



**ATTACHMENT 1**

**Durham-Chapel Hill-Carrboro  
Metropolitan Planning Organization**

**Member Governments:  
Town of Carrboro  
Town of Chapel Hill  
County of Chatham  
City of Durham  
County of Durham  
Town of Hillsborough  
N.C. Department of  
Transportation  
County of Orange**

**Recommended**

**2030 Long Range Transportation Plan**

**(September 22, 2004)**

City of Durham  
Transportation Division  
101 City Hall Plaza  
Durham, NC 27701

(919) 560-4366

## Table of Contents

<b>Introduction .....</b>	<b>4</b>
<b>Public Involvement .....</b>	<b>5</b>
<b>Goals and Objectives.....</b>	<b>5</b>
<b>Growth Forecasts and Travel Information .....</b>	<b>6</b>
<b>Population .....</b>	<b>7</b>
<b>Employment .....</b>	<b>8</b>
<b>Travel Forecast .....</b>	<b>9</b>
<b>Total Trips .....</b>	<b>10</b>
<b>Mode Share .....</b>	<b>10</b>
<b>Vehicle Miles of Travel/Vehicle Hours of Travel and Congestion</b>	<b>12</b>
<b>Existing and Future Transportation System Deficiencies .....</b>	<b>14</b>
<b>Financial Plan .....</b>	<b>19</b>
<b>Costs .....</b>	<b>19</b>
<b>Revenue .....</b>	<b>21</b>
<b>Financial Analysis (Cost and Revenue Comparison) .....</b>	<b>23</b>
<b>Highlights of the 2030 LRTP Investments .....</b>	<b>25</b>
<b>Highway .....</b>	<b>26</b>
<b>Fixed Guideway and High Capacity Transit .....</b>	<b>40</b>
<b>Fixed Projects .....</b>	<b>43</b>
<b>Bus Transit (Public Transportation) .....</b>	<b>45</b>
<b>Bicycle .....</b>	<b>60</b>

## Table of Contents (Figures)

Figure 1	Population, Households and Forecast for 2030 .....	6
Figure 2	Population Growth 2002-2030 – DCHC.....	7
Figure 3	Population Growth 2002-2030 – Region .....	7
Figure 4	Employment Growth 2002-2030 – DCHC .....	8
Figure 5	Employment Growth 2002-2030 – Region .....	8
Figure 6	Vehicle Miles of Travel (VMT) and Vehicle Hours of Travel (VHT) Comparison .....	9
Figure 7	Total Trip Comparison .....	10
Figure 8	Mode Share – DCHC Area .....	10
Figure 9	Mode Share – CAMPO Area .....	11
Figure 10	Mode Share – Region .....	11
Figure 11	Vehicle Miles of Travel (VMT) .....	12
Figure 12	Vehicle Hours of Travel .....	12
Figure 13	Average Vehicle Miles Per Trip .....	13
Figure 14	Average Vehicle Minutes Per Trip .....	13
Figure 15	Percent of Vehicle Miles Traveled at Congestion – All Facilities .....	16
Figure 16	Percent of Vehicle Miles Traveled at Congestion – Freeways .....	16
Figure 17	Percent of Vehicle Miles Traveled at Congestion – Other Facilities .....	16
Figure 18	2002 Highway Deficiency Map .....	17
Figure 19	2030 Highway Deficiency Map .....	18
Figure 20	DCHC 2030 LRTP Cost Summary .....	20
Figure 21	DCHC 2030 LRTP Traditional Revenue Forecast .....	22
Figure 22	DCHC 2030 LRTP Financial Analysis .....	24
Figure 23	Cost Distribution of Highway Projects by AQ Year .....	26

## **Introduction**

The 2030 Long-Range Transportation Plan is the guide for major transportation investments in the Durham-Chapel Hill-Carrboro (DCHC) metropolitan area. The 2030 Long-Range Transportation Plan (LRTP) recommends major transportation projects, systems, policies and strategies designed to maintain our existing systems and serve the region's future travel needs. The DCHC-MPO LRTP is integrated with land use and air quality strategies and goals for the urban area. Official endorsements of the Plan by the Transportation Advisory Committee (TAC), USDOT, and the Environmental Protection Agency (EPA) are required in order for the MPO to receive Federal funds for its transportation investment needs.

The plan emphasizes improvements to existing highway, transit, bicycle and pedestrian facilities and includes policies in support of intermodal freight needs (urban goods movement). To stretch our transportation dollars, the plan incorporates Travel Demand Management (TDM), Transportation System Management (TSM), Intelligent Transportation Systems (ITS), and Congestion Management Systems (CMS) strategies. The adopted 2025 Transportation Plan investments formed the foundation for the proposed modal elements identified in this 2030 Plan.

Assessment of the projected financial resources indicates that about \$5.4 billion can be expected to be available for transportation projects through 2030, not nearly enough to substantially expand the transportation system and meet the increase in demand from a growing region. The majority of projected resources will barely be enough to keep pace with the growing operating and maintenance needs of the existing-plus-committed systems, which include repair, bus replacement, reconstruction of portions of the system, and Intelligent Transportation Systems.

The gap between the region's transportation needs and available funding presents several challenges that the DCHC MPO, along with other Triangle region stakeholders, must soon address:

- Aggressively pursue both short and long term non-traditional funding sources as well local revenue options
- Advance LRTP components to implementation through the Transportation Improvement Program (TIP) consistent with the air quality conformity project implementation schedule.
- Monitor regional growth to ensure the Plan stays abreast of the region's needs
- Engage in the process to solve the region's air quality problems and meet the new 8-Hour Air Quality Standard

Failure to address these challenges may result in deterioration of the transportation infrastructure, degradation in mobility, and harm to the regional economy.

## **Public Involvement**

The goal of the 2030 LRTP public involvement process is to develop and support an early, full and effective exchange of information and ideas among all transportation stakeholders in the metropolitan area. The MPO employed a wide range of techniques to promote citizen involvement, including direct mailings, open houses, public meetings in all parts of the metropolitan area, and newspaper advertisements.

One of the premises of the updated public involvement process is the MPO's commitment to increase public understanding of how transportation decisions are made, and to encourage participation in the planning process. With this goal in mind, the MPO developed a website and published two newsletters.

## **Goals and Objectives**

One of the major challenges of the 2030 LRTP is to develop a transportation system that provides improved mobility and preserves existing infrastructure. The 2030 LRTP should also support regional and local land use goals and work toward the region's attainment of national air quality standards.

The DCHC MPO Committee considered many sources of information in developing the final goals and objectives. Ultimately, the overarching goal of the transportation strategy remains to maintain and improve upon the safety and efficiency of the existing transportation system. The goals are stated below:

### **GOALS OF THE 2030 TRANSPORTATION PLAN**

#### ***Overall Transportation System:***

A safe, efficient, attractive, multi-modal transportation system that: supports local land use; accommodates trip-making choices; maintains mobility; protects the environment and neighborhoods; and improves the quality of life for urban area residents.

#### ***Multi-Modal Street & Highway System:***

An attractive multi-modal street and highway system that allows people and goods to be moved safely, conveniently, and efficiently.

#### ***Public Transportation System:***

A convenient, accessible, and affordable public transportation system, provided by public and private operators, that enhances mobility and economic development.

#### ***Pedestrian & Bicycle System:***

A safe pedestrian and bicycle system that: provides an alternative means of transportation; allows greater access to public transit; and supports recreational opportunities.

#### ***Integration of Land Use & Transportation System:***

A Transportation Plan that is integrated with local land use plans and development policies.

#### ***Protection of Natural Environmental & Social Systems:***

A multi-modal transportation system which provides access and mobility to all residents, while protecting the natural environment, cultural resources, and social systems.

#### ***Public Involvement:***

An ongoing program to inform and involve citizens throughout all stages of the development, update, and implementation of the Transportation Plan.

## Growth Forecasts and Travel Information

Accurate forecasts of future population, households, and employment are essential components of effective transportation planning. Local jurisdictions and the Lead Planning agency (LPA) are responsible for preparing these forecasts for the MPO. The forecast project began with generation of County totals for population, households and employment. It is assumed that implementation of the 2030 LRTP would have a significant impact on land use because most of the proposed transportation systems are either new highway and fixed guideway projects or widening/expansion of existing highway and transit infrastructure.

The following tables and charts present growth projections and trip and travel information from the Triangle Regional Model for the following areas:

Chatham	The modeled portion of Chatham County
Orange	All of Orange County
Durham	All of Durham County
DCHC	Area within the DCHC MAB (All of Durham and part of Orange and Chatham Counties.)
CAMPO	All of Wake County
Region	The entire Triangle Regional Model area (All of DCHC and CAMPO plus fringe areas)

With the socio-economic forecast for the proposed 2030 LRTP, population and employment in the three county area is expected to increase by 72 percent and 89 percent, respectively, from 2002 to 2030. The growth forecasts for the three counties are shown in the following table and graphs.

*Figure 1  
Population, Households, and Employment Forecasts for 2030*

MPO Counties	1990 Census	2000 Census (percent change from 1990)	2030 Forecasts (percent change from 2000)
<b><u>Population</u></b>			
Durham	181,835	223,314 (23%)	374,117 (68%)
Orange	93,851	118,227 (26%)	177,948 (51%)
Chatham	38,759	49,329 (27%)	118,883 (141%)
<b>Total</b>	<b>314,445</b>	<b>390,870 (24%)</b>	<b>670,948 (72%)</b>
<b><u>Households</u></b>			
Durham	72,297	89,015 (23%)	141,672 (59%)
Orange	36,104	45,863 (27%)	79,793 (74%)
Chatham	15,293	19,741 (29%)	30,143 (53%)
<b>Total</b>	<b>123,694</b>	<b>154,619 (25%)</b>	<b>251,608 (63%)</b>
<b><u>Employment</u></b>			
Durham	115,549	167,186 (45%)	337,023 (74%)
Orange	51,870	63,660 (23%)	108,486 (63%)
Chatham	21,380	26,460 (24%)	39,558 (50%)
<b>Total</b>	<b>188,799</b>	<b>257,306 (36%)</b>	<b>485,067 (89%)</b>

Figure 2

**Population**

As shown in Figure 2, the population of the portion of Chatham County in the MAB is expected to more than double between 2002 and 2030. During this same time period, Orange and Durham counties are anticipated to increase in population by 41.58 and 54.71 percent, respectively.

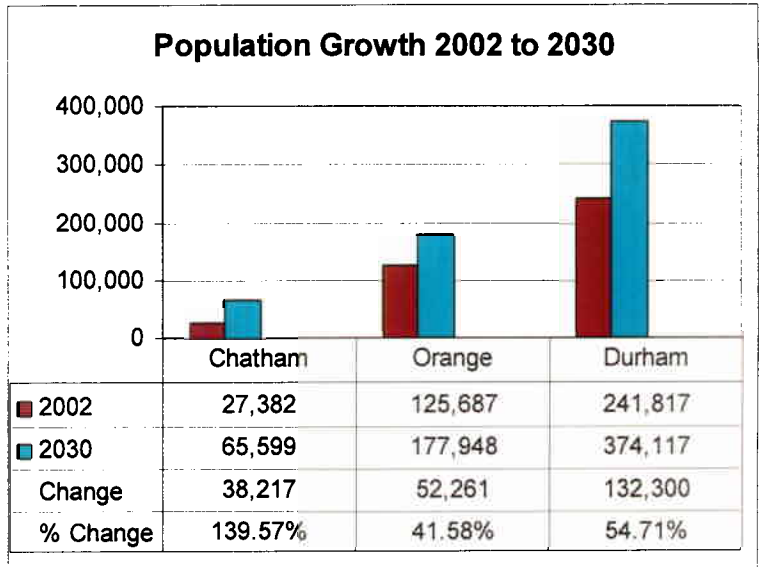
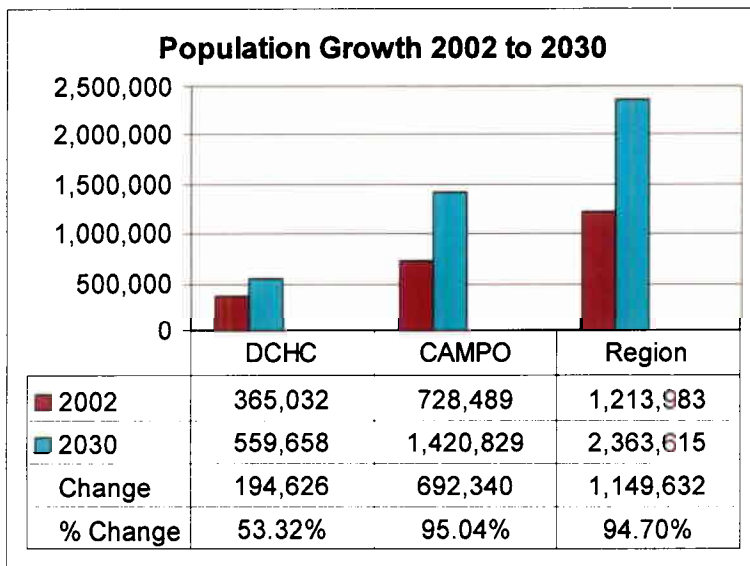


Figure 3 illustrates that the population of the DCHC area (Durham County and the portions of Orange and Chatham Counties within the MPO's Metropolitan Area Boundary) is expected to increase by 194,626 or 53.32 percent. The population in the CAMPO area is projected to increase by 95.04 percent by 2030.

Figure 3

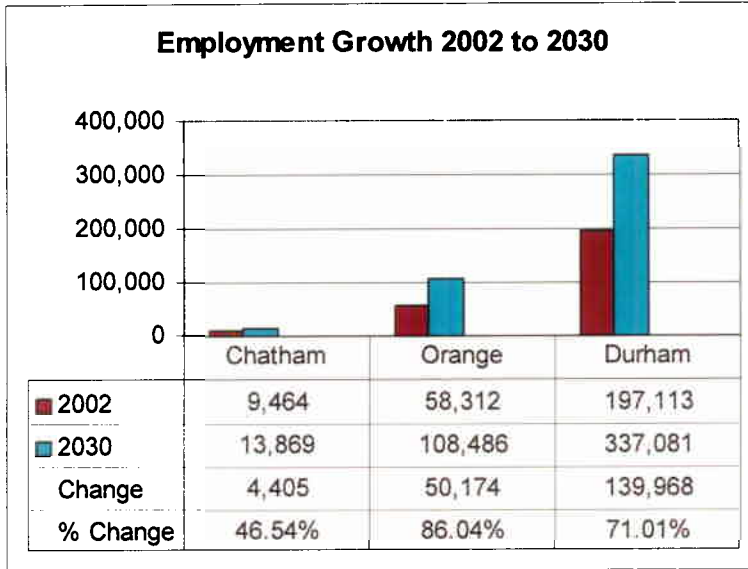


Region-wide population is expected to increase significantly as well. As shown in Figure 3, the population of the region (which includes Wake County and portions of Johnston, Harnett, Franklin, and Granville Counties as well as the DCHC area) is expected to nearly double by the year 2030.

**Employment**

Figure 4 illustrates employment growth in the three county areas in DCHC. While population in Chatham County is projected to nearly double, employment is projected to increase by 46.54 percent.

Figure 4

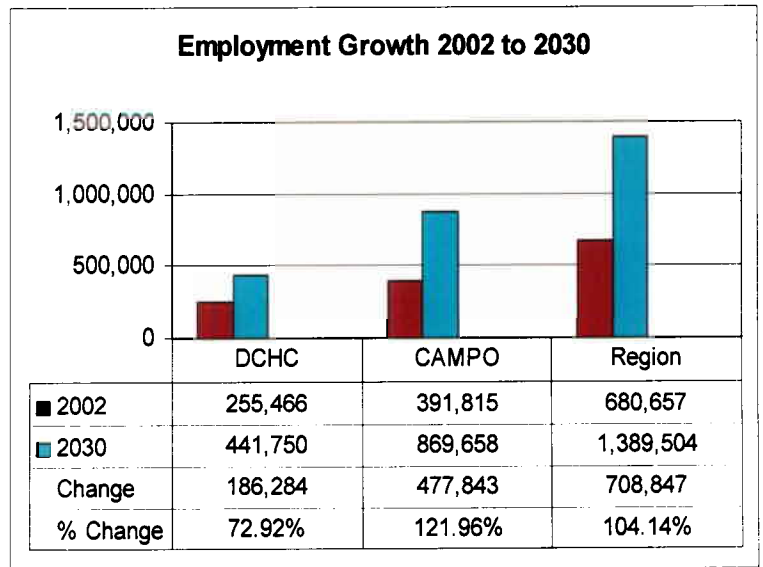


This less aggressive growth in employment indicates that although more people will be living in Chatham County by the year 2030, many of those people will commute to other areas for employment.

With 337,081 jobs in 2030 and a population of 374,117, Durham is a net importer of jobs. This has significant implications on travel in the area.

Figure 5 illustrates employment growth for DCHC, CAMPO and the Region. All will see significant growth by 2030 with employment in DCHC and CAMPO projected to increase by 72.9 percent and 122.0 percent, respectively, by 2030.

Figure 5





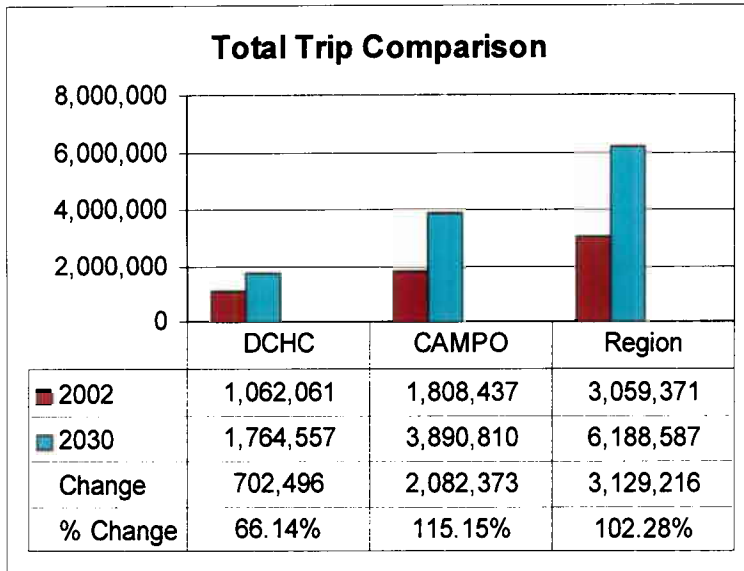
## Travel Forecast

Figure 6 details the Vehicle Miles of Travel (VMT) and Vehicle Hours of Travel (VHT), for the years 2002 and 2030. The table breaks out the VMT and VHT by area and roadway type and provides information on the number of vehicle miles that will be traveled in congestion (the result of the volume of a roadway divided by the capacity of that roadway equal to or greater than 1.2), and the percent of total vehicle miles traveled in that condition.

Figure 6: Vehicle Miles of Travel (VMT) and Vehicle Hours of travel (VHT) Comparison

Area	Road Type	VMT		VHT		Congested			
						VMT		Percent	
		2002	2030	2002	2030	2002	2030	2002	2030
Durham	Total	7,459,935	13,588,771	193,911	338,110	1,227,146	2,540,834	16.45%	18.70%
	Freeway	3,697,199	7,625,509	81,587	163,100	900,558	1,718,979	24.36%	22.54%
	HOV	0	265,864	0	4,647	0	0	0.00%	0.00%
	Other	3,762,736	5,963,262	112,324	175,010	349,849	764,509	9.30%	12.82%
Orange	Total	3,447,241	6,403,178	77,420	135,876	63,308	1,846,976	1.84%	28.84%
	Freeway	1,842,671	3,861,833	32,151	62,653	130,802	1,693,430	7.10%	43.85%
	HOV	0	41,974	0	666	0	0	0.00%	0.00%
	Other	1,604,570	2,541,345	45,270	73,223	12,321	206,532	0.77%	8.13%
Chatham	Total	975,830	2,351,395	19,625	48,727	0	50,153	0.00%	2.13%
	Freeway	135,427	314,161	2,088	4,875	0	0	0.00%	0.00%
	Other	840,403	2,037,235	17,537	43,853	0	49,413	0.00%	2.43%
DCHC	Total	10,477,762	19,281,767	264,131	466,582	1,211,550	4,402,428	11.56%	22.83%
	Freeway	5,184,310	10,808,579	108,130	218,014	923,471	3,310,906	17.81%	30.63%
	HOV	0	308,164	0	5,318	0	0	0.00%	0.00%
	Other	5,293,452	8,473,187	156,001	248,567	363,104	1,079,304	6.86%	12.74%
CAMPO	Total	20,046,452	44,872,951	490,498	1,234,836	2,395,662	11,875,021	11.95%	26.46%
	Freeway	7,292,528	19,512,045	141,005	421,042	437,019	4,418,804	5.99%	22.65%
	HOV	0	347,566	0	8,019	0	0	0.00%	0.00%
	Other	12,753,924	25,360,907	349,493	813,794	1,996,100	7,609,873	15.65%	30.01%
Region	Total	33,735,444	72,090,271	821,546	1,929,205	3,809,497	18,127,736	11.29%	25.15%
	Freeway	13,506,060	32,936,589	265,378	681,102	1,468,380	8,552,315	10.87%	25.97%
	HOV	0	655,404	0	13,332	0	0	0.00%	0.00%
	Other	20,229,385	39,153,662	556,169	1,248,103	2,481,652	9,754,280	12.27%	24.91%

Figure 7



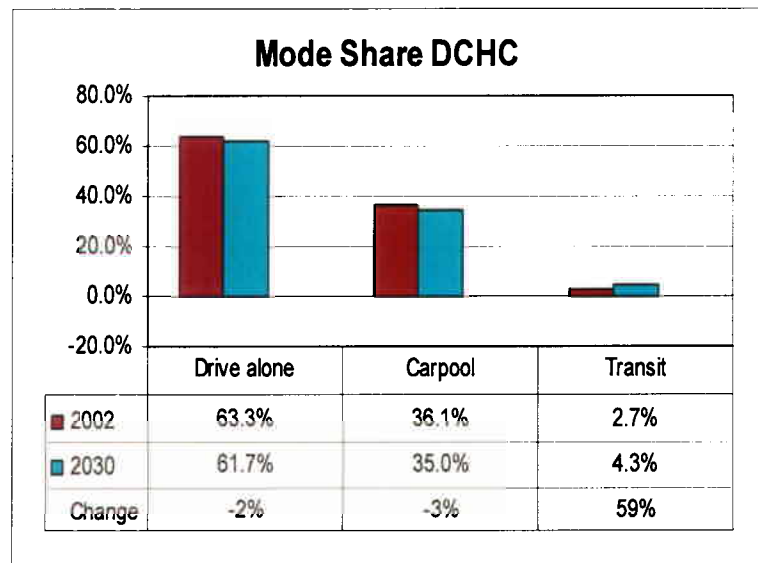
**Total Trips**

As shown in the *Figure 7*, the total number of trips made in DCHC, CAMPO, and the Region are all increasing significantly from 2002 to 2030. The rate of increase of CAMPO (115.15 percent) is greater than in DCHC (66.14 percent) primarily due to the greater population and employment growth in CAMPO.

**Mode Share**

Mode share refers to the division of the total trips (as shown above) into three categories. Those categories are: Drive Alone (Single Occupancy Vehicles), Carpool (High Occupancy Vehicles - more than one person in the vehicle) and Transit riders. The following figures illustrate mode share for DCHC, CAMPO and the Region.

Figure 8



*Figure 8* indicates that in 2002, 63.3 percent of the motorized trips were made in a single occupant vehicle, 36.1 percent of the trips were in a multiple occupant vehicle and 2.7 percent were by transit. In 2030, the share of transit trips increases to 4.3 percent and the share of trips in multiple occupant vehicles decreases to 35.0 percent.

Figure 9

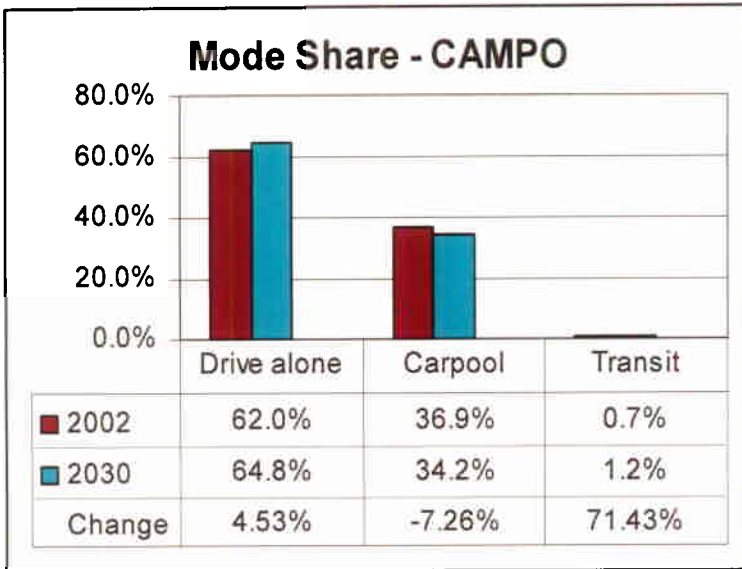
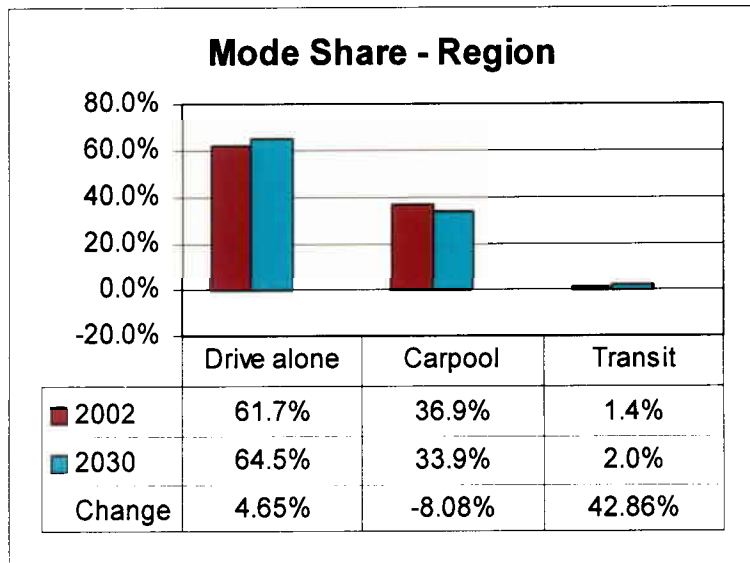


Figure 9 indicates that in 2002, 62.0 percent of the motorized trips were made in a single occupant vehicle, 36.9 percent of the trips were in a multiple occupant vehicle and 0.7 percent were by transit. In 2030, the share of transit trips increases by 71 percent to 1.2 percent but the share of carpool trips decreases by 7 percent to 34.2 percent.

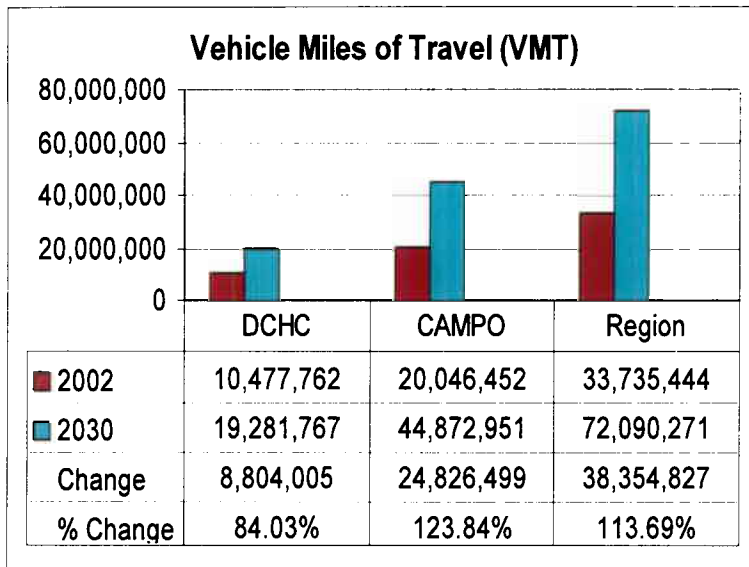
Figure 10

Figure 10 indicates that in 2002, 61.7 percent of the motorized trips in the Region were made in a single occupant vehicle, 36.9 percent of the trips were in a multiple occupant vehicle and 1.4 percent were by transit. In 2030, the share of transit trips increases by 43 percent to 2 percent but the share of carpool trips decreases by 8 percent to 33.9 percent.



**Vehicle Miles of Travel, Vehicle Hours of Travel and Congestion**

*Figure 11*



*Figure 11* illustrates that vehicle miles of travel in DCHC and CAMPO are projected to increase by 84.03 percent and 123.84 percent, respectively for the 2002 to 2030 period. This figure also indicates that VMT is projected to increase at a greater rate than the growth in population and employment. In other words, people are making more trips and/or traveling greater distances.

*Figure 12*

*Figure 12* illustrates that vehicle hours of travel in DCHC and CAMPO are also projected to increase at a greater rate than the growth in population and employment.

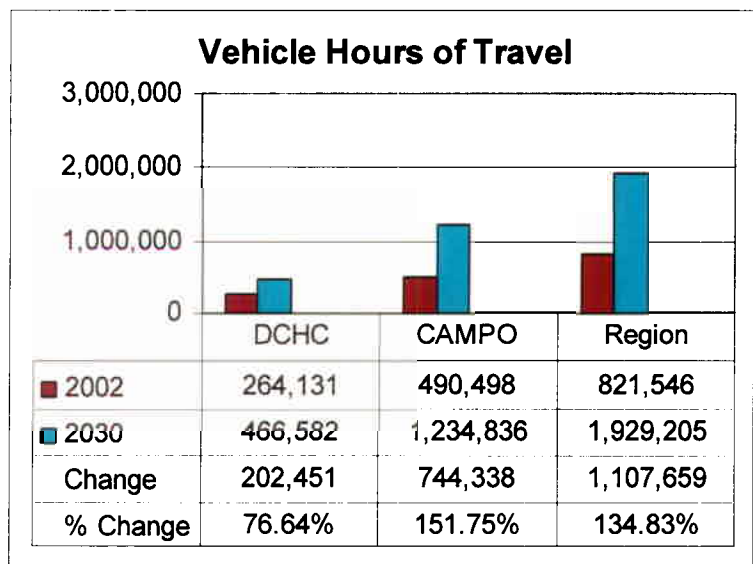


Figure 13

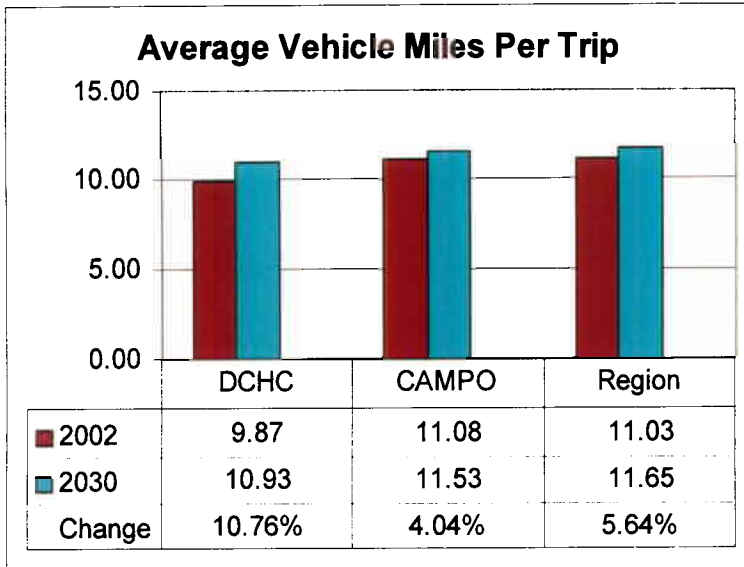
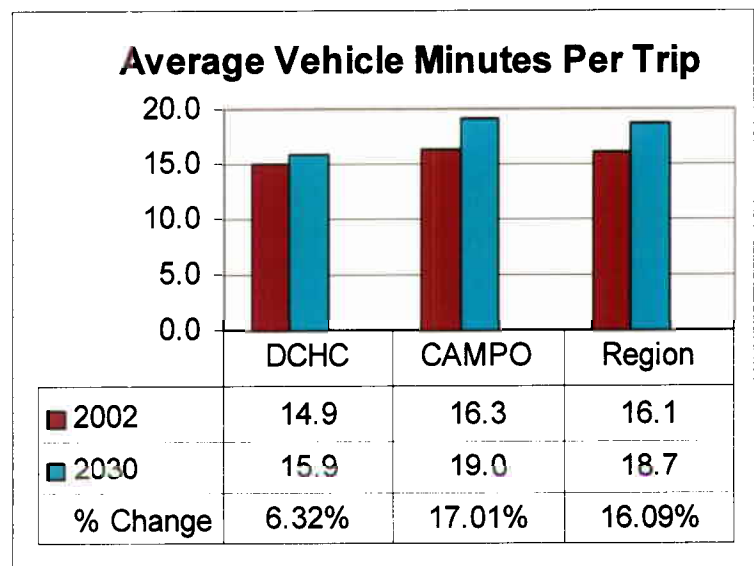


Figure 13 indicates that the average vehicle miles per trip is projected to increase by 10.7 percent and 4.1 percent respectively, for trips in DCHC and CAMPO from 2002 to 2030.

Figure 14

Figure 14 shows that in DCHC the average vehicle minutes per trip will increase from 14.9 minutes in 2002 to 15.9 minutes in 2030. In CAMPO, the average trip will increase from 16.3 minutes in 2002 to 19.0 minutes in 2030.

This, when reviewed with the information contained in Figure 14 shows that although DCHC residents will see a greater increase in the length of their trip than residents in CAMPO, they will see less of an increase in their travel time.



## Existing and Future Transportation System Deficiencies

Deficiency maps showing Average Daily Traffic Volumes for 2002 and 2030 on the schematic highway network map as produced by the Triangle Regional Model follow. Road segments on these maps are thicker or thinner according to the total daily volume of traffic and they are colored to indicate the relative degree of congestion (ratio of traffic volume to road segment capacity). In general, when the Volume/Capacity ratio is greater than 1.0, drivers will experience some periods of congestion that are great enough to warrant changing departure time (leaving earlier or later) or re-routing the trip. At Volume/Capacity ratios greater than 1.2, the road segment will typically be in a congested state throughout the peak hour periods, and often outside the peak hours as well.

Deficiency maps display the level of congestion on highway segments by comparing the number of forecast trips (i.e., vehicles) with the capacity for the particular road segment. The deficiency map in *Figure 18*, is a thematic layout of the principal roadways in the DCHC MPO planning area. The width and color of the line (or road segment) depicts the traffic volume and level of congestion (or volume-to-capacity ratio), respectively. Of particular importance are the red line, which signifies that the traffic volume is more than 120% of the road capacity, and the orange line, which signifies that traffic volume is between 100% to 120% of road capacity. These two volume-to-capacity ratios signify poor levels of service in which vehicles experience higher rates of accidents, significantly slower travel speeds, and in many cases stop-and-start traffic conditions. The results are longer commute/travel times, traveler dissatisfaction and tension, and higher pollutant emissions.

A review of *Figure 18*, 2002 Highway Deficiencies, shows that the following facilities are currently experiencing high levels of congestion:

- I-40 between NC 54 and Wake County, and throughout the Research Triangle Park (RTP);
- Durham Freeway (NC 147) between downtown Durham and the (RTP);
- US 70 between Miami Blvd. and Lynn Rd.;
- NC 55 and Cornwallis Rd. in the central RTP area;
- NC 54 in the RTP area;
- US 15-501 between Franklin St. in Chapel Hill and Garrett Rd. in the City of Durham;
- Segments of arterials in the City of Durham such as Duke St., Buchanon Blvd., Broad St., Alston Ave., Roxboro Rd., Hillandale Rd., Erwin Rd., and University Dr., and;
- Estes Dr. in Chapel Hill.

A review of *Figure 19*, 2030 Highway Deficiencies, shows congestion levels will, for the most part, expand and intensify throughout the DCHC MPO area in the future. The “2030 Highway Deficiencies” map uses the same line/color thresholds as the “2002 Highway Deficiencies” map to forecast the level of congestion in the year 2030, and assumes that the population and employment growth described in the Socio-economic forecast become reality, and the highway, public transportation, and other projects in the 2030 LRTP will be implemented as planned. The most notable deteriorations in congestion include:

- I-85 north of the City of Durham;
- I-40 from west of Hillsborough to Wake County, and throughout the RTP;
- Most of the Durham Freeway (NC 147);
- Triangle Parkway;
- NC 751 south of I-40;

- Additional arterial segments around the City of Durham such as Duke St., Hillandale/Fulton St., Chapel Hill St., University Drive; Cornwallis Rd. (RTP), Page Rd., Sherron Rd., and Old Oxford Rd.;
- NC 54 Bypass and Horace Williams Access Rd. in Chapel Hill;
- Estes Dr. Extension and Jones Ferry Rd. in Carrboro; and,
- Churton St. and NC 86 in Hillsborough.

Several new projects, i.e., constructed after 2002, are forecast to experience congestion, including:

- East End Connector;
- Northern Durham Parkway (US 70 to NC 98)
- I-40 and Durham Freeway (NC 147) (at six lanes);
- Triangle Parkway (NC 147); and,
- Alston Ave. Extension on the east side of the City of Durham.

There are a few notable examples in which the level of congestion is forecast to decline in 2030, including:

- Broad St. and Buchanon Blvd. between I-85 and the Durham Freeway; and,
- US 15-501 between I-40 and the Bypass/Business route split near South Square (most likely the result of an upgrade from a six-lane arterial to a six-lane freeway).
- NC 55 (widened to 4-lanes)
- US 70 (upgraded to freeway)

Figure 15

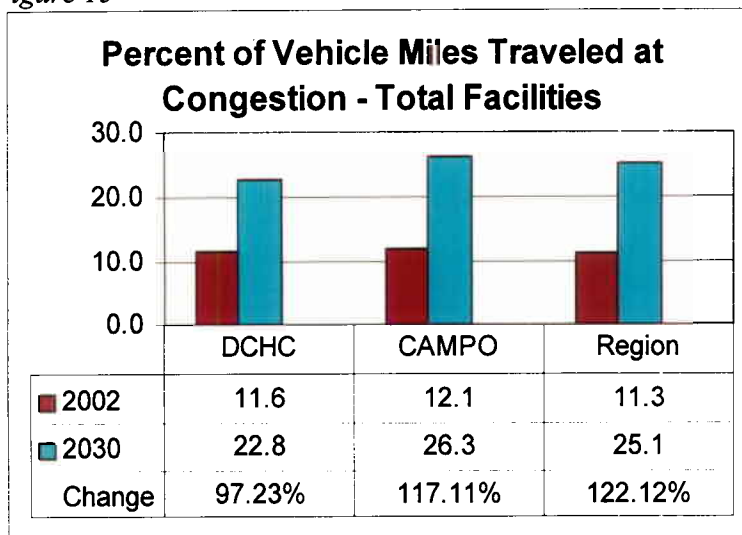


Figure 15 indicates the total percent of the vehicle miles that are or will be traveled in a congested state on all roadway types. Congested travel in DCHC is projected to nearly double from 11.6 percent in 2002 to 22.8 percent in 2030.

Figure 16

Figure 16 demonstrates that congestion on freeways in the Region is expected to more than double from 11 percent in 2002 to 25 percent in 2030.

The current percentage of freeway miles traveled in congestion in the CAMPO area is significantly lower than in the DCHC area. This is due in part to the recent construction and underutilization, at the time of data collection, of the new I-540 roadway and the fact that there are simply fewer freeway miles in DCHC but these freeways carry much of the traffic in the area.

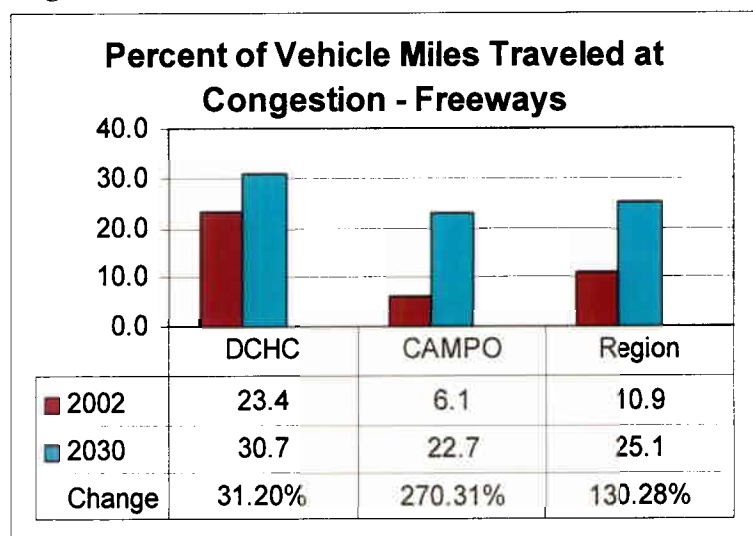


Figure 17

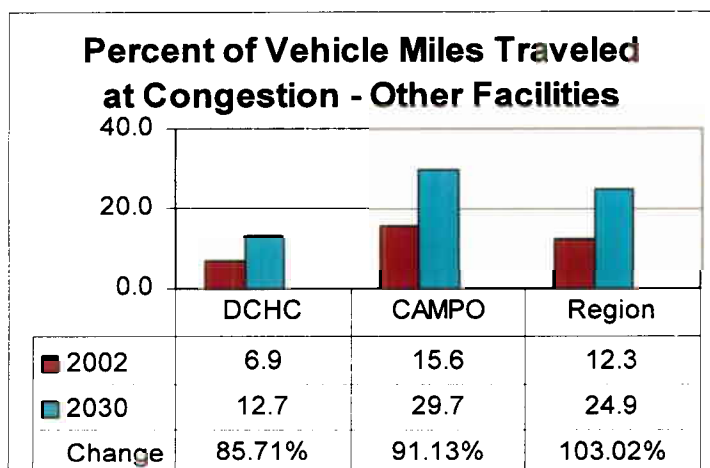
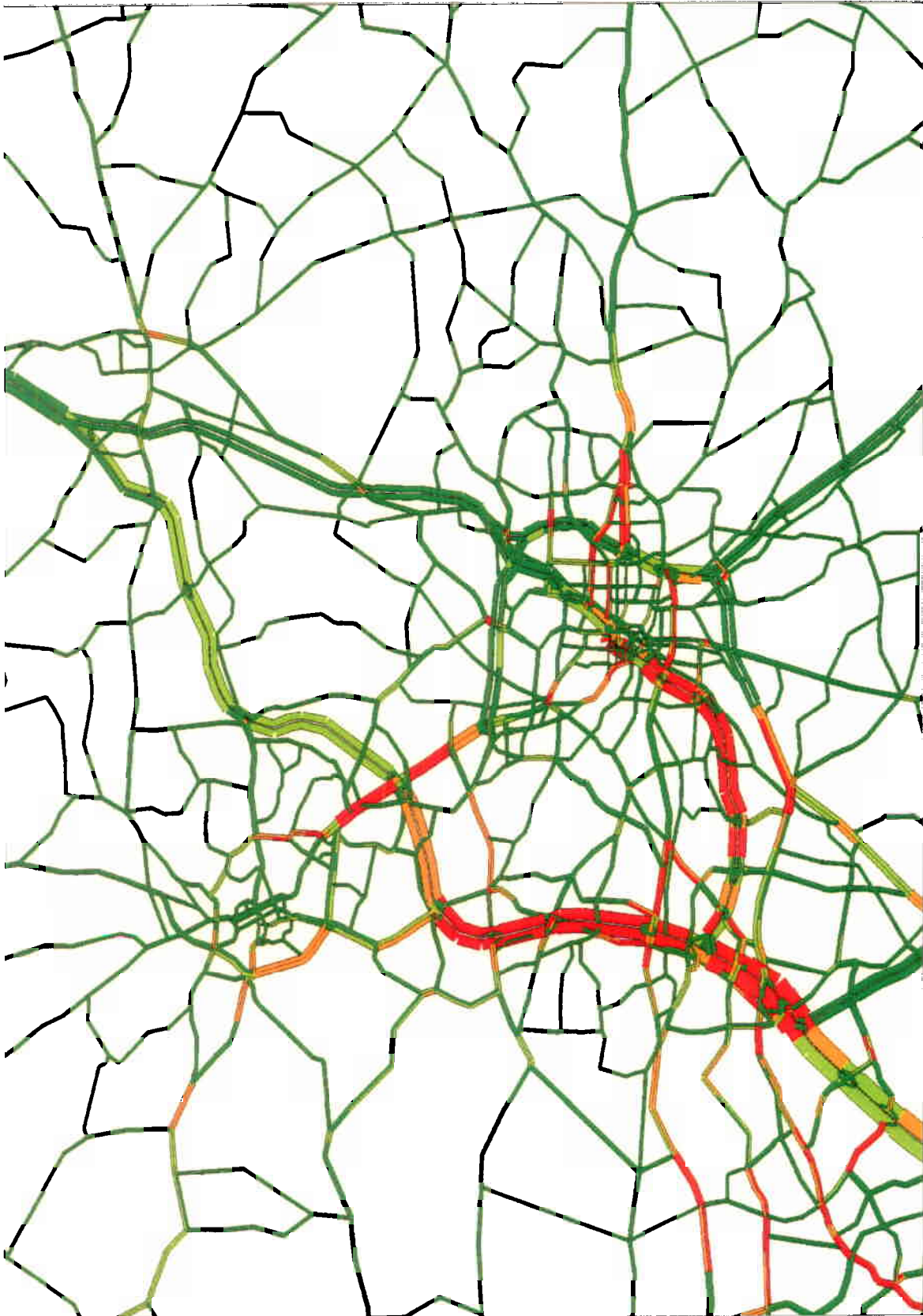


Figure 17 shows that congestion on other facilities in the Region is also expected to double from 12.3 percent in 2002 to 24.9 percent in 2030. The percentage of congestion on other facilities is significantly lower in the DCHC area than in the CAMPO area.

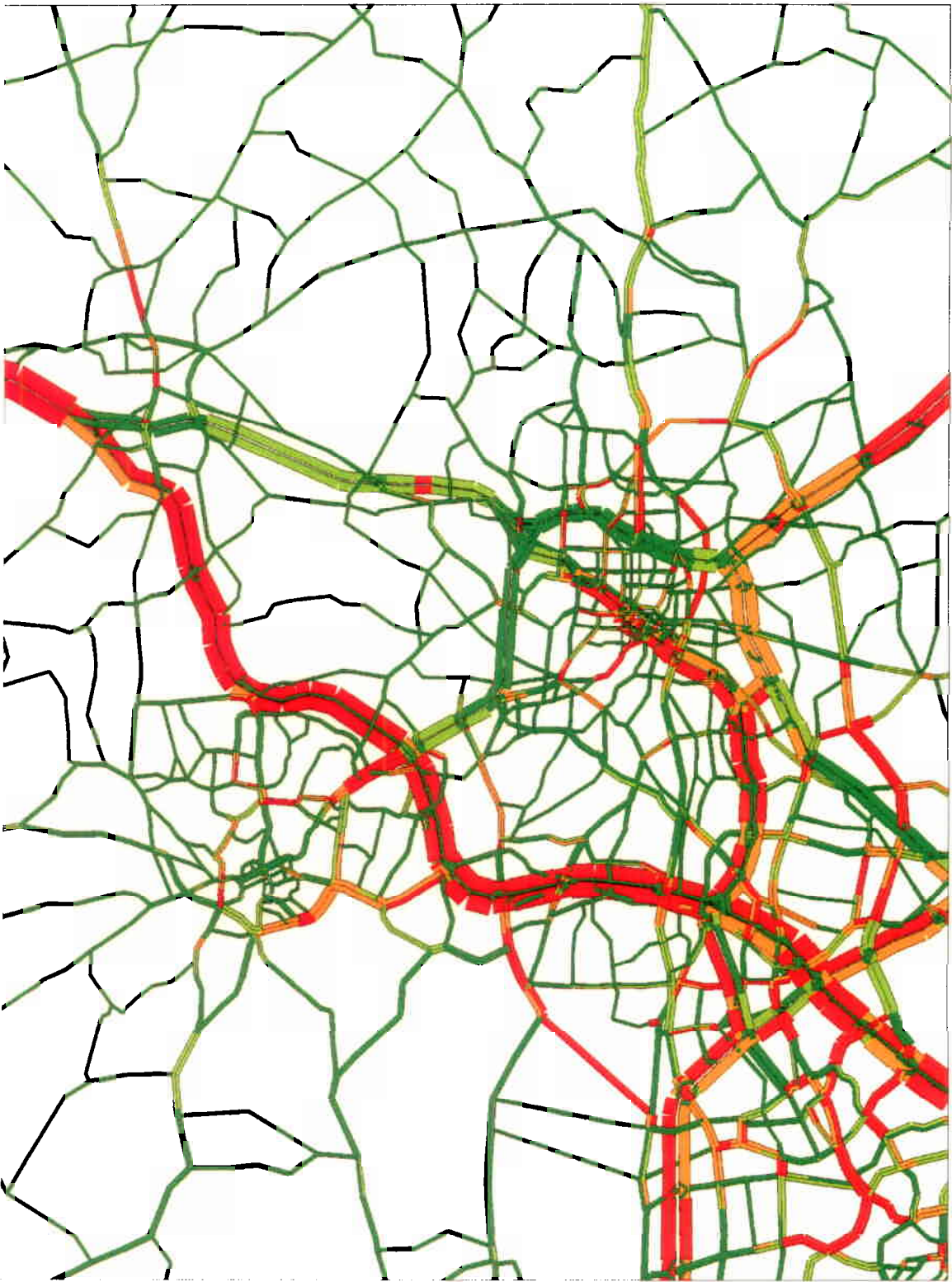


Figure 18



**Triangle Regional Model  
2002 Highway Deficiencies  
09/07/2004**

Figure 19



**Triangle Regional Model  
2030 Highway Deficiencies  
09/07/2004**

## **Financial Plan**

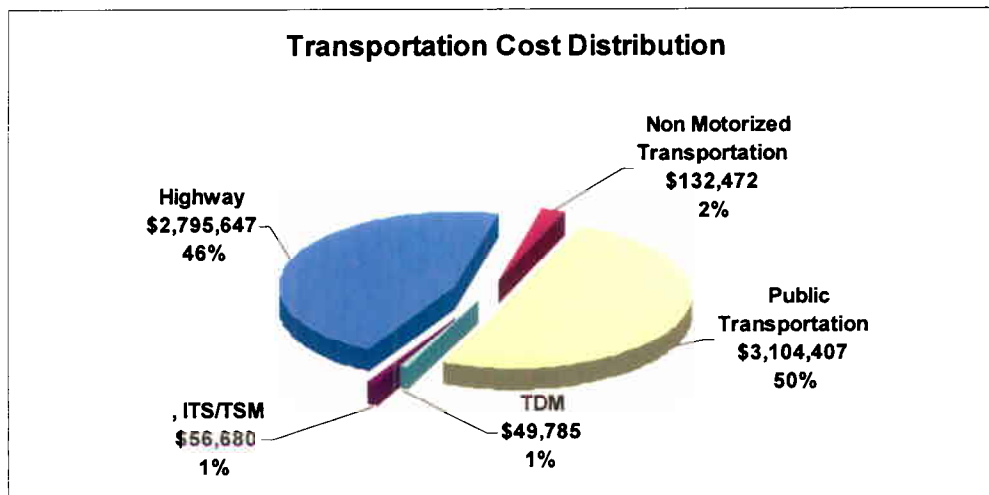
The Financial Plan component of the 2030 Long Range Transportation Plan provides a comparison of projected costs and revenues from 2005 through 2030. The purpose of the Financial Plan is to demonstrate that the DCHC MPO has the financial capacity to implement the 2030 LRTP and to comply with federal regulations that require the Plan to be financially feasible. For every project, there must be a reasonable source of funding available to implement that project. Also, the counties comprising the DCHC MPO planning area have been designated as non-compliant for ozone pollutants based on recent changes to the National Ambient Air Quality Standards. As a result, federal regulations require the financial plan to address the specific financial strategies proposed to ensure the implementation of projects and programs to achieve air quality conformity.

## **Costs**

The estimated costs for the 26-year plan period (2005 through 2030) is \$6.1 billion, approximately \$236 million per year. These costs are summarized in *Figure 19* by five main components, including; 1) highway; 2) public transportation; 3) non-motorized transportation (bicycle projects); 4) Transportation Demand Management (TDM), and, 5) Intelligent Transportation Systems (ITS)/Transportation System Management (TSM) projects. Public transportation comprises the majority of the total costs, 51%, demonstrating the MPO's commitment to providing alternatives to the private automobile. Bus transit accounts for two-thirds of the total public transportation costs. The highway component comprises the next largest cost, 46% of the total costs. Highway improvements account for three-fourths of the total highway costs, and highway maintenance accounts for the remaining one-fourth of those costs. The other components comprise 2%, or less, of the total costs. All costs are in constant year 2005 dollars.

Figure 20

DCHC 2030 LONG-RANGE TRANSPORTATION PLAN COST SUMMARY			
No.	Cost Components	Cost Estimate (2005 dollars)	% of Total
<b>1</b>	<b>Highway</b>		
1.1	Improvement	\$2,054,028,720	
1.2	Maintenance	\$741,618,431	
	<b>Total Highway Program</b>	<b>\$2,795,647,151</b>	<b>46%</b>
<b>2</b>	<b>Public Transportation -Transit/Fixed Guideway/Rail</b>		
2.1	Bus Transit Cost	\$2,035,664,600	
2.2	High Capacity Transit	\$102,257,642	
2.3	Fixed Guideway (New Starts)	\$952,909,728	
2.4	Rail Right-of-Way Corridor Protection	\$13,575,623	
	<b>Total Public Transportation</b>	<b>\$3,104,407,593</b>	<b>51%</b>
<b>3</b>	<b>Non Motorized Transportation</b>		
	Bicycle Facilities	\$112,089,368	
	Sidewalks & Pedestrian Walkways	\$20,383,000	
	<b>Total Non-Motorized Transportation</b>	<b>\$132,472,368</b>	<b>2%</b>
<b>4</b>	<b>TDM</b>	<b>\$49,785,750</b>	<b>1%</b>
<b>5</b>	<b>ITS/TSM</b>	<b>\$56,680,000</b>	<b>1%</b>
<b>TOTAL 2030 LRTP Costs</b>		<b>\$6,138,992,862</b>	<b>100%</b>



## Revenues

The 2030 LRTP must identify revenue sources to pay for the proposed projects and there must be a reasonable expectation that these revenue sources will be realized. The MPO used historical revenue data to project future revenues. The total revenue forecast is \$5.4 billion. *Figure 21* summarizes these revenues in three main funding sources: 1) Highway; 2) Bus Transit; and, 3) Fixed Guideway Transit. The two transit sources are further summarized by Capital and Operating and Maintenance sources.

The highway sources provide the majority of the revenue, \$3.5 billion, or 63% of the total revenue. The State Highway Trust Fund (HTF) source is to provide \$468 million, or the same amount as the estimated cost of the five HTF projects. It should be noted that not all highway source revenues need to be expended on highway projects. Federal transportation regulations permit so-called “flexing” for many funding sources, which allows highway revenue to fund non-highway transportation projects such as transit and transportation demand management projects.

The transit bus and fixed guideway sources are to provide 18% and 19% of the total revenue, respectively. The fixed guideway source is contingent upon the federal approval and subsequent implementation of the TTA Rail Phase I and the US 15-501 corridor fixed guideway projects.

Figure 21

<b>DCHC 2030 Long-Range Transportation Plan (LRTP) Traditional Revenue Forecast (2005 Dollars)</b>		
	<b>Funding Sources / Types</b>	<b>Revenue Estimate (2005 dollars)</b>
<b>1</b>	<b>Highway</b>	
1.1	Federal /State (NHS, STP, NCDOT, etc.)	\$2,463,247,434
1.2	State Highway Trust Fund (loop projects)	\$468,097,000
1.3	Local (e.g., Capital Improvement Program)	\$348,671,109
1.4	Private	\$126,949,659
	<b>Total highway revenue</b>	<b>\$3,406,965,201</b>
<b>2.1</b>	<b>Bus Transit</b>	
	<i>Capital</i>	
2.11	Federal FTA	\$324,596,899
2.12	State – NCDOT	\$20,287,309
2.13	Local	\$60,861,927
	<i>Total bus transit capital</i>	<i>\$405,746,134</i>
	<i>Operating &amp; Maintenance (O &amp; M)</i>	
2.14	Federal FTA	\$65,076,878
2.15	State – NCDOT	\$110,558,122
2.16	Local	\$255,549,132
2.17	Fare	\$131,643,283
	<i>Total bus transit operating &amp; maintenance</i>	<i>\$562,827,415</i>
	<b>Total bus transit revenue (capital, operating &amp; maintenance)</b>	<b>\$968,573,550</b>
<b>2.2</b>	<b>Fixed Guideway Transit (TTA Phase 1 and US 15-501)</b>	
	<i>Capital</i>	
2.21	Federal FTA	\$386,820,727
2.22	State – NCDOT	\$193,410,363
2.23	Local	\$193,410,363
	<i>Total fixed guideway transit capital</i>	<i>\$773,641,453</i>
	<i>Operating &amp; Maintenance (O &amp; M)</i>	
2.24	Federal FTA	\$47,053,937
2.25	State - NCDOT	\$37,070,630
2.26	Local	\$86,421,801
2.27	Fare	\$124,555,171
	<i>Total fixed guideway operating &amp; maintenance</i>	<i>\$295,101,540</i>
	<b>Total fixed guideway revenue</b>	<b>\$1,068,742,992</b>
	<b>Total Transportation Plan Revenue</b>	<b>\$5,444,281,743</b>

## Financial Analysis – Cost and Revenue Comparison

Under current federal transportation legislation, often referred to as TEA-21, long-range transportation plans must be fiscally constrained. In other words, revenues must match costs within a reasonable tolerance level, and there must be a reasonable expectation that proposed revenues will be realized.

Given the preceding total cost and revenue projections, costs will exceed revenues by \$694 million – see *Figure 22*. In order to provide adequate funding to implement the 2030 LRTP projects, the plan identifies three sources of non-traditional revenues described below. It is important to note that non-traditional revenues are not limited to these three sources. Additional revenue sources might be implemented within the timeframe of this long-range plan as State legislation, and the administrative and political feasibility of revenue source changes. Among the revenue sources currently being pursued are the following:

- A Retail Motor Fuels Tax is expected to generate \$356,159,793 over a 23-year period, from 2008 through 2030. This revenue projection assumes a 5% tax on the \$1.40 non-tax value of a gallon of fuel, and a 1.4% annual growth rate to account for expected population growth. This tax would be in addition to the current State and federal fuel taxes.
- A phased implementation of a Vehicle Registration Fee increased is expected to generate \$124,435,835 over a 23-year period, from 2008 through 2030. This revenue projection assumes a \$10 fee from 2008 through 2009, \$15 fee from 2010 through 2019, and a \$20 fee from 2020 through 2030. It also assumes a 1.4% annual growth rate to account for expected population growth. This fee would be in addition to the current Vehicle Registration fees in Durham County and Orange County.
- Bonds that are financed on the expected toll revenues from the Triangle Parkway are expected to provide \$70,039,000 capital and \$14,007,800 operating and maintenance funding.

The total revenue from these non-traditional sources is estimated to be almost \$565 million, leaving an estimated difference (or shortfall) of almost \$130 million, or less than 2% of the total cost. Given the 26-year planning horizon of this plan and the large cost and revenue sums, MPO staff believes this shortfall is within the tolerance level of a fiscally constrained plan.

Figure 22

<b>DCHC 2030 LONG-RANGE TRANSPORTATION PLAN FINANCIAL ANALYSIS</b>		
<b><u>COST &amp; REVENUE COMPARISON</u></b>		<b><u>2005 Dollars</u></b>
1	Total Transportation Cost Estimates	\$6,138,992,862
2	Total Transportation Revenue Forecast (traditional sources)	\$5,444,281,743
<b>Shortfall</b>		<b>-\$694,711,119</b>
<b><u>NON TRADITIONAL REVENUE SOURCES</u></b>		
(Includes all Durham County and part of Orange County in MPO boundary)		
A	<b>Motor (Gasoline) Fuel Tax -</b> 5% on non-taxed portion of gas retail cost (\$1.40 non-tax per gallon) Revenue period is 2008 to 2030, and uses ~1.4% annual growth	\$356,159,793
B	<b>Vehicle Registration -</b> \$10 from 2008 to 2009; \$15 from 2010 to 2019; \$20 from 2020 to 2030 Uses ~1.4% annual growth for vehicles	\$124,435,835
C	<b>Triangle Parkway Toll Financing</b> Bonds to provide \$70,039,000 capital and \$14,007,800 operating and maintenance funding based on tolls from Triangle Parkway.	\$84,046,800
<b>Total Non Traditional Revenue Sources</b>		<b>\$564,642,429</b>
<b>TOTAL REVENUE (traditional &amp; non-traditional)</b>		<b>\$6,008,924,172</b>
<b>Difference -- Shortfall</b>		<b>-\$130,068,690</b>



**Highlights of the  
2030 Long-Range Transportation Plan Investments**

## Highways

The highway system serves both the automobile, which is the most popular transportation mode, as well as other modes such as bicycle and public transportation, and supports strategies such as Intelligent Transportation Systems (ITS). The main emphasis of the recommended highway plan is the preservation and maintenance of existing streets, roadways, and bridges. The Plan also identifies projects to increase the capacity of the highway system.

There are over 120 highway projects, estimated to cost over \$2 billion. Among the most important projects is the new East End Connector, which is designed to increase access between the neighborhoods of north and east Durham, and RTP employers, along with capacity improvements to adjacent US 70 and I-85. These three projects, along with the new Northern Durham Parkway and widening of Roxboro Road comprise a set of projects to be financed by the North Carolina Highway Trust Fund. The proposed High Occupancy Vehicle lanes (HOV) on I-40 and NC 147 (Durham Freeway) and the extension of NC 147 (Triangle Parkway) are among the major highway system improvements in the Plan.

A detailed map depicting all the 2030 LRTP highway projects is attached to the project list. The map legend indicates the type of improvement (e.g., widening to 4 lanes, new alignment) and the air quality year of implementation. In addition, highway improvements in the Capital Area Metropolitan Planning Organization (CAMPO – the MPO for the Wake County region) are shown to permit a comparison of these so-called “border projects.”

The cost distribution of the highway projects by the AQ Year (i.e., period in which completion is expected) is illustrated in Figure 23. The costs in the 2005-2010 time period are generally limited to the expenditures projected in the 2004-2010 TIP. Costs are fairly evenly distributed over the last two 10-year periods.

Figure 23: Cost Distribution of Highway Projects by AQ Year

	Amount	Percent of Total
2005-2010	\$126,514,000	6%
2011-2020	\$1,048,146,000	51%
2021- 2030	\$879,368,720	43%
<b>Total Highway Costs</b>	<b>\$2,054,028,720</b>	
<b>Postyear</b>	<b>\$264,212,816</b>	

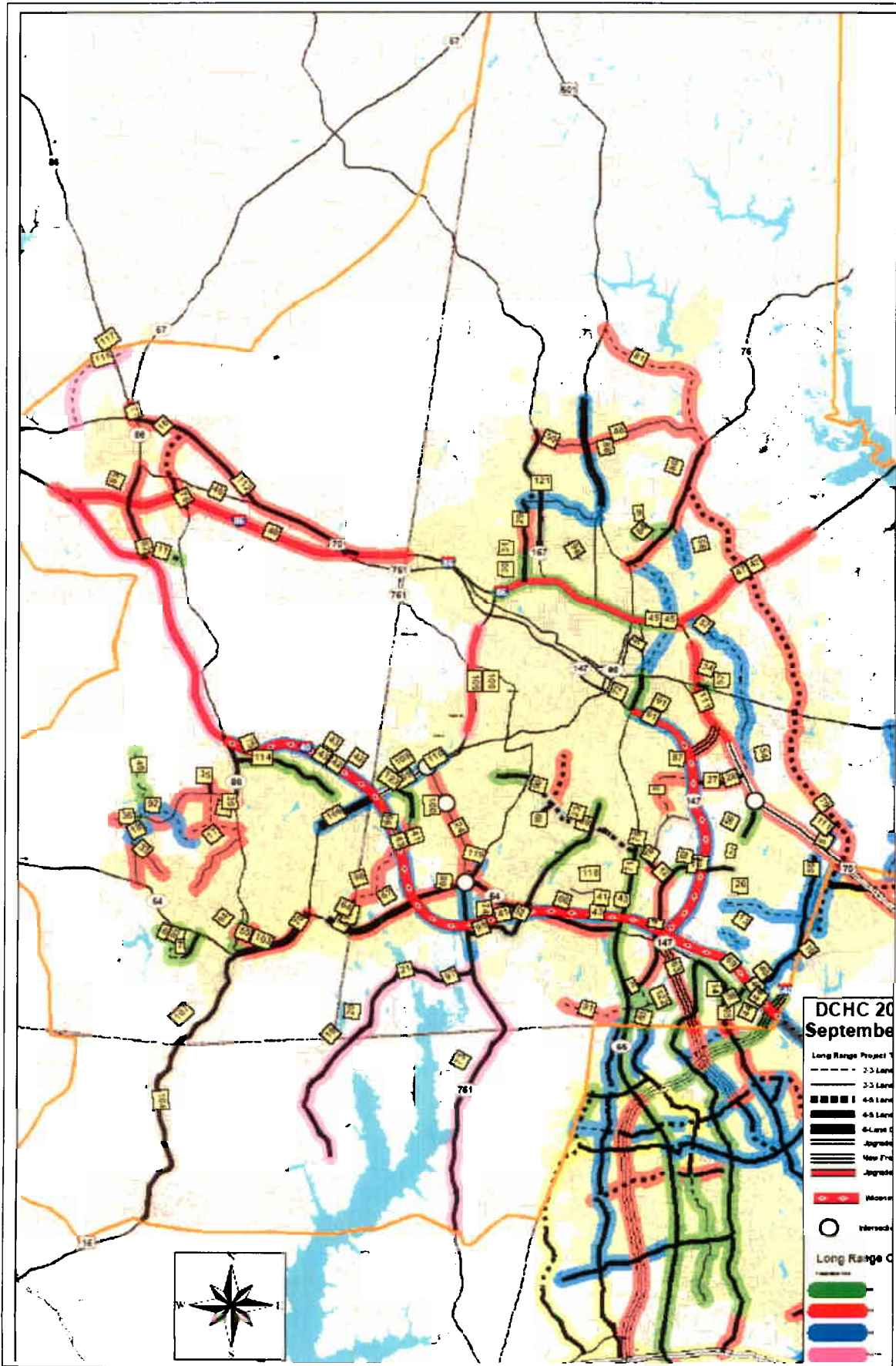
A list of the highway projects follows. No priority is intended in this table. The 2030 LRTP highway projects are similar to the 2025 LRTP highway projects since the 2030 LRTP represents an update to the previous plan. Changes to the 2030 LRTP highway plan include the following:

- Several projects have been moved to a postyear status. These projects are not assumed to be funded within the 2030 project horizon, and therefore the cost of these projects is not included in the LRTP total costs. They are not included in the TRM (transportation model) network.
- Project costs have been adjusted to: 1) reflect the value of the dollar in the 2005 base year; and 2) reflect changes in TIP cost estimates for those projects listed in the draft 2006-2012 TIP.
- *Pre-2005 project funding is not part of the project cost because the plan period does not start until January 1, 2005. In other words, the portion of a project that is financed before the plan period begins is not counted. These changes are depicted in a blue italic font.*

- Some project attributes such as length and completion year (i.e., AQ Year) have been adjusted to account for the most recent project planning information. These changes are depicted in a **blue** font.

At this point, some information to assist in interpreting the table will be helpful. Each row in the table is a separate highway project. The key information for each project is presented by columns, and includes the following:

- Project No. – This number facilitates the identification of projects in the long-range plan. A few single projects have been split into multiple projects, and therefore are listed as an “a” and “b” project.
- Project – The project name is the name of the road.
- Project Limits – This usually identifies the name of the two road intersections between which the project is to be constructed.
- Existing Cross-Section – This commonly identifies the number and type (e.g., freeway, divided) of current lanes. “New” indicates New road alignment -- in other words, there is no existing road.
- Proposed Cross-Section -- This commonly identifies the number and type (e.g., freeway, divided) of lanes proposed in the plan.
- TIP No. – Some projects are completely or partially funded in the current Transportation Improvement Plan (TIP). If so, the TIP identification number is shown.
- County – This identifies the county location of the project.
- Length – This shows the length, in miles, of the project roadway.
- Total Cost – The total costs includes those estimated costs to be incurred between January 1, 2005 and December 31, 2030. The costs for existing projects, such as those in the current Transportation Improvement Program (TIP) and local Capital Improvement Programs (CIP), that are incurred before January 1, 2005, are not included. The cost for postyear projects is not included in the total highway project cost.
- Proposed Improvement – Most projects are a widening (e.g., two-lanes widened to four-lanes), or New roadway.
- Functional Classification – This indicates the type of road in a hierarchy of road classification. This classification hierarchy, from top to bottom, includes: Interstate; Freeway; Principal Arterial; Minor Arterial; and, Urban Collector. As the classification moves from top to bottom, the road class increasingly serves fewer “through” trips and more local trips (i.e., trips with a local origin and destination).
- Regionally Significant – These are projects that provide access to and from the region, or to major destinations in the region. They are usually classified as a Primary Arterial, or higher, and are included in the regional travel demand model. Fixed guideway transit facilities, which are described in a separate section, are considered regionally significant.
- Air Quality Year – There are four major air quality analysis periods – 2005 to **2009**, **2010**, 2011 to **2020**, and 2021 to **2030**. The AQ Year indicates in which analysis period the particular project will be completed and in service. Postyear projects are indicated as such, and are not included in the transportation modeling or LRTP costs.
- Funding Source – The proposed funding sources for most projects are federal and/or State programs. In some cases, the local government or a private source is identified.



*DCHC 2030 LRTP Highway Projects*

**Bold Blue = project attribute or cost basis has changed from June 23, 2004 public release of 2030 LRTP**

**Bold Blue Italics = only project costs that are to be financed after year 2004 are shown**

No.	Project	Project Limits	Existing Cross-Section	Proposed Cross-Section	TIP No.	County	Length (miles)	Total Cost (2005 dollars)	Functional Classification	Reg. Sig.	AQ year	Funding Source
1	Alexander Dr	Cornwallis Rd to NC 147	2-lane	4-lane divided	U-3309	Durham	1.00	<b>\$3,555,000</b>	Principal Arterial	No	2010	Federal/State
2	Alexander Dr	NC 147 to Miami Blvd	2-lane	4-lane divided	U-3309	Durham	0.70	<b>\$0</b>	Principal Arterial	No	<b>2009</b>	Federal/State
3	Alexander Dr	NC 54 to NC 55	2-lane	4-lane divided		Durham	2.41	\$9,150,000	Principal Arterial	No	2020	Federal/State/Private
4	Alexander Dr	NC 54 to Cornwallis Rd	2-lane	4-lane divided		Durham	1.89	\$7,374,000	Principal Arterial	No	2020	Federal/State
5	Alston Ave Ext	Holloway St to Old Oxford/Roxboro	New	3-lane	CIP/Bond	Durham	4.26	\$19,516,000	Minor Arterial	No	2030	Local/Private
6	Berryhill/Old Fayetteville Conn.	Old Fayetteville Rd to NC 54 Bypass	New	2-lane	Private	Orange	0.20	\$511,000	Urban Collector	No	<b>2009</b>	Private
7	BPW Club/Rock Haven Conn.	Loop at Smith Level Road	New	2-lane	Private	Orange	0.20	<b>\$511,000</b>	Urban Collector	No	<b>2009</b>	Private
8	Briggs Ave Ext	So-Hi Dr to Riddle Rd	New	2-lane	U-2831	Durham	1.60	<b><i>\$4,942,000</i></b>	Urban Collector	No	2020	Federal/State
9	Carver Street Ext	Armfield St to Old Oxford Rd	New	3-lane		Durham	0.73	\$3,370,000	Urban Collector	No	2010	Local
10	Chin Page Ext.	Page Rd to Wake County Line	New	3-lane		Durham	0.66	\$3,015,000	Urban Collector	No	2030	Federal/State/Private
11	Churton Connector	Old NC 86 to NC 86 (Between I-85 & I-40)	New	4-lane divided		Orange	0.57	\$4,775,000	Minor Arterial	No	<b>2010</b>	Federal/State/Private
12	Cornwallis Rd	MLK to Alexander Dr	2-lane	4-lane divided		Durham	1.18	\$4,778,000	Principal Arterial	No	2020	Federal/State

No.	Project	Project Limits	Existing Cross-Section	Proposed Cross-Section	TIP No.	County	Length (miles)	Total Cost (2005 dollars)	Functional Classification	Reg. Sig.	AQ year	Funding Source
13	Cornwallis Rd Ext	Miami Blvd to Chin Page Rd	New	2-lane		Durham	0.78	\$3,368,000	Principal Arterial	No	2030	Federal/State
14	Davis Dr	NC 54 to County Line	2-lane	4-lane divided	U-4026	Durham	1.93	\$0	Principal Arterial	No	2009	Federal/State/Private
15	East End Connector (EEC)	NC 147 to US 70 E; US 70:EEC to NC 98	New	6-lane freeway	U-71	Durham	2.50	\$108,936,000	Freeway	Yes	2020	State Trust Fund
16	Elizabeth Brady Rd Ext	US 70 Business to St Mary's Rd	New	4-lane divided	U-3808	Orange	1.40	\$15,900,000	Minor Arterial	No	2020	Federal/State
17	Estes Dr	Greensboro Rd to NC 86	2-lane	3-lane	U-2909	Orange	1.70	\$5,950,000	Minor Arterial	No	2020	Federal/State
18	FarmHouse/Tramore Conn.	Old NC 86 to Stratford Drive	New	2-lane	Private	Orange	0.25	\$639,000	Urban Collector	No	2030	Private
19	Farrington Mill Rd	Jack Bennett Rd to Durham Co line	2-lane	4-lane divided		Chatham	2.42	\$15,789,000	Minor Arterial	No	Post Year	Federal/State
20	Farrington Mill Rd	Barbee Chapel Rd to Chatham Co line	2-lane	4-lane divided		Durham	2.04	\$13,289,000	Minor Arterial	No	Post Year	Federal/State
21	Farrington Rd	Barbee Chapel Rd to Stagecoach Rd	2-lane	4-lane divided		Durham	0.40	\$2,487,000	Minor Arterial	No	Post Year	Federal/State
22	Fayetteville Rd	Woodcroft Pkwy to South Point	2-lane	4-lane divided	CIP/Bond	Durham	1.63	\$0	Principal Arterial	No	2009	Private/local
23	Fayetteville Rd	Woodcroft Pkwy to Cornwallis Rd	2-lane	4-lane divided		Durham	2.31	\$17,431,000	Principal Arterial	No	2010	Local
24	Garrett Rd	NC 751 to US 15-501	2-lane	3-lane		Durham	3.12	\$5,922,000	Principal Arterial	No	2020	Federal/State
25	Garrett Rd/Chapel Hill Rd	Intersection Improvements	Intersection	Upgrade	U-3105	Durham	1.00	\$0	Principal Arterial	No	2009	Federal/State
26	Globe St Ext. (Brier Creek Pkwy)	Miami Blvd. To Wake County Line	New	3-lane (plus transit ROW)		Durham	1.98	\$3,383,000	Principal Arterial	No	2030	Federal/State/Private

No.	Project	Project Limits	Existing Cross-Section	Proposed Cross-Section	TIP No.	County	Length (miles)	Total Cost (2005 dollars)	Functional Classification	Reg. Sig.	AQ year	Funding Source
27	Glover Rd	Glover Rd/NC 147 interchange; 147 to Angier	2-lane	Interchg/4-lane divided		Durham	1.94	\$32,556,000	Minor Arterial	No	2020	Federal/State/Private
28	Glover Rd	Angier to US 70	New	4-lane divided		Durham	1.37	\$11,556,000	Minor Arterial	No	2020	Federal/State/Private
29	Guess Rd	Carver St to Umstead Rd	2-lane	5-lane/4-lane divided	U-2102	Durham	3.37	\$0	Principal Arterial	No	2009	Federal/State
30	Hillandale Rd	I-85 to Carver St.	2-lane	4-lane divided	U-3804	Durham	0.70	\$6,650,000	Principal Arterial	No	2009	Federal/State
31	Hillandale Rd	Carver to Horton Rd	2-lane	4-lane divided		Durham	1.53	\$14,997,000	Principal Arterial	No	2020	Federal/State
32	Hillandale Rd Ext	Horton Rd to Guess Rd	New	4-lane divided		Durham	0.88	\$7,985,000	Principal Arterial	No	2030	Federal/State
33	Hillsborough Rd/Old Fayetteville	Lorraine St to Old Fayetteville/NC 54	2-lane	2-lane (36-ft curb/gutter)	U-3100	Orange	0.50	\$1,578,000	Principal Arterial	No	2020	State
34	Holloway Street	US 70 to east of Junction Rd	2-lane	5-lane	U-4010	Durham	0.30	\$0	Principal Arterial	Yes	2009	Federal/State
35	Homestead Rd	High School Rd to NC 86	2-lane	3-lane	U-2805	Orange	1.70	\$5,362,000	Principal Arterial	No	2020	Federal/State
36	Homestead Rd	Old NC 86 to High School Rd	2-lane	3-lane		Orange	1.47	\$4,639,000	Principal Arterial	No	2020	Federal/State
37	Hopson Rd. realignment (RTP)	Louis Stephens Dr to NC 55	2-lane	2-lane	U-4410	Durham	1.00	\$2,081,000	Urban Collector	No	2010	State/Private
38	Hopson-Page Rd Ext	NC 54 to Page Rd	New	5-lane	U-3853	Durham	0.50	\$0	Urban Collector	No	2009	State/Private
121	Horton Rd	Duke St to Hillandale Rd	2-lane	3-lane		Durham	1.90	\$5,996,000	Minor Arterial	No	2030	Federal/State

No.	Project	Project Limits	Existing Cross-Section	Proposed Cross-Section	TIP No.	County	Length (miles)	Total Cost (2005 dollars)	Functional Classification	Reg. Sig.	AQ year	Funding Source
39	Horace Williams Rd Network	Horace Williams Campus	New	2-lane		Orange	2.16	\$18,883,000	Urban Collector	No	2020	State/Private
40	I-40	NC 147 to Wake Co line	6-lane freeway	8-lane freeway	I-2204	Durham	3.43	\$0	Interstate	Yes	2009	Federal/State
41	I-40	US 15-501 to NC 147	4-lane freeway	6-lane freeway	I-3306	Durham	9.28	\$11,342,000	Interstate	Yes	2009	Federal/State
42a	I-40	County Line to NC 86	4-lane freeway	6-lane freeway	I-3307	Orange	4.10	\$19,626,720	Interstate	Yes	2030	Federal/State
42b	I-40	NC 86 to I-85	4-lane freeway	6-lane freeway	I-3308	Orange	3.40	\$16,275,816	Interstate	Yes	Post Year	Federal/State
43	I-40 HOV	County Line to NC 86	New	HOV lane		Durham	16.63	\$364,900,000	Interstate	Yes	2030	Federal/State
44	I-540 (Durham portion)	Durham Co. Portion (I-40/I540)	New	6-lane freeway	R-2000	Durham	0.69	\$0	Interstate	Yes	2009	Federal/State
45	I-85	US 15-501 Bypass N to US 70	4-lane freeway	8-lane freeway	I-306	Durham	9.70	\$6,239,000	Interstate	Yes	2009	Federal/State
46	I-85	I-40 to the Durham Co line	4-lane freeway	6-lane freeway	I-305	Orange	7.35	\$46,610,000	Interstate	Yes	2020	Federal/State
47	I-85	US 70 to Red Mill Rd.	4-lane freeway	6-lane freeway	I-4743	Durham	5.68	\$68,420,000	Interstate	Yes	2020	State Trust Fund
48	Infinity Rd	Roxboro Rd to Snow Hill Rd	2-lane	3-lane		Durham	2.77	\$9,273,000	Minor Arterial	No	2020	Federal/State
49	Lake Hogan Farms Rd	Eubanks Road to Tramore Drive	New	2-lane	Private	Orange	1.20	\$3,067,000	Urban Collector	No	2009	Private
50	Latta Rd	Guess Rd to Roxboro Rd	2-lane	3-lane		Durham	1.20	\$4,025,000	Minor Arterial	No	2020	Federal/State
51	Leesville Rd Ext	Northern Parkway to US 70/Page Rd.	New	2-lane		Durham	1.14	\$2,385,000	Minor Arterial	No	2030	Federal/State/Private



No.	Project	Project Limits	Existing Cross-Section	Proposed Cross-Section	TIP No.	County	Length (miles)	Total Cost (2005 dollars)	Functional Classification	Reg. Sig.	AQ year	Funding Source
52	Leesville Rd Realignment	East of Olive Branch Rd to County line	2-lane	2-lane		Durham	1.18	\$1,101,000	Minor Arterial	No	2030	Federal/State/Private
53	Louis Stephens Drive (RTP)	Hopson Rd to County Line	New	2-lane		Durham	0.90	\$3,886,000	Minor Arterial	No	2010	State/Private
122	Louis Stephens Drive (RTP)	Hopson Rd to County Line	2-lane	4-lane		Durham	0.90	\$4,329,000	Minor Arterial	No	2030	State/Private
54	Lynn Rd. Ext	NC 98/Glover Rd Ext to Existing Lynn Rd.	New	2-lane		Durham	0.86	\$1,798,000	Urban Collector	No	2030	Local/Private
55	Mason Farm Rd Realignment	Near S Columbia St	2-lane	2-lane		Orange	1.10	\$1,190,000	Urban Collector	No	2020	Federal/State
56	Miami Blvd.	Methodist Dr to Angier Ave	2-lane	5-lane	U-4011	Durham	0.72	\$1,850,000	Minor Arterial	No	2009	Federal/State
57	Midland Terrace	NC 98 to Geer St	New	2-lane		Durham	1.80	\$9,139,000	Minor Arterial	No	2030	Federal/State
58	Midland Terrace	Dearborn to Old Oxford Rd/Hamlin Junction	New	2-lane		Durham	0.95	\$4,811,000	Minor Arterial	No	2030	Local/Private
59	MLK Parkway	Old Chapel Hill Rd to NC 55	2-lane/new	4-lane divided	CIP/Bond	Durham	2.23	\$0	Principal Arterial	Yes	2009	Local
60	MLK Pkwy (NC 55 interchange)	NC 55 to Cornwallis Rd connector	New	4-lane divided	U-2405	Durham	0.49	\$25,800,000	Principal Arterial	Yes	2030	Federal/State
61	NC 147	Alston Ave to I-40	4-lane freeway	6-lane freeway		Durham	6.69	\$36,825,000	Freeway	Yes	2030	Federal/State
62	NC 147	East End Conn to I-40	New	HOV lane		Durham	4.78	\$100,135,000	Freeway	Yes	2030	Federal/State
63	NC 147 (Triangle Parkway)	I-40 to County Line	New	6-lane freeway		Durham	2.40	\$70,039,000	Interstate	Yes	2020	Toll

No.	Project	Project Limits	Existing Cross-Section	Proposed Cross-Section	TIP No.	County	Length (miles)	Total Cost (2005 dollars)	Functional Classification	Reg. Sig.	AQ year	Funding Source
64	NC 54	Burning Tree to Barbee Chapel	4-lane	6-lane divided	Private	Durham	0.72	\$0	Principal Arterial	No	2009	Private
65	NC 54	Miami Blvd to Wake Co line	2-lane	4-lane divided		Durham	1.23	\$23,794,000	Principal Arterial	No	2020	Federal/State
66	NC 54	I-40 Interchange to NC 55	2-lane	4-lane divided		Durham	3.91	\$75,582,000	Principal Arterial	No	2020	Federal/State
67	NC 54	I-40 to Barbee Chapel Rd	4-lane	6-lane divided		Durham	1.68	\$32,351,000	Principal Arterial	No	2020	Federal/State
68	NC 54/NC 751/Garrett Rd	Intersection		Upgrade		Durham	1.00	\$2,595,000	Principal Arterial	No	2020	Federal/State
69	NC 54/Page Rd	Davis Dr to Miami Blvd	2-lane	4-lane divided	R-2904	Durham	1.10	\$3,100,000	Principal Arterial	No	2009	Federal/State
70	NC 54/US 15-501 Bypass	NC 54 to US 15-501	4-lane	6-lane divided		Orange	0.88	\$19,028,000	Principal Arterial	Yes	2020	Federal/State
71	NC 55	Cornwallis Rd to Wake Co.	2-lane	4-lane divided	R-2906	Durham	4.66	\$9,363,000	Principal Arterial	Yes	2009	Federal/State
72	NC 55 (Alston Ave.)	NC 147 to NC 98	2-lane	4-lane divided	U-3308	Durham	1.00	\$15,700,000	Principal Arterial	Yes	2010	Federal/State
73	NC 751	US 64 (MAB) to Durham Co line	2-lane	4-lane divided		Chatham	7.00	\$106,854,000	Principal Arterial	Yes	Post Year	Federal/State
74a	NC 751	Scott King Rd to S Roxboro St	2-lane	4-lane divided		Durham	4.05	\$61,383,000	Principal Arterial	Yes	2030	Federal/State
74b	NC 751	Chatham Co. Line to Scott King Rd	2-lane	4-lane divided		Durham	0.66	\$10,003,000	Principal Arterial	Yes	Post Year	Federal/State
75	NC 86	Homestead Rd to Whitfield Rd	2-lane	4-lane divided	U-2302	Orange	1.72	\$0	Principal Arterial	Yes	2009	Federal/State
76	NC 86	Old NC 10 to US 70 Business	2-lane	4-lane divided		Orange	1.00	\$10,697,000	Principal Arterial	Yes	2020	Federal/State
77	NC 86	US 70 Bypass to NC 57	2-lane	4-lane divided		Orange	0.42	\$4,493,000	Principal Arterial	Yes	2020	Federal/State

No.	Project	Project Limits	Existing Cross-Section	Proposed Cross-Section	TIP No.	County	Length (miles)	Total Cost (2005 dollars)	Functional Classification	Reg. Sig.	AQ year	Funding Source
78	Northeast Creek Pkwy	Cornwallis Rd to Ellis Rd	New	2-lane	U-2831	Durham	1.60	\$0	Urban Collector	No	2009	Federal/State/Private
79	Northern Durham Pkwy	US 70 E. to I 85 N	New	4-lane divided	U-4721[A]	Durham	6.40	\$88,072,000	Principal Arterial	Yes	2020	State Trust Fund
80	Northern Durham Pkwy	I 85 North to Old Oxford Hwy	New	4-lane divided	U-4721[B]	Durham	2.40	\$28,213,000	Principal Arterial	Yes	2020	State Trust Fund
81	Northern Durham Pkwy	Old Oxford Hwy to Roxboro Rd	New	2-lane (4-lane ROW)	U-4721 [C]	Durham	0.98	\$15,669,000	Principal Arterial	Yes	2020	State Trust Fund
82	Old NC 86	I-40 to Lafayette Dr.	2-lane	4-lane divided	R-2825	Orange	0.80	\$6,176,000	Minor Arterial	No	2020	Federal/State/Private
83	Old NC 86	Lafayette Dr to US 70 Business	2-lane	4-lane divided	R-2825	Orange	1.70	\$13,124,000	Minor Arterial	No	2020	Federal/State/Private
84	Old Oxford Rd	Roxboro Rd to Snow Hill Rd	2-lane	4-lane divided		Durham	2.23	\$31,492,000	Minor Arterial	No	2020	Federal/State
85	Olive Branch Rd Ext	NC 98 to US 70	New	2-lane		Durham	1.48	\$2,285,000	Minor Arterial	No	2030	Private
86	Page Rd	I-40 to Page Rd Ext	2-lane	4-lane divided		Durham	3.10	\$14,911,000	Minor Arterial	No	2030	Federal/State
87	Riddle Rd, Extension	Briggs Ave. to NC 147	New	2-lane		Durham	1.04	\$1,602,000	Urban Collector	No	2020	Federal/State/Private
88	Roxboro Road (501N)	Duke Street to Goodwin Rd	4-lane divided	6-lane divided	U-4722	Durham	2.65	\$57,040,000	Principal Arterial	Yes	2030	State Trust Fund
89	Roxboro St	Hope Valley Farms to MLK Pkwy	2-lane	4-lane divided	Private	Durham	1.10	\$0	Minor Arterial	No	2009	Private
90	Roxboro St	Cornwallis Rd to MLK Pkwy	2-lane	4-lane divided		Durham	1.00	\$10,164,000	Minor Arterial	No	2020	Local/Private
91	Scott King Rd	Grandale Dr to Hopson Rd	New	2-lane		Durham	0.95	\$4,100,000	Minor Arterial	No	2020	Federal/State

No.	Project	Project Limits	Existing Cross-Section	Proposed Cross-Section	TIP No.	County	Length (miles)	Total Cost (2005 dollars)	Functional Classification	Reg. Sig.	AQ year	Funding Source
92	Seawell School Connector	Lake Hogan Farms Rd to Seawell School Rd	New	2-lane	Private	Orange	1.70	\$4,345,000	Urban Collector	No	2030	Private
93	Smith Level Rd	Rock Haven Rd to NC 54 bypass	2-lane	Multilane turn lanes/bike facilities	U-2803	Orange	0.60	\$2,543,000	Minor Arterial	No	2010	State
94	South Columbia St	NC 54 to Manning Dr.	2-lane	4-lane divided	U-624	Orange	0.70	\$3,200,000	Principal Arterial	No	2010	Federal/State
95	South Point Pkwy (Renaissance)	NC 751 to Fayetteville Rd	New	4-lane divided	Private	Durham	1.23	\$0	Urban Collector	No	2009	Private
96	Stadium Drive Ext	Shaftsbury Dr to Kirkwood Dr	2-lane	3-lane curb & gutter	CIP/Bond	Durham	0.53	\$0	Urban Collector	No	2009	Local
97	Stagecoach Rd	Farrington Mill Rd to NC 751	2-lane	4-lane divided		Durham	1.96	\$13,284,000	Minor Arterial	No	Post Year	Federal/State
98	SW Durham Dr	Rizzo Conf. Dr to I-40	New	2-lane	Private /Public	Durham	1.55	\$9,279,000	Minor Arterial	No	2020	Federal/State/Private
99	SW Durham Pkwy	Farrington Rd (I-40 to Old Chapel Hill Rd)	2-lane	2-lane		Durham	0.84	\$0	Minor Arterial	No	2020	Federal/State/Private
100	SW Durham Pkwy	Watkins Rd (Old Chapel Hill Rd to US 15-501	2-lane	4-lane divided	Private /Public	Durham	1.16	\$4,591,000	Minor Arterial	No	2009	Federal/State/Private
101	SW Durham Pkwy	NC 54 to Rizzo Conf. Driveway	New	4-lane divided	Private	Durham	1.27	\$0	Minor Arterial	No	2009	Private
123	SW Durham Pkwy	15-501 to Mt. Moriah Rd.	New	4-lane divided	Private	Durham	0.35	\$3,515,000	Minor Arterial	No	2020	Private
102	T. W. Alexander Dr Ext	US 70 to Carpenter Ponds (Durham Portion)	New	4-lane divided	Private/Public	Durham	0.66	\$1,744,000	Principal Arterial	No	2020	Private/Public
103	UNC Access to the Bypass	Manning Dr to 54/15-501 Bypass	New	4-lane divided		Orange	0.54	\$2,644,000	Urban Collector	No	2020	Private/Public