Road	A434	WOL-Bike Lane-WOS	2040	1.8
B436	Improvement Needed	Hammond Road	A436	WOL-Bike Lane-WOS	2040	0.7
B437	Improvement Needed	Lake Wheeler Road	A437	WOL-Bike Lane-WOS	2040	0.9
B440a	Needs Improvement	Carpenter Fire Station	A440a	WOL	2040	2.1
B4410	New Location	South Loop Road	U4410	WOL	2010	1.5

Figure 4-10 CAMPO 2030 Incidental Bike Project List

Segment No.	Condition	Road Name	Road Project ID	Description	Completion Date	Length
B444	Improvement Needed	NC 50	A444	WOL-Bike Lane-WOS	2030	5.1
B446	Needs Improvement (US HWY)	Glenwood Avenue	A446	WOL-Bike Lane-WOS	2040	1.1
B447	Improvement Needed	New Bern Avenue	A447	WOL-Bike Lane-WOS	2040	1.7
B448	Improvement Needed	Six Forks Road	A448	WOL-Bike Lane-WOS	2040	1.0
B457	Improvement Needed	Lumley Road	A457	WOL-Bike Lane-WOS	2020	1.3
B45b	Improvement Needed	Tryon Road	A45b	WOL-Bike Lane-WOS	2010	1.3
B46a	Improvement Needed	Tryon Road	A46a	WOL-Bike Lane-WOS	2020	1.1
B46c	Improvement Needed	Tryon Road	A46c	WOL-Bike Lane-WOS	2010	0.3
B47	Improvement Needed	Sunnybrook Road	A47	WOL-Bike Lane-WOS	2010	1.3
B51	Improvement Needed	Smithfield Road	A51	WOL-Bike Lane-WOS	2020	1.2
B52	Improvement Needed	Smithfield Road	A52	WOL-Bike Lane-WOS	2030	2.2
B53	Improvement Needed	Davis Drive	A53	WOL-Bike Lane-WOS	2010	3.8
B55	Improvement Needed	Perry Creek Road	A55	WOL-Bike Lane-WOS	2010	1.6
B56a	Improvement Needed	NC 98 Bypass	A56a	WOL-Bike Lane-WOS	2020	1.4
B56b	Improvement Needed	NC 98 Bypass	A56b	WOL-Bike Lane-WOS	2010	1.5
B64d	Needs Improvement	Aviation Pkwy	A64d	WOL	2030	0.9
B69	Improvement Needed	Holly Springs Road	A69	WOL-Bike Lane-WOS	2030	2.2
B69	Improvement Needed	Holly Springs Road	A69	WOL-Bike Lane-WOS	2030	2.2
B70	Improvement Needed	Holly Springs Road	A70	WOL-Bike Lane-WOS	2030	1.2
B71	Improvement Needed	Holly Springs Road	A71	WOL-Bike Lane-WOS	2030	1.6
B73a	Improvement Needed	Jones Franklin Road	A73a	WOL-Bike Lane-WOS	2030	0.9
B73b	Improvement Needed	Jones Franklin Road	A73b	WOL-Bike Lane-WOS	2040	1.0
B73c	Improvement Needed	Jones Franklin Road	A73c	WOL-Bike Lane-WOS	2020	1.0
B80b	Improvement Needed	New Hope Road	A80b	WOL-Bike Lane-WOS	2030	1.3
B9	Improvement Needed	Strickland Road	A9	WOL-Bike Lane-WOS	2020	2.9
B91	Improvement Needed	Jones Sausage Road	A91	WOL-Bike Lane-WOS	2010	1.5
B93a	Improvement Needed	NC 55	A93a	WOL-Bike Lane-WOS	2010	3.4
B93b	Improvement Needed	NC 55	A93b	WOL-Bike Lane-WOS	2010	2.5
B95	Improvement Needed	NC 55	A95	WOL-Bike Lane-WOS	2010	3.2
B96a	Improvement Needed	NC 55	A96a	WOL-Bike Lane-WOS	2020	1.1
B96b	Improvement Needed	NC 55	A96b	WOL-Bike Lane-WOS	2020	1.7
B97b	State Bike Route	Airport Boulevard	A97b	WOL-Bike Lane-WOS	2010	0.7
BF11	Needs Improvement (US HWY)	US 1	F11	WOL-Bike Lane-WOS	2020	7.8

Corridor and Small Area Studies

The Capital Area Metropolitan Planning Organization continues its commitment to providing transit and roadway options in five corridors to be accomplished in close concert with those communities that are directly affected. This commitment reemphasizes the position that the Capital Area Metropolitan Planning Organization had stated within the previous 2025 Long Range Transportation Plan, "Adopt a high level of commitment to providing regional transit choices in those corridors that are already congested and are not resolved by additional roadway capacity." The five corridors within the Capital Area Metropolitan Planning Organization include:

- I-40 Corridor (Financial Study): Managed lanes, allowing bus and carpool users access during peak periods. Automated tolling may be considered to allow single-occupant users (SOVs) to "buy in" to the managed lanes, should there be sufficient available capacity. A final system and phasing will be determined through the NCDOT I-40 Congestion Management Study and in partnership with the Durham-Chapel Hill-Carrboro MPO.
- Western Wake/NC 55 Corridor: Perform a detailed corridor study to determine transit viability, a preferred technology, costs based on preliminary design, mitigation, land use modifications, and station concerns, as well as a funding and implementation schedule. Public involvement should be a feature in determining preliminary design elements (including bike/walk access), along with detailed discussions with local government and impacted agency staff. The towns of Apex, Cary, Holly Springs, Morrisville, and Fuquay Varina are directly impacted and should be co-sponsors of the project. The Research Triangle Foundation, Triangle Transit Authority, and Raleigh-Durham Airport Authority should also co-sponsor the project, having a direct interest in its eventual outcome.
- US 1 North Corridor (Under Way): Perform a detailed corridor-level study to determine the costs of conversion of US 1 to a freeway facility (preliminary design), including managed lanes. The study should also determine the viability of rail and bus rapid transit in this corridor. Impacted governments and co-sponsors in this effort are Wake Forest, Rolesville, and Raleigh.
- Eastern Wake/US 64 East & US 70 South Corridors: Perform a detailed corridor study to determine the costs and viability of rail, managed lane (US 64 Bypass), and bus rapid transit in this area, serving Knightdale, Wendell, Raleigh, and Zebulon; as well as determining rail and bus rapid transit viability along US 70 South between Raleigh and Garner, including future state expansions to Smithfield and Goldsboro. Garner, NCDOT, and Raleigh are logical co-sponsors of the study for US 70 South; while Johnston County along with Wayne County should also participate.
- US 401 South Study: Determine rail transit viability between Raleigh and Fuquay Varina, including future state expansions of service to Fayetteville. NCDOT, Raleigh, and Fuquay Varina should be project sponsors; Harnett County and/or Angier may also participate financially in the study.

The Capital Area Metropolitan Planning Organization furthermore supports a plan to conduct small area studies to address access concerns and connectivity problems evolving within the existing and proposed highway network within the region. Small area studies under consideration include:

• Airport Boulevard Extension: Identified as a new roadway between NC 54 and Town Hall Drive in the Town of Morrisville, the analysis will identify the impact of constructing the project as well as determining its significance in comparison to other roads proposed for the immediate area Sunset Lake Road Extension: Identified by the Town of Holly Springs as an east-west thoroughfare, the analysis will identify the practicable alignment of the roadway, as well as its impact upon traffic flow along the regionally significant NC 55 highway.



<u>Freight Issues</u>

Metropolitan Planning Organizations are being encouraged to effectively address freight transportation issues in accordance with policies outlined with the Transportation Efficiency Act of the Twenty-First Century (TEA21). The perspective of the freight community is that although the Metropolitan Planning Organizations have a long range that is at least years, the freight carrier's perspective of long range is six to twelve months.

Freight handlers believe that Metropolitan Planning Organizations may not understand that "time is money" for participants in the freight industry; while shippers and carriers may not understand the planning process, along with its value and jargon.

Communication between Metropolitan Planning Organizations and stakeholders in the freight industry can be difficult. This is due to the fact that desired planning data of interest to an MPO raises suspicions among freight industry stakeholders that the release of proprietary information may result in the loss of competitive position.

The Freight Industry has established five planning goals that are concurrent with most of the goals of MPOs as well. They are:

- 1. Economic Efficiency;
- 2. Congestion Mitigation;
- 3. Safety Improvement;
- 4. Air Quality Improvement; and
- 5. System Security.

Shippers/carriers are willing to participate in the MPO process to be "good corporate citizens"; yet members of the freight industry believe that it is good for planners to visit shipper/carrier facilities to learn and gain respect for the freight industry. As a result, an effort will be made by the Capital Area MPO in cooperation with the North Carolina Department of Transportation, the Federal Highway Administration, and various stakeholders in the freight industry to encourage cooperation in the following areas:

- Ad hoc working groups (task forces)
- Corridor studies
- Modeling/data collection

Freight industry stakeholders believe that for the latter effort to occur, trust is important. This trust will result in the willingness to provide data with the assurance that the data is not misused or shared with any third party. Finally, it ensures that unnecessary data is not collected by the MPO.

Intelligent Transportation System (ITS) Strategies

The advent of Intelligent Transportation Systems provides new cost-effective opportunities to increase the capacity and efficiency of the existing transportation network without increasing impervious surface area. NCDOT and Capital Area MPO have identified over \$200 million in ITS needs in the Triangle, the following projects have been identified as priorities:

- Signal System Upgrades in Cary, Raleigh & Garner (\$43,000,000)
- Freeway Management System Upgrades and ITS Infrastructure Retrofits (\$160,000,000)
- Ramp Metering at I-40 and I-440 (\$10,000,000)
- Control Center Interconnection (underway)
- Operations & Maintenance Plan (NCDOT)
- IMAP (Interstate Motorist Assistance Program) Expansion (\$500,000 + \$250,000 each year)
- Web-based information systems (NCDOT)
- Quarterly regional ITS meetings

Often these improvements translate into the betterment of air quality as well. New project proposals should note what measures have been considered and ITS infrastructure should be part of the "builtin" cost of any new major arterial or freeway facility. The Capital Area MPO should seek to inform its member governments of the costs (including maintenance and operations), benefits, and possibilities for the integration of ITS technologies.

Through recent coordination, NCDOT and the Capital Area MPO have identified \$160,000,000 in unfunded freeway management projects. The Capital Area MPO plans to work in conjunction with NCDOT to get these freeway management priority projects funded as independent ITS projects in the Transportation Improvement Program so that all critical freeway and major arterial links are outfitted with the necessary ITS infrastructure, including fiber, detection, closed circuit television cameras, and dynamic message signs. Figures 4-12 and 4-13 depict ITS improvements (funded and un-funded) needed in the Capital Area, while Figure 4-14 is a table showing freeway management priority projects.

Once the necessary ITS infrastructure is in place, regional transportation agencies should work toward implementing a web-based real time traffic monitoring system that could provide information to the public that would better inform route choice and thereby reduce congestion along overburdened corridors. The traffic monitoring system would enable users to view congestion levels along specific routes, calculate travel times with congestion, and choose the clearest route. The system would harness data being collected by detection installed in Raleigh, Cary, Garner, and Durham with the signal system upgrades as well as NCDOT operated detection devices. The end result would be a fully integrated, real-time graphic interface that would function as an enhanced 511 system.





Phase 20	10				Cost^
Route	Start	Finish	Description	Length	(\$000)
I-40	US 15-501	Wade Ave	Detection	19	\$1,000
I-440	US 1	US 70	Fiber, Detection, CCTV, DMS	6	\$3,700
I-440	US 70	US 1	Fiber, Detection, CCTV, DMS	4	\$2,700
I-440	US 1	I-40	Fiber, Detection, CCTV	6	\$3,000
I-40	Wade Ave	S Saunders St	Fiber, Detection, CCTV, DMS	9	\$5,500
I-40	S Saunders St	US 70	Fiber, Detection, CCTV, DMS	8	\$4,500
US 64	I-440	US 64	Detection, CCTV	11	\$1,000
I-540	I-40	US 70	Fiber, Detection, CCTV	4.6	\$3,000
I-540	US 70	US 1	Fiber, Detection, CCTV, DMS	12	\$6,300
I-540	US 1	US 64 Bypass	Detection	9.5	\$650
			Total:	89.1	\$31,350
			Average Annual Cost (5 year	period) =	\$6,270

^Actual costs based on device specific estimate.

Phase 2020						
Route	Start	Finish	Description	Length	(\$000)	
US 15	I-85	NC 86	Durham to Chapel Hill	12	\$6,000	
US 70	I-85	I-440	Durham to Raleigh	18	\$9,000	
US 1	I-440	NC 98	Raleigh to Wake Forest	13	\$6,500	
US 64	I-440	NC 97	East of I-440 Loop	11	\$5,500	
			Raleigh to South of Wake/Clayton			
US 70	I-440		County line	19	\$9,500	
US 1	I-40	I-540	Raleigh to Apex	10	\$5,000	
I-85	US 15	I-40	Durham to I-40/I-85 Merge	12	\$6,000	
I-40	US 15	I-85	Chapel Hill to I-40/I-85 Merge	12	\$6,000	
			Total:	107	\$53,500	
Average Annual Cost (10 year period) =					\$5,350	

Phase 2030						
Route	Start	Finish	Description	Length	(\$000)	
US 501	I-85	N. of I-85		6	\$3,000	
New road	I-85	US 70		7	\$3,500	
New road	NC 147	US 70	New road NC 147 to US 70	1.5	\$750	
NC 50	US 70	S. of NC 98		9	\$4,500	
US 401	US 1	S. of NC 98	N. of I-440 loop	10	\$5,000	
US 401	US 70	S. of I-540	S. of I-440 loop	8	\$4,000	
NC 54	I-40	US 15	Raleigh to Chapel Hill	24	\$12,000	
I- 540	NC 55	US 64 Bypass	SW of I-540 Outer loop	48	\$24,000	
NC 55	NC 147	S. of I-540	Durham to Fuquay Varina	34	\$17,000	
NC 147	I-40	I-540		5	\$2,500	
US 64	US 1	W. of I-540		8	\$4,000	
			Tota	l: 160.5	\$80,250	
Average Annual Cost (10 year period) =						
			2010-2030 Tota	1:	\$165,100	

*Assuming a \$500K per mile estimated cost. Source: NCDOT Intelligent Transportation Systems Section

Public Involvement Process Staff Report

This report identifies public outreach efforts and responds to comments received from the public involvement effort for the 2030 Long Range Transportation Plan project to date (September 15, 2004). This report will be updated and included in the final 2030 Long Range Transportation Plan report.

The Capital Area Metropolitan Planning Organization's public involvement policy cites minimum requirements for its public involvement practice for several major operations of the MPO, including updates of its Long Range Transportation Plan (LRTP). CAMPO went well beyond those minimum requirements in attempting to solicit public comments on the LRTP:

- Web-based updates and Comment Forms
- Paper-based brochures
- Developing an email and paper-based list of contacts
- Conducting three public workshops and two public hearings during August and September, 2004
- Advertising in the Raleigh News & Observer, Carolinian, and La Conexion newspapers
- Sending out press releases via the City of Raleigh Public Affairs Office
- Advertising in Spanish formats
- Asking our members for contacts, especially in low-income and minority communities

The Capital Area Metropolitan Planning Organization's workshops were held in the Town of Knightdale, the City of Raleigh, and the Town of Apex. Public feedback was received and forwarded to local elected officials. This public input resulted in the Capital Area MPO's Transportation Advisory Committee directing the staff to revise a roadway classification within the 2030 Long Range Transportation Plan highway network during the August 18, Public Hearing.

The Capital Area Metropolitan Planning Organization believes that these efforts were successful, but does recommend de-emphasizing workshops in favor of directed outreach at public gatherings and events. The Capital Area MPO also recommends keeping a "running tab" of comments that are received, rather than waiting until the end of a specific update to focus on public involvement. Finally, Capital Area Metropolitan Planning Organization strongly recommends that public involvement migrate to a less intense but more continuous form of involvement with the public to ensure that everyone has a voice in the Capital Area's transportation planning process.