Appendices

The appendices listed below are part of the 2035 Long Range Transportation Plans, but are contained in separate documents:

Appendix 1: Road Projects List

Appendix 2: Rail Technology and Service Briefs

Appendix 3: Bus Transit Service List

Appendix 4: Bicycle and Pedestrian Facilities Lists

Appendix 5: Cross-Sections and Safety Countermeasures Guidelines

Appendix 6: Air Quality Conformity Report

Appendix 7: Public Comments

Appendix 8: Environmental Justice Project Tables

Appendix 9: Acronyms

Appendix 10: Greenhouse Gas Emissions (Durham-Chapel Hill-Carrboro MPO)

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Appendix 1 – Roadway Project List

The table on the following page presents the roadway projects in the 2035 LRTP and the key attribute data. Each row in the table is a separate roadway project. The DCHC MPO projects are presented first, followed by those for CAMPO, and the projects are sorted by AQ Analysis Year and then by Project ID. The attribute information for each project is presented by columns, and includes the following:

- Project ID – This number facilitates the identification of projects in the long-range plan.
- Road Name – The project name is the name of the road.
- From/To – This usually identifies the name of the two road intersections between which the project is to be constructed.
- Existing # of Lanes – This identifies the number of current lanes. "0" indicates a new road alignment – in other words, there is no existing road.
- Proposed # of Lanes – This identifies the number of lanes proposed in the plan.
- Distance (miles) – This is the length of the roadway projects in miles.
- Regionally Significant? – Regionally Significant projects provide access to and from the region, or to major destinations in the region. They are usually classified by the FHWA as interstate, freeway/expressway, urban principal arterial, rural interstate, or rural principal arterials. Note that the FHWA functional classifications serve a different purpose than the local functional classification used by the MPO, and as a result, the two classification systems are significantly different. Generally, the regionally significant designation includes interstate highways, U.S. highways, freeways, and North Carolina signed roads that are the primary road in a corridor. Rail transit facilities, which are described in a separate section, are considered regionally significant. The Regionally Significant designation is important – if a Regionally Significant project is changed (e.g., completion year, travel capacity) after the Air Quality Conformity Determination for the 2035 LRTP has been approved, then the Conformity Determination process might have to be done again, depending on the estimated impact of the change.
- Exempt from AQ – Some transportation projects are exempt from air quality conformity determination according to Title 40, Code of Federal Regulations (CFR), PART 93.126 and PART 93.127. The most important implication of this exemption is that the projects may proceed toward implementation in the absence of an approved and conforming long range transportation plan. These exempt projects tend to be transit services, and highway project that do not add overall roadway capacity but reduce travel delays, thereby reducing vehicle emissions.
- Project Capital Cost – The total costs includes those estimated costs to be incurred between January 1, 2009 and December 31, 2035. Cost information from the current Transportation Improvement Program (TIP) and any related studies (e.g., I-40 HOV) was used to calculate costs for projects, when available, and a modified version of the current highway cost template from the NCDOT (North Carolina Department of Transportation) was used for the majority of projects.
- AQ Analysis Year – There are three Air Quality analyses thresholds – these thresholds are 2009 to 2015, 2016 to 2025, and 2026 to 2035. The AQ Year indicates in which analysis period the particular project will be operational. Thus a project that is estimated to be operational in the year 2017 will have a 2025 AQ Year.

2035 Long Range Transportation Plan
Roadway Project List

Project ID	Road Name	Project Limits		Existing # of Lanes	Proposed # of Lanes	Distance (miles)	Regionally Significant	Exempt from AQ	Project Capital Cost (2008 $)	AQ Analysis Year
		From	To							
DCHC MPO Roadway Projects										
1	Alexander Dr	Cornwallis Rd	NC 147	2	4	1.00	No	No	$8,900,000	2015
14	Davis Dr	NC 54	County Line	2	4	1.93	No	No	$0	2015
30	Hillandale Rd	I-85	Carver St	2	4	0.70	No	No	$10,943,000	2015
34	Holloway St	US 70	east of Junction Rd	2	5	0.30	Yes	No	$0	2015
37	Hopson Rd realignment (RTP)	Louis Stephens Dr	NC 55	2	2	1.00	No	No	$0	2015
46	NC 540	Ramp improvement: I-540 W	I-40 W	1	2	0.69	Yes	No	$4,930,000	2015
56	Louis Stephens Dr (RTP)	Hopson Rd	Wake County Line	0	4	0.90	No	No	$0	2015
59	Miami Blvd	Methodist Dr	Angier Ave	2	5	0.72	No	No	$0	2015
66	NC 147 South Ext (Triangle Pkwy -toll)	I-40	County Line	0	6	2.40	Yes	No	$156,700,000	2015
72	NC 54/Page Rd	Davis Dr	Miami Blvd	2	4	1.10	Yes	No	$0	2015
75	NC 55 (Alston Ave)	NC 147	NC 98	2	4	1.00	No	No	$23,320,000	2015
97	Smith Level Rd	Rock Haven Rd	NC 54 bypass	2	4	0.60	No	No	$5,400,000	2015
98	South Columbia St	NC 54	Manning Dr	2	2	0.70	No	Yes	$3,650,000	2015
110	US 15-501	Mt. Moriah Rd	Garrett Rd	4	6	0.90	Yes	No	$0	2015
115	US 15-501 Service Rd (SR 1126)	Relocation of existing service Rd		0	2	0.30	No	No	$2,657,716	2015
119	Weaver Dairy Rd	NC 86	Erwin Rd	2	3	2.80	No	No	$11,070,000	2015
9	Carver St Ext	Armfield St	Old Oxford Rd	0	4	0.73	No	No	$7,660,000	2025
10.11	Chin Page Ext	Page Rd	Wake County Line	0	2	0.66	No	No	$7,023,462	2025
12	Cornwallis Rd	MLK	Alexander Dr	2	4	1.18	No	No	$12,296,424	2025
15	East End Connector (EEC)	NC 147	US 70 E; US 70:EEC to NC 98	0	4	2.50	Yes	No	$155,401,000	2025
16	Elizabeth Brady Rd Ext	US 70 Business	St Mary's Rd	0	4	1.40	No	No	$33,594,000	2025
16.1	Eno Mountain Rd/Mayo Rd	Orange Grove Rd intersection realignment		2	2		No	Yes	$0	2025
17	Estes Dr	Greensboro Rd	NC 86	2	3	1.70	No	No	$6,600,000	2025
22.1	Fayetteville Rd	Renaissance Pkwy	NC 751	2	4	1.90	No	No	$15,588,005	2025
23	Fayetteville Rd	Woodcroft Pkwy	Cornwallis Rd	2	4	2.31	No	No	$23,134,000	2025
24.11	Garrett Rd	NC 751	US 15-501	2	3	3.12	No	No	$13,464,268	2025
27	Glover Rd	Glover Rd/NC 147 interchange; 147	Angier	2	4	1.94	No	No	$46,793,220	2025
28.11	Glover Rd Ext	Angier	US 70	0	2	1.37	No	No	$14,579,005	2025
31	Hillandale Rd	Carver	Horton Rd	2	4	1.53	No	No	$11,673,506	2025

2035 Long Range Transportation Plan
Roadway Project List

Project ID	Road Name	Project Limits		Existing # of Lanes	Proposed # of Lanes	Distance (miles)	Regionally Significant	Exempt from AQ	Project Capital Cost (2008 $)	AQ Analysis Year
		From	To							
33	Hillsborough Rd/Old Fayetteville	Lorraine St	Old Fayetteville/NC 54	2	2	0.50	No	Yes	$1,800,000	2025
35	Homestead Rd	High School Rd	NC 86	2	3	1.70	No	No	$10,300,000	2025
36	Homestead Rd	Old NC 86	High School Rd	2	3	1.47	No	No	$5,834,896	2025
40	(Horace Williams Network) Carolina North	Carolina North Campus		0	2	2.16	No	No	$23,032,799	2025
48	I-85	I-40	the Durham Co line	4	8	7.35	Yes	No	$210,782,000	2025
49	I-85	US 70	Red Mill Rd	4	6	5.68	Yes	No	$76,107,334	2025
51	Lake Hogan Farms Rd Ext	Eubanks Rd	Homestead Rd	0	2	0.68	No	No	$5,556,950	2025
69	NC 54	I-40 Interchange	NC 55	2	4	3.91	No	No	$27,580,113	2025
70	NC 54	I-40	Barbee Chapel Rd	4	6	1.68	Yes	No	$18,298,864	2025
77.1	NC 751	S Roxboro St	NC 54	2	4	0.70	No	No	$10,245,211	2025
77.2	NC 751	NC 54	Renaissance Pkwy	2	4	1.23	No	No	$9,392,024	2025
77.3	NC 751	Renaissance Pkwy	Fayetteville/Scott King Rd	2	4	1.94	No	No	$14,813,436	2025
80	NC 86	Old NC 10	US 70 Business	2	4	1.00	No	No	$9,795,792	2025
81	NC 86	US 70 Bypass	NC 57	2	4	0.42	No	No	$3,207,033	2025
83	Northern Durham Pkwy	US 70 E	I 85 N	0	4	6.40	Yes	No	$66,999,951	2025
84	Northern Durham Pkwy	I 85 North	Old Oxford Hwy	0	4	2.40	Yes	No	$27,284,982	2025
85	Northern Durham Pkwy	Old Oxford Hwy	Roxboro Rd	0	2	2.64	No	No	$19,358,989	2025
88	Old Oxford Rd	Roxboro Rd	Snow Hill Rd	2	4	2.23	No	No	$18,107,816	2025
89.3	Orange Grove Connector	Orange Grove Rd	US 70	0	2	0.40	No	No	$0	2025
91	Riddle Rd Ext	Briggs Ave	NC 147	0	2	0.49	No	No	$3,593,146	2025
94	Roxboro St	Cornwallis Rd	MLK Pkwy	2	4	1.10	No	No	$11,515,617	2025
102	SW Durham Dr	Meadowmont Dr	I-40	0	2	1.55	No	No	$13,505,241	2025
104	SW Durham Dr	Watkins Rd (Old Chapel Hill Rd	US 15-501	2	4	0.70	No	No	$10,245,211	2025
106	SW Durham Dr	15-501	Mt Moriah Rd	0	4	0.35	No	No	$9,054,232	2025
116	US 70	Lynn Rd (Durham Co.)	Aviation Pkwy Ext (Wake Co line)	4	6	4.11	Yes	No	$128,731,026	2025
123.11	Woodcroft Pkwy Ext	Garrett Rd	Hope Valley Rd	0	2	0.27	No	No	$1,979,897	2025
5	Alston Ave Ext	Holloway St	Old Oxford/Roxboro	0	2	4.26	No	No	$40,379,218	2035
8.11	Briggs Ave Ext	So-Hi Dr	Riddle Rd	0	2	1.60	No	No	$11,732,721	2035
13.11	Cornwallis Rd Ext	Miami Blvd	Chin Page Rd	0	2	0.78	No	No	$8,300,455	2035
26.11	Globe Rd Ext (Brier Creek Pkway)	Miami Blvd	Wake County Line	0	2	1.98	No	No	$21,070,387	2035

2035 Long Range Transportation Plan
Roadway Project List

		Project Limits								
Project ID	Road Name	From	To	Existing # of Lanes	Proposed # of Lanes	Distance (miles)	Regionally Significant	Exempt from AQ	Project Capital Cost (2008 $)	AQ Analysis Year
32	Hillandale Rd Ext	Horton Rd	Guess Rd	0	4	0.88	No	No	$9,212,493	2035
39	Horton Rd	Duke St	Hillandale Rd	2	4	1.90	No	No	$16,668,005	2035
43	I-40	US 15-501	NC 86	4	6	4.10	Yes	No	$43,996,747	2035
44	I-40	NC 86	I-85	4	6	7.32	Yes	No	$77,277,997	2035
45	I-40 HOV	Wake County Line	US 15-501	0	2	10.63	Yes	No	$578,756,215	2035
52	Latta Rd	Guess Rd	Roxboro Rd	2	4	1.20	No	No	$9,485,481	2035
53.11	Leesville Rd Ext	Northern Parkway	US 70/Page Rd	0	2	1.14	No	No	$8,356,794	2035
57	Lynn Rd Ext	NC 98/Glover Rd Ext	Existing Lynn Rd	0	2	0.86	No	No	$6,368,405	2035
60	Midland Terrace Ext	NC 98	Geer St	0	2	1.80	No	No	$11,281,082	2035
61	Midland Terrace Ext	Dearborn	Old Oxford Rd/Hamlin Junction	0	2	0.95	No	No	$8,474,714	2035
63	MLK Pkwy (NC 55 interchange)	NC 55	Cornwallis Rd connector	0	4	0.49	Yes	No	$25,800,000	2035
64.13	NC 147 General purpose widening	East End Conn	I-40	4	6	4.78	Yes	No	$52,645,086	2035
81.1	NC 98 (Holloway St)	Wake County Line	Mineral Springs	2	4	6.40	Yes	No	$49,949,069	2035
86	Old NC 86	I-40	Lafayette Dr	2	4	0.80	No	No	$6,176,000	2035
87	Old NC 86	Lafayette Dr	US 70 Business	2	4	1.70	No	No	$13,124,000	2035
89	Olive Branch Rd Ext	NC 98	US 70	0	2	1.48	No	No	$11,959,987	2035
90	Page Rd	I-40	Page Rd Ext	2	4	3.10	No	No	$32,218,325	2035
92	Roxboro Rd (501N)	Duke St	Goodwin Rd	4	6	2.65	Yes	No	$40,962,074	2035
95.11	Scott King Rd Ext	Grandale Dr	Hopson Rd	0	2	0.95	No	No	$8,046,303	2035
96	Seawell School Connector	Lake Hogan Farms Rd	Seawell School Rd	0	2	1.70	No	No	$12,466,016	2035
96.1	Sherron Rd	US 70	NC 98	2	4	3.30	No	No	$25,198,114	2035
113	US 15-501	Bypass	I-40 (freeway conversion)	6	6	2.39	Yes	No	$106,381,000	2035
114	US 15-501 Bypass	Pickett Rd	Morreene Rd	4	6	2.69	Yes	No	$35,903,280	2035
CAMPO Roadway Projects										
A10	Old Wake Forest Rd	Litchford Rd	Capital Blvd	2	4	1.20	No	No	$17,563,219	2015
A104	Morrisville Parkway	Green Level To Durham	NC 55	0	4	1.83	Yes	No	$19,157,799	2015
A125c	Heritage Lake Rd	End of Existing Heritage Lake Rd	NC 98 (Wake Forest Bypass)	0	4	0.86	No	No	$0	2015
A12a	Falls of Neuse Rd	Raven Ridge Rd	Fonville Rd	2	4	1.30	No	No	$18,000,000	2015
A130a	Mitchell Mill Rd (West)	US 401	Louisbury Rd	2	4	1.13	No	No	$8,628,445	2015
A13b	New Falls of Neuse Blvd	Falls of Neuse Rd	Waterlow Park Lane	0	4	0.83	No	No	$8,689,056	2015
A142b	Timber Dr East	White Oak Rd	New Rand Rd	0	4	1.27	No	No	$19,333,000	2015

2035 Long Range Transportation Plan
Roadway Project List

Project ID	Road Name	Project Limits		Existing # of Lanes	Proposed # of Lanes	Distance (miles)	Regionally Significant	Exempt from AQ	Project Capital Cost (2008 $)	AQ Analysis Year
		From	To							
A155a	T.W. Alexander Dr Ext	US 70	Brier Creek Pkwy	0	4	0.66	No	No	$6,909,370	2015
A160a	Ralph Stephens Rd (Part NL)	Avent Ferry	NC 55	0	2	1.07	No	No	$7,846,257	2015
A160b	Ralph Stephens Rd (Part NL)	Piney Grove Wilbon	NC 55	0	2	1.00	No	No	$7,332,950	2015
A164a	Green Level-to-Durham	O'Kelly Chapel Rd	Carpenter Fire Station Rd	2	4	1.28	No	No	$9,773,814	2015
A169a	Wendell Falls Parkway	US 64 Bypass	Martin Pond Rd	0	4	1.69	No	No	$45,352,175	2015
A16b	Rock Quarry Rd	Sunnybrook Rd	New Hope Rd	2	4	1.09	No	No	$8,323,013	2015
A197a	Main Campus Dr Connector	Main Campus Dr	Main Campus Dr	0	4	0.68	No	No	$0	2015
A199	Pullen Rd	Western Blvd	Centennial Pkwy	0	2	0.40	No	No	$4,013,180	2015
A1a	Perry Creek Rd Ext	Fox Rd	I-540	2	4	0.97	No	No	$7,406,718	2015
A1b	Perry Creek Rd Ext	I-540	Buffaloe Rd	0	4	0.70	No	No	$9,488,120	2015
A20	Hillsborough St Safety & Enhancement	Gorman St	Gardner St	4	4	0.84	Yes	No	$11,000,000	2015
A207a1	Judd Parkway NE (part NL)	Existing Judd Parkway	NC 55 (BRd St)	0	2	1.70	No	No	$12,466,016	2015
A207b1	Judd Parkway SW (part NL)	NC 42	Existing Judd Parkway	0	2	0.80	No	No	$5,912,191	2015
A220a	Morrisville Carpenter Rd	Townhall Dr	Davis Dr	2	4	1.40	No	No	$3,000,000	2015
A220b	Morrisville Carpenter Rd	Davis Dr	Louis Stephens Dr	2	4	0.70	No	No	$5,345,054	2015
A222a	NC 54	Cary Parkway	Weston Parkway	2	6	0.90	Yes	No	$10,375,819	2015
A235b	US 1A	Rogers Rd	Forbes Rd	2	4	1.55	No	No	$1,700,000	2015
A24	Edwards Mill Rd Ext - part II	Trinity Rd	Chapel Hill Rd	0	4	0.67	Yes	No	$7,014,057	2015
A240c	North Harrison Avenue	Dry Rd	Kildaire Farm Rd	0	2	0.32	No	No	$5,034,630	2015
A27d	Louis Stephens Dr Ext (part NL)	McCrimmon Pkwy	Morrisville Carpenter Rd	0	2	0.35	No	No	$0	2015
A2b	Southall Rd	Southall Rd (Existing)	Hedingham Blvd	0	4	0.28	No	No	$2,931,248	2015
A30	Morrisville Parkway (part NL)	Davis Dr	NC 55	2	4	1.37	No	No	$10,461,035	2015
A32	Walker St	Chatham St	Chapel Hill Rd	0	2	0.25	No	No	$2,913,238	2015
A33	Kildaire Farm Rd	Walnut St	Dowell St	2	4	0.28	No	No	$4,098,084	2015
A380	US 64	US 1	Laura Duncan Rd	4	4	2.49	Yes	No	$11,000,000	2015
A40	Kildaire Farm Rd	Swift Creek	Ten Ten Rd	2	4	2.00	No	No	$0	2015
A428	Green Oaks Parkway	SR 1152 (New Hill Rd)	NC 55 Bypass	0	4	1.40	No	No	$0	2015
A431	Wake Forest Rd	Six Forks Rd	I 440	5	7	0.50	No	No	$0	2015
A439	Buck Jones Rd	Farmgate Rd	Western Blvd	2	3	1.13	No	No	$5,025,328	2015
A440b	Carpenter Fire Station Ext	NC 55	Morrisville Carpenter Rd	0	4	0.30	No	No	$3,140,623	2015
A450	RTP Access Routes	Internal RTP access points	External access points	2	4	0.84	No	No	$8,730,127	2015

2035 Long Range Transportation Plan
Roadway Project List

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		From	To							
A46b	Tryon Rd	Norfolk Southern Rail	Existing Tryon Rd Alignment	0	4	0.50	No	No	$0	2015
A46c	Tryon Rd	New Tryon Rd Alignment	S. Wilmington St	2	4	0.40	No	No	$3,054,317	2015
A47	Sunnybrook Rd	Poole Rd	New Bern Avenue	2	4	1.29	No	No	$9,850,172	2015
A482	Wade Avenue	Ridge Rd	Faircloth St	4	6	0.36	Yes	No	$1,000,000	2015
A49a	Poole Rd	Maybrook Dr	Barwell Rd	2	4	1.00	No	No	$7,635,792	2015
A521	O'Kelley Chapel Rd	Louis Stephens Dr	NC 55	0	4	0.62	No	No	$6,385,933	2015
A53	Davis Dr	Morrisville-Carp	Durham County Line	2	4	1.10	Yes	No	$0	2015
A55	Perry Creek Rd	US 1	US 401	2	4	1.61	No	No	$12,293,625	2015
A56a	NC 98 Bypass	US 1	NC 98	0	4	1.44	No	No	$15,074,989	2015
A57	Sandy Forks Rd	Falls of Neuse	Six Forks Rd	2	3	1.31	No	No	$5,199,805	2015
A73b	Jones Franklin Rd	Dillard Dr	I-440	2	4	0.34	No	No	$3,676,169	2015
A74a	Piney Plains Rd	Dillard Dr Ext	Tryon Rd	2	4	0.68	No	No	$0	2015
A75a	County Line Rd	North of O'Kelly Chapel	Yates Store Rd	0	4	1.09	No	No	$0	2015
A86a	Leesville Rd	I-540 Interchange	New Leesville Blvd	2	4	1.17	No	No	$8,933,877	2015
A89a	US 401 Widening	Ligon Mill Rd / Mitchell Mill Rd	Forestville Rd	2	4	1.23	Yes	No	$12,001,000	2015
A90a	US 401 Widening	Forestville Rd	US 401 Rolesville Bypass	2	4	1.00	Yes	No	$8,944,000	2015
A90b	US 401 Rolesville Bypass	US 401	US 401	0	4	4.50	Yes	No	$47,109,341	2015
A90c	US 401 Widening	US 401 Rolesville Bypass	Franklin County	2	4	1.56	Yes	No	$11,911,836	2015
A90d	US 401 Widening	Franklin County	NC 39 (Louisburg)	2	4	10.50	Yes	No	$22,485,000	2015
A91	Jones Sausage Rd	Rock Quarry Rd	I-40	2	4	1.50	No	No	$11,453,688	2015
A97b	Airport Blvd	I-40	NC 54	2	4	0.71	No	No	$0	2015
F12	NC 540 Tri-Ex Turnpike - A2 (was NC 147 Triangle Pkwy)	Durham Co. Line	NC 540 Tri-Ex - A1	0	6	3.50	Yes	No	$174,703,000	2015
F16	I-40	US 1-64	Wade Avenue	4	6	3.89	Yes	No	$38,486,000	2015
F43	I-40	US 1/64	Lake Wheeler Rd	6	8	4.43	Yes	No	$84,037,559	2015
F4b	NC 540 Tri-Ex Turnpike - B1 (was I-540 W. Wake Frwy)	NC 55 (Morrisville/Cary)	US 1	0	6	10.10	Yes	No	$600,359,000	2015
F4c	NC 540 Tri-Ex Turnpike - B2 (was I-540 W. Wake Frwy)	US 1	NC 55 Bypass	0	6	2.30	Yes	No	$150,000,000	2015
A111	Reedy Creek Rd	N.E. Maynard Rd	Harrison Avenue	2	3	1.17	No	No	$8,933,877	2025
A118b	NC 55	Jicarilla Rd	Rawls Ch Rd	2	4	1.60	Yes	No	$12,217,267	2025
A119	McCrimmon Parkway	Airport Blvd	NC 54	2	4	0.60	No	No	$22,000,000	2025

2035 Long Range Transportation Plan
Roadway Project List

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		From	To							
A120	Tryon Rd Ext	Garner Rd	Rock Quarry Rd	0	4	2.90	No	No	$21,050,000	2025
A125b	Heritage Lake Rd	Rogers Rd	End of Existing Heritage Lake Rd	2	4	0.93	No	No	$7,101,287	2025
A126a	Ligon Mill Rd	Burlington Mills Rd	US 1A	2	3	2.32	No	No	$9,208,815	2025
A127a	Ligon Mill Rd Connector	US 1A	NC 98 Bypass	2	4	0.96	No	No	$7,330,360	2025
A127b	Ligon Mill Rd Connector	NC 98 Bypass	NC 98	2	4	1.18	No	No	$9,010,235	2025
A127c	Ligon Mill Rd Connector	NC 98	Stadium Dr	2	4	0.78	No	No	$5,955,918	2025
A130c	US 401/Mitchell Mill Rd Interchange						No	No	$25,500,000	2025
A135a	Lead Mine Rd	Town & Country Rd	Millbrook Rd	3	4	0.54	No	No	$2,143,431	2025
A138a	Timber Dr/Jones Sausage Connector	US 70	Timber Dr Ext	0	4	0.65	No	No	$6,804,683	2025
A138b	Timber Dr/Jones Sausage Connector	Jones Sausage Rd	US 70	0	4	0.28	No	No	$2,931,248	2025
A13c	Falls of Neuse Blvd	I-540	New Falls of Neuse Blvd	4	6	3.60	No	No	$23,220,000	2025
A142a	Timber Dr East	Waterfield Rd	White Oak Rd	0	4	1.17	No	No	$7,600,000	2025
A15	Blue Ridge Rd	Duraleigh Rd	Glen Eden Dr	2	3	0.95	No	No	$3,770,851	2025
A151	Aviation Parkway Ext	Brier Creek Parkway	US 70	0	6	1.79	Yes	No	$83,434,206	2025
A157a	Eastern Parkway	Angier Rd	NC 55	0	4	3.90	No	No	$97,399,049	2025
A157b	Eastern Parkway	NC 55	US 401	0	4	1.79	Yes	No	$91,828,095	2025
A16	Rock Quarry Rd	Old Birch Rd	Sunnybrook Rd	3	4	0.83	No	No	$7,188,634	2025
A162	Buffaloe Rd	Southall Rd	I-540	2	4	2.39	No	No	$18,325,901	2025
A171	Green Level West Rd	NC 55	I-540	2	4	0.90	No	No	$19,622,213	2025
A174a	Martin Pond Rd	Poole Rd	Knightdale-Eagle Rock Rd	2	4	2.21	No	No	$16,875,100	2025
A178a	Olive Chapel Rd	Kelly Rd	NC 55	2	4	1.93	No	No	$14,737,079	2025
A179a	Richardson Rd	US 64 (West)	Olive Chapel Rd	0	4	1.42	No	No	$40,365,614	2025
A201a	Rock Quarry Rd	New Hope Rd	Battle Bridge Rd	2	4	1.40	No	No	$10,690,109	2025
A205	Six Forks Ext	Atlantic Avenue	Capital Blvd	0	4	0.56	Yes	No	$5,862,496	2025
A21	Lake Boone Trail Ext	Blue Ridge Rd	Edwards Mill Ext	0	4	0.28	No	No	$2,931,248	2025
A217a	Sunset Lake Rd	Main St	Optimist Farm Rd	2	4	3.40	No	No	$25,961,693	2025
A218a	Old Holly Springs Apex Rd	Holly Springs Rd	Jessie Dr	2	4	2.52	No	No	$19,242,196	2025
A218b	Jessie Dr (part NL)	Ten Ten Rd	Old Holly Springs Rd	2	4	3.50	No	No	$26,725,272	2025
A221	NC 54	N.W. Maynard Rd	Wilson St	2	4	0.93	Yes	No	$7,101,287	2025
A222b	NC 54	Weston Parkway	Perimeter Park Dr	2	4	2.40	Yes	No	$24,943,219	2025

2035 Long Range Transportation Plan
Roadway Project List

Project ID	Road Name	Project Limits		Existing # of Lanes	Proposed # of Lanes	Distance (miles)	Regionally Significant	Exempt from AQ	Project Capital Cost (2008 $)	AQ Analysis Year
		From	To							
A222c	NC 54	Perimeter Park Dr	Northern Twn Limits	2	6	1.80	Yes	No	$28,196,122	2025
A223c	Kit Creek Rd	Kit Creek Rd	Kit Creek Rd	2	3	0.30	Yes	No	$2,000,000	2025
A230	S.E. Maynard Rd	Cary Towne Blvd	Walnut St	4	6	0.26	No	No	$1,985,306	2025
A231	Trinity Rd	Edwards Mill Rd Ext	Trenton Rd	2	4	1.10	No	No	$8,399,371	2025
A234	Western Blvd	Gorman St	Avent Ferry Rd	4	6	1.21	No	No	$17,709,579	2025
A236	NC 54	NE Maynard Rd	NW Maynard Rd	2	4	2.06	Yes	No	$15,729,732	2025
A237a	Old Apex Rd	West Chatham St	Cary Parkway	2	4	1.55	No	No	$11,835,478	2025
A237b	Old Apex Rd	Cary Parkway	Laura Duncan Rd	2	4	0.39	No	No	$2,977,959	2025
A240a	North Harrison Avenue	Reedy Creek Rd	Weston Parkway	4	6	0.81	No	No	$11,855,173	2025
A240b	North Harrison Avenue	Weston Parkway	I-40	6	8	0.48	No	No	$19,775,288	2025
A26	McCrimmon Parkway	Airport Blvd	Aviation Parkway	0	4	0.40	No	No	$4,900,000	2025
A28b	Davis Dr	Farm Pond Rd	US 64	2	4	1.10	No	No	$8,399,371	2025
A3	Spring Forest Rd Ext	US 401	Buffaloe Rd	0	4	1.16	No	No	$12,143,741	2025
A302c	Rawls Ch Rd	NC 55 (north of Angier)	US 401	2	4	4.09	No	No	$31,230,389	2025
A302d	Southern FV Bypass	Angier Rd	Piney Grove Wilbon	0	4	2.40	Yes	No	$50,624,982	2025
A302e	Northeastern Angier Bypass	Benson Road	NC 55 (north of Angier)	2	2	1.12	No	No	$1,120,000	2025
A34	Cary Parkway	Evans Rd	Harrison Avenue	2	4	1.74	No	No	$13,286,278	2025
A36b	Chatham St	Reedy Creek Rd	N.E. Maynard Rd	2	4	0.27	No	No	$3,951,724	2025
A36c	Chatham St	N.E. Maynard Rd	I-40 bridge	2	4	0.93	No	No	$13,611,495	2025
A37	Walnut St	Maynard Rd	Macedonia Rd	4	6	1.29	No	No	$18,880,461	2025
A38	Tryon Rd	US 64	Kildaire Farm Rd	4	6	0.80	No	No	$11,708,813	2025
A39	Alston Avenue	Kit Creek Rd	NC 55	2	4	2.12	No	No	$16,187,879	2025
A404	South Franklin St (part NL)	NC 98 (Wake Forest Bypass)	Rogers Rd	2	4	1.10	No	No	$11,432,309	2025
A406a	Shotwell Rd	East Garner Rd	US 70	2	4	0.86	No	No	$6,566,781	2025
A410	Lake Pine Dr/Old Raleigh Rd	Cary Parkway	Apex Peakway	2	4	1.70	No	No	$12,980,846	2025
A413	NC 54 (Chapel Hill Rd)	Corporate Center Dr	Hillsborough St	2	4	1.33	Yes	No	$13,822,701	2025
A417	Spring Forest Rd	Fox Rd	US 401	3	4	0.67	No	No	$2,659,442	2025
A43	Lake Wheeler Rd	Tryon Rd	I-40	2	4	1.30	No	No	$9,926,530	2025
A438	Blue Ridge Rd	Glen Eden	Crabtree Valley Avenue	2	3	1.01	No	No	$4,009,010	2025
A440a	Carpenter Fire Station Rd	NC 55	County Line Rd	2	4	0.47	No	No	$3,588,822	2025
A443b	Jenks Rd	Wimberly Rd	US 64	2	4	0.51	No	No	$3,894,254	2025
A444	NC 50	I 540	NC 98	2	4	5.06	No	No	$38,637,108	2025
A448	Six Forks Rd	Rowan St	Sandy Forks Rd	4	6	1.46	No	No	$11,148,256	2025

2035 Long Range Transportation Plan
Roadway Project List

Project ID	Road Name	Project Limits		Existing # of Lanes	Proposed # of Lanes	Distance (miles)	Regionally Significant	Exempt from AQ	Project Capital Cost (2008 $)	AQ Analysis Year
		From	To							
A449	Perry Rd Ext	Apex Peakway	Jessie Dr	0	4	1.10	No	No	$11,515,617	2025
A457	Westgate Rd	Leesville Rd	US 70	2	4	1.40	No	No	$29,100,422	2025
A46a	Tryon Rd	Lake Wheeler Rd	Norfolk Southern Rail	2	4	1.30	No	No	$9,926,530	2025
A486	Blue Ridge-Hillsborough Grade Separation	Blue Ridge Rd	TTA Rail Line at Hillsborough	0	4	1.00	No	No	$25,500,000	2025
A49b	Poole Rd	Barwell Rd	I-540	2	4	1.57	Yes	No	$11,988,193	2025
A51	Smithfield Rd	Forestville Rd	Bethlehem Rd	2	4	1.57	No	No	$7,446,000	2025
A511	Piney Grove Wilbon Rd	Brayton Park Rd	Southern FV Bypass	2	4	5.11	No	No	$43,218,583	2025
A522	New Alston Connector	NC 55	Green Level -to-Durham	0	2	1.09	No	No	$7,992,916	2025
A530	Evans Rd	Aviation Parkway	Weston Parkway	4	6	0.50	No	No	$3,817,896	2025
A54	Pleasant Valley Rd	Duraleigh Rd	Glenwood Avenue	2	4	0.34	No	No	$2,596,169	2025
A63	Cary Parkway Ext	Harrison Avenue	Trinity Rd	0	2	2.05	No	No	$15,032,548	2025
A640	Aviation Parkway Interchange	National Guard Dr	I-40	4	4	0.42	No	No	$12,750,000	2025
A641	Airport Blvd Interchange			6	6	0.82	No	No	$12,750,000	2025
A64a	Aviation Parkway	I-40	Dominion Dr	2	6	0.93	No	No	$9,137,500	2025
A64b	Aviation Parkway	Evans Rd	NC 54	2	4	0.92	No	No	$3,400,000	2025
A66a	O'Kelley Chapel Rd	Alston Avenue	NC 55	2	4	1.21	No	No	$9,239,308	2025
A72	Holly Springs Rd	Tryon Rd	SE Cary Parkway	2	4	0.61	Yes	No	$4,657,833	2025
A73c	Jones Franklin Rd	I-440	Western Blvd	2	3	1.01	No	No	$4,009,010	2025
A74c	Piney Plains Rd	Dillard Dr	Walnut St	2	4	0.43	No	No	$6,293,487	2025
A75c	County Line Rd	Green Level West	Beckwith Farm Rd	0	2	1.96	No	No	$14,372,583	2025
A85b	Leesville Rd	Westgate Rd	Lynn Rd	2	4	2.31	No	No	$17,638,680	2025
A86b	Leesville Rd	New Leesville Blvd	TW Alexander Dr Ext	2	4	0.97	No	No	$7,406,718	2025
A87	New Leesville Blvd Ext	Terminus	Carpenter Pond Rd	0	4	0.47	No	No	$4,920,309	2025
A88	New Rand Rd	NC 50	Old Garner Rd	2	3	1.63	No	No	$6,469,986	2025
A9	Strickland Rd	Leesville Rd	Creedmoor Rd	2	4	2.73	Yes	No	$20,845,712	2025
A96b	NC 55	Apex Peakway (south)	Olive Chapel Rd	2	3	1.67	Yes	No	$19,472,000	2025
F10	I-440 Widening	US 1/64	Wade Avenue	4	6	3.50	Yes	No	$77,015,000	2025
F3	NC 540 Tri-Ex Turnpike - C3 (was I-540 SE Wake Frwy)	I-40 (South)	US 64 East Bypass	0	6	10.80	Yes	No	$255,272,000	2025
F44a	I-40 (East)	I-440	US 70 Business (Garner)	6	8	4.40	Yes	No	$71,979,235	2025
F44b	I-40 (East)	US 70 Business (Garner)	NC 42	4	8	6.30	Yes	No	$158,070,734	2025
F5	NC 540 Tri-Ex Turnpike - C1 (was I-540 S. Wake Frwy)	NC 55 Bypass	US 401 (South)	0	6	7.80	Yes	No	$213,000,000	2025

2035 Long Range Transportation Plan
Roadway Project List

Project ID	Road Name	Project Limits		Existing # of Lanes	Proposed # of Lanes	Distance (miles)	Regionally Significant	Exempt from AQ	Project Capital Cost (2008 $)	AQ Analysis Year
		From	To							
F6	NC 540 Tri-Ex Turnpike - C2 (was I-540 S. Wake Frwy)	US 401 (South)	I-40 (South)	0	6	8.70	Yes	No	$177,000,000	2025
Grnv108	Intrsctn Rlgnmnt @ US 15, NC 56, NC50			2	4	1.00	No	No	$1,908,948	2025
Grnv32	Brassfield Rd	Creedmoor Loop	Hayes Rd	2	4	1.80	No	No	$13,744,426	2025
Grnv35	Woodland Church Rd	Wake Co. line	Bruce Garner Rd	2	3	4.41	No	No	$17,504,687	2025
Grnv47	Creedmoor Loop A	NC 56	US 15	0	4	1.59	No	No	$16,645,300	2025
Grnv48	Creedmoor Loop B	US-15	Relocated US 15	2	4	0.66	No	No	$5,039,623	2025
Grnv49	Creedmoor Loop C	Relocated US 15	Brassfield Rd	0	4	1.89	No	No	$19,785,923	2025
Grnv94	I-85 / Brogden Interchange			0	0	3.94	No	No	$25,500,000	2025
Hrnt5	US 401	Fuquay-Varina	Lillington UPD	2	4	7.50	No	No	$57,268,440	2025
Jhns1a	NC 42 East Widening	US 70	Sr 1902	2	4	1.23	Yes	No	$9,392,024	2025
Jhns1b	NC 42 East Widening	SR 1902	Buffaloe Rd	2	4	4.44	Yes	No	$30,725,000	2025
A101	US 70	Lumley/Westgate Rd	Duraleigh/Millbrook Rd	4	8	3.30	Yes	No	$38,450,000	2035
A112a	Smithfield Rd	US 64 Bypass	Major Slade Rd	2	4	2.60	No	No	$19,853,059	2035
A112b	Smithfield Rd	Major Slade Rd	Johnston Co. line	2	4	1.40	No	No	$10,690,109	2035
A114	Ten Ten Rd	Holly Springs Rd	US 1	2	4	3.40	No	No	$25,961,693	2035
A117	New Hope Rd	Old Poole Rd	Rock Quarry Rd	2	4	1.80	No	No	$13,744,426	2035
A125a	Forestville Rd	Horton Rd	Buffaloe Rd	2	4	3.40	No	No	$25,961,693	2035
A125a2	Forestville Rd	Buffaloe Rd	Rogers Rd	2	4	7.50	No	No	$57,268,440	2035
A131	NC 96	US 64	NC 98	2	3	16.27	Yes	No	$64,580,784	2035
A134	Litchford Rd	Old Wake Forest Rd	Falls of Neuse Rd	3	4	2.99	No	No	$11,868,257	2035
A138c	Timber Dr/Jones Sausage Connector	White Oak Rd	I-40 (South)	2	4	5.02	No	No	$38,331,676	2035
A139	Timber Dr / US 70 Interchange			0	0	1.92	No	No	$25,500,000	2035
A14	Ray Rd	Leesville Rd	Strickland Rd	2	3	3.21	No	Yes	$12,741,507	2035
A140a	Vandora Springs Rd & Ext	Timber Dr	Old Stage Rd	2	4	1.02	No	No	$7,788,508	2035
A143a	White Oak Rd	US 70	I-540	2	4	4.30	No	No	$32,833,906	2035
A143b	White Oak Rd	I-540	NC 42 (Johnston Co.)	2	4	3.10	No	No	$23,670,955	2035
A148a	Eagle Rock Rd	US 64 Bypass	Martin Pond Rd	2	3	1.40	No	No	$6,097,044	2035
A149a	Poole Rd	I-540	Martin Pond Rd	2	4	5.60	No	No	$42,760,435	2035
A150	NC 98	Durham County Line	NC 98 Bypass	2	4	8.86	No	No	$67,653,117	2035
A155b	T.W. Alexander Dr	Aviation Parkway	US 70	4	6	1.02	No	No	$22,698,508	2035

2035 Long Range Transportation Plan
Roadway Project List

Project ID	Road Name	Project Limits		Existing # of Lanes	Proposed # of Lanes	Distance (miles)	Regionally Significant	Exempt from AQ	Project Capital Cost (2008 $)	AQ Analysis Year
		From	To							
A155c	T.W. Alexander Dr Ext	Brier Creek Parkway	Leesville Rd	0	4	1.80	No	No	$44,343,736	2035
A160c	Ralph Stephens Rd Interchange			0	0	0.00	No	No	$25,500,000	2035
A163a	Holly Springs Rd	Sunset Lake Rd	Old Holly Springs Apex	2	4	3.58	No	No	$27,336,135	2035
A166	Center St/1010	US 1	Apex Peakway	2	4	1.04	No	No	$23,558,728	2035
A172	Kelly Rd	Jenks Rd	Old US 1	2	4	5.23	No	No	$39,935,192	2035
A174b	Martin Pond Rd	Knightdale-Eagle Rock Rd	Wendell Blvd	0	4	0.84	No	No	$8,793,744	2035
A178b	Olive Chapel Rd	Richardson Rd	Kelly Rd	2	3	1.81	No	No	$7,184,463	2035
A178c	Olive Chapel Rd	New Hill Olive Chapel Rd	Richardson Rd	2	3	1.31	No	No	$5,199,805	2035
A179b	Richardson Rd	Olive Chapel Rd	Humie Olive Rd	2	4	1.86	No	No	$14,202,573	2035
A181a	Old US 1	NC 751	Humie Olive Rd	2	3	2.38	No	No	$9,446,974	2035
A181b	Old US 1	Humie Olive Rd	Apex Peakway	2	4	2.53	No	No	$19,318,554	2035
A193b	Sunset Lake Rd	Hilltop-Needmore Rd	Optimist Farm Rd	2	4	2.55	No	No	$19,471,270	2035
A197b	Cent Campus Connector & Interchange	Main Campus Dr Connector	I-40	0	4	0.38	Yes	No	$15,819,061	2035
A201b	Rock Quarry Rd	Battle Bridge Rd	East Garner Rd	2	4	3.30	No	No	$25,198,114	2035
A207a	Judd Parkway NE	Existing Judd Parkway	NC 55 (BRd St)	2	4	1.70	No	No	$12,980,846	2035
A207c1	Judd Parkway W (part NL)	Wilbon Rd	NC 42	0	2	1.20	No	No	$10,913,710	2035
A214	Garner Rd	Tryon Rd	Rock Quarry Rd	2	3	7.16	Yes	No	$28,420,308	2035
A217b	Sunset Lake Rd Ext	Old Holly Springs Apex	Main St	0	4	1.70	No	No	$17,796,862	2035
A218c	Old Holly Springs Apex Rd	Tingen Rd	Jessie Dr	2	3	1.06	No	No	$4,207,476	2035
A219a	McCrimmon Parkway Ext	NC 54	Louis Stevens Rd	2	4	1.74	No	No	$3,600,000	2035
A219b	McCrimmon Parkway Ext	Louis Stevens Rd	NC 55	0	4	0.94	No	No	$9,840,618	2035
A228a	NC 50	Timber Dr	I-540	2	4	4.60	Yes	No	$35,124,643	2035
A228b	NC 50	I-540	NC 42	2	4	2.16	Yes	No	$16,493,311	2035
A27a	Louis Stephens Dr Ext (part NL)	Wake County Line	Kit Creek Rd	2	4	1.23	No	No	$9,392,024	2035
A27b	Louis Stephens Dr Ext (part NL)	Kit Creek Rd	O'Kelly Chapel Rd	2	4	1.13	No	No	$8,628,445	2035
A27c	Louis Stephens Dr Ext (part NL)	O'Kelly Chapel Rd	McCrimmon Pkwy	2	4	1.57	No	No	$11,988,193	2035
A2a	Southall Rd	Skycrest Dr	Buffaloe Rd	2	4	1.54	No	No	$15,000,000	2035
A302a	Guy Rd	NC 55 (south of Angier)	NC 210	2	4	2.10	No	No	$16,035,163	2035

2035 Long Range Transportation Plan
Roadway Project List

Project ID	Road Name	Project Limits		Existing # of Lanes	Proposed # of Lanes	Distance (miles)	Regionally Significant	Exempt from AQ	Project Capital Cost (2008 $)	AQ Analysis Year
		From	To							
A302b	Northeastern Angier Bypass	NC 210	NC 55 (north of Angier)	2	4	3.00	No	No	$22,907,376	2035
A303	Northern Fuquay-Varina Bypass	Sunset Lake	Avent Ferry Road	2	4	3.07	No	No	$23,441,881	2035
A407a	NC 42	NC 401	Old Stage Rd	2	4	4.10	Yes	No	$31,306,747	2035
A407b	NC 42	Old Stage Rd	NC 50	2	4	5.42	Yes	No	$41,385,993	2035
A407c	NC 42	NC 50	I 40	2	4	2.28	Yes	No	$31,239,606	2035
A41	Kildaire Farm Rd	Ten Ten Rd	Kildaire Farm Connector	2	4	2.03	No	No	$15,500,658	2035
A412	US 70 - Upgrade to Freeway	Aviation Pkwy Ext (Durham Co line)	Lumley/Westgate Rd	4	6	2.69	Yes	No	$53,457,192	2035
A426	NC 55 (Main St)	Holly Springs Rd	Bobbitt Rd	2	4	2.96	Yes	No	$22,601,944	2035
A427a	Avent Ferry Rd	NC 55 Bypass	Cass Holt	2	4	3.68	No	No	$28,099,715	2035
A432	Skycrest Dr	Brentwood Rd	Trawick Rd	2	4	0.95	No	No	$7,254,002	2035
A434	Sunnybrook Rd	Rock Quarry Rd	Poole Rd	3	4	1.81	No	No	$7,184,463	2035
A445	NC 50	NC 98	Wake Co Line	2	4	6.12	No	No	$46,731,047	2035
A480	US 401(South)	US 70	NC 55 (FV)	4	6	10.85	Yes	No	$96,678,343	2035
A4c	Rogers Lane	Daleview Dr	Southall Rd	3	4	1.06	No	No	$4,747,476	2035
A52	Smithfield Rd	Bethlehem Rd	US 64 Bypass	2	4	1.80	No	No	$13,744,426	2035
A526	Sloan Rd Ext	Sloan Rd	Trinity Rd	0	2	0.40	No	No	$2,933,180	2035
A56c	NC 98	NC 98 Bypass	US 401	2	4	5.29	No	No	$40,393,340	2035
A59b	Sumner Blvd Ext	Old Wake Forest Rd	Capital Blvd	0	4	0.38	No	No	$9,830,309	2035
A68a	Green Pace Rd	NC 96	Water Plant Rd	2	4	0.82	No	No	$6,261,349	2035
A68b	Water Plant Rd - Part new location	Green Pace Rd	W Gannon Avenue	2	4	0.93	No	No	$7,101,287	2035
A71	Holly Springs Rd	Ten Ten Rd	Kildaire Farm Rd Connector	2	6	0.84	No	No	$9,684,098	2035
A73a	Jones Franklin Rd	Tryon Rd	Dillard Dr	2	4	0.67	No	No	$5,115,981	2035
A75b	County Line Rd	Yates Store Rd	Green Level Church	0	2	1.09	No	No	$7,992,916	2035
A80b	New Hope Rd	US 64 Bypass	New Bern Ave	2	4	1.19	No	No	$13,447,680	2035
A82	Trinity Rd Ext	Chatham St	Cary Towne Blvd	0	4	0.69	No	No	$7,223,432	2035
F110	US 1	US 64	NC 540	4	6	5.30	Yes	No	$54,779,698	2035
F11-1a	US 1 North - Upgrade to Freeway	I-540	Thornton Road	4	8	1.62	Yes	No	$82,247,019	2035
F11-1b	US 1 North - Upgrade to Freeway	Thornton Rd	Burlington Mills Rd	4	8	1.55	Yes	No	$60,559,466	2035

2035 Long Range Transportation Plan
Roadway Project List

Project ID	Road Name	Project Limits		Existing # of Lanes	Proposed # of Lanes	Distance (miles)	Regionally Significant	Exempt from AQ	Project Capital Cost (2008 $)	AQ Analysis Year
		From	To							
F40	I-40 HOV/HOT Project	Durham County Line	Wade Avenue	0	2	9.20	Yes	No	$240,000,000	2035
F42	I-540 Tri-Ex (Northern) Turnpike Conversion	I-40	US-64 Bypass	6	8	25.82	Yes	No	$366,111,882	2035
F44c	I-40 (East)	NC 42	NC 210	4	6	6.78	Yes	No	$100,436,670	2035
F44d	I-40 (East)	NC 210	CAMPO MAB	4	6	6.78	Yes	No	$102,056,670	2035
F7	US 64 East	US 64 Bypass (Wendell)	US 64/US 264 (Zebulon)	4	8	7.35	No	No	$182,865,857	2035
F71	US 64 East	US 64/US 264 Split (Zebulon)	Wake Co. line	4	4	2.41	No	Yes	$5,100,000	2035
Grnv18	NC 50	Wake Co.	Creedmoor Loop	2	4	3.80	Yes	No	$29,016,010	2035
Grnv33	Brassfield Rd	Hayes Rd	NC 96	2	4	4.07	No	No	$31,077,673	2035
Grnv81a	Old Weaver Trail	From NC 50 (Wake Co)	Northside Rd Ext	2	4	1.65	No	No	$12,599,057	2035
Grnv93	Cash Rd / Gate 2 Rd	Old Weaver Trail	I-85	2	4	3.94	No	No	$30,085,020	2035
Jhns2a	NC 42 West	US 70 Business	US 70 Bypass	2	4	3.01	Yes	No	$36,813,734	2035
Jhns2b	NC 42 West Widening	US 70 Bypass	I-40	2	4	3.37	Yes	No	$56,895,867	2035
Jhns6	Pritchard Rd/Smithfield Rd Widening	Covered Bridge Rd	Wake County line	2	4	2.40	No	No	$18,325,901	2035

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Appendix 2 – Light Rail Transit Technology

The information on the following page presents the attributes of light rail technology as presented to the STAC.

Light Rail Transit (LRT)

A Technology Brief

APRIL 2008

Description

Light Rail Transit:

- can operate in a separate guideway or in dedicated lanes on streets, mixed with automobile traffic
- may be implemented in railroad rights-of-way with long-distance passenger rail or freight traffic under special circumstances; parallel operation is not always acceptable by railroad operators or regulatory agencies
- Vehicles, which are powered by overhead electricity, can be linked together in units of 2 to 3 light rail cars

Photo Credit: Regional Transportation District—Denver

Typical Service Characteristics

Corridor lengths: 5 to 20 miles

Station spacing: 1/4 to 2 miles

Service frequency: 5 - 15 minutes peak
10 - 20minutes off peak

Average operating speed: 15 - 30 mph

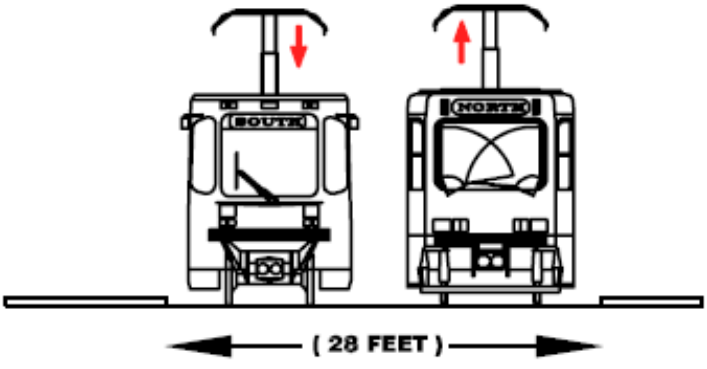
Maximum speed: 65 mph

Typical Costs

Capital: $25 - $60 million per mile (double track) (Exact costs contingent on environmental constraints, number of stations at and above grade, land/Rights of way costs, topography, and other site specific design considerations).

Operating: $230 per hour per train, which may be one rail car or several linked rail cars.

Typical Cross Section



Typical at-grade cross section requires at least 28 feet of track way. Wider sections are needed at stations and passing track.

Important Notes

Rights of way and land purchase costs are contingent on the location of the corridor, the availability of land and cost to use existing rights-of-way, and whether private land has been reserved or dedicated for a transit alignment and stations.

Land Use and Light Rail Transit (LRT)

LRT typically facilitates transit-oriented development within 1/2 mile of station locations. This technology offers a significant time competitive advantage over buses in mixed traffic and has proven to induce substantial private sector development investment.

Appendix 3 – Bus Transit Route List

Each row in the table is a separate bus transit route or service. The key attribute information for each bus route/service is presented by columns, and includes the information described below. For the most part, the bus transit service is presented in alphabetical order of the route name.

- Route Name – This name provides information to help identify the transit system, local route identification information, and the destination points of the route.

- Company – This is the name of the transit company that currently provides service or is likely to provide future service.

- Service Type
  - Local Bus: standard fixed-route bus service with frequent stops;
  - Express Bus; express bus service that has only a few stops between major residential and employment centers, longer routes and faster operating speeds.
  - Circulator Service – very frequent bus service that operates in close proximity to the employment center that is being served.
  - BRT Guideway – bus rapid transit (BRT) uses buses but all or part of the route is separate guideway or preferred roadway travel lanes.

- Start and Stop Years – Indicates the years in which the service will begin and end. In many cases, a service with a stop year that is before 2036 (January 1, 2036 -- which is the last year of the LRTP) will be shown in the next row with a subsequent start year but will have a headway or service pattern that is an improvement over the previous service.

- Service Pattern – Indicates the hours that the service is provided, as indicated in the following table:

Service Pattern	Daily Peak Hours	Daily Off-Peak Hours
18-Hour	7	11
Commuter	7	0
Daylight	7	6.5
Evening	0	5
Midday	0	6.5

- Peak Headway (min) – This is the minimum service frequency during peak hours, which are commonly 7AM to 9AM and 4PM to 6PM. It is the minimum number of minutes between buses. Peak service is usually more frequent than off-peak service.

- Off-Peak Headway (min) – This is the service frequency during off-peak hours, which are commonly outside of the 7AM to 9AM and 4PM to 6PM peak service. It is the minimum number of minutes between buses.

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Route Name	Company	Service Type	Start Year	Stop Year	Service Pattern	Peak Headway (min)	Off-Peak Headway (min)
CAT Transit Facility	CAT	ARRA	2010	N/A	N/A	N/A	N/A
CAT1 IB:Capital	CAT	Local Bus	2008	2016	18-Hour	15	15
CAT1 IB:Capital	CAT	Local Bus	2016	2036	18-Hour	15	15
CAT1 OB:Capital	CAT	Local Bus	2008	2016	18-Hour	15	15
CAT1 OB:Capital	CAT	Local Bus	2016	2036	18-Hour	15	15
CAT10 IB:Longview	CAT	Local Bus	2008	2016	Daylight	30	30
CAT10 IB:Longview	CAT	Local Bus	2016	2036	Daylight	15	15
CAT10 OB:Longview	CAT	Local Bus	2008	2016	Daylight	30	30
CAT10 OB:Longview	CAT	Local Bus	2016	2036	Daylight	15	15
CAT11 IB:Avent Ferry	CAT	Local Bus	2008	2016	18-Hour	30	30
CAT11 IB:Avent Ferry	CAT	Local Bus	2016	2036	18-Hour	15	15
CAT11 OB:Avent Ferry	CAT	Local Bus	2008	2016	18-Hour	30	30
CAT11 OB:Avent Ferry	CAT	Local Bus	2016	2036	18-Hour	15	15
CAT11C IB:Schaub-Cates	CAT	Local Bus	2008	2010	18-Hour	60	60
CAT11C IB:Schaub-Cates	CAT	Local Bus	2010	2036	18-Hour	30	30
CAT11C OB:Cates-Schaub	CAT	Local Bus	2008	2010	18-Hour	60	60
CAT11C OB:Cates-Schaub	CAT	Local Bus	2010	2036	18-Hour	30	30
CAT12 IB:Method	CAT	Local Bus	2008	2023	18-Hour	30	30
CAT12 IB:Method	CAT	Local Bus	2023	2036	18-Hour	15	15
CAT12 OB:Method	CAT	Local Bus	2008	2023	18-Hour	30	30
CAT12 OB:Method	CAT	Local Bus	2023	2036	18-Hour	15	15
CAT13 IB:Chavis Heights	CAT	Local Bus	2008	2016	Daylight	30	30
CAT13 IB:Chavis Heights	CAT	Local Bus	2016	2036	Daylight	30	30
CAT13 OB:Chavis Heights	CAT	Local Bus	2008	2016	Daylight	30	30
CAT13 OB:Chavis Heights	CAT	Local Bus	2016	2036	Daylight	30	30
CAT15 IB:WakeMed	CAT	Local Bus	2008	2016	18-Hour	15	15
CAT15 IB:WakeMed	CAT	Local Bus	2016	2036	18-Hour	15	15
CAT15 OB:WakeMed	CAT	Local Bus	2008	2016	18-Hour	15	15
CAT15 OB:WakeMed	CAT	Local Bus	2016	2036	18-Hour	15	15
CAT15C IB: Buffaloe-WakeMed	CAT	Local Bus	2008	2016	18-Hour	30	30
CAT15C IB: Buffaloe-WakeMed	CAT	Local Bus	2016	2036	18-Hour	15	15
CAT15C OB:WakeMed-Buffaloe	CAT	Local Bus	2008	2016	18-Hour	30	30
CAT15C OB:WakeMed-Buffaloe	CAT	Local Bus	2016	2036	18-Hour	15	15
CAT16 IB Oberlin	CAT	Local Bus	2008	2016	Daylight	30	30
CAT16 IB Oberlin	CAT	Local Bus	2016	2036	18-Hour	15	15
CAT16 OB Oberlin	CAT	Local Bus	2008	2016	Daylight	30	30
CAT16 OB Oberlin	CAT	Local Bus	2016	2036	18-Hour	15	15
CAT18 IB: Worthdale	CAT	Local Bus	2008	2016	Daylight	30	30
CAT18 IB: Worthdale	CAT	Local Bus	2016	2036	Daylight	15	15
CAT18 OB: Worthdale	CAT	Local Bus	2008	2016	Daylight	30	30
CAT18 OB: Worthdale	CAT	Local Bus	2016	2036	Daylight	15	15
CAT19 IB:Swinb&Kidd-MooreSq	CAT	Local Bus	2008	2016	Daylight	30	30
CAT19 IB:Swinb&Kidd-MooreSq	CAT	Local Bus	2016	2036	Daylight	15	15
CAT19 OB:MooreSq-Swinb&Kidd	CAT	Local Bus	2008	2016	Daylight	30	30
CAT19 OB:MooreSq-Swinb&Kidd	CAT	Local Bus	2016	2036	Daylight	15	15
CAT2 Falls of Neuse - Evening	CAT	Local Bus	2008	2036	Evening	60	60

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Route Name	Company	Service Type	Start Year	Stop Year	Service Pattern	Peak Headway (min)	Off-Peak Headway (min)
CAT2 IB:Bent Tree-MooreSq	CAT	Local Bus	2016	2036	Daylight	30	30
CAT2 OB:MooreSq-Bent Tree	CAT	Local Bus	2008	2016	Daylight	30	30
CAT2 OB:MooreSq-Bent Tree	CAT	Local Bus	2016	2036	Daylight	30	30
CAT21 IB:Caraleigh	CAT	Local Bus	2008	2016	Daylight	30	30
CAT21 IB:Caraleigh	CAT	Local Bus	2016	2036	Daylight	15	15
CAT21 OB:Caraleigh	CAT	Local Bus	2008	2016	Daylight	30	30
CAT21 OB:Caraleigh	CAT	Local Bus	2016	2036	Daylight	15	15
CAT22 IB:State Street	CAT	Local Bus	2008	2016	Daylight	30	30
CAT22 IB:State Street	CAT	Local Bus	2016	2036	Daylight	30	30
CAT22 OB:State Street	CAT	Local Bus	2008	2016	Daylight	30	30
CAT22 OB:State Street	CAT	Local Bus	2016	2036	Daylight	30	30
CAT23C EB:Ctree-MilBrk&Cap	CAT	Local Bus	2008	2016	Daylight	30	30
CAT23C EB:Ctree-MilBrk&Cap	CAT	Local Bus	2016	2036	Daylight	15	15
CAT23C WB:Milbrk&Cap-Ctree	CAT	Local Bus	2008	2016	Daylight	30	30
CAT23C WB:Milbrk&Cap-Ctree	CAT	Local Bus	2016	2036	Daylight	15	15
CAT24C EB:NHills-Cap&Sprgfor	CAT	Local Bus	2008	2016	Daylight	30	30
CAT24C EB:NHills-Cap&Sprgfor	CAT	Local Bus	2016	2036	Daylight	15	15
CAT24C WB:Cap&Sprgfor-NHills	CAT	Local Bus	2008	2016	Daylight	30	30
CAT24C WB:Cap&Sprgfor-NHills	CAT	Local Bus	2016	2036	Daylight	15	15
CAT25C Loop:Triangle-Sumner	CAT	Local Bus	2008	2010	Daylight	60	60
CAT25C Loop:Triangle-Sumner	CAT	Local Bus	2010	2036	Daylight	30	30
CAT26c Early East Connector	CAT	Local Bus	2008	2036	Daylight	60	60
CAT27 Southeast	CAT	Local Bus	2008	2036	Evening	60	60
CAT28 Southwest	CAT	Local Bus	2008	2036	Evening	60	60
CAT29c North Night Connector	CAT	Local Bus	2008	2036	Evening	60	60
CAT3 IB:Glascosk	CAT	Local Bus	2008	2023	Daylight	30	30
CAT3 IB:Glascosk	CAT	Local Bus	2023	2036	Daylight	15	15
CAT3 OB:Glascock	CAT	Local Bus	2008	2023	Daylight	30	30
CAT3 OB:Glascock	CAT	Local Bus	2023	2036	Daylight	15	15
CAT30 Northeast	CAT	Local Bus	2008	2036	Evening	60	60
CAT32 Sanderford Road	CAT	Local Bus	2008	2036	Evening	60	60
CAT33c Glenwood-Creedmoor Connector	CAT	Local Bus	2008	2036	Evening	60	60
CAT35 poole Road	CAT	Local Bus	2008	2036	Evening	60	60
CAT36 Garner Station	CAT	Local Bus	2008	2036	Evening	60	60
CAT4 IB:Rex Hospital	CAT	Local Bus	2008	2016	Daylight	30	30
CAT4 IB:Rex Hospital	CAT	Local Bus	2016	2036	18-Hour	15	15
CAT4 OB:Rex Hospital	CAT	Local Bus	2008	2016	Daylight	30	30
CAT4 OB:Rex Hospital	CAT	Local Bus	2016	2036	18-Hour	15	15
CAT4 Rex Evening	CAT	Local Bus	2008	2016	Evening	60	60
CAT5 IB:Biltmore Hills	CAT	Local Bus	2008	2010	Daylight	30	30
CAT5 IB:Biltmore Hills	CAT	Local Bus	2010	2036	Daylight	30	30
CAT5 OB:Biltmore Hills	CAT	Local Bus	2008	2010	Daylight	30	30
CAT5 OB:Biltmore Hills	CAT	Local Bus	2010	2036	Daylight	30	30
CAT6 IB:Crabtree	CAT	Local Bus	2008	2036	Daylight	30	30
CAT6 OB:Crabtree	CAT	Local Bus	2008	2036	Daylight	30	30

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Route Name	Company	Service Type	Start Year	Stop Year	Service Pattern	Peak Headway (min)	Off-Peak Headway (min)
CAT7 IB:SuperKMart-MooreSqSt	CAT	Local Bus	2008	2011	Daylight	30	30
CAT7 OB:MooreSqSt-SuperKMart	CAT	Local Bus	2008	2011	Daylight	30	30
CAT7 OB:MooreSqSt-SuperKMart	CAT	Local Bus	2011	2036	Daylight	30	30
CAT70E NB:Crabtree-LtlBrier	CAT	Local Bus	2008	2012	Daylight	60	60
CAT70E NB:Crabtree-LtlBrier	CAT	Local Bus	2012	2036	Daylight	30	30
CAT70E SB:LtlBrier-Crabtree	CAT	Local Bus	2008	2012	Daylight	60	60
CAT70E SB:LtlBrier-Crabtree	CAT	Local Bus	2012	2036	Daylight	30	30
CAT7C EB:RaleighOSC-SgateSC	CAT	Local Bus	2008	2023	Daylight	30	30
CAT7C EB:RaleighOSC-SgateSC	CAT	Local Bus	2023	2036	Daylight	15	15
CAT7C WB:SgateSC-RaleighOSC	CAT	Local Bus	2008	2023	Daylight	30	30
CAT7C WB:SgateSC-RaleighOSC	CAT	Local Bus	2023	2036	Daylight	15	15
CAT8 IB:Northclift	CAT	Local Bus	2008	2016	Daylight	30	30
CAT8 IB:Northclift	CAT	Local Bus	2016	2036	Daylight	15	15
CAT8 OB:Northclift	CAT	Local Bus	2008	2016	Daylight	30	30
CAT8 OB:Northclift	CAT	Local Bus	2016	2036	Daylight	15	15
CAT8C EB:Creedmr-6ForksStaSC	CAT	Local Bus	2008	2016	Daylight	60	60
CAT8C EB:Creedmr-6ForksStaSC	CAT	Local Bus	2016	2036	Daylight	30	30
CAT8C WB:Creedmr-6ForksStaSC	CAT	Local Bus	2008	2016	Daylight	60	60
CAT8C WB:Creedmr-6ForksStaSC	CAT	Local Bus	2016	2036	Daylight	30	30
CATC1 Youngsville Circulator	CAT	Local Bus	2016	2036	Daylight	60	60
CATC10 Garner/White Oak Cir	CAT	Local Bus	2016	2036	Daylight	60	60
CATC11 Garner West Circulator	CAT	Local Bus	2016	2036	Daylight	60	60
CATC13 Fuquay Varina E Cir	CAT	Local Bus	2016	2036	Daylight	60	60
CATC14 Fuquay Varina W Cir	CAT	Local Bus	2016	2036	Daylight	60	60
CATC15 Holly Springs Circulator	CAT	Local Bus	2016	2036	Daylight	60	60
CATC16 Apex West Circulator	CAT	Local Bus	2016	2036	Daylight	60	60
CATC17 Apex East Circulator	CAT	Local Bus	2016	2036	Daylight	60	60
CATC2 Wake Forest Circulator	CAT	Local Bus	2008	2036	Daylight	60	60
CATC20 West Raleigh Circulator	CAT	Local Bus	2011	2036	Daylight	60	60
CATC22 Crabtree Circulator	CAT	Local Bus	2011	2036	Daylight	60	60
CATC23 Atlantic Ave Circulator	CAT	Local Bus	2011	2036	Daylight	60	60
CATC24 Wakefield Circulator	CAT	Local Bus	2010	2036	Daylight	60	60
CATC25 Creedmoor/Butner Cir	CAT	Local Bus	2016	2036	Daylight	60	60
CATC26 NB: NC50 Bus Route	CAT	Local Bus	2016	2036	Daylight	60	60
CATC26 SB: NC50 Bus Route	CAT	Local Bus	2016	2036	Daylight	60	60
CATC3 Rolesville/Burlington Cir	CAT	Local Bus	2016	2036	Daylight	60	60
CATC4 Durant/Triangle Town Cir	CAT	Local Bus	2016	2036	Daylight	60	60
CATC5 Zebulon Circulator	CAT	Local Bus	2016	2036	Daylight	60	60
CATC6 Wendell Falls Circulator	CAT	Local Bus	2016	2036	Daylight	60	60
CATC7 Knightdale N Circulator	CAT	Local Bus	2016	2036	Daylight	60	60
CATC8 Knightdale S Circulator	CAT	Local Bus	2016	2036	Daylight	60	60
CATC9 Clayton Circulator	CAT	Local Bus	2016	2036	Daylight	60	60
CATCM 6FrksE IB:Strklnd-MooreSq	CAT	Express Bus	2016	2036	Commuter	30	30
CATCM 6FrksE OB:MooreSq-Strklnd	CAT	Express Bus	2016	2036	Commuter	30	30
CATCM DTN CTR:MooreSq-MooreSq	CAT	Local Bus	2016	2036	Daylight	30	30

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Route Name	Company	Service Type	Start Year	Stop Year	Service Pattern	Peak Headway (min)	Off-Peak Headway (min)
CATCM GlnWdE IB:BrierCr-MooreSq	CAT	Express Bus	2016	2036	Commuter	30	30
CATCM GlnWdE OB:MooreSq-BrierCr	CAT	Express Bus	2016	2036	Commuter	30	30
CATCM NBrnE OB:MooreSq-NHope	CAT	Express Bus	2016	2036	Commuter	30	30
CATCM RBC IB:CrabtreeVM-RBC	CAT	Local Bus	2010	2036	Daylight	30	30
CATCM RBC OB:RBC-CrabtreeVM	CAT	Local Bus	2010	2036	Daylight	30	30
CATCM SERal EB:SunyBrk-RckQry	CAT	Local Bus	2009	2020	Daylight	60	60
CATCM SERal EB:SunyBrk-RckQry	CAT	Local Bus	2020	2036	Daylight	30	30
CATCM SERal WB:RckQry-SunyBrk	CAT	Local Bus	2009	2020	Daylight	60	60
CATCM SERal WB:RckQry-SunyBrk	CAT	Local Bus	2020	2036	Daylight	30	30
CATCM SWkE IB:WakeTech-MooreSq	CAT	Express Bus	2009	2012	Daylight	60	60
CATCM SWkE IB:WakeTech-MooreSq	CAT	Express Bus	2012	2036	Daylight	30	30
CATCM SWkE OB:MooreSq-WakeTech	CAT	Express Bus	2009	2012	Daylight	60	60
CATCM SWkE OB:MooreSq-WakeTech	CAT	Express Bus	2012	2036	Daylight	30	30
CATCM WlfCrk IB:Wolf Cr-MooreSq	CAT	Local Bus	2009	2020	Daylight	60	60
CATCM WlfCrk IB:Wolf Cr-MooreSq	CAT	Local Bus	2020	2036	Daylight	30	30
CATCM WlfCrk OB:MooreSq-Wolf Cr	CAT	Local Bus	2009	2020	Daylight	60	60
CATCM WlfCrk OB:MooreSq-Wolf Cr	CAT	Local Bus	2020	2036	Daylight	30	30
ChapelHill Circulator EB	CHT	Local Bus	2020	2036	Daylight	10	10
ChapelHill Circulator WB	CHT	Local Bus	2020	2036	Daylight	10	10
ChapelHillCirculator NB	CHT	Local Bus	2010	2036	Daylight	10	10
ChapelHillCirculator SB	CHT	Local Bus	2010	2036	Daylight	10	10
CHT A IB:Weiner-MLKBlvd	CHT	Local Bus	2009	2036	Daylight	15	15
CHT A OB:MLKBlvd-Weiner	CHT	Local Bus	2009	2036	Daylight	15	15
CHT Base 1 Carr N IB	CHT	Local Bus	2010	2036	Daylight	15	15
CHT Base 1 Carr N OB	CHT	Local Bus	2010	2036	Daylight	15	15
CHT Base 3 Estes-Carrboro IB	CHT	Local Bus	2015	2036	Daylight	15	15
CHT Base 3 Estes-Carrboro OB	CHT	Local Bus	2015	2036	Daylight	15	15
CHT Base 4 Laurel Hills IB	CHT	Local Bus	2015	2036	Daylight	15	15
CHT Base 4 Laurel Hills OB	CHT	Local Bus	2015	2036	Daylight	15	15
CHT Base 8 UNC Exp IB	CHT	Express Bus	2015	2036	Daylight	10	10
CHT Base 8 UNC Exp OB	CHT	Express Bus	2015	2036	Daylight	10	10
CHT Base 9 Mason Farm Exp IB	CHT	Express Bus	2020	2036	Daylight	15	15
CHT Base 9 Mason Farm Exp OB	CHT	Express Bus	2020	2036	Daylight	15	15
CHT BRT-1 I40-Rsmry-UNC IB	CHT	BRT Guideway	2015	2036	18-Hour	10	10
CHT BRT-1 I40-Rsmry-UNC OB	CHT	BRT Guideway	2015	2036	18-Hour	10	10
CHT BRT-3A I40-US15-UNC IB	CHT	BRT Guideway	2020	2036	18-Hour	15	15
CHT BRT-3A I40-US15-UNC OB	CHT	BRT Guideway	2020	2036	18-Hour	15	15
CHT BRT-3B I40-Elzbth-UNC IB	CHT	BRT Guideway	2020	2036	18-Hour	15	15
CHT BRT-3B I40-Elzbth-UNC OB	CHT	BRT Guideway	2020	2036	18-Hour	15	15
CHT BRT-3C I40-Carolina N IB	CHT	BRT Guideway	2020	2036	18-Hour	15	15
CHT BRT-3C I40-Carolina N OB	CHT	BRT Guideway	2020	2036	18-Hour	15	15
CHT BRT-5 I40 to UNC IB	CHT	BRT Guideway	2025	2036	18-Hour	15	15
CHT BRT-5 I40 to UNC OB	CHT	BRT Guideway	2025	2036	18-Hour	15	15

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Route Name	Company	Service Type	Start Year	Stop Year	Service Pattern	Peak Headway (min)	Off-Peak Headway (min)
CHT BRT-6 from Carolina N OB	CHT	Express Bus	2025	2036	Daylight	15	15
CHT BRT-6 to Carolina N IB	CHT	Express Bus	2025	2036	Daylight	15	15
CHT BRT-7 to UNC IB	CHT	Express Bus	2025	2036	Daylight	15	15
CHT BRT-7a from Carolina N OB	CHT	Express Bus	2025	2036	Daylight	15	15
CHT BRT-7a to Carolina N IB	CHT	Express Bus	2025	2036	Daylight	15	15
CHT BRT-8 from UNC OB	CHT	Express Bus	2020	2036	Daylight	15	15
CHT BRT-8 to UNC IB	CHT	Express Bus	2020	2036	Daylight	15	15
CHT BRT-8a from Carolina N OB	CHT	Express Bus	2025	2036	Daylight	15	15
CHT BRT-8a to Carolina N IB	CHT	Express Bus	2025	2036	Daylight	15	15
CHT Carr 1A Feeder	CHT	Local Bus	2015	2036	Daylight	15	15
CHT CL IB: WldnGrnfld-UNCHosp	CHT	Local Bus	2009	2020	Daylight	60	60
CHT CL IB: WldnGrnfld-UNCHosp	CHT	Local Bus	2020	2036	Daylight	15	15
CHT CL OB: UNCHosp-WldnGrnfld	CHT	Local Bus	2009	2020	Daylight	60	60
CHT CL OB: UNCHosp-WldnGrnfld	CHT	Local Bus	2020	2036	Daylight	15	15
CHT CM IB:FamPrac-JonesFerry	CHT	Local Bus	2009	2020	Daylight	30	30
CHT CM IB:FamPrac-JonesFerry	CHT	Local Bus	2020	2036	Daylight	15	15
CHT CM OB:JonesFerry-FamPrac	CHT	Local Bus	2009	2020	Daylight	30	30
CHT CM OB:JonesFerry-FamPrac	CHT	Local Bus	2020	2036	Daylight	15	15
CHT CPX IB:UNC-CarrboroP&R	CHT	Express Bus	2009	2020	Daylight	30	30
CHT CPX IB:UNC-CarrboroP&R	CHT	Express Bus	2020	2036	Daylight	15	15
CHT CPX OB:CarrboroP&R-UNC	CHT	Express Bus	2009	2020	Daylight	30	30
CHT CPX OB:CarrboroP&R-UNC	CHT	Express Bus	2020	2036	Daylight	15	15
CHT CW IB:Ptsboro-JonesFerry	CHT	Local Bus	2009	2020	Daylight	30	30
CHT CW IB:Ptsboro-JonesFerry	CHT	Local Bus	2020	2036	Daylight	15	15
CHT CW OB:JonesFerry-Ptsboro	CHT	Local Bus	2009	2020	Daylight	30	30
CHT CW OB:JonesFerry-Ptsboro	CHT	Local Bus	2020	2036	Daylight	15	15
CHT D IB:Prvdnce-SmithLevel	CHT	Local Bus	2009	2020	Daylight	30	30
CHT D IB:Prvdnce-SmithLevel	CHT	Local Bus	2020	2036	Daylight	15	15
CHT D OB:SmithLevel-Provdnce	CHT	Local Bus	2009	2020	Daylight	30	30
CHT D OB:SmithLevel-Provdnce	CHT	Local Bus	2020	2036	Daylight	15	15
CHT Eubanks Station 1A Feeder	CHT	Local Bus	2015	2036	Daylight	15	15
CHT Eubanks Station 1B Feeder	CHT	Local Bus	2015	2036	Daylight	15	15
CHT F IB:ColonyWds-McDougle	CHT	Local Bus	2009	2036	Daylight	15	15
CHT F OB:McDougle-ColonyWds	CHT	Local Bus	2009	2036	Daylight	15	15
CHT FCX IB:Pttsbor-FridayCntr	CHT	Express Bus	2010	2036	Daylight	15	15
CHT FCX OB:FridayCntr-Pttsbor	CHT	Express Bus	2010	2036	Daylight	15	15
CHT G IB:Briarcliff-BookerCrk	CHT	Local Bus	2009	2036	Daylight	15	15
CHT G OB:BookerCrk-Briarcliff	CHT	Local Bus	2009	2036	Daylight	15	15
CHT Gateway Feeder 1	CHT	Local Bus	2025	2036	Daylight	15	15
CHT Gateway Feeder 2	CHT	Local Bus	2025	2036	Daylight	15	15
CHT Gateway Feeder 3	CHT	Local Bus	2025	2036	Daylight	15	15
CHT HS IB:VarsityTh-Hghsch	CHT	Local Bus	2009	2036	Daylight	15	15
CHT HS OB:Hghsch-VarsityTh	CHT	Local Bus	2009	2036	Daylight	15	15
CHT HUX IB:UNCHosp-HedrckBldg	CHT	Express Bus	2009	2036	Daylight	15	15
CHT HUX OB:HedrckBldg-UNCHosp	CHT	Express Bus	2009	2036	Daylight	15	15

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Route Name	Company	Service Type	Start Year	Stop Year	Service Pattern	Peak Headway (min)	Off-Peak Headway (min)
CHT HW 1A Feeder	CHT	Local Bus	2015	2036	Daylight	15	15
CHT J IB:SGrnsboro-RockCrkApt	CHT	Local Bus	2009	2036	Daylight	15	15
CHT JFX IB:Ptsboro-JonesFerry	CHT	Express Bus	2009	2036	Daylight	15	15
CHT JFX OB:JonesFerry-Ptsboro	CHT	Express Bus	2009	2036	Daylight	15	15
CHT M IB:UnivMall-CrestCole	CHT	Local Bus	2009	2036	Daylight	15	15
CHT M OB:CrestCole-UnivMall	CHT	Local Bus	2009	2036	Daylight	15	15
CHT Meadowmont Feeder 2	CHT	Local Bus	2025	2036	Daylight	15	15
CHT Meadowmont Feeder 3	CHT	Local Bus	2025	2036	Daylight	15	15
CHT Meadowmont Feeder IB	CHT	Local Bus	2025	2036	Daylight	15	15
CHT Meadowmont Feeder OB	CHT	Local Bus	2023	2036	Daylight	15	15
CHT MOD 20 Pitt. Exp IB	CHT	Express Bus	2010	2036	Commuter	15	15
CHT MOD 20 Pitt. Exp OB	CHT	Express Bus	2010	2036	Commuter	15	15
CHT MOD 8 IB-1	CHT	Local Bus	2025	2036	Daylight	15	15
CHT MOD 8 OB-1	CHT	Local Bus	2025	2036	Daylight	15	15
CHT MODV IB	CHT	Local Bus	2025	2036	Daylight	30	30
CHT MODV OB	CHT	Local Bus	2025	2036	Daylight	30	30
CHT N IB:EstsParkApt-FamPract	CHT	Local Bus	2009	2036	Daylight	15	15
CHT N OB:FamPract-EstsPrkApt	CHT	Local Bus	2009	2036	Daylight	15	15
CHT NS IB:SVillage-Eubanks	CHT	Local Bus	2009	2010	Daylight	15	15
CHT NS OB:Eubanks-SVillage	CHT	Local Bus	2009	2010	Daylight	15	15
CHT NUX IB:UNCHosp-PR Lot	CHT	Express Bus	2009	2036	Daylight	15	15
CHT NUX OB: PRLot-UNCHosp	CHT	Express Bus	2009	2036	Daylight	15	15
CHT RU LP:counter clock loop	CHT	Local Bus	2009	2036	Daylight	15	15
CHT S IB:UNCHosp-HedrickBldg	CHT	Local Bus	2009	2036	Daylight	15	15
CHT S OB:HedrickBldg-UNCHosp	CHT	Local Bus	2009	2036	Daylight	15	15
CHT T IB:UNCHosp-ECHHghSch	CHT	Local Bus	2009	2036	Daylight	15	15
CHT T OB:ECHHghSch-UNCHosp	CHT	Local Bus	2009	2036	Daylight	15	15
CHT U LP:clockwise loop	CHT	Local Bus	2009	2036	Daylight	15	15
CHT V IB:Meadowmont-SVillage	CHT	Local Bus	2009	2036	Daylight	15	15
CHT V OB:SVillage-Meadowmont	CHT	Local Bus	2009	2036	Daylight	15	15
CTRAN 1 Maynard Loop One CLK	CTRAN	Local Bus	2008	2036	Daylight	30	30
CTRAN 2 Maynard Loop Two CTR	CTRAN	Local Bus	2008	2036	Daylight	30	30
CTRAN 3 NB:North South	CTRAN	Local Bus	2008	2036	Daylight	30	30
CTRAN 3 SB:North South	CTRAN	Local Bus	2008	2036	Daylight	30	30
CTRAN 4 EB:East West	CTRAN	Local Bus	2008	2036	Daylight	30	30
CTRAN 4 WB:East-West	CTRAN	Local Bus	2008	2036	Daylight	30	30
CTRAN 5 NB: Cary Parkway	CTRAN	Local Bus	2012	2016	Daylight	30	30
CTRAN 5 NB: Cary Parkway	CTRAN	Local Bus	2016	2036	Daylight	15	15
CTRAN 5 SB: Cary Parkway	CTRAN	Local Bus	2012	2016	Daylight	30	30
CTRAN 5 SB: Cary Parkway	CTRAN	Local Bus	2016	2036	Daylight	15	15
CTRAN 6 NB: Cary-Apex	CTRAN	Local Bus	2010	2014	Daylight	30	30
CTRAN 6 NB: Cary-Apex	CTRAN	Local Bus	2014	2036	Daylight	15	15
CTRAN 6 SB: Cary-Apex	CTRAN	Local Bus	2010	2014	Daylight	30	30
CTRAN 6 SB: Cary-Apex	CTRAN	Local Bus	2014	2036	Daylight	15	15
CTRAN 7 NB: Davis Drive	CTRAN	Local Bus	2013	2017	Daylight	30	30
CTRAN 7 NB: Davis Drive	CTRAN	Local Bus	2017	2036	Daylight	15	15

2035 Long Range Transportation Plan
Bus Route List

Route Name	Company	Service Type	Start Year	Stop Year	Service Pattern	Peak Headway (min)	Off-Peak Headway (min)
CTRAN 7 SB: Davis Drive	CTRAN	Local Bus	2013	2017	Daylight	30	30
CTRAN 8 NB: Northwest	CTRAN	Local Bus	2013	2017	Daylight	30	30
CTRAN 8 NB: Northwest	CTRAN	Local Bus	2017	2036	Daylight	15	15
CTRAN 8 SB: Northwest	CTRAN	Local Bus	2013	2017	Daylight	30	30
CTRAN 8 SB: Northwest	CTRAN	Local Bus	2017	2036	Daylight	15	15
DATA 10-8:NewHopeCmn-DrhmTech	DATA	Local Bus	2009	2016	Daylight	30	30
DATA 10-8:NewHopeCmn-DrhmTech	DATA	Local Bus	2016	2036	Daylight	30	30
DATA 10-8:Woodcroft-DrhmTech	DATA	Local Bus	2009	2016	Daylight	30	30
DATA 10-8:Woodcroft-DrhmTech	DATA	Local Bus	2016	2036	Daylight	30	30
DATA 11-9:Bennett-DRHosp	DATA	Local Bus	2009	2031	Daylight	30	30
DATA 11-9:Bennett-DRHosp	DATA	Local Bus	2031	2036	Daylight	15	15
DATA 12 IB:TTATerm-Downtown	DATA	Local Bus	2009	2014	Commuter	60	60
DATA 12 IB:TTATerm-Downtown	DATA	Local Bus	2014	2036	Commuter	30	30
DATA 12 OB:Downtown-TTATerm	DATA	Local Bus	2009	2014	Commuter	60	60
DATA 12 OB:Downtown-TTATerm	DATA	Local Bus	2014	2036	Commuter	30	30
DATA 12X DTT-EPA IB	DATA	Express Bus	2014	2025	Commuter	30	30
DATA 12X DTT-EPA OB	DATA	Express Bus	2014	2025	Commuter	30	30
DATA 13 IB:Fayette-Birchwood	DATA	Local Bus	2009	2031	Daylight	60	60
DATA 13 IB:Fayette-Birchwood	DATA	Local Bus	2031	2036	Daylight	30	30
DATA 13 OB:Birchwood-Fayette	DATA	Local Bus	2009	2031	Daylight	60	60
DATA 13 OB:Birchwood-Fayette	DATA	Local Bus	2031	2036	Daylight	30	30
DATA 1-3:Hillndal-Guess-Mdlnd	DATA	Local Bus	2009	2016	Daylight	30	30
DATA 1-3:Hillndal-Guess-Mdlnd	DATA	Local Bus	2016	2036	Daylight	30	30
DATA 1-3:Hillndal-Point-Mdlnd	DATA	Local Bus	2009	2016	Daylight	30	30
DATA 1-3:Hillndal-Point-Mdlnd	DATA	Local Bus	2016	2036	Daylight	30	30
DATA 14 LP:NCCUShuttle	DATA	Local Bus	2009	2036	Daylight	15	15
DATA 15 IB:BrierCreek-Dtn	DATA	Local Bus	2009	2016	Commuter	60	60
DATA 15 IB:BrierCreek-Dtn	DATA	Local Bus	2016	2031	Commuter	30	30
DATA 15 IB:BrierCreek-Dtn	DATA	Local Bus	2031	2036	Commuter	15	15
DATA 15 OB:Dtn-BrierCreek	DATA	Local Bus	2009	2016	Commuter	60	60
DATA 15 OB:Dtn-BrierCreek	DATA	Local Bus	2016	2031	Commuter	30	30
DATA 15 OB:Dtn-BrierCreek	DATA	Local Bus	2031	2036	Commuter	15	15
DATA 15 Willowdale IB	DATA	Local Bus	2020	2036	Daylight	60	60
DATA 15 Willowdale OB	DATA	Local Bus	2020	2036	Daylight	60	60
DATA 16 IB:MineralSprng-Dtn	DATA	Local Bus	2009	2016	Daylight	60	60
DATA 16 IB:MineralSprng-Dtn	DATA	Local Bus	2016	2036	Daylight	30	30
DATA 16 OB:Dtn-MineralSprng	DATA	Local Bus	2009	2016	Daylight	60	60
DATA 16 OB:Dtn-MineralSprng	DATA	Local Bus	2016	2036	Daylight	30	30
DATA 17 Feeder Eno Loop	DATA	Local Bus	2023	2036	18-Hour	60	60
DATA 17 Feeder IB	DATA	Local Bus	2023	2036	Daylight	60	60
DATA 17 Feeder OB	DATA	Local Bus	2023	2036	Daylight	60	60
DATA 17 Horton-Davinci NWB	DATA	Local Bus	2015	2036	Daylight	30	30
DATA 17 Horton-Davinci SEB	DATA	Local Bus	2015	2036	Daylight	30	30
DATA 17 IB:Treyburn-Horton	DATA	Local Bus	2009	2031	Daylight	30	30
DATA 17 IB:Treyburn-Horton	DATA	Local Bus	2031	2036	Daylight	15	15
DATA 17 OB:Horton-Treyburn	DATA	Local Bus	2009	2031	Daylight	30	30

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Bus Route List

Route Name	Company	Service Type	Start Year	Stop Year	Service Pattern	Peak Headway (min)	Off-Peak Headway (min)
DATA 17 OB:Horton-Treyburn	DATA	Local Bus	2031	2036	Daylight	15	15
DATA 17 Roxboro-Davinci SB	DATA	Local Bus	2035	2036	Commuter	30	30
DATA 18 Feeder IB	DATA	Local Bus	2025	2036	Daylight	30	30
DATA 18 Feeder OB	DATA	Local Bus	2025	2036	Daylight	30	30
DATA 19 Feeder IB	DATA	Local Bus	2025	2036	Daylight	30	30
DATA 19 Feeder OB	DATA	Local Bus	2025	2036	Daylight	30	30
DATA 20 UniDr-RTP IB	DATA	Local Bus	2016	2020	Daylight	30	30
DATA 20 UniDr-RTP IB	DATA	Local Bus	2020	2036	Daylight	15	15
DATA 20 UniDr-RTP OB	DATA	Local Bus	2016	2020	Daylight	30	30
DATA 20 UniDr-RTP OB	DATA	Local Bus	2020	2036	Daylight	15	15
DATA 2-4:Angier-Horton	DATA	Local Bus	2009	2016	Daylight	30	30
DATA 2-4:Angier-Horton	DATA	Local Bus	2016	2036	Daylight	15	15
DATA 25 DurReg-DukeMed IB	DATA	Local Bus	2020	2036	Daylight	30	30
DATA 25 DurReg-DukeMed OB	DATA	Local Bus	2020	2036	Daylight	30	30
DATA 27 Ngate-RTP W IB	DATA	Local Bus	2014	2036	Daylight	30	30
DATA 27 Ngate-RTP W OB	DATA	Local Bus	2014	2036	Daylight	30	30
DATA 30 Duke Hospital IB	DATA	Local Bus	2014	2036	Daylight	30	30
DATA 30 Duke Hospital OB	DATA	Local Bus	2014	2036	Daylight	30	30
DATA 3-1:Mdlnd-Guess-Hillndal	DATA	Local Bus	2009	2016	Daylight	30	30
DATA 3-1:Mdlnd-Guess-Hillndal	DATA	Local Bus	2016	2036	Daylight	15	15
DATA 3-1:Mdlnd-Point-Hillndal	DATA	Local Bus	2009	2016	Daylight	30	30
DATA 3-1:Mdlnd-Point-Hillndal	DATA	Local Bus	2016	2036	Daylight	15	15
DATA 4-2:Horton-Angier	DATA	Local Bus	2009	2016	Daylight	30	30
DATA 4-2:Horton-Angier	DATA	Local Bus	2016	2036	Daylight	15	15
DATA 5-6:Emerald-HV-Cameron	DATA	Local Bus	2009	2014	Daylight	30	30
DATA 5-6:Emerald-HV-Cameron	DATA	Local Bus	2014	2036	Daylight	15	15
DATA 5-6:Emrld-Crnw-Cnstitutn	DATA	Local Bus	2009	2014	Daylight	30	30
DATA 5-6:Emrld-Crnw-Cnstitutn	DATA	Local Bus	2014	2036	Daylight	15	15
DATA 6-5:Cameron-HV-Emerald	DATA	Local Bus	2009	2031	Daylight	30	30
DATA 6-5:Cameron-HV-Emerald	DATA	Local Bus	2031	2036	Daylight	15	15
DATA 6-5:Cnstitutn-Crnw-Emrld	DATA	Local Bus	2009	2031	Daylight	30	30
DATA 6-5:Cnstitutn-Crnw-Emrld	DATA	Local Bus	2031	2036	Daylight	15	15
DATA 7 IB:Southpoint-Downtown	DATA	Local Bus	2009	2016	Daylight	30	30
DATA 7 IB:Southpoint-Downtown	DATA	Local Bus	2016	2036	Daylight	15	15
DATA 7 OB:Downtown-Southpoint	DATA	Local Bus	2009	2016	Daylight	30	30
DATA 7 OB:Downtown-Southpoint	DATA	Local Bus	2016	2036	Daylight	15	15
DATA 7SP Southpoint Mall IB	DATA	Local Bus	2020	2036	Commuter	60	60
DATA 7SP Southpoint Mall OB	DATA	Local Bus	2020	2036	Commuter	60	60
DATA 8-10:DrhmTech-NewHopeCmn	DATA	Local Bus	2009	2016	Daylight	30	30
DATA 8-10:DrhmTech-NewHopeCmn	DATA	Local Bus	2016	2036	Daylight	15	15
DATA 8-10:DrhmTech-Woodcroft	DATA	Local Bus	2009	2016	Daylight	30	30
DATA 8-10:DrhmTech-Woodcroft	DATA	Local Bus	2016	2036	Daylight	15	15
DATA 9-11:DRHosp-Bennett	DATA	Local Bus	2009	2031	Daylight	30	30
DATA 9-11:DRHosp-Bennett	DATA	Local Bus	2031	2036	Daylight	15	15
DATA Bethesda NB	DATA	Local Bus	2020	2036	Daylight	30	30

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Route Name	Company	Service Type	Start Year	Stop Year	Service Pattern	Peak Headway (min)	Off-Peak Headway (min)
DATA Bethesda SB	DATA	Local Bus	2020	2036	Daylight	30	30
DATA Dtech-Snow OB	DATA	Local Bus	2025	2036	Daylight	30	30
DATA Dtown Terminal Feeder IB	DATA	Local Bus	2023	2036	Daylight	30	30
DATA Dtown Terminal Feeder OB	DATA	Local Bus	2023	2036	Daylight	30	30
DATA Dtown Terminal Shuttle IB	DATA	Local Bus	2020	2036	Daylight	15	15
DATA Dtown Terminal Shuttle OB	DATA	Local Bus	2020	2036	Daylight	15	15
DATA Durham XT NWB	DATA	Local Bus	2023	2036	Daylight	30	30
DATA Durham XT SEB	DATA	Local Bus	2023	2036	Daylight	30	30
DATA Holoway/The Village IB	DATA	Local Bus	2035	2036	Daylight	30	30
DATA Holoway/The Village OB	DATA	Local Bus	2035	2036	Daylight	30	30
DATA Joyner-Club-Duke IB	DATA	Local Bus	2035	2036	Daylight	30	30
DATA Joyner-Club-Duke OB	DATA	Local Bus	2035	2036	Daylight	30	30
DATA L1 NDP: Carver to RDU NB	DATA	Local Bus	2025	2036	Daylight	60	60
DATA L1 NDP: Carver to RDU SB	DATA	Local Bus	2025	2036	Daylight	60	60
DATA L5 Mt Moraih-NC 54 EB	DATA	Local Bus	2020	2036	Daylight	60	60
DATA L5 Mt Moraih-NC 54 WB	DATA	Local Bus	2020	2036	Daylight	60	60
DATA L6 Morehead-Cornwallis NB	DATA	Local Bus	2015	2036	Daylight	30	30
DATA L6 Morehead-Cornwallis SB	DATA	Local Bus	2015	2036	Daylight	30	30
DATA L7 Avondale-Chpl Hill St EB	DATA	Local Bus	2035	2036	Daylight	30	30
DATA L7 Avondale-Chpl Hill St WB	DATA	Local Bus	2035	2036	Daylight	30	30
DATA L8 Hillsbor N-Hillsbor S NB	DATA	Local Bus	2035	2036	Daylight	30	30
DATA L8 Hillsbor N-Hillsbor S SB	DATA	Local Bus	2035	2036	Daylight	30	30
DATA L9 Rennaisance-Hopson EB	DATA	Local Bus	2035	2036	Daylight	30	30
DATA L9 Rennaisance-Hopson WB	DATA	Local Bus	2035	2036	Daylight	30	30
DATA Meridian Pkwy Feeder IB	DATA	Local Bus	2025	2036	Daylight	30	30
DATA Meridian Pkwy Feeder OB	DATA	Local Bus	2025	2036	Daylight	30	30
DATA NC98 - US70 - Miami IB	DATA	Local Bus	2013	2036	Daylight	30	30
DATA NC98 - US70 - Miami OB	DATA	Local Bus	2013	2036	Daylight	30	30
DATA Riddle Station Feeder IB	DATA	Local Bus	2023	2036	Daylight	30	30
DATA Riddle Station Feeder OB	DATA	Local Bus	2023	2036	Daylight	30	30
DATA S Square Feeder IB	DATA	Local Bus	2025	2036	Daylight	30	30
DATA S Square Feeder OB	DATA	Local Bus	2025	2036	Daylight	30	30
DATA S Square Shuttle IB	DATA	Local Bus	2012	2036	Daylight	60	60
DATA S Square Shuttle OB	DATA	Local Bus	2012	2036	Daylight	60	60
DATA Treyburn NB	DATA	Local Bus	2015	2036	Daylight	60	60
DATA Treyburn SB	DATA	Local Bus	2015	2036	Daylight	60	60
DATA Treyburn Station Feeder	DATA	Local Bus	2023	2036	Daylight	30	30
DATA Woodcroft Feeder IB	DATA	Local Bus	2025	2036	Daylight	30	30
DATA Woodcroft Feeder OB	DATA	Local Bus	2025	2036	Daylight	30	30
DCHC B15a Southpoint to RDU	DATA	Local Bus	2035	2036	Daylight	30	30
DCHC B15b RDU to Southpoint	DATA	Local Bus	2035	2036	Daylight	30	30
DCHC B1a Durham to Roxboro NB	DATA	Express Bus	2035	2036	Daylight	30	30
DCHC B1b Roxboro to Durham SB	DATA	Express Bus	2035	2036	Daylight	30	30
DCHC B9a CH to Old Farrington OB	DATA	Local Bus	2035	2036	Daylight	10	10
DCHC B9b Old Farrington to CH IB	DATA	Local Bus	2035	2036	Daylight	10	10
TT Butner-Durham OB	DATA	Express Bus	2035	2036	Commuter	30	30

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Route Name	Company	Service Type	Start Year	Stop Year	Service Pattern	Peak Headway (min)	Off-Peak Headway (min)
DCHC B10a Durham-Capital Blvd	dchc	Express Bus	2035	2036	Daylight	30	30
DCHC B11a Duke to N Raleigh EB	dchc	Local Bus	2035	2036	Daylight	30	30
DCHC B11b N Raleigh to Duke WB	dchc	Local Bus	2035	2036	Daylight	30	30
DCHC B12a Duke to W Wake fwy OB	dchc	Local Bus	2035	2036	Daylight	30	30
DCHC B12b W Wake fwy to Duke IB	dchc	Local Bus	2035	2036	Daylight	30	30
DCHC B13a Durham to Apex OB	dchc	Local Bus	2035	2036	Daylight	30	30
DCHC B13b Apex to Durham IB	dchc	Local Bus	2035	2036	Daylight	30	30
DCHC B14a W Wake pkwy to US70	dchc	Local Bus	2035	2036	Daylight	30	30
DCHC B14b US70 to W Wake pkwy	dchc	Local Bus	2035	2036	Daylight	30	30
DCHC B2a Durham-Butner OB	dchc	Express Bus	2025	2036	Daylight	30	30
DCHC B2b Butner-Durham IB	dchc	Express Bus	2025	2036	Daylight	30	30
DCHC B3a Duke-Mebane OB	dchc	Express Bus	2025	2036	Daylight	30	30
DCHC B3b Mebane-Duke IB	dchc	Express Bus	2025	2036	Daylight	30	30
DCHC B5a RDU to Hillsborough OB	dchc	Express Bus	2035	2036	Daylight	30	30
DCHC B5b Hillsborough to RDU IB	dchc	Express Bus	2035	2036	Daylight	30	30
DCHC B6a CH to Alamance OB	dchc	Express Bus	2010	2036	Commuter	30	30
DCHC B6b Alamance to CH IB	dchc	Express Bus	2010	2036	Commuter	30	30
DCHC B8a UNC to Pittsboro SB	dchc	Local Bus	2035	2036	Daylight	30	30
DCHC B8b Pittsboro to UNC NB	dchc	Local Bus	2035	2036	Daylight	30	30
DUKE C1 IB:WCampus-ECampus	Duke	Local Bus	2009	2036	18-Hour	10	10
DUKE C1 OB:ECampus-WCampus	Duke	Local Bus	2009	2036	18-Hour	10	10
DUKE C2 IB:ECampus-WCampus	Duke	Local Bus	2009	2036	Daylight	10	10
DUKE C2 OB:WCampus-ECampus	Duke	Local Bus	2009	2036	Daylight	10	10
DUKE C3 IB:EastCampus-SciDr	Duke	Local Bus	2009	2036	Daylight	10	10
DUKE C3 OB:SciDr-EastCampus	Duke	Local Bus	2009	2036	Daylight	10	10
DUKE C6 IB:Ecampus-Chapel	Duke	Local Bus	2009	2036	Daylight	30	30
DUKE C6 OB:Chapel-Ecampus	Duke	Local Bus	2009	2036	Daylight	30	30
Duke E/Cent./W EB	Duke	Local Bus	2035	2036	Commuter	10	10
Duke E/Cent./W WB	Duke	Local Bus	2035	2036	Commuter	10	10
Duke E/W EB	Duke	Local Bus	2009	2036	Evening	15	15
Duke E/W WB	Duke	Local Bus	2009	2036	Evening	15	15
DUKE H1 IB:Entry11-PG3	Duke	Local Bus	2009	2036	Daylight	10	10
DUKE H1 OB:PG3-Entry11	Duke	Local Bus	2009	2036	Daylight	10	10
DUKE H2 IB:HospNorth-PG3	Duke	Local Bus	2009	2036	Commuter	10	10
DUKE H2 OB:PG3-HospNorth	Duke	Local Bus	2009	2036	Commuter	10	10
DUKE H3 IB:HillsbghRd-HospN	Duke	Local Bus	2009	2036	Daylight	10	10
DUKE H3 OB:HospN-HillsbghRd	Duke	Local Bus	2009	2036	Daylight	10	10
DUKE H5 IB:HockPlaza-MillBldg	Duke	Local Bus	2009	2036	Daylight	10	10
DUKE H5 OB:MillBldg-HockPlaza	Duke	Local Bus	2009	2036	Daylight	10	10
DUKE H6 IB:Ent11-LaSalleLot	Duke	Local Bus	2009	2036	Daylight	10	10
DUKE H6 OB: LaSalleLot-Ent11	Duke	Local Bus	2009	2036	Daylight	10	10
Duke Med 1 EB	Duke	Local Bus	2035	2036	Daylight	60	60
Duke Med 1 WB	Duke	Local Bus	2035	2036	Daylight	60	60
Duke Med 3 NB	Duke	Local Bus	2035	2036	Commuter	10	10
Duke Med 3 SB	Duke	Local Bus	2035	2036	Commuter	10	10
Duke Med 4 EB	Duke	Local Bus	2035	2036	Daylight	30	30

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Route Name	Company	Service Type	Start Year	Stop Year	Service Pattern	Peak Headway (min)	Off-Peak Headway (min)
Duke Med 4 WB	Duke	Local Bus	2035	2036	Daylight	30	30
DUKE PR1 OB:BassettDr-Ent11	Duke	Local Bus	2009	2036	Daylight	10	10
Duke Science Loop CCW	Duke	Local Bus	2035	2036	Daylight	15	15
Duke Science Loop CW	Duke	Local Bus	2035	2036	Daylight	15	15
Duke Student Park EB	Duke	Local Bus	2009	2036	Midday	15	15
Duke Student Park WB	Duke	Local Bus	2009	2036	Midday	15	15
Duke Villa NB	Duke	Local Bus	2035	2036	Daylight	10	10
Duke Villa SB	Duke	Local Bus	2035	2036	Daylight	10	10
NCCU Circulator	NCCU	Local Bus	2035	2036	Daylight	15	15
NCCU Shuttle NB	NCCU	Local Bus	2035	2036	Daylight	15	15
NCCU Shuttle SB	NCCU	Local Bus	2035	2036	Daylight	15	15
NCSU 1 Avent Ferry	NCSU	Local Bus	2008	2036	Daylight	15	15
NCSU 11 Village Link	NCSU	Local Bus	2008	2036	Daylight	15	15
NCSU 2 Reverse Wolflink Shuttle	NCSU	Local Bus	2008	2036	Daylight	15	15
NCSU 3 Engineering Shuttle	NCSU	Local Bus	2008	2036	Daylight	15	15
NCSU 4 Westgrove	NCSU	Local Bus	2008	2025	Daylight	15	15
NCSU 4 Westgrove (Rail)	NCSU	Local Bus	2025	2036	Daylight	15	15
NCSU 5 Varsity	NCSU	Local Bus	2008	2036	Daylight	15	15
NCSU 6 Carter Finley	NCSU	Local Bus	2008	2025	Daylight	15	15
NCSU 6 Carter Finley (Rail)	NCSU	Local Bus	2025	2036	Daylight	15	15
NCSU 7 Wolflink Shuttle	NCSU	Local Bus	2008	2036	Daylight	15	15
NCSU 7A Mid-Day Shuttle	NCSU	Local Bus	2008	2036	Daylight	15	15
NCSU 8 Southeast Loop	NCSU	Local Bus	2008	2036	Daylight	15	15
NCSU 8A Mid-Day Textiles	NCSU	Local Bus	2008	2036	Daylight	15	15
NCSU 9 Greek Court	NCSU	Local Bus	2008	2036	Daylight	15	15
Cary Circulator NB	TBD	Local Bus	2011	2036	Daylight	30	30
Cary Circulator SB	TBD	Local Bus	2011	2036	Daylight	30	30
Raleigh Circulator CCW	TBD	Local Bus	2035	2036	Daylight	10	10
Raleigh Circulator CW	TBD	Local Bus	2035	2036	Daylight	10	10
TMC-RDU EB	TBD	Local Bus	2035	2036	18-Hour	10	10
TMC-RDU WB	TBD	Local Bus	2035	2036	18-Hour	10	10
Durham-NorthDurham NB	TBDe	Express Bus	2025	2036	Commuter	30	30
Durham-NorthDurham SB	TBDe	Express Bus	2025	2036	Commuter	30	30
I540 Northern Arc HOV EB	TBDe	Express Bus	2035	2036	Commuter	30	30
I540 Northern Arc HOV WB	TBDe	Express Bus	2035	2036	Commuter	30	30
I540 Southern Arc EB	TBDe	Express Bus	2035	2036	Commuter	30	30
I540 Southern Arc WB	TBDe	Express Bus	2035	2036	Commuter	30	30
JohnstonCnty-TMC EB	TBDe	Express Bus	2012	2036	Daylight	30	30
JohnstonCnty-TMC WB	TBDe	Express Bus	2012	2036	Daylight	30	30
Raleigh-Zebulon EB	TBDe	Express Bus	2035	2036	Daylight	10	10
Raleigh-Zebulon WB	TBDe	Express Bus	2035	2036	Daylight	10	10
TriangleExpTurnpike NB	TBDe	Express Bus	2035	2036	Daylight	15	15
TriangleExpTurnpike SB	TBDe	Express Bus	2035	2036	Daylight	15	15
Raleigh-FuquayVarina NB	TBDr	Regional Bus	2035	2036	Daylight	10	10
Raleigh-FuquayVarina SB	TBDr	Regional Bus	2035	2036	Daylight	10	10
WakeForest-Franklinton NB	TBDr	Regional Bus	2035	2036	Daylight	10	10

2035 Long Range Transportation Plan
Bus Route List

Route Name	Company	Service Type	Start Year	Stop Year	Service Pattern	Peak Headway (min)	Off-Peak Headway (min)
TT 311 IB:ApexTownHall-RTP	TTe	Express Bus	2008	2036	Daylight	30	30
TT 311 OB:RTP-ApexTownHall	TTe	Express Bus	2008	2036	Daylight	30	30
TT 500 EB:Chap Hill-Raleigh	TTe	Express Bus	2009	2040	Daylight	15	15
TT 550 WB:Raleigh-Chap Hill	TTe	Express Bus	2009	2040	Daylight	15	15
TT 600 EB:Durham-Raleigh	TTe	Express Bus	2009	2018	Daylight	15	15
TT 650 WB:Raleigh-Durham	TTe	Express Bus	2009	2018	Daylight	15	15
TT Burlington-Duke IB	TTe	Express Bus	2012	2036	Commuter	30	30
TT Burlington-Duke OB	TTe	Express Bus	2012	2036	Commuter	30	30
TT Butner-Durham IB	TTe	Express Bus	2025	2036	Commuter	30	30
TT Clayton-Raleigh IB	TTe	Express Bus	2011	2036	Commuter	15	15
TT Clayton-Raleigh OB	TTe	Express Bus	2011	2036	Commuter	15	15
TT CM Wake Forest EXP IB	TTe	Express Bus	2008	2018	Daylight	30	30
TT CM Wake Forest EXP OB	TTe	Express Bus	2008	2018	Daylight	30	30
TT EasternWake IB	TTe	Express Bus	2010	2036	Daylight	30	30
TT EasternWake OB	TTe	Express Bus	2010	2036	Daylight	30	30
TT FuquayVarina-Raleigh IB	TTe	Express Bus	2013	2036	Daylight	60	60
TT FuquayVarina-Raleigh OB	TTe	Express Bus	2013	2036	Daylight	60	60
TT HollySprings-Raleigh IB	TTe	Express Bus	2013	2036	Commuter	10	10
TT HollySprings-Raleigh OB	TTe	Express Bus	2013	2036	Commuter	10	10
TT HollySprings-RTP IB	TTe	Express Bus	2035	2036	Commuter	10	10
TT HollySprings-RTP OB	TTe	Express Bus	2035	2036	Commuter	10	10
TT PersonCo-Durham IB	TTe	Express Bus	2012	2036	Commuter	30	30
TT PersonCo-Durham OB	TTe	Express Bus	2012	2036	Commuter	30	30
TT Raleigh-RDU IB	TTe	Express Bus	2013	2036	18-Hour	15	15
TT Raleigh-RDU OB	TTe	Express Bus	2013	2036	18-Hour	15	15
TT Rolesville-Raleigh IB	TTe	Express Bus	2035	2036	Commuter	30	30
TT Rolesville-Raleigh OB	TTe	Express Bus	2035	2036	Commuter	30	30
TT TriangleTownCtr-RTP IB	TTe	Express Bus	2011	2036	Daylight	30	30
TT TriangleTownCtr-RTP OB	TTe	Express Bus	2011	2036	Daylight	30	30
TT 102 IB:Garner-Moore Sq	TTl	Local Bus	2008	2036	Commuter	30	30
TT 102 OB:Moore Sq-Garner	TTl	Local Bus	2008	2036	Commuter	30	30
TT 42 SH:Trans Ctr-IBM	TTl	Local Bus	2009	2036	Commuter	10	10
TT 45 SH:Trans Ctr-S RTP	TTl	Local Bus	2009	2036	Commuter	15	15
TT 46 SH:Trans Ctr-E RTP	TTl	Local Bus	2009	2036	Commuter	15	15
TT 48 SH:Trans Ctr-NE RTP	TTl	Local Bus	2009	2036	Commuter	15	15
TT 49 SH:Trans Ctr-S RTP	TTl	Local Bus	2009	2036	Commuter	15	15
TT CM Wake Forest Loop	TTl	Local Bus	2008	2036	Daylight	30	30
TT 105 IB:Moore Sq-RTP	TTr	Regional Bus	2013	2018	18-Hour	10	10
TT 105 OB:RTP-Moore Sq	TTr	Regional Bus	2013	2018	18-Hour	10	10
TT 201 IB:Millbrook-RTP	TTr	Regional Bus	2008	2036	Commuter	30	30
TT 201 OB:RTP-Millbrook	TTr	Regional Bus	2008	2036	Commuter	30	30
TT 301 IB:Moore Sq-RTP	TTr	Regional Bus	2012	2018	18-Hour	15	15
TT 301 OB:RTP-Moore Sq	TTr	Regional Bus	2012	2018	18-Hour	15	15
TT 303 IB:Cary-Raleigh	TTr	Regional Bus	2008	2018	Midday	15	15
TT 303 OB:Raleigh-Cary	TTr	Regional Bus	2008	2018	Midday	15	15

2035 Long Range Transportation Plan
Bus Route List

Route Name	Company	Service Type	Start Year	Stop Year	Service Pattern	Peak Headway (min)	Off-Peak Headway (min)
TT 305 OB:Apex-Moore Sq	TTr	Regional Bus	2008	2036	Commuter	30	30
TT 420 IB:Hillsb-Chap Hill	TTr	Regional Bus	2009	2036	Daylight	15	15
TT 420 OB:Hillsb-Chap Hill	TTr	Regional Bus	2009	2036	Daylight	15	15
TT 747 SH :Trans Ctr-RDU OP	TTr	Regional Bus	2008	2036	Daylight	30	30
TT 747 SH:Trans Ctr-RDU	TTr	Regional Bus	2008	2036	Daylight	30	30
TT ChapelHill-Durham-402/403 IB	TTr	Regional Bus	2009	2018	18-Hour	10	10
TT ChapelHill-Durham-402-403 OB	TTr	Regional Bus	2009	2018	18-Hour	10	10
TT ChapelHill-RTP-402-403 IB	TTr	Regional Bus	2009	2036	18-Hour	30	30
TT ChapelHill-RTP-402-403 OB	TTr	Regional Bus	2009	2036	18-Hour	30	30
TT ChapelHill-RTP-412/413 IB	TTr	Regional Bus	2009	2036	18-Hour	30	30
TT ChapelHill-RTP-412/413 OB	TTr	Regional Bus	2009	2036	18-Hour	30	30
TT Crossroads-Faigrounds IB	TTr	Regional Bus	2019	2036	Commuter	30	30
TT Crossroads-Faigrounds OB	TTr	Regional Bus	2019	2036	Commuter	30	30
TT Durham-RTP-412-413 IB	TTr	Regional Bus	2009	2018	18-Hour	15	15
TT Durham-RTP-412-413 OB	TTr	Regional Bus	2009	2018	18-Hour	15	15
TT WakeForest-Durant IB	TTr	Regional Bus	2019	2036	Daylight	15	15
TT WakeForest-Durant OB	TTr	Regional Bus	2019	2036	Daylight	15	15

Appendix 4 – Bicycle and Pedestrian Projects

Background and Total Costs

This appendix presents the bicycle and pedestrian projects for the 2035 LRTP. The table presents projects from the Durham-Chapel Hill-Carrboro MPO in order by municipality and county, followed by projects from the Capital Area MPO.

Key Information

The table provides information about each bicycle and pedestrian project. The project number is for reference purposes and does not indicate priority.

How Costs Are Computed

Staff from the local governments provided the estimated project costs. These estimates are commonly based on standard unit costs for the proposed design, e.g., addition of a four-foot shoulder or separate bicycle lane to the roadway, and the length of the project.

Exempt Projects

All the bicycle and pedestrian projects are deemed exempt from the air quality conformity determination according to Title 40, Code of Federal Regulations (CFR), PART 93.126. The most important implication of this exemption is that the projects may proceed toward implementation in the absence of a conforming transportation plan or Transportation Improvement Program (TIP).

Durham-Chapel Hill-Carrboro MPO Regional Bicycle Routes

A major objective of the 2035 Long-Range Transportation Plan is to identify regional bicycle routes in the Durham-Chapel Hill-Carrboro MPO region. Regional bicycle routes have several characteristics, as follows:

- Provide links between major destinations and between urban centers.
- Facilitate primarily utilitarian bicycle trips, though the routes can also serve recreational cycling.
- Serve as a backbone to a finer grained system of local bicycle routes in each jurisdiction.

The regional bicycle route map identifies a variety of corridors in need of improved bicycle facilities. The map primarily identifies on-road routes, but off-road routes are also identified. The regional routes will be evaluated from time-to-time, including future updates of the long-range transportation plan.
In planning the regional bicycle routes, eleven specific zones of connections were targeted. The following listing shows the identified regional routes within each zone of connection:

<u>Connections between Carrboro and Chapel Hill</u>

- Homestead Road
- Homestead Road / Weaver Dairy Road
- Morgan Creek Trail (off-road) / Columbia Street
- Bolin Creek Trail (off-road)

<u>Connections between Carrboro-Chapel Hill and Hillsborough</u>

- Greensboro Street / Hillsborough Road / Old NC 86
- Columbia Street / NC 86
- Bolin Creek Trail (off-road) / Old NC 86

<u>Connections between Carrboro-Chapel Hill and Chatham County</u>

- Smith Level Road / US 15-501
- US 15-501
- NCDOT Mountains-to-Sea Bicycle Route (see description below)

<u>Connections between Durham and Chatham County</u>

- Roxboro Road / Hope Valley Road / NC 751
- American Tobacco Trail (off-road)

<u>Connections between Durham and Hillsborough</u>

- Morreene Road / Neal Road / Bennett Memorial Road / Old NC 10 / NC 86
- Cornwallis Road / Erwin Road / NC 751 / Old NC 10 / NC 86

<u>Connections between Durham and Carrboro-Chapel Hill</u>

- Cornwallis Road / Erwin Road
- Pickett Road / Erwin Road
- University Drive / Old Durham-Chapel Hill Road
- Old Durham-Chapel Hill Road / Farrington Road / Ephesus Church Road

Connections between Carrboro-Chapel Hill and Research Triangle Park

- NC 54
- NC 54 / Barbee Chapel Road / Farrington Road / Stage Coach Road / NC 751 / Massey Chapel Road / Barbee Road / NC 54
- NC 54 / Barbee Chapel Road / Farrington Road / Stage Coach Road / NC 751 / Fayetteville Road / Scott King Road / Grandale Road / Sedwick Road
- NC 54 / Barbee Chapel Road / Farrington Road / Stage Coach Road / NC 751 /O'Kelly Chapel Road
- NC 54 / Hope Valley Road / Woodcroft Parkway / Carpenter Fletcher Road

Connections between Durham and Research Triangle Park

- Martin Luther King Jr. Parkway / Cornwallis Road
- American Tobacco Trail / Cornwallis Road / Miami Boulevard / Davis Drive
- Cornwallis Road / Alston Avenue
- Northeast Creek Parkway / Briggs Avenue

Connections between Treyburn-North Durham and Durham

- Northern Durham Parkway / Miami Boulevard
- North-South Greenway (off-road) / Milton Road / Tom Wilkinson Road / US 501
- Midland Terrace / Lynn Road / Miami Boulevard

Connections between Treyburn-North Durham and Hillsborough

- Northern Durham Parkway / St. Mary's Road

Connections between Research Triangle Park and Briar Creek area (Wake County)

- Chin Page Road
- T.W. Alexander Drive

Other Regional Connections

- NCDOT Mountains-to-Sea Bicycle Route in Orange and Chatham counties (uses Old Greensboro Highway, Jones Ferry Road, Greensboro Street, Smith Level Road, Culbreth Road, Mount Carmel Church Road, and Farrington Road)

2035 Long Range Transportation Plan
Durham-Chapel Hill-Carrboro MPO Pedestrian Projects

No.	Project Name	From	To	Rank	Length (Miles)	Municipality	Cost
Durham Sidewalk Projects							
D-1	Academy1	Duke University	Cornwallis	B	1.00	Durham City	$223,946
D-2	Academy2	Cornwallis	University	B	0.71	Durham City	$158,341
D-3	Acadia	Knox	Markham	C	0.19	Durham City	$43,392
D-4	Albany	Sprunt	Indian	C	0.21	Durham City	$47,797
D-5	AlstonA1	Trinity	Holloway	B	0.96	Durham City	$214,906
D-6	AlstonA2	Holloway	NC 147	B	0.94	Durham City	$209,999
D-7	AlstonA3	Cecil	Riddle	B	1.23	Durham City	$275,507
D-8	AlstonA4	Riddle	Cornwallis	C	1.82	Durham City	$408,924
D-9	AlstonA5	Cornwallis	Carpenter Fletcher	B	1.09	Durham City	$244,111
D-10	AlstonA6	Carpenter Fletcher	Sedwick	A	1.45	Durham City	$325,098
D-11	AlstonA7	Sedwick	TW Alexander	C	0.96	Durham City	$215,197
D-12	Ancroft	Delray	Riddle	C	0.16	Durham City	$35,855
D-13	Ancroft2	Ancroft	ATT	C	0.20	Durham City	$44,546
D-14	Anderson2	Lewis	Campus	B	0.25	Durham City	$56,860
D-15	AndersonA1	Lewis	Yearby	B	0.10	Durham City	$23,202
D-16	AngierPW	Hoover	Midway	B	1.04	Durham City	$232,343
D-17	Archdale1 (now MLK Jr Pkwy)	Old Chapel Hill	Hope Valley	C	0.77	Durham City	*
D-18	Archdale2	Alpine	Oak Ridge	C	0.32	Durham City	$71,891
D-19	Avondale	Roxboro	Geer	A	1.06	Durham City	$238,589
D-20	Barbee	Fayetteville	Herndon	B	2.84	Durham City	$637,912
D-21	Briggs	Holloway	Main	C	0.54	Durham City	$120,783
D-22	Broad1	Durham Freeway	F Street	B	0.17	Durham City	$38,264
D-23	Broad2	F Street	North Pointe	B	0.69	Durham City	$153,927
D-24	Broad3	Eatondale	Carver	C	0.51	Durham City	$113,853
D-25	Buchanan1	Old Chapel Hill	Butler	C	0.21	Durham City	$47,168
D-26	Buchanan2	Yancey	Main	C	0.59	Durham City	$132,824
D-27	Buchanan3	Trinity	Club	B	0.29	Durham City	$64,234
D-28	Cameron	Erwin	Duke University	A	0.84	Durham City	$188,073
D-29	Campus Walk	Morrene	LaSalle	A	0.34	Durham City	$76,989
D-30	Canal	Roxboro	Gearwood	C	0.37	Durham City	$83,620
D-31	Carpenter Fletcher	E Woodcroft Pkwy	Alston	B	0.78	Durham City	$174,177
D-32	Casa	Valley	Horton	C	0.27	Durham City	$59,843
D-33	Chapel Hill1	Kent	Carroll	C	0.10	Durham City	$21,735
D-34	Chapel Hill2	Maplewood	Lakewood	C	0.74	Durham City	$167,054
D-35	Chapel Hill3	Prince	Huron	C	0.19	Durham City	$43,138

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Durham-Chapel Hill-Carrboro MPO Pedestrian Projects

No.	Project Name	From	To	Rank	Length (Miles)	Municipality	Cost
D-36	Chapel Hill4	Huron	Anderson	C	0.07	Durham City	$16,113
D-37	Chapel Hill5	Vesson	University	B	1.06	Durham City	$237,388
D-38	Cheek	Hoover	Junction	B	1.03	Durham City	$232,061
D-39	CheekPW2	Geer	Hardee	A	0.48	Durham City	$108,636
D-40	Club1	Ruffin	Ambridge	A	1.19	Durham City	$267,582
D-41	Club2	Ambridge	Dearborn	B	0.84	Durham City	$188,958
D-42	Cobb	Carroll	Duke	B	0.38	Durham City	$84,349
D-43	Cole Mill	Sparger	Hillsborough	C	2.65	Durham City	$595,468
D-44	Cook - Juliette	Fayetteville	Fayetteville	B	2.51	Durham City	$563,737
D-45	Cornwallis1	Erwin	Chapel Hill	B	2.52	Durham City	$566,138
D-46	Cornwallis3	Fayetteville	TW Alexander	B	2.58	Durham City	$577,830
D-47	CornwallisA1	15-501	Roxboro	A	1.17	Durham City	$262,852
D-48	CornwallisA2	Roxboro	Fayetteville	C	0.66	Durham City	$147,067
D-49	Corporation1	Duke	Rigsbee	C	0.36	Durham City	$80,894
D-50	Corporation2	Rigsbee	Mangum	C	0.27	Durham City	$61,030
D-51	Dacian	Buchanan	Watts	C	0.06	Durham City	$13,181
D-52	DearbornA1	Old Oxford	Ruth	A	0.75	Durham City	$168,187
D-53	DearbornA2	Ruth	Club	B	0.85	Durham City	$189,990
D-54	Dixon	University	Archdale	C	0.67	Durham City	$151,155
D-55	Duke Homestead	Carver	Guess	C	0.86	Durham City	$192,920
D-56	Duke2	Leon	Club	B	0.60	Durham City	$134,178
D-57	Duke3	Club	Minerva	C	0.86	Durham City	$192,698
D-58	Duke4	Peabody	Memorial	B	0.05	Durham City	$10,782
D-59	Duke6	Cobb	Lakewood	B	0.16	Durham City	$36,359
D-60	DukeA1	Roxboro	Carver	B	1.09	Durham City	$244,724
D-61	DukeA2	Carver	Murray	B	0.79	Durham City	$176,305
D-62	Durham - Chapel HillA1	I-40	15-501	B	2.62	Durham City	$588,455
D-63	Durham - Chapel HillA2	15-501	Cornwallis	B	1.51	Durham City	$338,069
D-64	Durham - Chapel HillA3	Cornwallis	University	B	0.78	Durham City	$175,815
D-65	Englewood	Watts	Ruffin	C	0.44	Durham City	$98,555
D-66	Erwin1B	Kerley	Mt. Sinai	B	0.40	Durham City	$89,069
D-67	Erwin2	Cameron	LaSalle	B	0.81	Durham City	$182,210
D-68	Erwin3	Flowers	Pettigrew	B	0.63	Durham City	$142,100
D-69	Everett	Arbor	Edgevale	C	0.17	Durham City	$38,010
D-70	FayettevilleA1	Massey Chapel	Crooked Creek	B	1.13	Durham City	$254,262
D-71	FayettevilleA2	Woodcroft	MLK	A	1.64	Durham City	$368,239

2035 Long Range Transportation Plan
Durham-Chapel Hill-Carrboro MPO Pedestrian Projects

No.	Project Name	From	To	Rank	Length (Miles)	Municipality	Cost
D-72	FayettevilleA3	MLK	Buxton	B	0.73	Durham City	$163,473
D-73	FayettevilleA4	Buxton	Pilot	B	1.13	Durham City	$253,258
D-74	FayettevilleA5	Nelson	Pekoe	B	0.15	Durham City	$33,835
D-75	Fern	Calvin	Driver	C	0.33	Durham City	$73,219
D-76	Forestview	Forest Hills	Lakewood	C	0.25	Durham City	$56,785
D-77	Formosa	Pekoe	Concord	C	0.16	Durham City	$36,373
D-78	Foster	Hunt	Monmouth	C	0.08	Durham City	$17,599
D-79	Freeman	Clayton	Valmet	B	1.18	Durham City	$265,364
D-80	GarrettA1	Hope Valley	Swarthmore	A	1.02	Durham City	$229,071
D-81	GarrettA2	Swarthmore	Old Chapel Hill	B	1.05	Durham City	$235,263
D-82	GarrettA3	Old Chapel Hill	15-501	B	1.02	Durham City	$228,437
D-83	GarrettA4	15-501	Pickett	B	1.00	Durham City	$223,986
D-84	Geer1	Washington	Foster	C	0.09	Durham City	$21,199
D-85	Geer3	Elizabeth	Miami	B	0.70	Durham City	$157,969
D-86	Geer4	Miami	Club	B	2.42	Durham City	$543,367
D-87	Georgia	Hillsborough	Club	C	0.18	Durham City	$39,791
D-88	Gibson	Lynn	Mineral Springs	C	0.84	Durham City	$187,697
D-89	Glendale1	Leon	Lavender	C	0.45	Durham City	$100,952
D-90	Glendale2	I-85	Corporation	C	1.04	Durham City	$232,944
D-91	Grandale	Barbee	Scott King	C	2.06	Durham City	$461,529
D-92	Green1	Oakland	Carolina	C	0.20	Durham City	$44,559
D-93	Green2	Carolina	Ninth	C	0.21	Durham City	$47,491
D-94	Green3	Ninth	Broad	C	0.14	Durham City	$30,477
D-95	Green4	Watts	Glendale	C	0.84	Durham City	$189,273
D-96	Gregson1	Duke	Club	C	0.27	Durham City	$60,256
D-97	Gregson2	Club	Markham	B	0.48	Durham City	$107,972
D-98	Guess1	Bramble	Redmond	C	0.78	Durham City	$175,109
D-99	GuessA1	Hillcrest	Carver	B	1.14	Durham City	$255,445
D-100	GuessA2	Carver	Horton	B	1.36	Durham City	$304,481
D-101	Hammond	Farthing	Roxboro	C	0.16	Durham City	$36,609
D-102	HardeePW	Holloway	Cheek	B	0.96	Durham City	$215,460
D-103	Hart	Maple	Harvard	C	0.52	Durham City	$117,000
D-104	Herndon	Barbee	Ainsley	C	0.46	Durham City	$104,081
D-105	Hillandale1	Rose of Sharon	Peppertree	B	0.83	Durham City	$187,118
D-106	HillandaleA1	Peppertree	Carver	A	1.21	Durham City	$271,278
D-107	HillandaleA2	Carver	I-85	A	0.65	Durham City	$145,362

2035 Long Range Transportation Plan
Durham-Chapel Hill-Carrboro MPO Pedestrian Projects

No.	Project Name	From	To	Rank	Length (Miles)	Municipality	Cost
D-108	Hillsborough1	Sparger	LaSalle	B	2.43	Durham City	$546,325
D-109	Hillsborough2	LaSalle	Ninth	C	1.50	Durham City	$337,158
D-110	HollowayA1	Guthrie	Miami	B	0.36	Durham City	$81,042
D-111	HollowayA2	Miami	Junction	B	0.65	Durham City	$145,253
D-112	HollowayA3	Junction	Chandler	B	1.05	Durham City	$236,541
D-113	Holt School	Valley	Duke	C	0.35	Durham City	$79,216
D-114	Hope ValleyA1	HWY 54	Swarthmore	A	1.16	Durham City	$260,595
D-115	Hope ValleyA2	Swarthmore	Surrey	C	1.09	Durham City	$245,162
D-116	Hope ValleyA3	Surrey	Archdale	B	0.90	Durham City	$202,007
D-117	Hope ValleyA4	Archdale	15-501	A	1.13	Durham City	$254,662
D-118	HortonA1	Hillandale	Stadium	B	1.06	Durham City	$237,297
D-119	HortonA2	Stadium	Roxboro	B	0.88	Durham City	$197,729
D-120	HWY 54 PW2	Alston	Miami	B	2.57	Durham City	$577,269
D-121	HWY 54 PW3	Highgate	Fayetteville	B	0.63	Durham City	$142,024
D-122	HWY54A1	Fayetteville	Barbee	B	1.04	Durham City	$233,422
D-123	HWY54A2	Barbee	NC55	B	1.25	Durham City	$280,713
D-124	HWY54A3	NC 55	Alston	B	0.40	Durham City	$88,737
D-125	Hyde Park	Fern	Drew	C	0.38	Durham City	$85,522
D-126	Indian	Hillandale	Albany	C	0.44	Durham City	$97,781
D-127	James	Lakewood	University	C	0.90	Durham City	$201,108
D-128	Jester	Alston	end	C	0.23	Durham City	$51,084
D-129	Juniper	Hanover	Miami	B	0.77	Durham City	$173,276
D-130	Kenan	Duke Homestead	Carver	C	0.38	Durham City	$85,406
D-131	Kent1	Morehead	Lakewood	C	0.38	Durham City	$85,697
D-132	Kent2	Lakewood	University	B	0.68	Durham City	$153,548
D-133	Knox1	Watts	Vista	C	1.29	Durham City	$289,276
D-134	Lakewood1	Chapel Hill	University	B	1.03	Durham City	$231,479
D-135	Lakewood2	University	Blackwell	B	0.14	Durham City	$31,111
D-136	LasalleA1	Kangaroo	Erwin	A	0.44	Durham City	$99,242
D-137	LasalleA2	Sprunt	Kangaroo	B	0.69	Durham City	$154,324
D-138	Latta	Guess	Roxboro	B	1.20	Durham City	$269,762
D-139	Lebanon	Guess	Guess	B	0.57	Durham City	$128,123
D-140	Leon	Duke	Glendale	B	0.43	Durham City	$96,508
D-141	Liberty1	Dillard	Alston	B	0.50	Durham City	$112,279
D-142	Liberty2	Park	Miami	B	0.59	Durham City	$133,422
D-143	Luther	Rose of Sharon	Rose of Sharon	C	0.93	Durham City	$209,692

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Durham-Chapel Hill-Carrboro MPO Pedestrian Projects

No.	Project Name	From	To	Rank	Length (Miles)	Municipality	Cost
D-144	Lynn	Gibson	Miami	C	0.50	Durham City	$112,359
D-145	Main	Briggs	Gary	B	0.22	Durham City	$49,073
D-146	Maple1	Liberty	Taylor	C	0.25	Durham City	$56,942
D-147	Maple2	Taylor	Angier	C	0.40	Durham City	$89,126
D-148	Markham1	Ninth	Washington	B	1.25	Durham City	$281,535
D-149	Markham2	Washington	Avondale	A	1.11	Durham City	$249,794
D-150	Martin Luther King	Yorktown	HWY 55	C	0.23	Durham City	$52,673
D-151	Maryland	Guess	Club	C	0.60	Durham City	$135,122
D-152	Masondale	Roxboro	Formosa	C	0.20	Durham City	$44,219
D-153	Mathison	Ridgeway	End	C	0.23	Durham City	$51,647
D-154	Merrimac	Morehead	House	C	0.06	Durham City	$12,568
D-155	Miami	Angier	Stirrup Creek	B	1.99	Durham City	$446,662
D-156	MidlandPW	Cheek	Geer	B	0.69	Durham City	$155,000
D-157	Milton	Tom Wilkinson	Roxboro	B	0.68	Durham City	$153,161
D-158	Morehead1	Anderson	Shepherd	C	1.11	Durham City	$249,463
D-159	Morehead3	Duke	Roxboro	B	0.70	Durham City	$156,817
D-160	Morreene1	Neal	Campus Walk	B	0.97	Durham City	$218,743
D-161	Morreene2	Campus Walk	Erwin	B	0.55	Durham City	$122,743
D-162	Murray	Broad	Roxboro	B	1.32	Durham City	$297,120
D-163	Newby	Horton	Holt School	C	0.31	Durham City	$70,111
D-164	Ninth	Club	Pettigrew	C	0.03	Durham City	$5,674
D-165	North Bend	Carpenter Fletcher	Meridian	C	0.10	Durham City	$22,671
D-166	North Pointe	Woodmont	Broad	B	0.85	Durham City	$191,064
D-167	Oakland	Sprunt	Green	C	0.65	Durham City	$146,955
D-168	Old Chapel Hill A1	Pope	Garrett	B	1.66	Durham City	$372,817
D-169	Old Chapel Hill A2	University	Archdale	C	1.28	Durham City	$288,218
D-170	Old Chapel Hill A3	Archdale	University	C	0.63	Durham City	$140,910
D-171	Old Oxford	Roxboro	Dearborn	B	0.52	Durham City	$117,388
D-172	Pettigrew	Fayetteville	Briggs	B	1.39	Durham City	$310,902
D-173	Pinecrest	Academy	Marion	C	0.44	Durham City	$99,594
D-174	Randolph	Solterra Way	Pickett	B	0.58	Durham City	$130,225
D-175	RaynorPW	Miami	Hardee	B	0.34	Durham City	$77,344
D-176	RiddleA1	Fayetteville	HWY 55	B	0.84	Durham City	$187,869
D-177	RiddleA2	HWY 55	Ellis	B	1.08	Durham City	$242,047
D-178	Ridgeway	Mathison	Lakeland	C	0.26	Durham City	$57,702
D-179	Rose of Sharon	Cole Mill	Guess	C	2.53	Durham City	$567,872

2035 Long Range Transportation Plan
Durham-Chapel Hill-Carrboro MPO Pedestrian Projects

No.	Project Name	From	To	Rank	Length (Miles)	Municipality	Cost
D-180	Roxboro2	Pacific	Murray	A	1.40	Durham City	$315,281
D-181	Roxboro3	Davidson	Knox	B	0.39	Durham City	$88,132
D-182	Roxboro5	Holloway	Liberty	B	0.05	Durham City	$11,157
D-183	Roxboro6	Enterprise	Cornwallis	A	1.66	Durham City	$371,781
D-184	Roxboro7	Cornwallis	Oak Ridge	C	0.52	Durham City	$116,455
D-185	Roxboro8	Juliette	Hope Valley	C	1.64	Durham City	$368,553
D-186	RoxboroA1	Pacific	Monk	B	0.91	Durham City	$204,989
D-187	RoxboroA2	Monk	Infinity	B	1.33	Durham City	$297,342
D-188	RoxboroA3	Infinity	Tom Wilkinson	B	1.23	Durham City	$274,977
D-189	Seaton	Revere	Wenonah	C	0.41	Durham City	$92,964
D-190	Sedwick	Grandale	Alston	B	1.76	Durham City	$394,742
D-191	Shannon	Durham-Chapel Hill	Old Chapel Hill	B	1.04	Durham City	$232,581
D-192	Shoreham	University	Stuart	C	0.13	Durham City	$28,242
D-193	Solitude	Whisperwood	Sedwick	C	0.25	Durham City	$56,581
D-194	Sparger	Cole Mill	Stafford	C	1.96	Durham City	$439,969
D-195	Swarthmore	end	Hope Valley	C	1.18	Durham City	$264,026
D-196	Swift	Duke University	Durham Freeway	B	0.51	Durham City	$113,756
D-197	Taylor1	Elizabeth	Alston	B	0.39	Durham City	$86,646
D-198	Taylor3	Guthrie	Gary	B	0.31	Durham City	$69,368
D-199	Tom Wilkinson	Milton	Roxboro	C	0.23	Durham City	$51,821
D-200	Trinity2	Rosetta	Edgar	B	0.50	Durham City	$111,881
D-201	Umstead1	Scout	Merrick	B	0.40	Durham City	$88,687
D-202	Umstead2	Riverdale	Guess	C	1.31	Durham City	$294,160
D-203	University1	Old Chapel Hill	Ivy Creek	B	0.68	Durham City	$152,521
D-204	University2	Martin Luther King	Old Chapel Hill	B	1.01	Durham City	$226,761
D-205	University3	Old Chapel Hill	Hope Valley	A	0.77	Durham City	$173,870
D-206	University4	Hope Valley	Forest Hills	B	1.23	Durham City	$274,998
D-207	University5	Forest Hills	Lakewood	B	0.64	Durham City	$143,420
D-208	Urban	Buchanan	Washington	C	0.58	Durham City	$130,908
D-209	Valley	Casa	Holt School	C	0.36	Durham City	$80,115
D-210	Vickers	Proctor	University	C	0.45	Durham City	$100,198
D-211	Wabash	end	Plum	C	0.47	Durham City	$105,760
D-212	Ward	Chapel Hill	Forest Hills	C	0.86	Durham City	$191,883
D-213	Washington	Glendale	Urban	B	1.01	Durham City	$226,317
D-214	Watts	Green	Englewood	C	0.38	Durham City	$84,998
Durham Totals					**170**		**$37,887,301**

2035 Long Range Transportation Plan
Durham-Chapel Hill-Carrboro MPO Pedestrian Projects

No.	Project Name	From	To	Rank	Length (Miles)	Municipality	Cost
Chapel Hill Sidewalk Projects							
CH-1	Barbee Chapel Rd (west)	NC 54	Downing Creek Pkwy.		0.72	Chapel Hill	$161,500
CH-2	Barbee Chapel Rd (west) # 2	Finley Forest Dr.	Downing Creek Pkwy		0.53	Chapel Hill	$119,000
CH-3	Barbee Chapel Rd (west) #1	Finley forest	NC 54		0.34	Chapel Hill	$42,500
CH-4	Bennett Road (south)	15-501 S	fire Station #5 entrance		0.04	Chapel Hill	$8,500
CH-5	Booker Creek Rd	Entire length	Entire length		0.34	Chapel Hill	$76,500
CH-6	Brookview Dr.	Entire length	Entire length		0.47	Chapel Hill	$106,250
CH-7	Burning Tree Drive (west)	NC 54	Pinehurst Dr		0.86	Chapel Hill	$192,313
CH-8	Cameron Ave (south)	SE corner at Merritt Mill Rd	SE corner at Merritt Mill Rd		0.05	Chapel Hill	$10,625
CH-9	Cameron Ave(north)	NE corner at Merritt Mill Rd	NE corner at Merritt Mill Rd		0.05	Chapel Hill	$10,625
CH-10	Caswell Road (north)	Entire length	Entire length		0.62	Chapel Hill	$138,975
CH-11	Cedar Hills Dr.	Weaver Dairy Rd.	Partin St.		0.57	Chapel Hill	$127,500
CH-12	Church St (east)	W.Rosemary St	Caldwell St		0.32	Chapel Hill	$72,250
CH-13	Churchill Dr.	Longleaf Dr.	LeClair St.		0.19	Chapel Hill	$42,500
CH-14	Churchill Dr.	Entire length	Entire length		0.95	Chapel Hill	$212,500
CH-15	Cleland Drive (south)	Entire length	Entire length		0.76	Chapel Hill	$170,000
CH-16	Craig St (south)	Gomains Ave	Bynum St		0.13	Chapel Hill	$28,475
CH-17	Culbreth Rd (north)	Adam Way	Smith Level Rd.		0.38	Chapel Hill	$85,000
CH-18	Culbreth Rd (south)	Btw Cobble Ridge and Rossbum	Btw Cobble Ridge and Rossbum		0.09	Chapel Hill	$21,250
CH-19	Cynthia Dr	Dixie Dr	Seminole Dr		0.42	Chapel Hill	$93,500
CH-20	Cypress Rd/Spruce St/Eden La	Entire length	Entire length		0.63	Chapel Hill	$140,250
CH-21	Dixie Dr	Stateside Dr	Cynthia Dr		0.38	Chapel Hill	$85,000
CH-22	Dixie La	Entire length	Entire length		0.11	Chapel Hill	$25,500
CH-23	Dobbins Dr. (north)	Dobbins Dr.	Dobbins Dr.		0.23	Chapel Hill	$51,000
CH-24	Eastwood Rd	north side at Shady Lawn Dr.	north side at Shady Lawn Dr.		0.02	Chapel Hill	$4,250
CH-25	Elizabeth Street (north)	Penny Ln	East Franklin St		0.08	Chapel Hill	$17,255
CH-26	Emory Dr	Entire length	Entire length		1.33	Chapel Hill	$297,500
CH-27	Ephesus Ch Rd #1 (south)	Eden Dr	15-501 Bypass		0.57	Chapel Hill	$127,500
CH-28	Ephesus Ch Rd #2 (north)	Colony Woods Dr	Pope Rd		0.30	Chapel Hill	$66,938
CH-29	Ephesus Ch Rd #2 (north)	Colony Woods Dr	Pope Rd		0.30	Chapel Hill	$66,938
CH-30	Estes Dr. Ext.	Seawell School Rd	west town limits		0.51	Chapel Hill	$114,750
CH-31	Estes Drive #1 (north)	MLK Jr. Blvd.	Estes Elementary School		0.76	Chapel Hill	$170,000
CH-32	Estes Drive (south)	Caswell	Franklin St		0.61	Chapel Hill	$136,000
CH-33	Estes Drive Ext #3 (south)	Seawell School Rd	MLK Jr. Blvd.		0.78	Chapel Hill	$174,250

2035 Long Range Transportation Plan
Durham-Chapel Hill-Carrboro MPO Pedestrian Projects

No.	Project Name	From	To	Rank	Length (Miles)	Municipality	Cost
CH-34	Europa Dr. (west)	Europa Dr.	Europa Dr.		0.09	Chapel Hill	$21,250
CH-35	Ferrell Rd	Entire length	Entire length		0.44	Chapel Hill	$97,750
CH-36	Finley Golf Course Rd (west)	NC 54	Old Mason Farm Rd		0.65	Chapel Hill	$146,625
CH-37	Flemington Rd	Hamilton Rd	Hayes Rd		0.11	Chapel Hill	$25,500
CH-38	Fordham Blvd #1 (north)	Manning Dr	Carmichael St		0.25	Chapel Hill	$55,250
CH-39	Fordham Blvd #2 (west)	Ephesus Church Rd	Elliott Rd		0.21	Chapel Hill	$46,325
CH-40	Fordham Blvd (north)	Elliot Rd	Estes Drive		0.23	Chapel Hill	$51,000
CH-41	Forest Hills Rd	Lake Ellen Dr	Seminole Dr		0.15	Chapel Hill	$34,000
CH-42	Fountain Ridge Rd.	Entire length	Entire length		0.91	Chapel Hill	$204,000
CH-43	Francis St	Entire length	Entire length		0.28	Chapel Hill	$63,750
CH-44	Gimghoul Rd	Entire length north side	Entire length north side		0.28	Chapel Hill	$63,750
CH-45	Gimghoul Rd	Entire length south side	Entire length south side		0.23	Chapel Hill	$51,000
CH-46	Hamilton Rd (east)	Cleland Dr	Flemington Rd.		0.15	Chapel Hill	$34,000
CH-47	Hillsborough St. (east)	Rosemary Street	Mill Race Dr.		0.21	Chapel Hill	$46,750
CH-48	Homestead Rd	Homestead Rd	Homestead Rd		0.03	Chapel Hill	$6,375
CH-49	Homestead Rd #1(north)	Homestead Rd #1(north)	Homestead Rd #1(north)		0.30	Chapel Hill	$68,000
CH-50	Homestead Rd #2 (south)	Homestead Rd #2 (south)	Homestead Rd #2 (south)		0.30	Chapel Hill	$68,000
CH-51	Homestead Rd #3 (north)	Homestead Rd #3 (north)	Homestead Rd #3 (north)		0.34	Chapel Hill	$76,500
CH-52	Homestead Rd #4 (south)	Homestead Rd #4 (south)	Homestead Rd #4 (south)		0.30	Chapel Hill	$68,000
CH-53	Honeysuckle Rd	Honeysuckle Rd	Honeysuckle Rd		0.49	Chapel Hill	$110,500
CH-54	Kenmore Rd	Kenmore Rd	Kenmore Rd		0.11	Chapel Hill	$25,500
CH-55	Lake Ellen Dr. East	Lake Ellen Dr. East	Lake Ellen Dr. East		0.04	Chapel Hill	$8,500
CH-56	Lakeview Dr. East	Lakeview Dr. East	Lakeview Dr. East		0.25	Chapel Hill	$55,250
CH-57	Landerwood La	Landerwood La	Landerwood La		0.53	Chapel Hill	$119,000
CH-58	LeClair St.	LeClair St.	LeClair St.		0.38	Chapel Hill	$85,000
CH-59	Longleaf Dr. Phase 1	Longleaf Dr. Phase 1	Longleaf Dr. Phase 1		0.25	Chapel Hill	$55,250
CH-60	Longleaf Dr. Phase 2	Longleaf Dr. Phase 2	Longleaf Dr. Phase 2		0.32	Chapel Hill	$72,250
CH-61	Mallette Street (west)	Mallette Street (west)	Mallette Street (west)		0.18	Chapel Hill	$40,375
CH-62	Manly St.	Manly St.	Manly St.		0.08	Chapel Hill	$17,000
CH-63	Manning Dr. (north)	Manning Dr. (north)	Manning Dr. (north)		0.55	Chapel Hill	$123,250
CH-64	McCauley St. (north)	McCauley St. (north)	McCauley St. (north)		0.06	Chapel Hill	$12,750
CH-65	McMasters St (south)	McMasters St (south)	McMasters St (south)		0.10	Chapel Hill	$22,525
CH-66	MLK Jr. Blvd. (west)	Estes Dr	Critz Dr.		0.68	Chapel Hill	$153,000
CH-67	MLK Jr. Blvd. (west)	Weaver Dairy Rd.	Northwood Dr..		0.06	Chapel Hill	$12,750
CH-68	MLK Jr. Blvd. (east)	Timber Hollow Ct	Homestead Rd		0.35	Chapel Hill	$78,625
CH-69	NC 54	East of Barbee Chapel Rd	Town Limits		0.38	Chapel Hill	$85,000

2035 Long Range Transportation Plan
Durham-Chapel Hill-Carrboro MPO Pedestrian Projects

No.	Project Name	From	To	Rank	Length (Miles)	Municipality	Cost
CH-70	NC 54(south)	Missing Section west of Finley Golf Course Rd	Missing Section west of Finley Golf Course Rd		0.04	Chapel Hill	$8,500
CH-71	North Street (north)	MLK Jr. Blvd.	Henderson St		0.13	Chapel Hill	$29,750
CH-72	Old Drhm-Chpl Hill Rd (s)	Durham Co line	Blue Cross		0.40	Chapel Hill	$89,250
CH-73	Old Mason Farm Rd (north)	Finley Golf Course	US 15-501		0.73	Chapel Hill	$163,625
CH-74	Old Oxford Rd	Erwin Rd	Bolin Creek Rd		0.15	Chapel Hill	$34,000
CH-75	Piney Mtn Rd (north)	Forest Creek Dr.	Priestly Cricle Dr.			Chapel Hill	$0
CH-76	Plant Road (south)	Park/Rec facility	Franklin St		0.10	Chapel Hill	$22,100
CH-77	Pope Road (west)	Ephesus Church Rd	Old Durham Rd		1.02	Chapel Hill	$229,500
CH-78	Rigsbee Rd.	Piney Mtn Rd	Brookview Dr.		0.17	Chapel Hill	$38,250
CH-79	Rogers Rd (east)	Homestead Rd	Sylvan Wy.		0.09	Chapel Hill	$21,250
CH-80	Rolling Road (south)	South Lakeshore Dr	Ridgecrest Dr		0.37	Chapel Hill	$82,025
CH-81	Roosevelt Drive (east)	Entire length	Entire length		0.47	Chapel Hill	$105,400
CH-82	Rosemary St (north)	west of Church St	west of Church St		0.03	Chapel Hill	$7,650
CH-83	Rosemary St (north)	east of Church St	east of Church St		0.05	Chapel Hill	$10,625
CH-84	Rosemary Street #2 (north)	157 E. Rosemary St	Henderson St		0.04	Chapel Hill	$8,500
CH-85	Rosemary Street #3 (north)	Pickard St	Boundary St		0.15	Chapel Hill	$34,000
CH-86	Rosemary Street #4 (north)	east of Mitchell La.	east of Mitchell La.		0.02	Chapel Hill	$4,250
CH-87	Sage Rd	west side south of Coleridge Dr.	west side south of Coleridge Dr.		0.08	Chapel Hill	$17,000
CH-88	Seawell School Rd #1 (west)	Seawell Elementary	Hanover Pl		0.83	Chapel Hill	$187,000
CH-89	Seawell School Rd #2 (west)	Homestead Rd	High School Road		0.25	Chapel Hill	$55,250
CH-90	Seminole Dr	Entire length	Entire length		0.21	Chapel Hill	$46,750
CH-91	Shady Lawn Road (north)	Eastwood Rd	Lakeshore Dr		0.97	Chapel Hill	$216,750
CH-92	Stateside Dr	MLK Jr. Blvd.	Dixie Dr.		0.11	Chapel Hill	$25,500
CH-93	Stephens St (west)	Martin Luther King, Jr. Blvd	N.Columbia St		N/A	Chapel Hill	$0
CH-94	Sunrise Rd (east)	Sweeten Cir. Dr.	Sweeten Cir. Dr.		0.32	Chapel Hill	$72,250
CH-95	Thornwood Rd	Entire length	Entire length		0.38	Chapel Hill	$85,000
CH-96	University Drive (north)	Pittsboro St	Ransom St		0.08	Chapel Hill	$18,913
CH-97	University Mall entrs	S. Estes Dr. (2 locations west side)	S. Estes Dr. (2 locations west side)		0.06	Chapel Hill	$12,750
CH-98	University Mall north entr.	Willow Dr.	Willow Dr.		0.15	Chapel Hill	$34,000
CH-99	US 15-501 South (east)	Mount Carmel Church Rd	S. Columbia St		0.21	Chapel Hill	$46,750
CH-100	Weaver Dairy Rd (east)	Erwin Rd	Arcadia Place		0.53	Chapel Hill	$119,000
CH-101	Weaver Dairy Rd (west)	Erwin Rd	Arcadia Place		0.53	Chapel Hill	$119,000
CH-102	West University Dr (south)	Ransom St	Westwood Dr		0.28	Chapel Hill	$62,815
CH-103	Willow Dr.	west side south of Conner Dr	west side south of Conner Dr		0.06	Chapel Hill	$12,750
CH-104	Willow Dr.	Longleaf Dr.	Emory Dr.		0.34	Chapel Hill	$42,500

2035 Long Range Transportation Plan
Durham-Chapel Hill-Carrboro MPO Pedestrian Projects

No.	Project Name	From	To	Rank	Length (Miles)	Municipality	Cost
Chapel Hill Totals					**34**		**$7,563,895**

Carrboro Sidewalk Projects							
C-1	Culbreth	Smith Level Rd	town limits		0.20	Carrboro	$ 104,300
C-2	Davie	Jones Ferry Rd	Main St		0.49	Carrboro	$ 258,000
C-3	Estes Dr. Ext	N. Greensboro	town limits		0.91	Carrboro	$ 480,000
C-4	S. Greensboro	Old Pittsboro	NC 54		0.43	Carrboro	$ 228,900
C-5	Old Fayetteville	NC54	Carrboro Plaza P&R		0.36	Carrboro	$ 189,700
C-6	Parker	N. Greensboro	Lloyd		0.15	Carrboro	$ 80,000
C-7	Pathway	Bolin Forest	Seawell School Rd		0.42	Carrboro	$ 220,000
C-8	Seawell Rd. Ext.	Seawell	Homestead		0.57	Carrboro	$ 300,000
C-9	Shelton	Oak	Elm		0.13	Carrboro	$ 67,000
C-10	Simpson	Main	Hillsborough		0.40	Carrboro	$ 210,000
C-11	Smith Level Rd	NC54 bridge 88	Woodcrest		0.82	Carrboro	$ 432,100
C-12	Strowd Ln	Old Fayetteville	Anderson Park		0.18	Carrboro	$ 95,000
C-13	Tripp Farm Rd	Hillsborough	Tripp Farm Rd		0.30	Carrboro	$ 160,000
C-14	Tripp Farm Rd	Tripp Farm Rd	Seawell School Rd		0.55	Carrboro	$ 290,000
C-15	Homestead Rd	Old NC 86	Claremont		1.76	Carrboro	$ 930,200
C-16	Rogers Road	Homestead	town limits		1.09	Carrboro	$ 575,700
C-17	Old NC 86	Hillsborough	Eubanks		5.86	Carrboro	$ 3,096,200
C-18	Pine	Hillsborough	N. Greensboro		0.49	Carrboro	$ 259,200
C-19	Elm	Weaver	Shelton		0.19	Carrboro	$ 102,600
C-20	Ashe	Weaver	Shelton		0.14	Carrboro	$ 75,100
C-21	Bim	Jones Ferry Rd	Fidelity		0.21	Carrboro	$ 111,400
C-22	Old Fayetteville	NC54	McDougle		0.50	Carrboro	$ 266,300
C-23	Carol	Old Fayetteville	Lorraine		0.60	Carrboro	$ 315,800
C-24	Jones Ferry	Main	Alabama		0.59	Carrboro	$ 310,500
C-25	Lindsay	Weaver	Shelton		0.19	Carrboro	$ 102,800
C-26	Main	Fidelity	Poplar		0.06	Carrboro	$ 30,000
C-27	Oak St	Hillsborough	Greensboro		0.32	Carrboro	$ 166,600
C-28	Rainbow	Lisa	Hillsborough		0.35	Carrboro	$ 183,000
C-29	Fowler	Lloyd	Broad		0.07	Carrboro	$ 34,900
C-30	NC 54	Main	Old Fayetteville		0.32	Carrboro	$ 166,900
C-31	Carr	Greensboro	Maple		0.08	Carrboro	$ 41,300
C-32	Carr	Greensboro	end		0.14	Carrboro	$ 72,800

2035 Long Range Transportation Plan
Durham-Chapel Hill-Carrboro MPO Pedestrian Projects

No.	Project Name	From	To	Rank	Length (Miles)	Municipality	Cost
C-33	Center	Weaver	Short		0.06	Carrboro	$ 30,000
C-34	Gary	Poplar	Keith		0.25	Carrboro	$ 131,300
C-35	High	Main	Hillsborough		0.23	Carrboro	$ 123,800
C-36	Hill	Lloyd	Broad		0.07	Carrboro	$ 34,600
C-37	Laurel	Jones Ferry	end		0.19	Carrboro	$ 98,400
C-38	Laurel	Town Parking Lot	Jones Ferry		0.11	Carrboro	$ 57,300
C-39	Lorraine	Hillsborough	James		0.36	Carrboro	$ 190,800
C-40	Maple	Carr	end		0.18	Carrboro	$ 96,200
C-41	Milton	Cheek	Greensboro		0.16	Carrboro	$ 85,700
C-42	Oleander	NC 54	Gary		0.22	Carrboro	$ 118,600
C-43	Roberson	Greensboro	Sweet Bay		0.11	Carrboro	$ 56,600
C-44	Short	Center	Greensboro		0.05	Carrboro	$ 25,000
C-45	Autumn	Barrington Hills	Stratford		0.15	Carrboro	$ 81,700
C-46	Bolin Creek	Wild Oak	end		0.49	Carrboro	$ 257,100
C-47	Eugene	Wesley	end		0.10	Carrboro	$ 53,300
C-48	Maple	Carr	Roberson		0.04	Carrboro	$ 20,000
C-49	Phipps	Lorraine	Simpson		0.15	Carrboro	$ 81,300
C-50	Spring Valley	Morningside	Pathway		0.29	Carrboro	$ 153,100
C-51	Merritt Mill	Cameron	Brewer		0.19	Carrboro	$ 101,200
C-52	Barnes	Jones Ferry	King		0.26	Carrboro	$ 135,000
C-53	Bel Arbor Path	Bel Arbor	Simpson		0.10	Carrboro	$ 67,100
C-54	King	Allen	Barnes		0.13	Carrboro	$ 68,600
C-55	Prince	King	end		0.20	Carrboro	$ 105,000
C-56	Wild Oak	Bolin Creek	Pathway		0.07	Carrboro	$ 37,600
C-57	Queen	Barnes	Prince		0.06	Carrboro	$ 32,400
C-58	Barrington Hills	Hillsborough	Autumn		0.23	Carrboro	$ 121,200
	Carrboro Totals				**23**		**$ 12,319,200**

Hillsborough Sidewalk Projects							
H-1	US 70 Bypass	I-85 Collector	St. Mary's Rd.		11.00	Hillsborough	$ 5,808,000
H-2	Elizabeth Brady Road Extension	US 70A	US 70 Bypass/St. Mary's Rd.		1.50	Hillsborough	$ 792,000
H-3	S. Churton St.	Lafayette Dr.	Margaret Ln.		1.90	Hillsborough	$ 1,003,200
H-4	Nash Street Sidewalk	US 70	Eno St.		1.80	Hillsborough	$ 679,233
H-5	Riverwalk (Future Phases)	S. Cameron St.	Allison St.		1.60	Hillsborough	$ 844,800
H-6	Cates Creek Greenway	Old NC 86	US70A/NC86 South Intersection		2.00	Hillsborough	$ 1,060,000

2035 Long Range Transportation Plan
Durham-Chapel Hill-Carrboro MPO Pedestrian Projects

No.	Project Name	From	To	Rank	Length (Miles)	Municipality	Cost
	Hillsborough Totals				**20**		**$ 10,187,233**

DCHC MPO Total	**$ 67,957,629**

2035 Long Range Transportation Plan
Durham-Chapel Hill-Carrboro MPO Bicycle Projects

ID	Facility Description	Facility Type	Length	Jurisdiction	Total Cost
DURHAM CITY AND COUNTY					
1	Academy Rd	4' Bicycle Lane	1.19	Durham City-County	595,000
2	Academy Rd	4' Bicycle Lane	0.51	Durham City-County	*
3	Adcock Rd	4' Paved Shoulder	0.92	Durham City-County	460,000
4	Airport Rd	4' Bicycle Lane	0.2	Durham City-County	100,000
5	Albany St	Sharrows	0.21	Durham City-County	546
6	Alston Ave	4' Bicycle Lane	10.8	Durham City-County	*
7	Amber Pl	Sharrows	0.07	Durham City-County	182
8	American Dr	Sharrows	1.86	Durham City-County	4,836
9	American Tobacco Trail	Multi-Use Path	4	Durham City-County	4,753,000
10	Anderson St	4' Bicycle Lane	1.76	Durham City-County	4,576
11	Andrews Chapel Rd	4' Paved Shoulder	1.23	Durham City-County	615,000
12	Angier Ave	4' Bicycle Lane	4.71	Durham City-County	2,355,000
13	Archdale Dr	4' Bicycle Lane	0.52	Durham City-County	260,000
14	Avondale Dr	4' Bicycle Lane	1.06	Durham City-County	2,756
15	Bacon Rd	4' Paved Shoulder	1.8	Durham City-County	900,000
16	Bacon St	4' Bicycle Lane	1.13	Durham City-County	2,938
17	Bahama Rd	4' Paved Shoulder	9.35	Durham City-County	4,675,000
18	Ball Rd	4' Paved Shoulder	2.38	Durham City-County	1,190,000
19	Baptist Rd	4' Paved Shoulder	4.07	Durham City-County	2,035,000
20	Barbee Chapel Rd	4' Bicycle Lane	1.75	Durham City-County	875,000
21	Barbee Rd	4' Bicycle Lane	2.84	Durham City-County	1,420,000
22	Bennett Memorial Rd	4' Bicycle Lane	0.67	Durham City-County	335,000
23	Berini Dr	Sharrows	1.14	Durham City-County	2,964
24	Bill Poole Rd	4' Paved Shoulder	3.19	Durham City-County	1,595,000
25	Bivins Rd	4' Paved Shoulder	3.64	Durham City-County	1,820,000
26	Blackwell St	Sharrows	0.56	Durham City-County	1,456
27	Bowen Rd	4' Paved Shoulder	1.05	Durham City-County	525,000
28	Boyce Mill Rd	4' Paved Shoulder	0.83	Durham City-County	415,000
29	Briggs Ave	4' Bicycle Lane	1.52	Durham City-County	*
30	Broad St	4' Bicycle Lane	2.37	Durham City-County	6,162
31	Broad St	Sharrows	0.33	Durham City-County	858

* = Cost is assumed in the related highway project

2035 Long Range Transportation Plan
Durham-Chapel Hill-Carrboro MPO Bicycle Projects

ID	Facility Description	Facility Type	Length	Jurisdiction	Total Cost
32	Buchanan Blvd	4' Bicycle Lane	1.48	Durham City-County	3,848
33	Burton Rd	4' Paved Shoulder	1.59	Durham City-County	795,000
34	Camden Ave	4' Bicycle Lane	1.99	Durham City-County	995,000
35	Cameron Blvd	4' Bicycle Lane	1.08	Durham City-County	2,808
36	Cammie St	4' Bicycle Lane	0.48	Durham City-County	1,248
37	Campus Dr	4' Bicycle Lane	0.25	Durham City-County	*
38	Campus Dr	4' Bicycle Lane	1.17	Durham City-County	*
39	Campus Walk Ave	4' Bicycle Lane	0.34	Durham City-County	170,000
40	Capps St	4' Bicycle Lane	0.32	Durham City-County	832
41	Carolina Cir	Sharrows	0.07	Durham City-County	182
42	Carpenter Fletcher Rd	4' Bicycle Lane	0.78	Durham City-County	390,000
43	Carpenter Pond Rd	4' Paved Shoulder	3.82	Durham City-County	1,910,000
44	Carpenter Rd	4' Paved Shoulder	1.12	Durham City-County	560,000
45	Carver Rd	4' Paved Shoulder	0.78	Durham City-County	390,000
46	Carver St	4' Bicycle Lane	0.73	Durham City-County	*
47	Carver St	4' Bicycle Lane	3.58	Durham City-County	9,308
48	Cassam Rd	4' Paved Shoulder	3.75	Durham City-County	1,875,000
49	Cecil St	4' Bicycle Lane	0.36	Durham City-County	936
50	Chandler Rd	4' Paved Shoulder	0.96	Durham City-County	480,000
51	Chapel Dr	4' Bicycle Lane	0.32	Durham City-County	*
52	Chapel Hill Rd	4' Bicycle Lane	2.35	Durham City-County	6,110
53	Chapel Hill St	4' Bicycle Lane	0.89	Durham City-County	2,314
54	Chapel Hill St	Sharrows	0.4	Durham City-County	1,040
55	Cheek Rd.	4' Bicycle Lane	8.5	Durham City-County	4,250,000
56	Chin Page Rd.	4' Bicycle Lane	1.5	Durham City-County	750,000
57	Church St	Sharrows	0.13	Durham City-County	338
58	Circuit Dr	4' Bicycle Lane	0.5	Durham City-County	*
59	Clayton Rd	4' Paved Shoulder	1.84	Durham City-County	920,000
60	Clermont Rd	4' Bicycle Lane	0.76	Durham City-County	1,976
61	Club Blvd.	4' Bicycle Lane	3	Durham City-County	7,800
62	Club Blvd.	4' Bicycle Lane	2.33	Durham City-County	1,165,000
63	Cole Mill Rd	4' Bicycle Lane	1.4	Durham City-County	3,640

* = Cost is assumed in the related highway project

2035 Long Range Transportation Plan
Durham-Chapel Hill-Carrboro MPO Bicycle Projects

ID	Facility Description	Facility Type	Length	Jurisdiction	Total Cost
64	Cole Mill Rd	4' Bicycle Lane	2.33	Durham City-County	1,165,000
65	Coley Rd	4' Paved Shoulder	2.66	Durham City-County	1,330,000
66	Colonial St	Sharrows	0.15	Durham City-County	390
67	Compton Pl	Sharrows	0.11	Durham City-County	286
68	Constitution Dr	Sharrows	0.58	Durham City-County	1,508
69	Cook Rd	4' Bicycle Lane	1.69	Durham City-County	845,000
70	Cooksbury Dr	4' Paved Shoulder	0.59	Durham City-County	1,534
71	Corcoran St	Sharrows	0.18	Durham City-County	468
72	Cornwallis Rd	4' Bicycle Lane	4.5	Durham City-County	*
73	Cornwallis Rd	4' Paved Shoulder	3.12	Durham City-County	1,560,000
74	Cornwallis Rd	4' Bicycle Lane	4.35	Durham City-County	11,310
75	Corporation St	4' Bicycle Lane	0.82	Durham City-County	2,132
76	Cothran Rd	4' Paved Shoulder	0.91	Durham City-County	455,000
77	Craig Rd	4' Paved Shoulder	2.06	Durham City-County	1,030,000
78	Cranford Rd	Sharrows	0.44	Durham City-County	1,144
79	Creech Rd	4' Paved Shoulder	0.95	Durham City-County	475,000
80	Danube Ln	4' Bicycle Lane	1.56	Durham City-County	780,000
81	Davis Dr.	4' Bicycle Lane	2.8	Durham City-County	*
82	Dearborn Dr.	4' Bicycle Lane	1.6	Durham City-County	800,000
83	Denfield St	4' Bicycle Lane	0.69	Durham City-County	345,000
84	Dillard St	Sharrows	0.66	Durham City-County	1,716
85	Dixon Rd	4' Bicycle Lane	0.67	Durham City-County	335,000
86	Doc Nichols Rd	4' Paved Shoulder	1.9	Durham City-County	950,000
87	Drew St	4' Bicycle Lane	0.48	Durham City-County	240,000
88	Driver St	4' Bicycle Lane	0.19	Durham City-County	95,000
89	Driver St	Sharrows	1.15	Durham City-County	2,990
90	Duke Homestead Rd	4' Bicycle Lane	1.64	Durham City-County	820,000
91	Duke St	4' Bicycle Lane	4.87	Durham City-County	12,662
92	Duke University Rd	4' Bicycle Lane	1.13	Durham City-County	*
93	Dunnegan Rd	4' Paved Shoulder	0.42	Durham City-County	1,092
94	Dunwoody Rd	4' Paved Shoulder	1.83	Durham City-County	915,000
95	Durham Trails	Multi-Use Path	30	Durham City-County	17,723,839

* = Cost is assumed in the related highway project

2035 Long Range Transportation Plan
Durham-Chapel Hill-Carrboro MPO Bicycle Projects

ID	Facility Description	Facility Type	Length	Jurisdiction	Total Cost
96	Durham-Chapel Hill Blvd	4' Bicycle Lane	0.78	Durham City-County	*
97	Durham-Chapel Hill Blvd	Sidepath	5.1	Durham City-County	*
98	East End Ave	4' Bicycle Lane	0.5	Durham City-County	*
99	Ebenezer Church Rd	4' Paved Shoulder	0.8	Durham City-County	400,000
100	Ed Cook Rd	4' Bicycle Lane	0.9	Durham City-County	450,000
101	Elizabeth St	Sharrows	1.08	Durham City-County	*
102	Ellis Chapel Rd	4' Paved Shoulder	3.13	Durham City-County	1,565,000
103	Ellis Rd	4' Bicycle Lane	4.06	Durham City-County	2,030,000
104	Emperor Boulevard (SR 2103)	4' Bicycle Lane	1.1	Durham City-County	2,860
105	Enterprise St	Sharrows	0.4	Durham City-County	1,040
106	Ephesus Church Rd	4' Bicycle Lane	0.2	Durham City-County	100,000
107	Erwin Rd. (SR 1306)	4' Bicycle Lane	2.3	Durham City-County	1,150,000
108	Erwin Rd. (SR 1320)	4' Bicycle Lane	1.5	Durham City-County	750,000
109	Falkirk Dr	Sharrows	0.11	Durham City-County	286
110	Farrington Mill Rd	4' Paved Shoulder	2	Durham City-County	1,000,000
111	Farrington Rd	4' Bicycle Lane	4.2	Durham City-County	*
112	Farrington Rd	4' Bicycle Lane	0.4	Durham City-County	200,000
113	Fayetteville St	Sharrows / Road Diet	3.1	Durham City-County	8,060
114	Fayetteville St	4' Bicycle Lane	2.4	Durham City-County	*
115	Fayetteville St	4' Bicycle Lane	1.9	Durham City-County	*
116	Fenwick Pkwy	4' Bicycle Lane	0.49	Durham City-County	1,274
117	Ferrand Rd	Sharrows	0.16	Durham City-County	416
118	Ferrell Rd	4' Paved Shoulder	1.42	Durham City-County	710,000
119	Fifteenth St	4' Bicycle Lane	0.25	Durham City-County	650
120	Fletchers Chapel Rd	4' Paved Shoulder	1.61	Durham City-County	805,000
121	Flowers Dr	4' Bicycle Lane	0.73	Durham City-County	*
122	Forest Hills Blvd	Sharrows	0.55	Durham City-County	1,430
123	Foster St	4' Bicycle Lane	0.58	Durham City-County	1,508
124	Foster St	Sharrows	0.08	Durham City-County	208
125	Fountain Ridge Rd	Sharrows	0.7	Durham City-County	1,820
126	Freeman Rd	4' Paved Shoulder	0.92	Durham City-County	460,000
127	Front St	4' Bicycle Lane	0.62	Durham City-County	1,612

* = Cost is assumed in the related highway project

2035 Long Range Transportation Plan
Durham-Chapel Hill-Carrboro MPO Bicycle Projects

ID	Facility Description	Facility Type	Length	Jurisdiction	Total Cost
128	Fulton St.	4' Bicycle Lane	0.4	Durham City-County	1,040
129	Garrett Rd.	4' Bicycle Lane	4.1	Durham City-County	*
130	Geer St	4' Bicycle Lane	4.25	Durham City-County	11,050
131	Geer St	4' Paved Shoulder	3.38	Durham City-County	1,690,000
132	Gibson Rd	4' Paved Shoulder	0.84	Durham City-County	420,000
133	Glendale Ave	Sharrows	0.66	Durham City-County	1,716
134	Glenn Rd	4' Paved Shoulder	3.67	Durham City-County	1,835,000
135	Glenn School Rd	4' Paved Shoulder	0.83	Durham City-County	415,000
136	Glover Rd	4' Bicycle Lane	1.24	Durham City-County	*
137	Goodwin Rd	4' Paved Shoulder	2.28	Durham City-County	1,140,000
138	Grandale Dr	4' Bicycle Lane	2.81	Durham City-County	1,405,000
139	Gray Ave	4' Bicycle Lane	0.41	Durham City-County	1,066
140	Great Jones St (Loop)	4' Bicycle Lane	0.13	Durham City-County	338
141	Greenhaven Dr	4' Paved Shoulder	0.03	Durham City-County	15,000
142	Gregson St	4' Bicycle Lane	1.8	Durham City-County	4,680
143	Guess Rd	4' Bicycle Lane	7.43	Durham City-County	19,318
144	Guess Rd	4' Paved Shoulder	6.22	Durham City-County	3,110,000
145	Gurley St	Sharrows	0.14	Durham City-County	364
146	Hale St	Sharrows	0.03	Durham City-County	78
147	Hall Rd	4' Paved Shoulder	1.47	Durham City-County	735,000
148	Hamilton Way	4' Bicycle Lane	0.13	Durham City-County	65,000
149	Hamlin Rd	4' Paved Shoulder	3.41	Durham City-County	1,705,000
150	Hampton Rd	4' Paved Shoulder	4.45	Durham City-County	2,225,000
151	Hanover St	4' Bicycle Lane	0.03	Durham City-County	15,000
152	Hardee St	4' Bicycle Lane	1.41	Durham City-County	705,000
153	Heather Glen Rd	Sharrows	0.25	Durham City-County	650
154	Hebron Rd	4' Paved Shoulder	1.57	Durham City-County	785,000
155	Hereford Rd	4' Paved Shoulder	0.63	Durham City-County	315,000
156	Herndon Rd	4' Bicycle Lane	2.57	Durham City-County	1,285,000
157	Hillandale Rd	4' Bicycle Lane	2	Durham City-County	*
158	Hillandale Rd	4' Bicycle Lane	1	Durham City-County	500,000
159	Hillsborough Rd	4' Bicycle Lane	4.32	Durham City-County	11,232

* = Cost is assumed in the related highway project

2035 Long Range Transportation Plan
Durham-Chapel Hill-Carrboro MPO Bicycle Projects

ID	Facility Description	Facility Type	Length	Jurisdiction	Total Cost
160	Hillsborough Rd	4' Paved Shoulder	0.95	Durham City-County	475,000
161	Holloway St	4' Bicycle Lane	3.86	Durham City-County	10,036
162	Hope Valley Rd	4' Bicycle Lane	3.61	Durham City-County	1,805,000
163	Hopkins	4' Paved Shoulder	3.17	Durham City-County	1,585,000
164	Hopson Rd	4' Bicycle Lane	2.29	Durham City-County	*
165	Horton Rd	4' Bicycle Lane	2.04	Durham City-County	*
166	Humphrey St	Sharrows	0.05	Durham City-County	130
167	Hurley Rd	4' Paved Shoulder	0.24	Durham City-County	624
168	Hyde Park Ave	Sharrows	1.02	Durham City-County	2,652
169	Indian Trl	Sharrows	0.44	Durham City-County	1,144
170	Infinity Rd	4' Paved Shoulder	2.76	Durham City-County	1,380,000
171	Isham Chambers Rd	4' Paved Shoulder	1.42	Durham City-County	710,000
172	Jackie Robinson Dr	4' Bicycle Lane	0.08	Durham City-County	208
173	James St	Sharrows	0.9	Durham City-County	2,340
174	Jeffries Rd	4' Paved Shoulder	1.22	Durham City-County	610,000
175	Jock Rd	4' Paved Shoulder	1.81	Durham City-County	*
176	Joe Ellis Rd	4' Paved Shoulder	0.81	Durham City-County	405,000
177	John Jones Rd	4' Paved Shoulder	2.16	Durham City-County	1,080,000
178	Johnson Mill Rd	4' Paved Shoulder	3.14	Durham City-County	1,570,000
179	Juliette Dr	4' Bicycle Lane	0.9	Durham City-County	2,340
180	Junction Rd	4' Paved Shoulder	2.92	Durham City-County	1,460,000
181	Juniper St	4' Bicycle Lane	0.7	Durham City-County	350,000
182	Kelvin Dr	4' Paved Shoulder	0.47	Durham City-County	235,000
183	Kemp Rd	4' Paved Shoulder	3.11	Durham City-County	1,555,000
184	Kenan Rd	Sharrows	0.38	Durham City-County	988
185	Kenmore Rd	4' Bicycle Lane	0.18	Durham City-County	90,000
186	Kent St	Sharrows	1.43	Durham City-County	3,718
187	Kerley Rd	4' Paved Shoulder	2.45	Durham City-County	1,225,000
188	Kirkwood Dr	4' Bicycle Lane	0.7	Durham City-County	350,000
189	Kit Creek Rd	4' Bicycle Lane	0.43	Durham City-County	*
190	Knox St	Sharrows	2.19	Durham City-County	5,694
191	Lakeland St	Sharrows	0.51	Durham City-County	1,326

* = Cost is assumed in the related highway project

2035 Long Range Transportation Plan
Durham-Chapel Hill-Carrboro MPO Bicycle Projects

ID	Facility Description	Facility Type	Length	Jurisdiction	Total Cost
192	Lakewood Ave	4' Bicycle Lane	1.66	Durham City-County	4,316
193	Lasalle St	4' Bicycle Lane	1.35	Durham City-County	675,000
194	Latta Rd	4' Bicycle Lane	1.2	Durham City-County	*
195	Lawson St	4' Bicycle Lane	1.76	Durham City-County	4,576
196	League Way	Sharrows	0.07	Durham City-County	182
197	Leesville Rd	4' Paved Shoulder	4.04	Durham City-County	*
198	Legion Rd	4' Bicycle Lane	0.13	Durham City-County	65,000
199	Leon St.	4' Bicycle Lane	0.6	Durham City-County	*
200	Liberty St	4' Bicycle Lane	2.01	Durham City-County	1,005,000
201	Lumley Rd	4' Bicycle Lane	2.55	Durham City-County	1,275,000
202	Lynn Rd	4' Paved Shoulder	1.8	Durham City-County	*
203	Madden Ave	4' Paved Shoulder	0.27	Durham City-County	135,000
204	Main St	4' Bicycle Lane	4.26	Durham City-County	11,076
205	Main St	Sharrows	0.47	Durham City-County	1,222
206	Mangum St	4' Bicycle Lane	1.81	Durham City-County	4,706
207	Mangum-Roxboro Connector	4' Bicycle Lane	0.11	Durham City-County	286
208	Market St	Sharrows	0.04	Durham City-County	104
209	Markham Ave	Sharrows	2	Durham City-County	5,200
210	Martin Luther King Jr Pkwy	4' Bicycle Lane	4.91	Durham City-County	*
211	Maryland Ave	Sharrows	0.6	Durham City-County	1,560
212	Mason Rd	4' Paved Shoulder	2.46	Durham City-County	1,230,000
213	Massey Chapel Rd	4' Bicycle Lane	1.84	Durham City-County	920,000
214	Medford Rd	4' Bicycle Lane	1.02	Durham City-County	2,652
215	Miami Blvd	4' Bicycle Lane	8.92	Durham City-County	*
216	Midland Terrace	4' Bicycle Lane	1.8	Durham City-County	*
217	Mile Branch Rd	4' Paved Shoulder	0.28	Durham City-County	140,000
218	Milton Rd	4' Paved Shoulder	2.48	Durham City-County	1,240,000
219	Mineral Springs Rd	4' Paved Shoulder	4.48	Durham City-County	2,240,000
220	Moores Mill Rd	4' Paved Shoulder	3.54	Durham City-County	1,770,000
221	Morehead Ave	4' Bicycle Lane	1.52	Durham City-County	3,952
222	Morgan St	Sharrows	0.47	Durham City-County	1,222
223	Morgan St (Loop)	4' Bicycle Lane	0.44	Durham City-County	1,144

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2035 Long Range Transportation Plan
Durham-Chapel Hill-Carrboro MPO Bicycle Projects

ID	Facility Description	Facility Type	Length	Jurisdiction	Total Cost
224	Moriah Rd	4' Paved Shoulder	1.33	Durham City-County	665,000
225	Morning Glory Ave	Sharrows	0.05	Durham City-County	130
226	Morreene Rd	4' Bicycle Lane	1.52	Durham City-County	760,000
227	Morris St	4' Bicycle Lane	0.35	Durham City-County	910
228	Morris St	Sharrows	0.08	Durham City-County	208
229	Mt Herman Rd	4' Paved Shoulder	1.01	Durham City-County	505,000
230	Mt Hermon Church Rd	4' Paved Shoulder	1.76	Durham City-County	880,000
231	Mt Moriah Rd	4' Bicycle Lane	1.84	Durham City-County	920,000
232	Mt Sinai Rd	4' Paved Shoulder	0.73	Durham City-County	365,000
233	NC 54	4' Bicycle Lane	10.6	Durham City-County	*
234	NC 55	4' Bicycle Lane	3.4	Durham City-County	8,840
235	NC 751	4' Bicycle Lane	3.1	Durham City-County	*
236	NC 751	4' Bicycle Lane	0.7	Durham City-County	350,000
237	NC 98 - Wake Forest Hwy	4' Bicycle Lane	2.89	Durham City-County	*
238	NC 98 - Wake Forest Hwy	4' Paved Shoulder	4.94	Durham City-County	*
239	Neal Rd	4' Bicycle Lane	1.24	Durham City-County	620,000
240	Nichols Farm Dr	Sharrows	0.32	Durham City-County	832
241	Ninth St	Sharrows	0.76	Durham City-County	1,976
242	Northeast Creek Pkwy	4' Bicycle Lane	1.3	Durham City-County	*
243	Northern Durham Pkway	4' Bicycle Lane	12.1	Durham City-County	*
244	Northlake Dr	Sharrows	0.41	Durham City-County	1,066
245	O'Kelly Chapel Rd	4' Paved Shoulder	1.02	Durham City-County	510,000
246	Oakland Ave	Sharrows	0.65	Durham City-County	1,690
247	Old Creedmoor Rd	4' Paved Shoulder	0.11	Durham City-County	55,000
248	Old Durham/Chapel Hill Rd.	4' Bicycle Lane	3.4	Durham City-County	*
249	Old NC 10	4' Paved Shoulder	1.47	Durham City-County	735,000
250	Old Oxford Hwy	4' Paved Shoulder	2.57	Durham City-County	*
251	Old Oxford Hwy	4' Paved Shoulder	6.78	Durham City-County	3,390,000
252	Olive Branch Rd	4' Paved Shoulder	3.84	Durham City-County	*
253	Olympic Ave.	4' Bicycle Lane	0.3	Durham City-County	780
254	Orange Factory Rd	4' Paved Shoulder	2.85	Durham City-County	1,425,000
255	Page Rd	4' Bicycle Lane	4.94	Durham City-County	*

* = Cost is assumed in the related highway project

2035 Long Range Transportation Plan
Durham-Chapel Hill-Carrboro MPO Bicycle Projects

ID	Facility Description	Facility Type	Length	Jurisdiction	Total Cost
256	Parrish St	Sharrows	0.28	Durham City-County	728
257	Pat Tilley Rd	4' Paved Shoulder	1.05	Durham City-County	525,000
258	Patrick Rd	4' Paved Shoulder	1	Durham City-County	500,000
259	Patterson Rd	4' Paved Shoulder	3.53	Durham City-County	1,765,000
260	Pervis Rd	4' Paved Shoulder	0.46	Durham City-County	1,196
261	Pettigrew St	4' Bicycle Lane	2.87	Durham City-County	7,462
262	Pickett Rd	4' Bicycle Lane	3.76	Durham City-County	1,880,000
263	Pleasant Dr	4' Paved Shoulder	1.33	Durham City-County	665,000
264	Plum St	Sharrows	0.18	Durham City-County	468
265	Pope Rd	4' Bicycle Lane	0.88	Durham City-County	440,000
266	Preston Andrews Rd	4' Paved Shoulder	0.86	Durham City-County	430,000
267	Preston Ave	4' Bicycle Lane	0.14	Durham City-County	70,000
268	Quail Roost Farm Rd	4' Paved Shoulder	1.28	Durham City-County	640,000
269	Quail Roost Rd	4' Paved Shoulder	2.47	Durham City-County	1,235,000
270	Quincemoore Rd	Sharrows	0.38	Durham City-County	988
271	Ramseur St (Loop)	4' Bicycle Lane	0.58	Durham City-County	1,508
272	Range Rd	4' Paved Shoulder	6.1	Durham City-County	3,050,000
273	Red Mill Rd	4' Paved Shoulder	3.88	Durham City-County	1,940,000
274	Red Mountain Rd	4' Paved Shoulder	2.6	Durham City-County	1,300,000
275	Redpine Rd	4' Paved Shoulder	0.24	Durham City-County	120,000
276	Redwood Rd	4' Paved Shoulder	5.2	Durham City-County	2,600,000
277	Renaissance Pkwy	Existing Sidepath	1.22	Durham City-County	*
278	Research Dr	4' Bicycle Lane	0.21	Durham City-County	*
279	Revere Rd	4' Bicycle Lane	1.38	Durham City-County	*
280	Riddle Rd	4' Bicycle Lane	1.91	Durham City-County	4,966
281	Rigsbee Ave	4' Bicycle Lane	0.39	Durham City-County	1,014
282	Rigsbee Ave	Sharrows	0.08	Durham City-County	208
283	Rivermont Rd	4' Paved Shoulder	1.17	Durham City-County	*
284	Rocky Springs Rd	Sharrows	0.35	Durham City-County	910
285	Rogers Rd	4' Paved Shoulder	1.02	Durham City-County	510,000
286	Rose of Sharon Rd	4' Bicycle Lane	2.53	Durham City-County	1,265,000
287	Ross Rd	4' Paved Shoulder	1.03	Durham City-County	515,000

* = Cost is assumed in the related highway project

2035 Long Range Transportation Plan
Durham-Chapel Hill-Carrboro MPO Bicycle Projects

ID	Facility Description	Facility Type	Length	Jurisdiction	Total Cost
288	Rougemont Rd	4' Paved Shoulder	2.66	Durham City-County	1,330,000
289	Rowena Ave	4' Bicycle Lane	0.33	Durham City-County	*
290	Roxboro St	4' Bicycle Lane	1.29	Durham City-County	*
291	Roxboro St	4' Bicycle Lane	2.65	Durham City-County	*
292	Roxboro St	4' Bicycle Lane	13.96	Durham City-County	36,296
293	Russell Rd	4' Paved Shoulder	3.81	Durham City-County	1,905,000
294	Safeway St	4' Bicycle Lane	0.07	Durham City-County	182
295	Saint Marys Rd	4' Paved Shoulder	2.36	Durham City-County	1,180,000
296	Scarlett Dr	4' Bicycle Lane	0.2	Durham City-County	100,000
297	Science Dr	4' Bicycle Lane	0.66	Durham City-County	*
298	Scott King Rd	4' Bicycle Lane	1.95	Durham City-County	975,000
299	Sedwick Rd	4' Bicycle Lane	1.5	Durham City-County	750,000
300	Shady Grove Rd	4' Paved Shoulder	1.1	Durham City-County	550,000
301	Shannon Rd	4' Bicycle Lane	0.6	Durham City-County	300,000
302	Sherron Rd	4' Paved Shoulder	3.25	Durham City-County	*
303	Slater Rd	4' Bicycle Lane	0.66	Durham City-County	330,000
304	Snow Hill Rd	4' Paved Shoulder	4.55	Durham City-County	*
305	So Hi Dr	4' Bicycle Lane	0.72	Durham City-County	360,000
306	South Lowell Rd	4' Paved Shoulder	4.95	Durham City-County	2,475,000
307	South St	4' Bicycle Lane	0.84	Durham City-County	2,184
308	Southview Rd	4' Paved Shoulder	2.41	Durham City-County	1,205,000
309	Southwest Durham Dr	4' Bicycle Lane	0.12	Durham City-County	*
310	Sowell St	Sharrows	0.07	Durham City-County	182
311	Sparger Rd	4' Bicycle Lane	1.78	Durham City-County	890,000
312	Sprunt Ave	Sharrows	1.06	Durham City-County	2,756
313	St. Mary's Rd.	4' Bicycle Lane	4.5	Durham City-County	2,250,000
314	Stadium Dr	4' Bicycle Lane	2.71	Durham City-County	7,046
315	Stagecoach Rd	4' Bicycle Lane	1.62	Durham City-County	810,000
316	Stagville Rd	4' Paved Shoulder	3.78	Durham City-County	1,890,000
317	Stallings Rd	4' Paved Shoulder	1.86	Durham City-County	930,000
318	State Forest Rd	4' Paved Shoulder	2.23	Durham City-County	*
319	Summit St	4' Bicycle Lane	0.4	Durham City-County	1,040

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2035 Long Range Transportation Plan
Durham-Chapel Hill-Carrboro MPO Bicycle Projects

ID	Facility Description	Facility Type	Length	Jurisdiction	Total Cost
320	Swift Ave	4' Bicycle Lane	0.51	Durham City-County	1,326
321	Swing Rd	4' Paved Shoulder	0.15	Durham City-County	75,000
322	T W Alexander Dr	4' Bicycle Lane	3.9	Durham City-County	1,950,000
323	T W Alexander Dr	4' Bicycle Lane	1.1	Durham City-County	*
324	T W Alexander Dr	4' Bicycle Lane	3.1	Durham City-County	1,550,000
325	Tavistock Dr	Sharrows	0.21	Durham City-County	546
326	Taylor St	4' Bicycle Lane	1.43	Durham City-County	3,718
327	Teknika Pkwy	4' Paved Shoulder	0.68	Durham City-County	340,000
328	Third Fork Creek Greenway	Multi-Use Path	3.3	Durham City-County	*
329	Tom Clark Rd	4' Paved Shoulder	0.73	Durham City-County	365,000
330	Tom Wilkinson Rd	4' Paved Shoulder	0.23	Durham City-County	115,000
331	Towerview Rd	4' Bicycle Lane	1.01	Durham City-County	*
332	Trent Dr	Sharrows	0.21	Durham City-County	546
333	Tri Center Boulevard	4' Bicycle Lane	0.6	Durham City-County	1,560
334	Trinity Ave	4' Bicycle Lane	1.15	Durham City-County	2,990
335	Trinity Ave	Sharrows	0.38	Durham City-County	988
336	Umstead Rd	4' Paved Shoulder	3.41	Durham City-County	1,705,000
337	University Dr	4' Bicycle Lane	1.5	Durham City-County	3,900
338	University Dr	4' Bicycle Lane	0.5	Durham City-County	250,000
339	University Dr	4' Bicycle Lane	2.5	Durham City-County	6,500
340	US 15/501	4' Bicycle Lane	4.9	Durham City-County	*
341	US 70	4' Bicycle Lane	1.2	Durham City-County	600,000
342	Valley Springs Rd	4' Paved Shoulder	0.44	Durham City-County	1,144
343	Vickers Ave	4' Bicycle Lane	0.83	Durham City-County	2,158
344	Virgil Rd	4' Paved Shoulder	2.36	Durham City-County	1,180,000
345	Ward St	Sharrows	0.77	Durham City-County	2,002
346	Washington St	4' Bicycle Lane	1.43	Durham City-County	3,718
347	Watkins Rd	4' Bicycle Lane	0.87	Durham City-County	*
348	Wiley Mangum Rd	4' Paved Shoulder	1.37	Durham City-County	685,000
349	Wilkins Rd	4' Paved Shoulder	2.98	Durham City-County	1,490,000
350	Willard St	4' Bicycle Lane	0.37	Durham City-County	962
351	Woodcroft Pkwy	4' Bicycle Lane	1.8	Durham City-County	900,000

* = Cost is assumed in the related highway project

2035 Long Range Transportation Plan
Durham-Chapel Hill-Carrboro MPO Bicycle Projects

ID	Facility Description	Facility Type	Length	Jurisdiction	Total Cost
352	Woodcroft Pkwy	4' Bicycle Lane	2	Durham City-County	5,200
	Durham City/County Totals		**658**		**$ 183,442,643**
CHAPEL HILL					
1	Bolin Creek Bikeway	Bike lanes	1.1	CH	*
2	Booker Creek Rd	Bike lanes	0.4	CH	$200,000
3	Boundary St.	Bike lanes	0.4	CH	$200,000
4	Burning Tree Dr./Pinehurst Dr.	Bike lanes	2	CH	$5,200
5	Cameron Ave.	Bike lanes	0.5	CH	$250,000
6	Caswell Rd./Curtis Rd./N. Lakeshore Dr./Honeysuckle Rd./Sedgefield Dr.	Bike lanes	2.5	CH	$1,250,000
7	Culbreth Rd.	Bike lanes	1.1	CH	$550,000
8	Elliott Rd.	Bike lanes	0.7	CH	$350,000
9	Ephesus Church Rd.	Bike lanes	0.4	CH	$200,000
10	Erwin Rd.	Bike lanes	0.9	CH	$450,000
11	Estes Dr./Estes Dr. Extension	Bike lanes	3.7	CH	*
12	Eubanks Rd.	Bike lanes	1.4	CH	$700,000
13	Finley GC/Mason Farm Rds.	Bike lanes	1.4	CH	$700,000
14	Fordham Blvd./Chapel Hill Blvd.	Bike lanes	5.1	CH	$2,550,000
15	Franklin St. (E. Franklin St.)	Bike lanes	2.9	CH	$1,450,000
16	Homestead Rd.	Bike lanes	1.3	CH	*
17	Manning Dr.	Bike lanes	1.2	CH	$600,000
18	Mason Farm Rd.	Bike lanes	1.2	CH	$600,000
19	Merritt Mill Rd./ S. Greensboro St.	Bike lanes	0.8	CH	$400,000
20	Mt. Carmel Church Rd.	Bike lanes	0.9	CH	$450,000
21	NC 86/Airport Rd.	Bike lanes	4.3	CH	$2,150,000
22	Old Durham Rd.	Bike lanes	0.6	CH	*

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2035 Long Range Transportation Plan
Durham-Chapel Hill-Carrboro MPO Bicycle Projects

ID	Facility Description	Facility Type	Length	Jurisdiction	Total Cost
23	Old Oxford Rd.	Bike lanes	0.4	CH	$200,000
24	Piney Mtn. Rd./Emily Rd./Partin St./Kingston Dr./Cedar Hills Cr.	Bike lanes	2.2	CH	$1,100,000
25	Pittsboro St.	Bike lanes	0.4	CH	$200,000
26	Rogers Rd.	Bike lanes	1.2	CH	$600,000
27	Rosemary St.	Bike lanes	1.4	CH	$3,640
28	Seawell School Rd.	Bike lanes	1.5	CH	$750,000
29	South Columbia St.	Bike lanes	0.2	CH	$100,000
30	Raleigh Rd. (NC 54)	Bike lanes	1.9	CH	$950,000
31	Smith Middle School Greenway	Multi-Use Path	0.5	CH	$300,000
32	South Rd.	Bike lanes	0.6	CH	$300,000
33	Sunrise Rd.	Bike lanes	1.3	CH	$650,000
34	Umstead Dr.	Bike lanes	1	CH	$500,000
35	US 15-501 Corridor	Bike lanes	0.3	CH	*
36	US 15-501 South	Bike lanes	0.5	CH	*
37	Weaver Dairy Rd.	Bike lanes	0.4	CH	*
38	Weaver Dairy Rd. Ext.	Bike lanes	1.3	CH	*
	Chapel Hill Totals		**50**		**$18,708,840**
HILLSBOROUGH					
1	Hillsborough Marked Bike Route (Calvin St./Occoneechee St./Margaret Ln./Cameron St./E. Corbin St.)	Signage	1.7	Hillsborough	$2,000
2	Cates Creek Greenway	Multi-Use Path	2	Hillsborough	$1,200,000
3	Eno Mt. Rd./Allison St.	4' shoulders	0.8	Hillsborough	$400,000
4	NC 751/US 70/Old NC 10	4' shoulders	6.6	Hillsborough	*

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2035 Long Range Transportation Plan
Durham-Chapel Hill-Carrboro MPO Bicycle Projects

ID	Facility Description	Facility Type	Length	Jurisdiction	Total Cost
5	NC 86	4' shoulders	7.1	Hillsborough	*
6	NC 86 N	4' shoulders	3.3	Hillsborough	*
7	Oakdale Dr.	4' shoulders	1.1	Hillsborough	$550,000
8	Orange Grove Rd.	4' shoulders	3.2	Hillsborough	$1,600,000
9	Riverwalk (future phases)	Multi-Use Path	1.6	Hillsborough	$960,000
10	South Churton Street/Old NC 86	4' shoulders	1.9	Hillsborough	*
11	St. Mary's Rd.	4' shoulders	1.2	Hillsborough	$600,000
12	US 70	4' shoulders	1.45	Hillsborough	$725,000
13	US 70 Business (partially on new alignment)	shared	2	Hillsborough	$5,200
	Hillsborough Totals		**30**		**$6,042,200**
ORANGE COUNTY					
1	Ben Johnston Rd./US 70/I-85 Connector/West Ten Rd.	4' shoulders	7.2	Orange Co.	$3,600,000
2	Buckhorn Rd./Orange Grove Rd./Dairyland Rd.	4' shoulders	13.5	Orange Co.	$6,750,000
3	Cornwallis Rd./Mt. Herman Ch. Rd.	4' shoulders	3.4	Orange Co.	$1,700,000
4	Dimmocks Mill Rd./Orange Grove Rd./Dodsons Crossroads/Butler Rd./White Cross Rd.	4' shoulders	14.7	Orange Co.	$7,350,000
5	Eubanks Rd.	Bike Lanes	0.9	Orange Co.	$450,000
6	Faucette Mill Rd./Frank Perry Rd./Coleman Loop	4' shoulders	3.8	Orange Co.	$1,900,000
7	Highland Farm Rd./Efland-Cedar Grove Rd.	4' shoulders	4.7	Orange Co.	$2,350,000
8	Jones Ferry Rd.	4' shoulders	4.1	Orange Co.	$2,050,000
9	Lawrence Rd.	4' shoulders	2.8	Orange Co.	$1,400,000

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2035 Long Range Transportation Plan
Durham-Chapel Hill-Carrboro MPO Bicycle Projects

ID	Facility Description	Facility Type	Length	Jurisdiction	Total Cost
10	Lebanon Rd./Brookhollow Rd./Forrest Ave./Mt. Willing Rd.	4' shoulders	6.5	Orange Co.	$3,250,000
11	Mt. Carmel Church Rd.	Bike Lanes	1.8	Orange Co.	$900,000
12	Mt. Sinai Rd.	4' shoulders	4.9	Orange Co.	$2,450,000
13	NC 751/US 70/Old NC 10	4' shoulders	6.6	Orange Co.	$3,300,000
14	NC 86	4' shoulders	7.1	Orange Co.	$3,550,000
15	NC 86/Walnut Grv. Ch. Rd.	4' shoulders	7.97	Orange Co.	$3,985,000
16	New Hope Church Rd.	4' shoulders	4.1	Orange Co.	$2,050,000
17	Old Greensboro Rd.	4' shoulders	9.6	Orange Co.	$4,800,000
18	Old NC 86	4' shoulders	4.9	Orange Co.	$2,450,000
19	Old NC 86	4' shoulders	0.8	Orange Co.	*
20	Pleasant Green Rd./Schley Rd.	4' shoulders	15.6	Orange Co.	$7,800,000
21	Sawmill Rd./Carr Store Rd.	4' shoulders	8.5	Orange Co.	$4,250,000
22	St. Mary's Rd./New Sharon Church Rd.	4' shoulders	8.6	Orange Co.	$4,300,000
23	US 70 Bypass	4' shoulders	6.5	Orange Co.	$3,250,000
24	Whitfield Rd.	4' shoulders	3.4	Orange Co.	$1,700,000
	Orange County Totals		**152**		**$75,585,000**
CARRBORO					
1	Barrington Hills	Sharrow	0.1	Carrboro	$260
2	Bolin Creek Dr.	Sharrow	0.5	Carrboro	$1,300
3	Bolin Creek Greenway Trail	Multi-Use Path	2.3	Carrboro	$1,380,000
4	Bolin Creek Greenway Trail	Multi-Use Path	1	Carrboro	*
5	Bolin Creek Greenway Trail	Multi-Use Path	0.2	Carrboro	$120,000
6	Bolin Creek Greenway Trail	Multi-Use Path	1.8	Carrboro	$1,080,000
7	Bolin Forest	Sharrow	0.3	Carrboro	$780
8	BPW Club Rd / Tar Hill Dr./Rock Haven Connector	Bike Lanes	0.2	Carrboro	*
9	Brewer Ln.	Sharrow	0.2	Carrboro	$520

* = Cost is assumed in the related highway project

2035 Long Range Transportation Plan
Durham-Chapel Hill-Carrboro MPO Bicycle Projects

ID	Facility Description	Facility Type	Length	Jurisdiction	Total Cost
10	Camilla	Sharrow	0.6	Carrboro	$1,560
11	Carol	Sharrow	0.6	Carrboro	$1,560
12	Carr St.	Sharrow	0.2	Carrboro	$520
13	Cobblestone	Sharrow	0.4	Carrboro	$1,040
14	Colfax	Sharrow	0.5	Carrboro	$1,300
15	Dairyland Road	Bike Lanes	0.6	Carrboro	$300,000
16	Damascus Church Rd.	4' shoulders	0.6	Carrboro	$300,000
17	Davie Rd.	Bike Lanes	0.6	Carrboro	$300,000
18	Elm St.	Sharrow	0.2	Carrboro	$520
19	Estes Dr.	Bike Lanes	0.4	Carrboro	*
20	Estes spur trail	Multi-Use Path	0.2	Carrboro	$120,000
21	Eubanks Rd.	Bike Lanes	0.4	Carrboro	$200,000
22	Farm House/Tramore Connector	Bike Lanes	0.1	Carrboro	*
23	Greensboro St.	Sharrow	0.3	Carrboro	$780
24	Horne	Sharrow	0.2	Carrboro	$520
25	Homestead Rd.	Bike Lanes	1.7	Carrboro	*
26	James St.	Sharrow	0.6	Carrboro	$1,560
27	Jones Creek Trail	Multi-Use Path	0.9	Carrboro	$540,000
28	Jones Ferry Road	Bike Lanes	0.7	Carrboro	$350,000
29	N. Lake Hogan Farm Extension	Bike Lanes	1	Carrboro	*
30	S. Lake Hogan Farm Road	Bike Lanes	0.3	Carrboro	*
31	Lorraine St.	Sharrow	0.35	Carrboro	$910
32	E. Main St.	Bike Lanes	0.3	Carrboro	$150,000
33	W. Main St.	Bike Lanes	0.3	Carrboro	$150,000
34	Morgan Creek Greenway Trail	Multi-Use Path	1.7	Carrboro	$1,020,000
35	Old Fayetteville Rd.	Bike Lanes	0.15	Carrboro	$75,000
36	Old Fayetteville Rd.	Bike Lanes	0.25	Carrboro	$125,000
37	Old Fayetteville Road	Bike Lanes	1.6	Carrboro	$800,000
38	Old Greensboro Road	4' shoulders	0.4	Carrboro	$200,000
39	Old NC 86	Bike Lanes	2.3	Carrboro	$1,150,000

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2035 Long Range Transportation Plan
Durham-Chapel Hill-Carrboro MPO Bicycle Projects

ID	Facility Description	Facility Type	Length	Jurisdiction	Total Cost
40	Old Pittsboro Rd.	Sharrow	0.4	Carrboro	$1,040
41	Pathway Drive	Bike Lanes	1.2	Carrboro	*
42	Pathway Drive	Multi-Use Path	0.2	Carrboro	$120,000
43	Pine St.	Sharrow	0.3	Carrboro	$780
44	Pleasant St.	Sharrow	0.2	Carrboro	$520
45	Purple Leaf	Sharrow	0.08	Carrboro	$208
46	Quail Roost Drive	Sharrow	0.3	Carrboro	$780
47	Rand	Sharrow	0.07	Carrboro	$182
48	Red Sunset	Sharrow	0.07	Carrboro	$182
49	Roberson Place Bikepath	Multi-Use Path	0.4	Carrboro	*
50	Roberson St.	Sharrow	0.2	Carrboro	$520
51	Rock Garden	Sharrow	0.3	Carrboro	$780
52	Seawell School Connector	Bike Lanes	1.7	Carrboro	*
53	Seawell School Road	Bike Lanes	0.6	Carrboro	$300,000
54	Shelton St.	Sharrow	0.4	Carrboro	$1,040
55	Smith Level Rd	4' shoulders	2.2	Carrboro	*
56	Smith Level Road	Bike Lanes	0.7	Carrboro	*
57	Strowd Lane	Sharrow	0.3	Carrboro	$780
58	Sweet Bay Pl.	Sharrow	0.3	Carrboro	$780
59	Talley Ho	Sharrow	1.3	Carrboro	$3,380
60	Tripp Farm Road	Multi-Use Path	0.5	Carrboro	$300,000
61	Tripp Farm Road	Bike Lanes	0.3	Carrboro	*
62	Weaver st.	Bike Lanes	0.1	Carrboro	$50,000
63	Williams St.	Sharrow	0.15	Carrboro	$390
	Carrboro Totals		**37**		**$9,154,492**
CHATHAM COUNTY					
1	American Tobacco Trail	Bike Path	5.2	County	*
2	Mt. Carmel Church Road	Bike lanes	1.2	County	$600,000
3	NC 751	Bike lanes	3.2	County	$1,600,000

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2035 Long Range Transportation Plan
Durham-Chapel Hill-Carrboro MPO Bicycle Projects

ID	Facility Description	Facility Type	Length	Jurisdiction	Total Cost
4	Farrington Point / Pld Farrington / Farrington Mill Rd	Bike lanes	3.66	County	$1,830,000
5	O'Kelly Chapel Road	Bike Lanes	2.9	County	$1,450,000
6	US 15-501 South	Bike lanes	3.2	County	$1,600,000
	Chatham County Totals		**19**		**$7,080,000**
	TOTAL BICYCLE FACILITIES		**795**		**$300,013,175**

* = Cost is assumed in the related highway project

2035 Long Range Transportation Plan
Capital Area MPO Bicycle/Pedestrian Projects

ID	Facility Name	Segment From	Segment To	Total Costs
1	Avent Ferry Road	NC 55 Bypass	Cass Holt	$3,491,584
2	Avent Ferry Road	Cass Holt	New Hill Holleman Road	$1,875,000
3	Averette Road	US 401 (North)	NC 98	$1,305,000
4	Baileywick Road	Ray Road	Six Forks Road	$1,625,000
5	Bethlehem Road	Smithfield Road	Grasshopper Road	$1,720,000
6	Brassfield Road	Durant Road	Raven Ridge Road	$5,642
7	Brogden Road	Hester Rd	NC 56	$1,700,000
8	Bruce Garner Road	Wake Co. line	Brassfield Road	$2,960,000
9	Cedar Creek Road	From Tarboro Road	Hicks Road (North)	$3,265,000
10	Chalybeate Springs	US-401	NC 55	$2,030,000
11	Church Street	Morrisville Carpenter Rd	NC 54	$1,745,000
12	Church Street	NC 50	Brassfield Road	$480,000
13	East Main Street	NC 96	Cedar Creek Road	$300,000
14	Ebenezer Church Rd	Duraleigh Road	Westgate Road	$15,626
15	Forestville Road	Buffalo Road	Mitchell Mill Road	$1,430,000
16	Fox Road	Old Wake Forest Road	US 401	$1,954,528
17	Friendship Road	Old US 1	New Hill Road	$1,155,000
18	Globe Road	Briar Creek Pkwy	Page Road	$365,000
19	Green Level Church Road	Green Level - to-Durham Rd	Jenks Road	$1,725,000
20	Green Level-to-Durham Rd	Carpenter Fire Station Rd	Green Level Church Road	$710,000
21	Hawley School Road	Brassfield Road	NC 56	$485,000
22	Hester Rd	NC-56	Sanders Road	$2,090,000
23	Hester Rd	Sanders Rd	New Ext Hester Road	$1,400,000
24	Hicks Road	Cedar Creek Road	South Main Street	$290,000
25	Hillsboro Street	US 15	South Elm Street	$385,000
26	Hilltop-Needmore Road	Sunset Lake Road	Lake Wheeler Road	$1,465,000
27	Holly Springs New Hill Road	Old Holly Springs Apex	New Hill Holleman	$2,520,000
28	Holly Springs Road	Cary Parkway	Penny Road	$2,106,336
29	Holly Springs Road	Penny Road	Ten Ten Road	$1,157,536
30	Horseshoe Road	Lawrence Road	NC 96	$1,130,000
31	Jenkins Road	Thompson Mill Road	Capital Blvd	$820,000
32	Joe Peed Road	East Lyon Station Road	US 15	$645,000
33	Jones Dairy Road	NC 98 (Wake Forest Bypass)	Averette Road	$1,370,000

2035 Long Range Transportation Plan
Capital Area MPO Bicycle/Pedestrian Projects

ID	Facility Name	Segment From	Segment To	Total Costs
34	Kelly Road	Jenks Road	Old US 1	$2,600,000
35	Lake Wheeler Road	US 401	Hilltop-Needmore Road	$285,000
36	Lake Wheeler Road	Hilltop-Needmore Road	SR 1010	$1,715,000
37	Lake Wheeler Road	SR 1010	Simpkins Road	$1,195,000
38	Lake Wheeler Road	Simpkins Road	Tryon Road	$1,500,000
39	Lane Store Road	Cedar Creek Road	NC 56	$1,135,000
40	Lawrence Road	Wake Co. line	Brassfield Road	$2,345,000
41	Ligon Mill Road	US 401	Burlington Mills Rd.	$1,285,000
42	Lumley Road	US 70	Briar Creek Pkwy	$800,000
43	Mack Todd Road	Wendell Boulevard	Gannon Avenue	$905,000
44	Macon Road	Norwood Road	Ray Road	$4,420
45	N White Street	Gilchrist Farm Road	Wake Co. line	$325,000
46	NC 39	Baptist Church Road	Bunn Elem School Road	$190,000
47	NC 42	NC 401	Old Stage Road	$2,050,000
48	NC 42	Old Stage Road	NC 50	$2,710,000
49	NC 50	NC 42	Timber Drive	$3,435,000
50	NC 50	NC 210	NC 42	$2,820,000
51	NC 96	US 64	Tom Williams	$8,135,000
52	NC 96	From Granville County	NC 96 Bypass (Youngsville)	$3,735,000
53	NC 98	Averette Road	NC 96	$530,000
54	NC-210	Stockton	NC 50	$5,195,000
55	NC-56	I-85	US-15	$1,280,000
56	NC-56	NC 50	Hayes Rd	$1,300,000
57	NC-56	Hayes Rd	Franklin County	$2,025,000
58	NC-96	Franklin CO.	NC 56	$2,550,000
59	New Bern Avenue	Raleigh Blvd.	Sunnybrook Road	$1,584,496
60	New Hill Holleman Road	US 1	Sherron Harris Road	$1,825,000
61	New Hill Holleman Road	Old US 1	Avent Ferry Road	$2,400,000
62	New Hill Olive Chapel Road	Chatham County line	Old US 1	$2,285,000
63	North Nassau Street	Anderson Park Drive	NC 96	$205,000
64	Northside Loop (Harris Road)	US 1A	Oak Grove Church	$1,204,976
65	Northside Loop (Harris Road)	Oak Grove Church	NC 98 (Wake Forest Bypass)	$977,264

2035 Long Range Transportation Plan
Capital Area MPO Bicycle/Pedestrian Projects

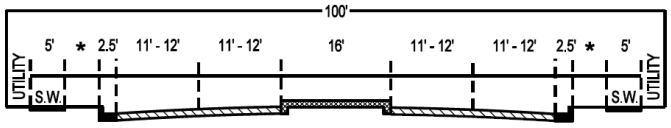
ID	Facility Name	Segment From	Segment To	Total Costs
66	Northside Road	US 15	Munns	$555,000
67	Old Buffalo Road	Buffalo Road	Capital Blvd	$470,000
68	Old Stage Road	US 401	Ten Ten Road	$2,100,000
69	Old Stage Road	Ten Ten Road	NC 42	$2,380,000
70	Old US 1	NC 751	Humie Olive Road	$1,190,000
71	Old US 1	Humie Olive Road	Apex Peakway	$1,265,000
72	Old Weaver Road	Durham Co	New Light Road	$4,390,000
73	Old Weaver Trail	From NC 50 (Wake Co)	Northside Rd Ext.	$825,000
74	Poole Road	I-540	Martin Pond Road	$2,800,000
75	Poole Road	Martin Pond Road	Wendell Blvd.	$1,745,000
76	Rock Quarry Road	Battle Bridge Road	East Garner Road	$1,650,000
77	Sanders Rd	US 15	Belltown Road	$1,540,000
78	Shotwell Rd.	US 70	East of NC 42	$2,846,400
79	Shotwell Rd.	Old Baucom Road	East Garner Road	$1,090,000
80	Smith Road	I-85	US 15	$780,000
81	South Cross Street	NC 96	Gilchrist Farm Road	$515,000
82	South Main Street	Hicks Road	NC 56	$265,000
83	Ten Ten Road	Holly Springs Rd	Bells Lake Road	$975,000
84	Ten Ten Road	Holly Springs Rd	US 1	$1,700,000
85	Ten Ten Road	Old Stage Road	NC 50	$1,715,000
86	Ten-Ten Rd.	Bells Lake Rd.	Old Stage Road	$2,550,000
87	US-15	I-85	Gate #2 Rd	$1,210,000
88	US-15	US 15 Relocation	US 15 Relocation	$105,000
89	US-15	Gate #2	Relocated US 15	$970,000
90	US-15	US 15	Moss Road	$740,000
91	US-15	Moss Rd	Smith Road	$3,240,000
92	W.B. Clark Road	East Lyon Station Road	US 15	$605,000
93	Wendell Boulevard	Poole Road	Mack Todd Road	$1,150,000
94	White Oak Road	US 70	NC 42 (Johnston Co.)	$1,125,000
95	Will Suitt Road	Gate #2 Road	East Lyon Station Road	$740,000
96	Yates Mill Pond Road	Tryon Road	Penny Road	$1,585,000
		TOTAL CAMPO BICYCLE AND PEDESTRIAN FACILITIES		$151,068,808

Appendix 5 – Cross Sections and Safety Countermeasure Guidelines

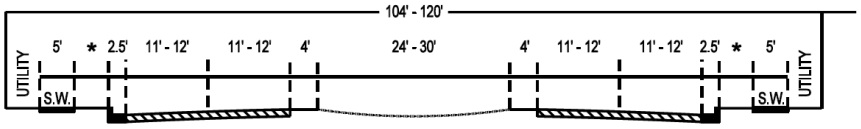
DCHC MPO policy is to promote the cross-section designs and safety counter measures presented in this appendix with the objective to create roadways that are multi-modal, sensitive to the local context (e.g., land use, non-automotive trips), and safe. These designs and counter measures are guidelines. The final cross-section and design of a road depends on many operational, planimetric, contour and land use factors, and thus design decision must be made on a case-by-case basis.

TYPICAL ROADWAY CROSS-SECTIONS

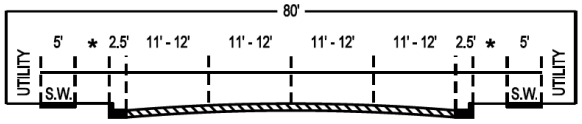
FOUR LANES DIVIDED WITH MEDIAN - FREEWAY



FOUR LANES DIVIDED WITH RAISED MEDIAN - CURB & GUTTER



FOUR LANES DIVIDED - BOULEVARD WITH GRASS MEDIAN

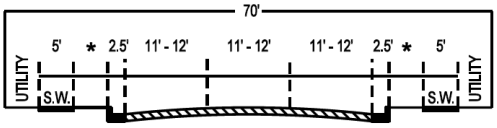


FOUR LANES - CURB & GUTTER

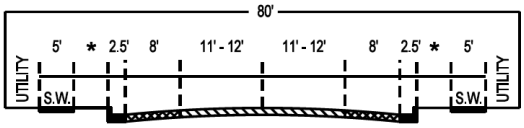
* - VARIABLE WIDTH
S.W. - SIDEWALK
P.S. - PAVED SHOULDER

NOT TO SCALE

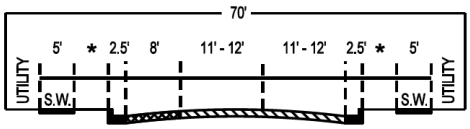
TYPICAL ROADWAY CROSS-SECTIONS



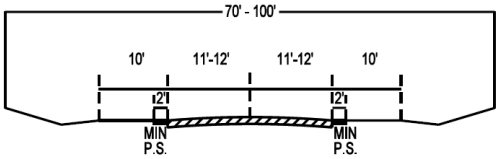
THREE LANES - CURB & GUTTER



TWO LANES - CURB & GUTTER
PARKING ON EACH SIDE



TWO LANES - CURB & GUTTER
PARKING ON ONE SIDE

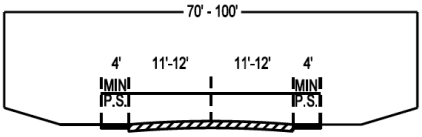


TWO LANES - PAVED SHOULDER

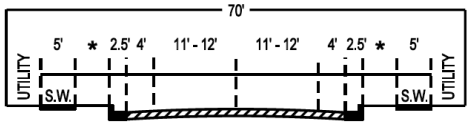
* - VARIABLE WIDTH
S.W. - SIDEWALK
P.S. - PAVED SHOULDER

NOT TO SCALE

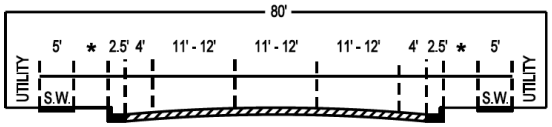
TYPICAL ROADWAY CROSS-SECTIONS FOR ACCOMMODATING BICYCLES



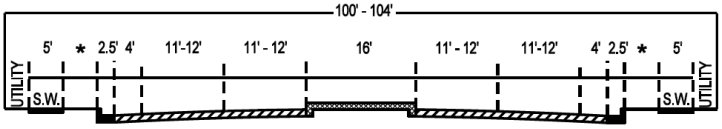
TWO LANES - SHOULDER SECTION



TWO LANES - CURB & GUTTER
WITH BIKE LANES



THREE LANES - CURB & GUTTER
WITH BIKE LANES



FOUR LANES DIVIDED WITH RAISED MEDIAN - CURB & GUTTER
WITH BIKE LANES

* - VARIABLE WIDTH
S.W. - SIDEWALK
P.S. - PAVED SHOULDER

NOT TO SCALE

SAFETY COUNTERMEASURES

The FHWA Safety Program has developed nine safety countermeasures that show great potential to reduce highway fatalities and injuries to pedestrians. As both the Capital Area MPO and Durham-Chapel Hill-Carrboro MPO develop plans to address capacity and safety challenges, they are to consider the benefits and use of these proven roadway safety tools and techniques.

1. **Road Safety Audits –** A road safety audit (RSA) is a formal safety performance examination of an existing or future road or intersection. Audit teams are independent and multidisciplinary. The team reports on potential road safety issues and identifies opportunities to improve safety for all road users. Both MPOs receive Traffic Engineering Accident Analysis data (TEAAS) data from NCDOT's Transportation Mobility & Safety Division. The aforementioned division uses the data for Road Safety Audits for state maintained roads. Both MPOs will work with NCDOT's Transportation Mobility & Safety Division to utilize this data to identify roadways that might benefit from a safety audits.

2. **Rumble Strips and Rumble Stripes –** Rumble strips are raised or grooved patterns on the roadway that provide both an audible warning (rumbling sound) and a physical vibration to alert drivers that they are leaving the driving lane. They may be installed on the roadway shoulder or on the centerline of undivided highways. Rumble stripes are rumble strips that are placed at the centerline or edge-line. Local governments within both MPOs, as well as NCDOT have studied the benefits of rumble strips and will continue to examine the benefits of rumble strips to improve the general public's safety.

3. **Median Barriers –**Median barriers are longitudinal barriers used to separate opposing traffic on a divided highway. They are designed to redirect vehicles striking either side of the barrier. Median barriers can significantly reduce the number of cross-median crashes and the overall severity of median-related crashes. Both MPOs will encourage its local governments to address the use of median barriers in new road design, as well as improving traffic flow and safety on existing highway facilities. The NCDOT recently undertook an effort to improve maintenance of its median barriers.

4. **Safety Edge –**The Safety Edge asphalt paving technique minimizes vertical drop-off safety hazards. A Safety Edge shape is created by fitting resurfacing equipment with a device that extrudes and compacts the shape of the pavement edge at a specific angle as the paver passes. This mitigates shoulder pavement edge drop-offs immediately during the construction process and over the life of the pavement. Because the technique involves only a slight modification of paving equipment, it has a minimal impact on project cost. NCDOT has indicated that they are in the process of trying this technique on a few projects across the state and then monitor it to see if it has positive results. The Capital Area MPO and the Durham-Chapel Hill-Carrboro MPO will encourage NCDOT to inform them of the outcome and examine where the technique can best utilized along the roadway network.

5. **Roundabouts –**A roundabout is a circular intersection where entering traffic yields to vehicles on the circulatory roadway. Roundabouts are designed to channel traffic at the entrance and provide collision deflection around a center island. Modern roundabouts are geometrically designed to reduce speeds and deflect collision forces, which substantially improves safety, while providing excellent operational performance at the intersection. There are local governments in both MPOs that have ordinance provisions for roundabouts; and both MPOs will encourage their use as needed for transportation system measures.

6. **Left- and Right-Turn Lane at Stop-Controlled Intersections –** Left-turn lanes are auxiliary lanes for storage or speed change of left-turning vehicles. Left-turn lanes reduce the likelihood of intersection crashes. They also make turning easier for drivers and improve the intersection's operational efficiency. Right-turn lanes provide a separation at intersection approaches between right-turning traffic and adjacent through-traffic. This reduces conflicts and improves intersection safety. Both MPOs will support safety countermeasures at stop-controlled intersections where needed to ensure safety for the travelling public.

7. **Yellow Change Intervals –** Yellow signal lights that are not timed appropriately are a safety hazard. Yellow change intervals that are not consistent with normal operating speeds create a "dilemma zone" in which drivers can neither stop safely, nor reach the intersection before the signal turns red. Both MPOs will support efforts by NCDOT and local transportation/engineering department to improve signal timing for appropriate yellow change intervals.

8. **Medians and Pedestrian Refuge Areas in Urban and Suburban Areas –** Medians reduce traffic conflicts and increase safety by providing a buffer area between opposing lanes of traffic. Medians can be open (pavement markings only), or channelized (raised medians or islands) to separate various road users. Pedestrian Refuge Areas—also known as crossing islands, center islands, refuge islands, pedestrian islands, or median slow points—are raised islands placed in the street to separate crossing pedestrians from vehicles. Both the Capital Area MPO and Durham-Chapel Hill-Carrboro MPO will support the efforts to apply medians and pedestrian refuge areas where needed to support safety and reduce conflict between motor vehicles and pedestrians.

9. **Walkways –** Appropriately designed walkways increase safety for all road users. Both MPOs have active stakeholder and advisory groups that encourage the planning of pedestrian accommodations as a component of the regional transportation network. Types of walkways include:
    - *Pedestrian Walkway (Walkway)* – A continuous way designated for pedestrians and separated from motor vehicle traffic by a space or barrier.
    - *Shared Use Path* – A bikeway or pedestrian walkway physically separated from motor vehicle traffic by an open space or barrier, either within a highway right-of-way, or within an independent right-of-way. Shared use paths may also be used by pedestrians, skaters, wheelchair users, joggers, and other non-motorized users. Shared use paths also are referred to as "trails" or "multiple-use trails."
    - *Sidewalks* – Walkways that are paved and separated from the street, generally by curb and gutter.
    - *Roadway Shoulder* – In rural or suburban areas where sidewalks and pathways are not feasible, gravel or paved highway shoulders provide a safer area for pedestrians to walk next to the roadway.

The Durham-Chapel Hill-Carrboro MPO and Capital Area MPO will continue to support the development of this needed infrastructure, and will encourage local governments to incorporate pedestrian accommodations as a part of their overall plan development.

Conformity Analysis and Determination Report

2035 Long Range Transportation Plans:

- **Capital Area Metropolitan Planning Organization,**
- **Durham-Chapel Hill-Carrboro Metropolitan Planning Organization**
- **Burlington-Graham Metropolitan Planning Organization**

FY 2009 – 2015 Transportation Improvement Programs

- **Capital Area Metropolitan Planning Organization**
- **Durham-Chapel Hill-Carrboro Metropolitan Planning Organization**
- **Burlington Graham Metropolitan Planning Organization**

Projects from the FY 2009-2015 State Transportation Improvement Program:

- **The portions of Chatham County, Franklin County, Granville County, Johnston County, Orange County and Person County that are within the Triangle Ozone Maintenance Area but Outside the Capital Area, Durham-Chapel Hill-Carrboro and Burlington-Graham Metropolitan Planning Organization Areas**

May 12, 2009

Prepared by:

The Triangle J Council of Governments for the
Capital Area Metropolitan Planning Organization,
Durham-Chapel Hill-Carrboro Metropolitan Planning Organization,
Burlington-Graham Metropolitan Planning Organization,
Triangle Area Rural Planning Organization,
Kerr-Tar Rural Planning Organization,
Upper Coastal Plain Rural Planning Organization
and
The NCDOT Transportation Planning Branch

In cooperation with:

The North Carolina Department of Environment and Natural Resources
Division of Air Quality

Contact Information

Additional copies of this report can be obtained from the Triangle J Council of Governments at the following address:

Triangle J Council of Governments
P.O. Box 12276
Research Triangle Park, NC 27709

This document, including the appendices, can be downloaded from the website:

www.triangleair.org

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List of Acronyms

BG MPO:	Burlington-Graham Metropolitan Planning Organization
CAAA:	Clean Air Act Amendments of 1990 (United States)
CAMPO:	Capital Area Metropolitan Planning Organization
CFR:	Code of Federal Regulations
CMAQ:	Congestion Mitigation/Air Quality
CO:	Carbon Monoxide
DAQ:	Division of Air Quality (North Carolina)
DCHC MPO:	Durham-Chapel Hill –Carrboro Metropolitan Planning Organization
DENR:	Department of Environment and Natural Resources (North Carolina)
DMV:	Division of Motor Vehicles
DOT:	Department of Transportation (North Carolina)
EPA:	Environmental Protection Agency (United States)
FHWA:	Federal Highway Administration
FTA:	Federal Transit Administration
HBO:	Home Based Other (trip purpose)
HBS:	Home Based Shopping (trip purpose)
HBW:	Home Based Work (trip purpose)
HOV:	High Occupancy Vehicle
HPMS:	Highway Performance Management System
I/M:	Inspection/Maintenance
ISTEA:	Intermodal Surface Transportation Efficiency Act
ITRE:	Institute for Transportation Research and Education
KT RPO:	Kerr-Tar Rural Transportation Planning Organization
LRTP:	Long Range Transportation Plan
MPO:	Metropolitan Planning Organization
MTIP:	Metropolitan Transportation Improvement Program (regional equivalent of the STIP)
NAAQS:	National Ambient Air Quality Standards
NCDOT:	North Carolina Department of Transportation
NHB:	Non Home Based (trip purpose)
NO_x:	Nitrogen Oxides
RPO:	Rural Transportation Planning Organization
RTAC:	Rural Transportation Advisory Committee
RTCC:	Rural Technical Coordinating Committee
RVP:	Reid Vapor Pressure
SAFETEA-LU:	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SIP:	State Implementation Plan
STIP:	State Transportation Improvement Program (statewide equivalent of the MTIP)
TAC:	Transportation Advisory Committee
TAZ:	Traffic Analysis Zone
TARPO:	Triangle Area Rural Transportation Planning Organization
TCC:	Technical Coordination Committee
TCM:	Transportation Control Measure
TDM:	Transportation Demand Management
TEA-21:	Transportation Efficiency Act for the 21st Century
TIP:	Transportation Improvement Program
TRM:	Triangle Regional Model
UCPRPO:	Upper Coastal Plain Rural Transportation Planning Organization
USEPA:	United States Environmental Protection Agency
VKT:	Vehicle Kilometers of Travel
VMT:	Vehicle Miles of Travel
VOC:	Volatile Organic Compounds

Conformity Analysis and Determination Report

2035 Long Range Transportation Plans:

- **Capital Area Metropolitan Planning Organization**
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Overview

Transportation conformity ("conformity") is a way to ensure that Federal funding and approval goes to transportation activities that are consistent with air quality goals. Conformity applies to transportation plans, transportation improvement programs (TIPs), and projects funded or approved by the Federal Highway Administration (FHWA) or the Federal Transit Administration (FTA) in areas that do not meet or previously have not met air quality standards for ozone, carbon monoxide, particulate matter, or nitrogen dioxide. These areas are known as "non-attainment areas" or "maintenance areas," respectively.

A conformity determination demonstrates that the total emissions projected for a plan or program are within the emissions limits ("budgets") established by the State Implementation Plan (SIP) for air quality, and that transportation control measures (TCMs) – specific projects or programs enumerated in the SIP that are designed to improve air quality – are implemented in a timely fashion. Counties within the Triangle were designated as a maintenance area for the 8-hour ozone standard and the effective date of the designation was December 26, 2007. The Capital Area MPO (CAMPO), Durham-Chapel Hill-Carrboro MPO (DCHCMPO) and Burlington-Graham MPO are adopting new 2035 Long Range Transportation Plans, requiring a new regional emissions analysis and conformity determination. This document addresses these plans and the previously adopted 2009-15 Transportation Improvement Programs (TIPs), which are conforming direct subsets of the Long Range Transportation Plans.

Determining Conformity

Regional emissions are estimated based on highway and transit usage according to transportation plans and TIPs. The projected emissions for the plan and TIP must not exceed the emissions limits (or "budgets") established by the SIP (or interim emissions tests, in areas where no SIP has yet been approved or found adequate by the U.S. Environmental Protection Agency (EPA)). Where TCMs are included, responsible MPOs and the North Carolina Department of Transportation (NCDOT) are required to demonstrate that TCMs are implemented in a timely fashion. In North Carolina there are currently no TCMs included in SIPs.

The Decision Process

A formal interagency consultation process involving the Environmental Protection Agency (EPA), Federal Highway Administration (FHWA), Federal Transit Administration (FTA) and state and local transportation and air quality agencies is required in developing SIPs, TIPs, and transportation plans, and in making conformity determinations. Metropolitan Planning Organization (MPO) policy boards make initial conformity determinations in metropolitan areas, while the NCDOT does so in areas outside of MPOs, in consultation

with affected Rural Planning Organizations (RPOs).

Four organizations are responsible for making the conformity determinations in four distinct parts of the Triangle Ozone Maintenance Area:

a. the Capital Area MPO within the CAMPO metropolitan area boundary – all of Wake County, and parts of Franklin, Granville, and Johnston counties.
b. the DCHC MPO within its metropolitan area boundary – all of Durham County and parts of Orange and Chatham counties.
c. the Burlington-Graham MPO within its portion of the metropolitan area boundary in western Orange County.
d. the NCDOT in a rural area that is comprised of those portions of Chatham, Orange, Person, Franklin, Granville and Johnston Counties that remain outside of any MPO metropolitan area boundary.

Each of these responsible organizations must make a conformity determination for its respective area in order for all of the areas to be designated in conformity.

The final conformity determination is made at the Federal level by FHWA/FTA. These determinations must be made at least every four years, or when transportation plans or TIPs are amended or updated, or within one year of the effective date of a non-attainment designation. Conformity determinations must also be made within two years after the approval of a State Implementation Plan (SIP) containing motor vehicle emission budgets or determination of adequacy of those budgets.

The conformity analyses are made available to the public as part of the MPO and/or State DOT planning processes. MPOs are required to make transportation plans, TIPs, and conformity determinations available to the public, accept and respond to public comments, and provide adequate notice of relevant public meetings. Project sponsors of specific transportation projects within the transportation plans and TIPs must also include appropriate public involvement during project development.

Emissions Budget
The SIP places limits on emissions of each pollutant for each source type (mobile, stationary and area sources). Projected emissions from highway and transit usage must be less than or equal to the emissions limits for on-road mobile vehicles that are established by the SIP, or be less than baseline emissions where no SIP has yet been adopted. These limits on motor vehicle emissions sources are called "budgets." Budgets are developed as part of the air quality planning process by State air quality/ environmental agencies, and approved by EPA. Transportation agencies participate in this process.

Transportation Control Measures (TCMs)
Areas can include TCMs in their SIPs. TCMs are specific programs designed to reduce emissions from transportation sources by reducing vehicle use or changing traffic flow or congestion conditions. In North Carolina there are currently no TCMs included in SIPs. TCMs can include such programs as:

- developing high occupancy vehicle (HOV) facilities
- ordinances to promote non-motor vehicle travel
- transit improvements
- signal timing
- bicycle and pedestrian facilities
- land use planning

Executive Summary

The purpose of this report is to comply with the provisions of the Clean Air Act Amendments of 1990 and the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) of 2005. It demonstrates that the financially constrained long-range transportation plans (LRTPs) and the transportation improvement programs (TIPs) eliminate or reduce violations of the national ambient air quality standards (NAAQS) in the following areas:

- The Capital Area Metropolitan Planning Organization (CAMPO),
- The Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO),
- The portion of Orange County within the Burlington-Graham Metropolitan Planning Organization (BG MPO).
- The portions of the Triangle Area Rural Planning Organization (TARPO) which are in the Triangle Ozone Maintenance Area (part of Orange County and four townships in Chatham County: Baldwin, Center, New Hope and Williams Townships),
- The portions of the Kerr-Tar Rural Planning Organization (Kerr-Tar RPO) which are in the Triangle Ozone Maintenance Area (Person County and parts of Franklin and Granville and Counties), and
- The part of Johnston County in the Upper Coastal Plain Rural Planning Organization.

The plan accomplishes the intent of the North Carolina State Implementation Plan (SIP). This conformity determination is based on a regional emissions analysis that uses the transportation networks approved by each of the above-named Metropolitan Planning Organizations (MPOs) and Rural Planning Organizations (RPOs) for the 2035 long-range transportation plans, and the emissions factors developed by the North Carolina Department of Environment and Natural Resources (DENR). The above-named MPOs and RPOs combine to form a region known as the Research Triangle, or "Triangle." Based on this analysis, the 2035 Long-Range Transportation Plans for the CAMPO and the DCHC MPO and their respective 2009-15 Transportation Improvement Programs conform to the purpose of the North Carolina SIP. The respective FY 2009-2015 TIPs are direct subsets of the applicable 2035 long-range transportation plans. The conformity analysis for the 2009-15 STIP for the relevant portions of the RPOs is specifically addressed by the North Carolina Department of Transportation (NCDOT). The NCDOT analysis also showed the Transportation Improvement Programs conform to the purpose of the North Carolina SIP.

The United States Environmental Protection Agency (USEPA) originally declared Durham County, Wake County and Dutchville Township in Granville County non-attainment for ozone (O_3) and Durham County and Wake County non-attainment for Carbon Monoxide (CO) on November 15, 1990. Durham County, Wake County and Dutchville Township were redesignated by USEPA to attainment with a maintenance plan for ozone on June 17, 1994 and Durham County and Wake County were redesignated by USEPA to attainment with a maintenance plan for CO on September 18, 1995.

In 1997 the NAAQS for ozone was reviewed and revised to reflect improved scientific understanding of the health impacts of this pollutant. When the standard was revised in 1997, an eight-hour ozone standard was established. The USEPA designated the entire Triangle area as a "basic" non-attainment area for eight-hour ozone with an effective date of June 15, 2004. The Triangle was then re-designated as attainment with a maintenance plan for ozone on December 26, 2007.

Tables related to CO in this report reflect the motor vehicle emission budgets published in the March 24, 2006 Federal Register and effective May 23, 2006. Tables related to NO_x in this report reflect the motor vehicle emission budgets published in the December 26, 2007 Federal Register and effective that same date.

In summary, the current maintenance designation for ozone covers the following geographic areas:

- Durham County (also a maintenance area for CO)
- Wake County (also a maintenance area for CO)
- Orange County
- Johnston County
- Franklin County
- Granville County
- Person County
- Baldwin, Center, New Hope and Williams Townships in Chatham County

The conformity determination is based on the following Long Range Transportation Plans (LRTPs) and the 2009-15 TIPs, which are conforming subsets:

- *2035 Transportation Plan for the Capital Area MPO* and *2009-15 TIP*
- *2035 Transportation Plan for the Durham-Chapel Hill-Carrboro MPO* and *2009-15 TIP*
- *2035 Transportation Plan for the Burlington-Graham MPO* and *2009-15 TIP*
- *Projects from the 2009-15 STIP in the rural ("donut") areas outside of the MPOs*

These three LRTPs, taken together, and with projects from the most recent STIP in the rural ("donut") areas outside of the urban areas, form in effect a Triangle Regional Transportation plan. Each plan has three analysis years: 2015, 2025, and 2035. Each analysis year includes expected population and employment data and roadway and transit projects that should be open. The plans are fiscally constrained; funding sources for roadway and transit projects are identified.

DENR prepared base and future emission rates for the vehicle fleet using MOBILE6.2. These rates were applied to VMT from the Triangle Regional Model (TRM). Each of the counties (or, in the case of Chatham County, portion of the county) has its own emissions budget.

Table 1 summarizes the conformity requirements of 40 CFR Part 51 and 93 and gives the status of each long range transportation plan in relation to each of these requirements. Tables 2 through 9 contain results from the budget comparisons for each of the applicable counties or county portions.

In every horizon year for every pollutant in each geographic area, the emissions expected from the implementation of the long-range plans and TIPs are less than the emissions budgets established in the SIP or the baseline emissions where no SIP budget is available. Table 10 contains a cross-reference index for the report.

Table 1. Status of Conformity Requirements

Criteria (√ indicates the criterion is met)	**Burlington-Graham MPO**	**Durham-Chapel Hill-Carrboro MPO**	**Capital Area MPO**	**Rural (Donut) Area of the Triangle**
Emissions Budget	√	√	√	√
TCM Implementation	The NC SIP includes no Transportation Control Measures in the Triangle Area			
Interagency Consultation	√	√	√	√
Latest Emissions Model	√	√	√	√
Latest Planning Assumptions	√	√	√	√
Fiscal Constraint	√	√	√	√

Table 2. Durham County Emissions Comparison Summary *(kg/day)*

Year	NO_X		CO[1]		
	SIP Budgets	LRTP Emissions	SIP Budgets (tons)	SIP Budgets (kg)	LRTP Emissions (kg)
2015[2]	13,106	5,154	177.22	160,771	80,141
2017[2]	4,960	4,701	177.22	160,771	80,355
2025[3]	4,960	2,555	177.22	160,771	76,243
2035[4]	4,960	2,447	177.22	160,771	83,583

Table 3. Wake County Emissions Comparison Summary *(kg/day)*

Year	NO_X		CO[1]		
	SIP Budgets	LRTP Emissions	SIP Budgets (tons)	SIP Budgets (kg)	LRTP Emissions (kg)
2015[2]	36,615	15,927	384.27	348,604	265,166
2017[2]	16,352	14,632	384.27	348,604	268,405
2025[3]	16,352	8,672	384.27	348,604	269,739
2035[4]	16,352	8,117	384.27	348,604	291,050

Table 4. Granville County Emissions Comparison Summary *(kg/day)*

Year	NO_X	
	SIP Budgets	Long Range Plan or TIP Emissions
2015[2]	4,649	1,443
2017[2]	1,714	1,282
2025[3]	1,714	634
2035[4]	1,714	590

Table 5. Franklin County Emissions Comparison Summary *(kg/day)*

Year	NO_X	
	SIP Budgets	Long Range Plan or TIP Emissions
2015[2]	2,048	1,212
2017[2]	1,139	1,084
2025[3]	1,139	572
2035[4]	1,139	499

Table 6. Johnston County Emissions Comparison Summary *(kg/day)*

Year	NO_X	
	SIP Budgets	Long Range Plan or TIP Emissions
2015[2]	12,583	4,859
2017[2]	5,958	4,303
2025[3]	5,958	2,075
2035[4]	5,958	1,611

Table 7. Orange County Emissions Comparison Summary *(kg/day)*

Year	NO_X	
	SIP Budgets	Long Range Plan or TIP Emissions
2015[2]	9,933	3,181
2017[2]	3,742	2,847
2025[3]	3,742	1,513
2035[4]	3,742	1,425

Table 8. Person County Emissions Comparison Summary *(kg/day)*

Year	NO_X SIP Budgets	NO_X Long Range Plan or TIP Emissions
2015[2]	1,359	715
2017[2]	791	632
2025[3]	791	302
2035[4]	791	368

Table 9. Chatham County (part) Emissions Comparison Summary *(kg/day)*

Year	NO_X SIP Budgets	NO_X Long Range Plan or TIP Emissions
2015[2]	1,565	895
2017[2]	948	814
2025[3]	948	491
2035[4]	948	445

1. To obtain kilograms per day, multiply tons per day by 907.18; SIP CO budgets are listed in tons/day
2. Budget year
3. LRTP interim year
4. LRTP Horizon year.

Table 10. Cross-Reference Index Conformity Determination Report for the Long-Range Transportation Plans and TIPs in the Triangle Region Ozone Maintenance Area	
Conformity Requirement	Page # or Appendix
Formal findings of conformity.	pp. 29-30
Table of Contents.	iii
The purpose of this report is to comply with the requirements of the CAAA, SAFETEA-LU, and 40 CFR 51 and 93.	p. 9
The former and current classification of the airshed and the pollutants for which the airshed was previously classified as non-attainment.	p. 12
The dates Durham and Wake Counties were redesignated to a Maintenance Area under the CO standard and the date the region was designated to maintenance under the 8-hour ozone standard.	p. 12
The emissions expected from implementation of the long-range plans are equal to, or less than, the emissions budgets in the Maintenance Plans and established in the SIP.	pp. 26-28
The adopted long-range plan is fiscally constrained (§93.108).	p. 14
The latest planning assumptions were used in the conformity analysis (§93.110).	pp. 14-15
The latest emissions model was used in the conformity analysis (§93.111).	p. 22
The list of federally funded T.C.M. activities included. (§93.113).	p. 23
Conformity determined according to §93.105 and the adopted public involvement procedures.	p. 28
Dates of the Transportation Advisory Committee reviews of the conformity determination and the recommendation.	Appendix M
SIP emissions budget comparison demonstrates conformity of the adopted long-range transportation plan and TIP.	p. 29-30
Listing of 2035 LRTP and 2009-15 TIP projects in each analysis year (both highway and transit).	pp. 15-17, Appendix D
Estimation of Vehicle Starts.	p. 23, Appendix G
Analysis of “rural (donut) area” projects.	Appendix I
Off-model analysis performed.	p. 23, Appendix H
Significant comments of reviewing agencies addressed by the MPO, or a statement that no significant comments were received.	Appendix K
Emissions Calculations.	Appendix I
MOBILE6.2 input files.	Appendix F

Conformity Analysis and Determination Report

2035 Long Range Transportation Plans:

- **Capital Area Metropolitan Planning Organization,**
- **Durham-Chapel Hill-Carrboro Metropolitan Planning Organization**
- **Burlington-Graham Metropolitan Planning Organization**

FY 2009 – 2015 Transportation Improvement Programs

- **Capital Area Metropolitan Planning Organization**
- **Durham-Chapel Hill-Carrboro Metropolitan Planning Organization**
- **Burlington Graham Metropolitan Planning Organization**

Projects from the FY 2009-2015 State Transportation Improvement Program:

- **the portions of Chatham County, Franklin County, Granville County, Johnston County, Orange County and Person County that are within the Triangle Ozone Maintenance Area but Outside the Capital Area and Durham-Chapel Hill-Carrboro Metropolitan Planning Organization Areas**

1. Introduction

The Clean Air Act requires the United States Environmental Protection Agency (USEPA) to set limits on how much of a particular pollutant can be in the air anywhere in the United States. National Ambient Air Quality Standards (NAAQS) are the pollutant limits set by the USEPA; they define the allowable concentration of pollution in the air for six different pollutants – Carbon Monoxide, Lead, Nitrogen Dioxide, Particulate Matter, Ozone, and Sulfur Dioxide.

The Clean Air Act specifies how areas within the country are designated as either "attainment" or "non-attainment" of an air quality standard, and authorizes USEPA to define the boundaries of non-attainment areas. For areas designated as non-attainment for one or more NAAQS, the Clean Air Act defines a specific timetable to attain the standard and requires that non-attainment areas demonstrate reasonable and steady progress in reducing air pollution emissions until such time that an area can demonstrate attainment. Each state must develop and submit a State Implementation Plan (SIP) that addresses each pollutant for which it violates the NAAQS. Individual state air quality agencies are responsible for defining the overall regional plan to reduce air pollution emissions to levels that will enable attainment and maintenance of the NAAQS. This strategy is articulated through the SIP.

In North Carolina, the agency responsible for SIP development is the North Carolina Department of Environment and Natural Resources, Division of Air Quality (NC DENR/DAQ). The delineation and implementation of strategies to control emissions from on-road mobile sources is a significant element of the state plan to improve air quality, which links transportation and air quality planning activities within a non-attainment or maintenance area. The process of ensuring that a region's transportation planning activities contribute to attainment of the NAAQS, or "conform" to the purposes of the SIP, is referred to as transportation conformity. In order to receive federal transportation funds within a non-attainment or maintenance area, the area must demonstrate through a federally mandated conformity process that the transportation investments, strategies and programs, taken as a whole, contribute to the air quality goals defined in the state air quality plan.

In order to ensure the conformity requirements are met, Section 176 (c) of the Clean Air Act authorizes the USEPA Administrator to "promulgate criteria and procedures for demonstrating and assuring conformity in the case of transportation plans, programs, and projects." This is accomplished through the Transportation Conformity Rule, developed by the USEPA to outline all federal requirements associated with transportation conformity. The Transportation Conformity Rule in conjunction with the Metropolitan Planning Regulations direct transportation plan and program development as well as the conformity process.

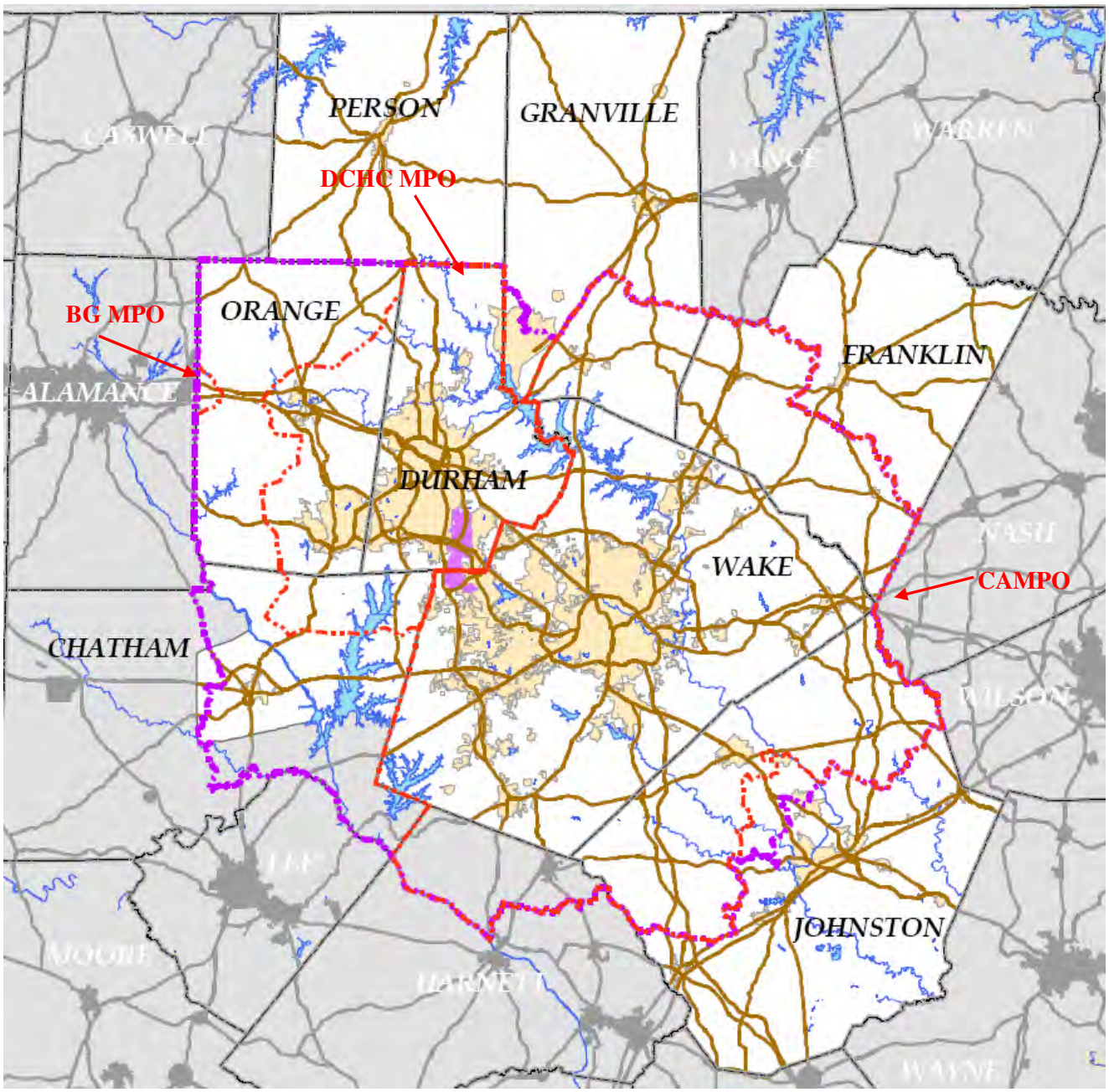
The purpose of this report is to comply with the provisions of the Clean Air Act Amendments of 1990 in concurrence with all conformity requirements as detailed in 40 CFR Parts 51 and 93 (the Transportation Conformity Rule) and 23 CFR Part 450 (the Metropolitan Planning Regulations). It demonstrates that the financially constrained long-range transportation plans and the transportation improvement programs (TIPs) eliminate or reduce future violation of the National Ambient Air Quality Standards (NAAQS) in the following jurisdictions:

- The Capital Area Metropolitan Planning Organization (CAMPO),
- The Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO),
- The Burlington-Graham Metropolitan Planning Organization (BG MPO).
- The portions of the Triangle Area Rural Planning Organization (TARPO) which are in the Triangle Ozone Maintenance Area (Orange County and four townships in Chatham County),
- The portions of the Kerr-Tar Rural Planning Organization (Kerr-Tar RPO) which are in the Triangle Ozone Maintenance Area (Franklin, Granville and Person Counties), and
- Johnston County in the Upper Coastal Plain Rural Planning Organization.

The plan accomplishes the intent of the North Carolina State Implementation Plan (SIP). This conformity determination is based on a regional emissions analysis that uses the transportation network approved by each of the above-named Metropolitan Planning Organizations (MPOs) and Rural Planning Organizations (RPOs) for the 2035 long-range transportation plan, and the emissions factors developed in cooperation with the North Carolina Department of Environment and Natural Resources (DENR). The above-named MPOs and portions of RPOs combine to form a region known as the "Triangle." The entire Triangle maintenance region is shown as a map in Figure 1.

All Federally funded projects and regionally significant projects, regardless of funding source, in areas designated by the United States Environmental Protection Agency (USEPA) as air quality non-attainment or maintenance areas must come from a conforming long-range transportation plan and transportation improvement program (TIP). The Triangle region is required by 40 CFR 51 and 93 to make a conformity determination on any newly adopted or amended fiscally constrained long-range transportation plan and TIP. In addition, the United States Department of Transportation (USDOT), specifically, the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA), must make a conformity determination on the three MPO Plans in the Triangle region and the related TIPs in all non-attainment and maintenance areas.

Figure 1. Triangle Ozone Maintenance Area



Legend

- Triangle Ozone Maintenance Area
- TRM Modelled Area
- MPO Boundary
- Major Road Or Highway
- RTP
- Municipal Limit
- County Boundaries

BG MPO is Burlington-Graham MPO (small part of Orange County in the maintenance area).

CAMPO is Capital Area MPO (all of Wake County and parts of Franklin, Granville, Harnett and Johnston Counties)

DCHC MPO is Durham-Chapel Hill-Carrboro MPO (all of Durham and parts of Orange and Chatham Counties

In order to assist the Triangle region in making a conformity determination on the adopted 2035 fiscally constrained long-range transportation plans, the following agencies shared leading roles composing substantial portions of this document pertaining to specific areas:

Agency	*Counties*
CAMPO	Wake, Franklin (part), Granville (part), Johnston (part)
DCHC MPO	Durham, Orange (part), Chatham (part)
BG MPO	Orange (part)
NCDOT, with RPO input	Chatham (part), Franklin (part), Granville (part), Johnston (part), Orange (part), Person

These analyses are consistent with the set of amendments to 40 CFR Parts 51 and 93, published in the January 24, 2008 **Federal Register**, *Transportation Conformity Rule Amendments to Implement Provisions Contained in the 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU); Final Rule*, effective on February 25, 2008. Based on the regional emissions budget tests documented in this report, the following Transportation Plans and TIPs conform to the purpose of the Triangle Area SIP:

- Capital Area MPO 2035 LRTP and the 2009-15 TIP
- Durham-Chapel Hill-Carrboro MPO 2035 LRTP and the 2009-15 TIP
- Burlington-Graham MPO 2035 LRTP and the 2009-15 TIP
- Projects from the 2009-2015 STIP in the donut areas of the Triangle Maintenance Area

This report documents the regional emissions budget test, interagency consultation process, public involvement process, and analysis methodology used to demonstrate transportation conformity for each MPO and rural donut area and thus for the Triangle region.

40 CFR Part 93 requires that a conforming transportation plan satisfy six conditions:

- The transportation plan must be consistent with the motor vehicle emissions budget(s) in an area where the applicable implementation plan or implementation plan submission contains a budget (*40 CFR Part 93.118*).
- The transportation plan, TIP, or FHWA/FTA project not from a conforming plan must provide for the timely implementation of TCMs from the applicable implementation plan (*40 CFR Part 93.113b*).
- The MPO must make the conformity determination according to the consultation procedures of *40 CFR Part 93.105*.
- The conformity determination must be based on the latest emissions estimation model available (*40 CFR Part 93.111*).
- The conformity determination must be based on the latest planning assumptions (*40 CFR Part 93.110*).
- The Transportation Plan, TIP, or FHWA/FTA project must meet the interim emissions tests where applicable (40 CFR Part 93.119).

This report shows that each MPO's 2035 Transportation Plan, the 2009-15 TIPs and projects from the 2009-15 STIP in the donut areas meets each condition. Each condition is discussed in the following sections of this report.

2. Air Quality Planning

USEPA originally declared Durham County, Wake County and Dutchville Township in Granville County non-attainment for ozone (O_3) under the 1-hour ozone standard and Durham County and Wake County non-attainment for Carbon Monoxide (CO) on November 15, 1990. Ozone, the primary component of smog, is a compound formed when volatile organic compounds (VOC) and oxides of nitrogen (NO_x) mix together in the atmosphere with sunlight. NO_x and VOC are referred to as ozone "precursors." Durham County, Wake County and Dutchville Township were redesignated by USEPA to attainment with a maintenance plan for ozone under the 1-hour standard on June 17, 1994 and Durham County and Wake County were redesignated by USEPA to attainment with a maintenance plan for CO on September 18, 1995.

In 1997 the NAAQS for ozone was reviewed and revised to reflect improved scientific understanding of the health impacts of this pollutant. When the standard was revised in 1997, an eight-hour ozone standard was established that was designed to replace the one-hour standard. The USEPA designated the entire Triangle area as a "basic" non-attainment area for ozone under the eight-hour standard with an effective date of June 15, 2004; the designation covered the following geographic areas:

- Durham County
- Wake County
- Orange County
- Johnston County
- Franklin County
- Granville County
- Person County
- Baldwin, Center, New Hope and Williams Townships in Chatham County

On December 26, 2007, the Triangle Area was redesignated as attainment with a maintenance plan for ozone under the eight-hour standard. The USEPA direct final rule from the Federal Register for CO is found in Appendix A. The USEPA direct final rule for ozone is provided in Appendix B.

2.1 Emissions Budgets

DENR prepared emissions budgets as part of their CO and 8-hour ozone maintenance plans for those areas subject to budgets. Each of the eight counties or portions of counties in the bulleted list above is part of the Triangle ozone maintenance area under the 8-hour ozone standard and has emissions budgets for NO_x. Emissions budgets were established for 2008 and 2017. The 2008 budgets apply for years up to and including 2016, while the 2017 budgets apply for 2017 and all subsequent years. The December 26, 2007 Federal Register notice establishing the NO_x budgets deemed VOCs insignificant, hence no VOC budgets apply to the region.

Durham and Wake Counties have CO maintenance requirements under the most recent SIP Maintenance Plan update, which supplemented the pre-existing 2005 CO budgets with new 2015 budgets for each county. Under the update, the existing 2005 budgets from the prior SIP apply between 2005 and 2014 and the newer 2015 budgets apply from 2015 onwards.

Tables related to CO in this report reflect the motor vehicle emission budgets published in the March 24, 2006 Federal Register and effective May 23, 2006 (see Appendix A).

Tables 11 and 12 list the motor vehicle emission budgets for those portions of the Triangle subject to SIP budgets.

Table 11. NO_x Budget for Triangle Counties

NO_x: Redesignation SIP (kilograms/day)		
Area	SIP Budget year	
	2008	2017
Chatham	1,565	948
Durham	13,106	4,960
Franklin	2,048	1,139
Granville	4,649	1,714
Johnston	12,583	5,958
Orange	9,933	3,742
Person	1,359	791
Wake	36,615	16,352

* the last NO_x emission budgets are for 2017; all subsequent years are compared to the 2017 budget.

Table 12. CO Budget - Durham and Wake Counties

CO: from State Implementation Plan (SIP)	
Area	motor vehicle emissions budget (tons/day)
	March 24, 2006 Federal Register -- Maintenance Plan Update (2015 budget)
Durham County	177.22
Wake County	384.27

* the last CO emission budgets are for 2015; all subsequent years are compared to the 2017 budget.

3. Long-Range Transportation Plans

The *2035* Transportation Plans were developed between 2007 and 2009. Federal law *40 CFR part 93.104(b)(3)* requires a conformity determination of transportation plans no less frequently than every four years. As required in *40 CFR 93.106*, the analysis years for the transportation plans are no more than ten years apart.

The CAMPO area includes all of Wake County and parts of Franklin, Granville, Harnett and Johnston Counties. The DCHC MPO area includes all of Durham and parts of Orange and Chatham Counties. The BGMPO area includes a small portion of Orange County within the 8-hour maintenance area for ozone. The remaining portions of the non-attainment area are rural (donut) areas within the Triangle Area, Kerr-Tar and Upper Coastal Plain RPOs.

3.1 Consultation

The 2035 Transportation Plans are consistent with consultation requirements discussed in *40 CFR 93.105.* Consultation on the development of this conformity determination was accomplished through interagency consultation meetings held on June 9, 2008, July 11, 2008,

July 25, 2008, October 3, 2008, October 30, 2008, December 12, 2008, January 9, 2009, February 13, 2009 and March 6, 2009. A summary of the topics discussed at each of these meetings is included in Appendix C. The date of February 19, 2009, was the date that the conformity analysis began. That date was defined through interagency consultation.

3.2 Financial Constraint Assumptions

The Transportation Plans are fiscally constrained as discussed in *40 CFR 93.108*. The DCHC MPO, Capital Area MPO and Burlington-Graham Long Range Transportation Plans are fiscally constrained to the year 2035. All projects included in the current 2009-2015 TIP are fiscally constrained, and funding sources have been identified for construction and operation. The estimates of available funds are based on historic funding availability and include federal, state, private, and local funding sources. Additional detail on fiscal constraint is included in each MPO long range transportation plan. It is assumed that the projects listed for each horizon year will be completed and providing service by the end of the indicated calendar year (December 31). These transportation networks are described in the respective 2035 Long-Range Transportation Plans.

3.3 Latest Planning Assumptions

The 2035 Transportation Plans use the latest adopted planning assumptions as discussed in 40 CFR 93.110, and are adopted as part of the Plans. A single travel demand model was developed for the urbanized portion of the Triangle non-attainment area. A single set of population, housing and employment projections was developed. In addition, a set of highway and transit projects that was consistent across jurisdictional boundaries was developed and refined through MPO cooperation. This collection of socioeconomic data, highway and transit networks and travel forecast tools, representing the latest planning assumptions, was finalized through the adoption of the draft Long Range Transportation Plans by the Capital Area MPO and Durham-Chapel Hill-Carrboro MPO in February 2009. Additional detail on these planning assumptions is provided below.

Land use and demographic data were collected by regional planning agencies and staff members of DCHC MPO and CAMPO. A regional methodology was agreed upon that included updating residential and employment data to a 2005 base year, and preparing growth forecasts to 2035. Residential data included population, dwelling units, households, median income and university-related group quarters population (dormitories, fraternities and sororities). Residential data were based on Census 2000 data from Summary File 1, except that mean income data were based on the Census Transportation Planning Package part 1. Housing and Population data were updated to 2005 by collecting new certificates of occupancy from local jurisdictions and applying household size and occupancy rates from Census 2000 to new housing units. University-related population was updated to 2005 with information supplied by area universities. Mean income was interpolated for missing zones based on nearby zones with similar residential development patterns. Residential data were checked for consistency and reviewed by local planning department staff.

Employment data were collected from Employment Security Commission records and data maintained by InfoUSA. These lists were merged, and large employers were contacted directly to verify work location and number of employees. Zonal employment data were checked for consistency against existing land use maps and were reviewed by local planning department staff.

Forecasts were prepared by local planning department staff with guidance from staff at the two MPO's. A regional methodology was applied to maintain consistency between residential and employment forecasts and adopted land use plans. Data and forecasts were submitted for public review by each MPO, and adopted for use in developing travel demand and air quality forecasts by each MPO's Transportation Advisory Committee.

The Triangle Regional Travel Demand Model (TRM) uses the basic four-step process (trip generation, trip distribution, mode choice and assignment). All four steps of the process are discussed in greater detail in the sections below. The Triangle Regional Model was calibrated to 2005 conditions. Because some of the projects are proposed toll roads, the TRM TransCAD model was updated to include toll capability in order to estimate travel changes associated with tolling on these facilities.

The Triangle Regional Model's TransCAD model is housed at the Institute for Transportation Research and Education (ITRE) at NC State University. The TransCAD model covers all of Durham, Wake and Orange Counties (including the portions within the BG MPO and the Triangle Area RPO), all of the portion of Chatham County that is in the Triangle ozone maintenance area, and portions of Franklin, Granville and Johnston counties (which are in the maintenance area) along with a portion of Harnett County (which is not part of the maintenance area).

Outside of the modeled area, NCDOT utilizes a spreadsheet that incorporates the vehicle-miles traveled (VMT) universe file and historical trends to project the VMT in future years at the county level. The spreadsheet calculates speed based on a model originally developed by the Texas Transportation Institute but modified by NCDOT. Speeds generated by the spreadsheet are incorporated into the MOBILE6.2 emissions program. Then, emission factors developed by Mobile6.2 are imported into the spreadsheet and multiplied by forecasted VMT to generate emissions. The rural spreadsheet model is used for all of Person County and is factored based on population percentage for those portions of non-attainment counties not covered by the TransCAD model. This methodology has been used to demonstrate conformity in other areas and has received approval from interagency partners.

There are no court orders or special agreements that apply to conformity (*40 CFR 93.109).*

3.4 Future year roadway projects

Roadway improvements used for conformity modeling were developed in the 2035 Transportation Plan process in each MPO. Outside of the MPO boundaries, TIP projects from the 2009-2015 TIP served as the future year roadway projects. For the 2035 Plans, lists of needed projects were developed based on modeled congestion and identified local needs. Improvements were coded into the TRM and analyzed. Intermediate analysis for the years 2015 and 2025 were performed to assist in prioritizing the 2035 roadway needs. The final 2015, 2025, and 2035 networks are fiscally constrained. Projects were added from MPO priority lists until estimated project costs equaled the expected funding available. The base network (2005) and the three future networks (2015, 2025, and 2035) used for the conformity determination are the same as the networks used for the 2035 Transportation Plans. Throughout the process to develop the roadway networks, the

MPOs and NCDOT identified any initial inconsistencies in project timing and characteristics (e.g. cross-section) for those projects crossing jurisdictional boundaries and reached consensus on consistent solutions.

The interagency partners also jointly developed lists of regionally significant and exempt projects. The checklist below was used to guide the identification of regionally significant projects. After the MPOs, RPOs and NCDOT generated initial lists, the lists were reviewed by DENR , EPA, FTA and FHWA. The regional, state and federal agencies reached concurrence on the lists.

Regionally Significant Project Checklist

1. The facility serves regional transportation needs (i.e. facilities that provide access to and from the region or that provide access to major destinations in the region).
2. The facility is functionally classified higher than a minor arterial (minor arterials may be regionally significant if their main purpose is to provide access to major facilities in the region).
3. The facility is a fixed guideway transit facility.
4. The facility is included in the travel model for the region (in many cases collector streets are modeled and not regionally significant).

To be regionally significant a facility should meet one or more criteria in this checklist. 40 CFR Part 93.101

Appendix D includes lists of the future year roadway projects in the Triangle area as indicated below, including indications of which projects are regionally significant and which projects are exempt. There are no future roadway projects within the portion of Orange County within the Burlington-Graham MPO, therefore no list of projects is included.

Area	**Location of Roadway Project List in Appendix D**
Durham-Chapel Hill-Carrboro MPO	2035 LRTP (Appendix D1) 2009-2015 TIP (Appendix D2)
Capital Area MPO	2035 LRTP (Appendix D1) 2009-2015 TIP (Appendix D4)
Burlington-Graham MPO	no future year projects in 2035 LRTP or its TIP subset in Orange County portion (Appendix D6)
Rural “donut” area (portions of Chatham, Franklin, Granville, Johnston, Person and Orange Counties in maintenance area)	Projects out of the 2009-2015 STIP (Appendix D5)

3.5 Transit networks

As with the roadway projects, each MPO developed transit projects for its LRTP. The base year network was modeled from existing routes and fares for the transit systems in 2005. Future year networks were based on fiscally-constrained projected new or expanded services from regional transit plans, local bus system short range plans, corridor transit plans and other projected bus service expansion estimates, where available. As with the roadway networks, the MPOs and NCDOT identified and rectified any initial inconsistencies in project characteristics or implementation years where transit projects crossed jurisdictional boundaries.

Appendix D includes the amended future year transit projects in the Triangle MPOs and transit TIP projects as indicated below. There are no future transit projects within the portion of Orange County within the Burlington-Graham MPO, therefore no list of projects is included. The following table indicates where transit projects are listed in this report.

Area	Location of Transit Project List in Appendix D
Durham-Chapel Hill-Carrboro MPO	2035 LRTP (Appendix D3) 2009-2015 TIP (Appendix D2)
Capital Area MPO	2035 LRTP (Appendix D3) 2009-2015 TIP (Appendix D4)
Burlington-Graham MPO	no future year projects in 2035 LRTP or its TIP subset in Orange County portion of BG MPO
Rural "donut" area (portions of Chatham, Franklin, Granville, Johnston, Person and Orange Counties in maintenance area)	only projects in the STIP are operations and maintenance for community transportation systems

3.6 Congestion Mitigation/Air Quality (CMAQ) Projects

The NC Department of Transportation has established an allocation and review process for CMAQ projects. Each MPO and RPO in a non-attainment or maintenance area receives an allocation of CMAQ funds based on population and air quality status. In addition, a statewide pool of CMAQ funds is allocated to projects serving more than one non-attainment or maintenance area on a competitive basis. Appendix E includes a listing of funded CMAQ projects in the Triangle Area.

3.7 Trip generation

The trip generation module of the Triangle Regional Model is a trip frequency choice model. The model uses the following independent variables: household size, income group, number of workers, number of children, and number of autos. Trip purposes used in the model for trip generation are home based work (HBW), home based shopping (HBShop), home based school (HBSch), home based other (HBO), and non-home-based (NHB). The model estimates the probability of a person making 0, 1, 2, 3, 4, or 5 trips depending on trip purpose, and these probabilities are used to calculate the effective daily trip rate per person. These rates are used to calculate the overall trip rate for the household, by purpose, and these are summed to the traffic

analysis zone level. The models were estimated using data from the 1994 Triangle household travel behavior survey. Several employment types were identified as special generators for the Triangle Region. This classification was based on employment centers that exhibited unique trip attraction characteristics as demonstrated by the travel behavior survey data. Universities, regional shopping centers, regional hospitals and the RDU airport were all identified as special generators. Special generator rates were developed for those groups. Trip tables were also built for commercial vehicles, internal – external trips, and through trips.

Non-motorized trips are separated out for each trip purpose using a model with variables for household income group, density of the area for the household, and an accessibility measure. School bus trips are also separated out based on the share of school bus trips for each county based on the data in the travel behavior survey.

The travel behavior survey was used to determine where the trips would be 'attracted to'. Regression coefficients were developed for the five trip purposes based on: retail and non-retail employment, and households. These trips at the employment end were then stratified into the five strata using a share model.

3.8 Trip distribution

The Triangle Regional Model uses a destination choice model to distribute trips. The model builds zone-to-zone trip tables (by five purposes) using a composite time for impedance where Composite Time = 1/[(1/Highway Time) + (x/Transit Time)] where x is the transit share for the stratum in the travel behavior survey. Variables used in addition to composite time include retail and non retail employment, and households. In the case of the home based school purpose, population was used as a variable. Before distributing trips, the trips are split into peak and off peak periods based on the time of day analysis performed on the travel behavior survey data.

3.9 Mode choice and transit assignment

The mode choice for the Triangle Regional model is based on a nested LOGIT model. This approach creates a predictive model that is responsive to changes in quality of service variables such as travel time and cost. The different 'nests' of the model reflect a traveler's choice between local bus, express bus, rail, single occupancy vehicles, and multiple occupancy vehicles. The coefficients for the mode choice model were asserted by consultant staff based on experience in other regions and Federal Transit Administration guidance. The constants were derived from the Triangle Travel Behavior survey and the Triangle On-Board transit survey through the calibration process.

3.10 Highway assignment and vehicle miles traveled

Once the total number of trips has been determined, and the mode by which the trip is made has been chosen, the trips are assigned to the network. For the Triangle Regional Model, this is done using a multi-class user equilibrium assignment. The classes are single occupant vehicles, high occupancy vehicles, and commercial vehicles (trucks). User equilibrium employs an iterative process such that no trips can improve their travel times by using a different route. To better capture the effects of congestion, the Triangle model was loaded separately for the a.m., p.m. and off-peak time periods. Peak periods are 4-hour periods.

3.11 Method of reporting VMT and speed

The Triangle regional model has the capability to provide output by peak period in addition to daily output. Since the TRM can model peak period volumes and speeds, these must be used in the air quality analysis. The vehicle kilometers of travel (VKT), is converted to vehicle miles of travel (VMT). Vehicle miles traveled (VMT) used in the conformity determination are from the last iteration of the model. Each link in the roadway network carries a functional classification. The VMT for each functional class is multiplied by an emissions factor. The North Carolina Division of Air Quality (DAQ) provides the emissions factors based on MOBILE6.2 output.

The MOBILE6.2 model requires as an input the weighted speeds by functional classification. This information can be derived directly from the model link data output. This first requires the separation of the model link data into functional classification. The congested link speed in mph can then be determined by converting the link distance to miles and dividing by travel time. The congested speed is then weighted by the ratio of the link VMT to the system VMT for each of the functional classifications. This input is then used for MOBILE6.2.

Congested and uncongested speeds are calculated using the model output. The congested speeds are sent to DAQ to determine actual emissions factors.

4. Regional Emission Analysis

In areas with an USEPA approved attainment demonstration or maintenance plan, an emissions budget comparison satisfies the emissions test requirement of 40 CFR Part 93.118. For pollutants for which an emissions budget has been submitted, the estimated emissions from the transportation plan must be less than or equal to the emissions budget values. Emissions factors were provided by DENR.

All parts of the Triangle Ozone Maintenance Area have emissions budgets, what parts are covered by the Triangle Regional Model (TRM) and how each part was analyzed for each pollutant in each comparison year.

Four counties in the non-attainment area are completely within the Triangle Regional travel demand Model (TRM) boundary: Chatham (Baldwin, Center, New Hope and Williams Townships which are designated non-attainment), Durham, Orange and Wake. Person County is completely outside of the TRM boundary. The other 3 counties, Granville, Franklin and Johnston, have parts that are within the modeled area and parts that are outside of the modeled area.

4.0.1. Sub-area emission budgets

Each county or, in the case of Chatham County, county portion, have NO_x emission budgets. In addition, Durham and Wake Counties have CO emission budgets. These Motor Vehicle Emission Budgets were used in performing the emissions analysis.

4.0.2 Emissions analysis source

Vehicle Miles of Travel (VMT) and speeds for the emissions analysis were derived from the TRM where it is available. Person County VMT and speeds came from the NCDOT rural

spreadsheet; VMT and speeds for the portions of Franklin, Granville and Johnston Counties outside the modeled area came from the NCDOT rural spreadsheet factored by the percentage of each county's population in the rural area, a method that has been used in prior analyses.

4.0.3 Emissions comparison years (ozone)

For *areas with budgets under the 8-hour standard* (Durham, Franklin, Granville, Johnston, Orange, Person and Wake Counties and the four townships in Chatham County), emissions must be analyzed for years where there is an 8-hour emissions budget, the attainment year (if a region is in non-attainment), the horizon year and intermediate years such that intervals do not exceed 10 years. The Triangle area is currently in attainment, so no attainment year analysis is required. The following years were analyzed to meet the requirements: 2015 (intermediate year), 2017 (8-hour budget year), 2025 (intermediate year), and 2035 (LRTP horizon year).

Analysis years where there is a budget and no LRTP model runs, do not require additional runs; interpolation was used to derive data for the non-matching year (2017). Also, in accordance with 40 CFR 93.118, since there was no budget for the required analysis years 2015, 2025 and 2035, the 2008 budgets were used for 2015 analysis and the 2017 budgets were used for 2025 and 2035.

Table 13. Triangle Area Transportation Conformity Analysis Matrix (2035 LRTPs)

County	Area model status	Area emissions budget status	Emissions analysis source	Emissions comparison years			
				2015[1]	2017[1]	2025	2035 horizon
Person	rural area (all)	emissions budget	rural spreadsheet	O3	O3	O3	O3
Granville	modeled area	emissions budget	TRM	O3	O3	O3	O3
	rural area	emissions budget	rural spreadsheet (factored)[2]	O3	O3	O3	O3
Franklin	modeled area	emissions budget	TRM	O3	O3	O3	O3
	rural area	emissions budget	rural spreadsheet (factored)[2]	O3	O3	O3	O3
Johnston	modeled area	emissions budget	TRM	O3	O3	O3	O3
	rural area	emissions budget	rural spreadsheet (factored)[2]	O3	O3	O3	O3
Chatham (part)	modeled (all) [3]	emissions budget	TRM	O3	O3	O3	O3
Orange	modeled (all)	emissions budget	TRM	O3	O3	O3	O3
Durham	modeled (all)	emissions budget	TRM	CO O3	O3	CO O3	CO O3
Wake	modeled (all)	emissions budget	TRM	CO O3	O3	CO O3	CO O3

TRM: Triangle Regional Model O3: Ozone CO: Carbon Monoxide

[1] 2015 is both an LRTP interim year and a CO budget year for Durham and Wake Counties; 2017 is an ozone budget year.

[2] where part of a county is covered by the regional model, the remainder of the county was analyzed using the NCDOT rural spreadsheet, factored by the percentage of county's population that lives outside of the modeled area.

[3] a sensitivity analysis was performed to clarify the effect of the small portion of the non-attainment area in Chatham County that is outside of the current TRM boundary; it was determined to be insignificant.

4.0.4 Emission comparison years (CO)

Durham and Wake Counties have CO maintenance requirements under a 2006 updated SIP. This Maintenance Plan update supplements the pre-existing 2005 budgets with a 2015 budget for each county. Under the update, the pre-existing 2005 budgets apply between 2005 and 2014 and the new 2015 budgets apply from 2015 onwards. Both counties are entirely within the modeled area and have emissions budgets under the updated SIP; the TRM was used as the analysis tool. Listed below is specific CO budget and comparison year information:

- SIP Budget Years: 2005, 2015 (Durham and Wake Counties)
- Comparison Years for CO SIP – 2015, 2025, 2035 (Durham and Wake Counties)

4.1 Emissions Model

MOBILE 6.2 was used to develop the emissions factors. Motor vehicle emissions controls considered in the MOBILE6.2 model include the following:

Strategy	Methodology/Approach
I/M Program (per NC SIP)	*Ran Model in Place*
Tier 2 vehicle's Emission Standards	*Ran Model in Place*
Low Sulfur Gasoline and Diesel fuels	*Ran Model in Place*
Heavy Duty Vehicle Rules 2004 and 2007	*Ran Model in Place*
Low RVP Gasoline	*Ran Model in Place*
On board vapor recovery	*Ran Model in Place*

Also, area specific information is used for such items as vehicle age distribution and vehicle type distribution rather than national default values, as documented below.

4.1.1 Development of Emissions Factors

A critical element of any emissions analysis or estimate is the development and utilization of the emissions factors applied to the travel estimates. In order to assure that the emissions factors used in the conformity analysis were compatible with those used in the development of the North Carolina SIP, DENR provides emission factors and model inputs for each non-attainment and maintenance area in North Carolina. The MOBILE6.2 emissions factor model was used to develop the emissions factors in 2009 for the Triangle. These factors are shown in Appendix F.

NCDENR provides motor vehicle emissions factors by federal functional classification of the roadway system. In addition the percentage of motor vehicles subject to the inspection and maintenance program is estimated from accident data. The scope of North Carolina's motor vehicle inspection and maintenance program expanded to forty-eight counties by 2007. The percentage of vehicles in each county subject to the I/M program is shown in Table 14.

Table 14. Percentage of Vehicles Subject to Inspection and Maintenance Programs

Location	2007-2035
Wake County	95%
Durham County	92%
Johnston County	91%
Chatham County	96%
Granville County	83%
Orange County	89%
Franklin County	90%

4.1.2 Development of VMT Mix by Vehicle Type

The North Carolina Department of Transportation (NCDOT) provides data on VMT for six urban and six rural road types; vehicle mix data are available for the same road types. Automatic traffic recording stations and selected Highway Performance Monitoring System (HPMS) locations were used and counts taken in 2007 are used to determine the percentage of vehicles, by vehicle type, for various road types. Vehicle classification data was used in conjunction with MOBILE6.2 default vehicle mix to estimate fleet distribution by functional class. The classification data was

iteratively adjusted to replicate MOBILE6.2's national classification default within the analysis area. The final numbers reflect the change in the mix (i.e. increase in the number of SUVs and pick-ups) for each year using MOBILE6.2 projection and variation of mix across the different road type using NC data. This reflects 16 vehicle classes per road type.

4.1.3 Vehicle Age Distributions

The vehicle age distribution is based on the North Carolina Department of Motor Vehicles' 2007 (DMV) registration records for the in-use fleet in the Triangle area. DMV provided the information. The data was modified and arranged to comply with MOBILE6.2

4.2 Transportation Control Measures

The North Carolina State Implementation Plan lists no transportation control measures pertaining to the Triangle.

4.3 Estimation of Vehicle Starts

A component of the emissions rates for each functional class is an estimate of the start-based emissions. This rate is based on an assumed number of starts per vehicle and is added to running emissions to produce a single rate to apply to vehicle miles traveled. Mobile 6 defaults are 7.28 starts for passenger cars and 8.06 starts for light duty trucks. However, the use of default rates isn't the best practice for heavily urbanized areas with an updated Travel Demand Model. Area-specific rates were calculated by dividing the total number of trips from the travel demand model by the total number of registered vehicles. Appendix G contains additional information. This methodology has been previously endorsed by USEPA and used in prior conformity analysis in the Triangle.

4.4 Off-model Analysis

The Triangle Regional Model (TRM) does not include algorithms that can calculate the effects on VMT and speeds (and hence air quality) of certain transportation related activities designed to influence people's travel modes or affect the supply of or demand for transportation services. Examples of such activities that currently exist in the Triangle include:

- Transportation Demand Management (TDM) programs such as the Triangle Best Workplaces for Commuters program and the SmartCommute@RTP program which cover approximately 10% of the region's workforce,
- Land use strategies, such as compact, mixed-use, pedestrian- and transit-oriented development and design initiatives, over and above those reflected in the Traffic Analysis Zone (TAZ) socioeconomic data,
- Commuter Services Programs operated by the Triangle Transit Authority, such as the Guaranteed Ride Home program, rideshare matching software and the vanpool program, and
- Incident management programs conducted on the region's Interstate highways and other freeways in Wake and Durham Counties, including surveillance cameras, the Motorist Assistance Patrols, and traveler information activities.

In order to accurately account for the impacts of such activities, they are reflected through "off-model" analyses. Although these and other programs are suitable for off-model analysis, this conformity determination included off-model analysis only for the last of these listed activities,

the interstate incident management program. As more experience is gained in other activities, they may be reflected in future conformity analyses. FHWA Region IV's *Off-Model Air Quality Analysis: A Compendium of Practice* provided guidance on estimating these emissions effects. Appendix H includes the calculations for this off-model analysis in Durham and Wake Counties.

4.5 Emissions Comparison Tests by Location and Pollutant

USEPA originally declared Durham County, Wake County and Dutchville Township in Granville County non-attainment under the 1-hour standard for ozone (O_3) and Durham County and Wake County non-attainment for Carbon Monoxide (CO) on November 15, 1990. Durham County, Wake County and Dutchville Township were redesignated by USEPA to attainment with a maintenance plan for ozone on June 17, 1994 and Durham County and Wake County were redesignated by USEPA to attainment with a maintenance plan for CO on September 18, 1995.

In 1997 the NAAQS for ozone was reviewed and revised to reflect improved scientific understanding of the health impacts of this pollutant. When the standard was revised in 1997, an eight-hour ozone standard was established. The USEPA designated the entire Triangle area as a "basic" non-attainment area for eight-hour ozone with an effective date of June 15, 2004. The Triangle Area was subsequently redesignated to a Maintenance Area for eight-hour ozone on December 26, 2007.

The current maintenance designation covers the following geographic areas:

- Durham County
- Wake County
- Orange County
- Johnston County
- Franklin County
- Granville County
- Person County
- Baldwin, Center, New Hope and Williams Townships in Chatham County

Both volatile organic compounds (VOCs) and oxides of nitrogen (NO_x) are precursors of ozone. In the most recently approved maintenance plans for ozone for the areas listed above, the North Carolina Department of Environment and Natural Resources (DENR) prepared emissions budgets for only NO_x, as VOC was deemed insignificant. USEPA approved the most recent emissions budgets on December 26, 2007 with an effective date of the same day. The USEPA approval and promulgation rulings for CO and ozone containing the budgets are in Appendices A and B.

Four organizations are responsible for conformity determinations; each must make a conformity determination for its respective area in order for all of the areas to be designated in conformity:

- the Capital Area MPO within the CAMPO metropolitan area boundary – currently all of Wake County, and portions of Franklin, Granville and Johnston Counties.
- the DCHC MPO within its metropolitan area boundary – all of Durham County and parts of Orange and Chatham counties.
- the Burlington-Graham MPO within its portion of the metropolitan area boundary in western Orange County.

- the NCDOT in a rural area that is comprised of those portions of Chatham, Orange, Person, Franklin, Granville and Johnston Counties that remain outside of any MPO metropolitan area boundary.

For this report, emissions were calculated and reported at the County level, or for part of a county if only a part is in the maintenance area (Chatham County). Table 15 summarizes the emissions test used and decision-making responsibility for conformity findings in each County.

Table 15. Emissions Test and Responsibility for Conformity Findings

Location	Pollutant(s)	Emissions Test	Conformity Finding Responsibility
Wake County	O3, CO	budget	Capital Area MPO
Durham County	O3, CO	budget	Durham-Chapel Hill-Carrboro MPO
Johnston County	O3	budget	NC DOT (consultation with Upper Coastal Plain RPO)
Chatham County *(Baldwin, Center, New Hope, Williams Townships)*	O3	budget	Durham-Chapel Hill-Carrboro MPO NC DOT (consultation with Triangle Area RPO)
Granville County	O3	budget	NC DOT (consultation with Kerr-Tar RPO)
Orange County	O3	budget	Durham-Chapel Hill-Carrboro MPO Burlington-Graham MPO NC DOT (consultation with Triangle Area RPO)
Person County	O3	budget	NC DOT (consultation with Kerr-Tar RPO)
Franklin County	O3	budget	NC DOT (consultation with Kerr-Tar RPO)

The results of the emission comparisons are summarized by County in Tables 16 through 23. Detailed emissions analysis results by county are contained in Appendix I.

Emissions from vehicles are expected to show dramatic decreases, even with continuing increases in vehicle miles of travel (VMT), for several reasons:

- Fleet turnover. Older, more polluting vehicles (gasoline and diesels) continue to be retired and replaced with newer, cleaner vehicles.

- Newer vehicles will continue to get cleaner with each subsequent model year over the next four years. The new Federal tailpipe standards are set at an average standard of 0.07 grams per mile for nitrogen oxides for all classes of passenger vehicles beginning in 2004. This includes all light-duty trucks, as well as the largest SUVs. For more detail, including phase-in by vehicle type, see USEPA's Tier 2 Vehicle Standard Final Rule at: http://www.epa.gov/otaq/regs/ld-hwy/tier-2/finalrule.htm

- Gasoline fuels are improving. Refiners and importers of gasoline wee required to meet stricter sulfur content requirements by 2006. Low sulfur gasoline enables better emission controls, and can lead to further emission reductions from today's catalyst-equipped fleet. See USEPA's Gasoline Sulfur Program Final Rule at: http://www.epa.gov/otaq/regs/ld-hwy/tier-2/finalrule.htm

- Emissions from heavy-duty on-highway vehicles are expected to decrease due to USEPA's Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements. Stricter NOx emission standards are being phased in between 2007 and 2010 for diesel engines. New standards for on-road diesel fuel (15 ppm sulfur content) were phased in at the terminal level by July 15, 2006 and at the retail stations by September 1, 2006. See: http://www.epa.gov/otaq/diesel.htm#hd2007

- Expansion of vehicle inspection and maintenance programs to more counties in North Carolina so that more polluting vehicles are identified and repaired, thus lowering emissions.

The combination of the technology/fuel improvements/vehicle maintenance and resulting emission reductions exceeds the effect of increased VMT in the Triangle area. The trend in the Triangle area is not uncommon. On a national level this trend is also seen in data gathered by the Federal Highway Administration (FHWA). For additional detail, see the FHWA web site on vehicle miles traveled and vehicle emissions at: http://www.fhwa.dot.gov/environment/vmtems.htm

Table 16. Durham County Emissions Comparison Summary *(kg/day)*

Year	NO_X		CO[1]		
	SIP Budgets	LRTP Emissions	SIP Budgets (tons)	SIP Budgets (kg)	LRTP Emissions (kg)
2015[2]	13,106	5,154	177.22	160,771	80,141
2017[2]	4,960	4,701	177.22	160,771	80,355
2025[3]	4,960	2,555	177.22	160,771	76,243
2035[4]	4,960	2,447	177.22	160,771	83,583

Table 17. Wake County Emissions Comparison Summary *(kg/day)*

Year	NO_X		CO[1]		
	SIP Budgets	LRTP Emissions	SIP Budgets (tons)	SIP Budgets (kg)	LRTP Emissions (kg)
2015[2]	36,615	15,927	384.27	348,604	265,166
2017[2]	16,352	14,632	384.27	348,604	268,405
2025[3]	16,352	8,672	384.27	348,604	269,739
2035[4]	16,352	8,117	384.27	348,604	291,050

Table 18. Granville County Emissions Comparison Summary *(kg/day)*

Year	NO_X SIP Budgets	NO_X Long Range Plan or TIP Emissions
2015[2]	4,649	1,443
2017[2]	1,714	1,282
2025[3]	1,714	634
2035[4]	1,714	590

Table 19. Franklin County Emissions Comparison Summary *(kg/day)*

Year	NO_X SIP Budgets	NO_X Long Range Plan or TIP Emissions
2015[2]	2,048	1,212
2017[2]	1,139	1,084
2025[3]	1,139	572
2035[4]	1,139	499

Table 20. Johnston County Emissions Comparison Summary *(kg/day)*

Year	NO_X SIP Budgets	NO_X Long Range Plan or TIP Emissions
2015[2]	12,583	4,859
2017[2]	5,958	4,303
2025[3]	5,958	2,075
2035[4]	5,958	1,611

Table 21. Orange County Emissions Comparison Summary *(kg/day)*

Year	NO_X SIP Budgets	NO_X Long Range Plan or TIP Emissions
2015[2]	9,933	3,181
2017[2]	3,742	2,847
2025[3]	3,742	1,513
2035[4]	3,742	1,425

Table 22. Person County Emissions Comparison Summary *(kg/day)*

Year	NO_X SIP Budgets	NO_X Long Range Plan or TIP Emissions
2015[2]	1,359	715
2017[2]	791	632
2025[3]	791	302
2035[4]	791	368

Table 23. Chatham County (part) Emissions Comparison Summary *(kg/day)*

Year	NO_X	
	SIP Budgets	Long Range Plan or TIP Emissions
2015[2]	1,565	895
2017[2]	948	814
2025[3]	948	491
2035[4]	948	445

5. To obtain kilograms per day, multiply tons per day by 907.18; SIP CO budgets are listed in tons/day
6. Budget year
7. LRTP interim year
8. LRTP Horizon year.

5. Public Involvement and Interagency Consultation

The 2035 Transportation Plans are consistent with consultation requirements discussed in *40 CFR 93.105.* Interagency consultation was a cooperative effort on the part of the Capital Area MPO, the Durham-Chapel Hill-Carrboro MPO, the Burlington-Graham MPO, the Triangle Area RPO, the Kerr-Tar RPO, the Upper Coastal Plain RPO, the North Carolina Department of Transportation and the Federal Highway Administration. The process was administered by the Triangle J Council of Governments on behalf of the partners and was organized according to the sections in the document titled *Triangle Region Transportation Conformity: Pre-Analysis Consensus Plan*, a document agreed to at the initial interagency consultation meeting on June 9, 2008 and updated periodically. Subsequent interagency consultation meetings were July 11, 2008, July 25, 2008, October 3, 2008, October 30, 2008, December 12, 2008, January 9, 2009, February 13, 2009 and March 6, 2009.

A copy of the latest version of the Consensus Plan, together with summaries of the interagency consultation meetings are included in Appendix C.

Public review of this report is being handled in accordance with each MPO's public participation policy. A copy of the public participation policies are included in Appendix J. Comments from the public participation process will be incorporated into the final Conformity Analysis and Determination Report. Those comments will be included in Appendix K of the final report.

6. Conclusion

Based on the analysis and consultation discussed above the following transportation plans and TIPs conform to the purpose of the North Carolina State Implementation Plan. In every horizon year for every pollutant in each geographic area, the emissions expected from the implementation of the long-range plans and TIPs are less than the emissions budgets established in the SIP.

Table 24: Summary of Conformity Status of Triangle Transportation Plans

Criteria (√ indicates the criterion is met)	**Burlington-Graham MPO 2035 LRTP & 2009-15 TIP***	**Durham-Chapel Hill-Carrboro MPO 2035 LRTP & 2009-15 TIP***	**Capital Area MPO 2035 LRTP & 2009-15 TIP***	**Rural (Donut) Area of the Triangle 2009-15 STIP**
Less Than Emissions Budgets	√	√	√	√
TCM Implementation	The NC SIP includes no Transportation Control Measures in the Triangle Area			
Interagency Consultation	√	√	√	√
Latest Emissions Model	√	√	√	√
Latest Planning Assumptions	√	√	√	√
Fiscal Constraint	√	√	√	√

* The 2009-15 TIPs are direct subsets of the amended 2030 LRTPs

Specific conformity findings for each of these areas are listed below:

Burlington-Graham MPO Ozone Conformity Finding for the 2035 Long-Range Transportation Plan and 2009-2015 Transportation Improvement Program

Based on the analysis and consultation and involvement processes described in this report, the Burlington-Graham MPO 2035 Long-Range Transportation Plan and 2009-2015 Transportation Improvement Program are found to conform to the purpose of the North Carolina State Implementation Plan. The emissions expected from the implementation of the Burlington-Graham MPO 2035 Long-Range Transportation Plan and 2009-2015 Transportation Improvement Program are in conformity with the 8-hour ozone standard.

Capital Area MPO Ozone and Carbon Monoxide Conformity Finding for the 2035 Long-Range Transportation Plan and 2009-2015 Transportation Improvement Program

Based on the analysis and consultation and involvement processes described in this report, the Capital Area MPO 2035 Long-Range Transportation Plan and 2009-2015 Transportation Improvement Program are found to conform to the purpose of the North Carolina State Implementation Plan. The emissions expected from the implementation of the Capital Area MPO 2035 Long-Range Transportation Plan and 2009-2015 Transportation Improvement Program are less than the applicable budgets for NO_x and CO; therefore the LRTP and TIP are in conformity with the 8-hour ozone standard and the carbon monoxide standard.

Durham-Chapel Hill-Carrboro MPO Ozone and Carbon Monoxide Conformity Finding for the 2035 Long-Range Transportation Plan and 2009-2015 Transportation Improvement Program

Based on the analysis and consultation and involvement processes described in this report, the Durham-Chapel Hill-Carrboro MPO amended 2035 Long-Range Transportation Plan and 2009-2015 Transportation Improvement Program are found to conform to the purpose of the North

Carolina State Implementation Plan. The emissions expected from the implementation of the Durham-Chapel Hill-Carrboro MPO 2035 Long-Range Transportation Plan and 2009-2015 Transportation Improvement Program are less than the applicable budgets for NO_x and CO; therefore the LRTP and TIP are in conformity with the 8-hour ozone standard and the carbon monoxide standard.

NCDOT Triangle Rural (Donut) Area Ozone Conformity Finding for the 2009-2015 State Transportation Improvement Program

Based on the analysis and consultation and involvement processes described in this report, the 2009-2015 State Transportation Improvement Programs for the rural areas of counties in the Triangle that are outside of the MPO boundaries are found to conform to the purpose of the North Carolina State Implementation Plan. The emissions expected from the implementation of the 2009-2015 State Transportation Improvement Program are less than the applicable budgets for NO_x in the SIP; therefore the TIP is in conformity with the 8-hour ozone standard.

Appendix 7 – Public Comments

This appendix presents public comments that the CAMPO and the DCHC MPO received through the public involvement process for the draft 2035 LRTP, which occurred from March 2009 through early May 2009. In addition, there is a summary of public comments received by the DCHC MPO throughout the 2035 development process that occurred over the last two and one-half years, and a compilation of public comments received by CAMPO through the public workshop process.

CAMPO Public Comments

Compilation – From CAMPO Workshops

- "Is there an opportunity for light rail being located in Clayton? If so, would it be by 2035? If not, when?" "I feel the 4% inflation rate to be conservative. How was this arrived at or determined?" -- A citizen from Clayton, NC.

- "LRTP shows improvements to Pritchard Road in Johnston County in 2035. Without similar improvements to Smithfield Road in Wake County from the county line to US64 there is no real benefit to improving Pritchard Road. A better use of the funds would be to improve NC42 from US70 business to US70 (Clayton by-pass). This would tie in with the NC42 improvements in the LRTP from US70 (Clayton by-pass) to I40." -- Robert Ahlert, Town of Clayton, NC.

- "Presentation appreciated. Suggest rail to be Selma and Raleigh-Durham Airport" -- Jim Lee, Town of Clayton.

- "Bus route from Wake Forest to Youngsville. Northern White Street to Youngsville, then US 1-A to Franklinton. Return by US 1 (divided highway)" "Need LRT to Raleigh-Durham Airport" -- Alex Corpening, Town of Youngsville, NC.

- "Enjoy the future of the metro link through Durant Road. But will love the opportunity to capitalize on the residents of Rolesville, Youngsville, and Franklinton by creating bus transit for the metro; with stop on Capital Boulevard for each city. Two (routes) in the morning and two (routes) at night. This will definitely serve the number of people of future clients for the metro link. I find it absurd not having the light rail transit to Raleigh-Durham Airport. This airport is in full expansion of international service." -- Town of Youngsville resident.

- I recommend accelerating rail and mass transit to facilitate projected growth along the US 1 corridor. -- Town of Youngsville resident.

Comment on Draft 2035 LRTP

Comment #1

Please review the summary of "A Light Rail System for All" in the accompanying email. The system is both plausible and can be made ready for implementation right now. The proposed dual mode system, as outlined in the article, is only the beginning of a fully developed transportation system. The main focus of this plan is to offer a method that socializes the idea, tests the market and provides data needed to further develop the product.

If, by establishing this system, we provide the same or a similar service as current car travel, commuters are more likely to subscribe. Slight changes to personal lifestyles are tolerated and the system proposed is a way of demonstrating alternative travel to some customers and gauging market results. It is anticipated that once the system is up and running, market forces would take over and drive further system development.

Note that commute times will be longer at first but the trade off is that commuters can use their rail time for entertainment or personal enhancement. It should also be understood that there would be little or no economic or environmental advantages in the early stages. But, know that if we can build a popular system it will have implications far beyond the Triangle.

I believe this dual mode system meets many, if not all, of the regional transit requirements stated in "Revised Goals Regional Transit Vision Plan" dated February 8, 2008. Let us start this process of building the system now that can deliver people and their cars near their destination.

Thank you for your time. Please call me for additional information on this project.

Chuck Piratzky, PE, PLS

DCHC Public Comments

As discussed in section 5.2 (Stakeholder and Public Involvement Processes), detailed public comments were compiled at several key points during the last two and one-half years while the 2035 LRTP was being develo0ed and the Transportation Advisory Committee (TAC – MPOs' policy board) received these detailed comments. The format of this report will not accommodate a complete presentation of these comments, which would exceed two hundred pages. The two summary sections below highlight the most significant and common comments received throughout the various development steps of the 2035 LRTP.

Summary -- Main Points

- MPO-wide support for bicycle facilities.
- MPO-wide support for bus service improvements – in particular reduced headways and express routes.
- MPO-wide support for the light rail transit option.
- MPO-wide support for building multi-modal facilities.
- Carrboro and Orange County support extending light rail to Carrboro.
- Carrboro and Orange County support commuter rail in addition to the light rail.
- Chapel Hill and many citizens expressed opposition to the I-40 Farrington Road interchange. One citizen was in favor of the interchange.
- Chapel Hill and citizens expressed opposition to the Mason Farm Road realignment.
- Citizens supported improving transportation options for the elderly and disabled.
- Citizens preferred connecting Southwest Durham Drive to George King Road before Southwest Durham Drive is connected to Meadowmont Lane.
- Chatham County residents expressed support for transit connections to Chapel Hill and RTP and for road widening to address growth.

Summary -- Additional Points

- Carrboro does not support any road widening except for transit and bicycle accommodations.
- Orange County supports including private transportation providers more in the process.
- Orange County supports concentrating congestion relief efforts at "hotspots" not general road widening.
- Chapel Hill opposes widening Fordham Boulevard and US 15-501.
- The Regional Transportation Alliance supports addressing congestion on I-40 and the Special Transit Advisory Commission's transit recommendations.
- Citizens expressed concern over publicity of the public hearing.
- A business-owner expressed opposition to limiting access at NC 54 and Farrington Road.
- A citizen expressed a concern that the socio-economic projections in the Fayetteville Street corridor were too low and that as a result the plan would not accommodate the growth in this corridor.

- A citizen expressed concern over the intersection of Roxboro Road / Latta Road / Infinity Road.
- A citizen wants a new interchange at Sparger Road and I-85.
- A citizen wants Northern Durham Parkway to be built as 4-lanes.
- A citizen expressed support for wide outside lanes and accommodations for cyclists on public transit.
- A citizen expressed support for improving bus service in the short-term to build ridership for rail when it is eventually built.
- Citizens expressed support for local revenue sources including the sales tax, vehicle fees, vehicle miles traveled taxes, and tax increment financing in a special tax district near rail lines.

Comments on Draft 2035 LRTP

Comment #1

While the LRTP appears to be a generally well considered document, I am utterly baffled by Durham's entries in the Bus Transit section. Herein, if I read it correctly, planners apparently believe that even in 2035, 30 minute head times for bus routes is remotely acceptable. I strongly believe that it is not; it is, I would say, embarrassing for a city which currently clamors for taxation rights to build a regional rail system (which I strongly support) to turn around and treat its bus system with such neglect.

Peak head times on any standard route should never be higher than 15 minutes, and should be as low as 10 minutes for the most used routes. Regular service routes should also never drop to head times higher than 30 minutes ideally, but 40 minutes should be an absolute maximum (I understand the need for higher times on circulators and express routes).

Durham's land use plans and UDO all call for higher residential density in various areas, and a move away from auto-centric transportation. That anyone believes that we can attain this with the pathetic investments in bus transit over the next 25 years demonstrates a breathtaking lack of foresight.

Michael Bacon

Comment #2

I applaud the efforts to integrate cycling into the transportation plan rather than keeping it as recreational only. It will go a long way to alleviating traffic growth in the area. How soon is it possible for these projects to happen and how will funding be achieved? Is this perhaps another project like the Durham Bicycle Plan which we spent money on for no real forward progress, or will sufficient funds be available? I personally commute on Morreene Rd and would love to see this as a priority. Getting to American Village is made difficult because of this, and the project is supposed to have been funded for a long time now with an original completion date of 2007. Also the section of Academy Rd before University Dr - I feel like I'm running the gauntlet when I cycle down here with many fast close passes from cars. Erwin Rd between Durham and Chapel Hill is also dangerous for cyclists and needs a high priority. I'm sure it would be a very used cycle lane, as would the section of 751. Per the plan: Morreene Road / Neal Road / Bennett Memorial Road / Old NC 10 / / Old NC 10 / NC 86. This is exactly what is needed, and soon. Many thanks, and I remain hopeful that with our climate and active population we can make cycling a viable transportation alternative.

Regards, Paul Smith

Response
Paul: Thanks again for your support of improving Durham's bicycling infrastructure. Please know that we have funding for the Morreene Road project that you and I have discussed in the past and are working with the City's Engineering Dept to bring that project to reality.

Dale McKeel, AICP

Comment #3
Roads should have 12 inches of paved shoulder, outside the white line.

I am a committed recreational cyclist and commuter. I realize that city streets have their own issues, with curbs and allowing for parking. But roads such as Cornwallis, that lead out of town, would be well served by 12 inches of paved shoulder.

The connector roads between towns (particularly between Durham and Chapel Hill) will see increased use even with improvements on the limited access roads. These connector roads (e.g. Erwin Road, Old Chapel Hill Road) would look, feel, and be much safer with 12 and preferably 24 inches of paved shoulder.

Why?
1. Room for cyclists to ride and for cars to pass.
2. Room for motorists. There are many times that I see a motorist run off the road to the right side of the white line. I observe this from my bike. They usually run off the road by the width of a tire. The drop off at the edge of the pavement is sometimes severe, often causing the car to go further off the road.
3. Appearance. A paved shoulder, outside the white line, gives a much cleaner appearance, and an appearance of spaciousness. This would contribute to a feeling of security for all vehicles, motorized or not. People feel less crowded when there is a paved shoulder. 24 inches would be super, but 12 inches would be a huge improvement.

That's my two cents. -- Thomas

Response
Mr. Pafford: The 2035 Long Range Transportation Plan calls for wide paved shoulders on most higher volume rural roads in the MPO area. We work with the NCDOT to try to get shoulder widenings during road widening and repaving projects. In addition, the MPO has funded a project to provide bicycle lanes on Old Durham-Chapel Hill Road between Garrett Road in Durham and 15-501 in Chapel Hill; this project is currently under design.

Andy Henry

Comment #4
The light attention paid to light rail in this report is very disappointing. All I see is an example and definition of one technology that could be used. There is no attempt to analyze the potential placement of light rail or any proposals to deal with the complex funding issues. By 2035, the Triangle will be long overdue for a public rail system, and with multiple municipalities involved the strategic planning needs serious attention as soon as possible.

Troy Revell

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Appendix 8 – Environmental Justice Project Tables

Each roadway project in the Capital Area and Durham-Chapel Hill-Carrboro MPOs was analyzed based on the population characteristics of the block group (or block groups) that the project was primarily located in. The tables in this appendix provide the detailed results of this analysis comparing roadway projects and Minority and low-income census block groups. The Environmental Justice report and analysis are presented in section 9.2 of this report.

ID	Project	Project Limits	County	Length (miles)	Total Cost (2008 dollars)	Percent Minority Population	Percent of Households Below Poverty
1	Alexander Dr (T.W. Alexander)	Cornwallis Rd to NC 147	Durham	0.50	$8,900,000	At or below county average	At or below county average
5	Alston Ave Ext	Holloway St to Old Oxford/Roxboro	Durham	3.49	$40,379,218	More than 50% above county average	More than 50% above county average
8.11	Briggs Ave Ext	So-Hi Dr to Riddle Rd	Durham	1.08	$11,492,938	At or below county average	At or below county average
9	Carver Street Ext	Armfield St to Old Oxford Rd	Durham	0.73	$7,660,000	More than 50% above county average	More than 50% above county average
10.11	Chin Page Ext	Page Rd to Wake County Line	Durham	0.20	$2,128,322	At or below county average	At or below county average
12	Cornwallis Rd	MLK to Alexander Dr	Durham	0.79	$8,210,476	At or below county average	At or below county average
13.11	Cornwallis Rd Ext	Miami Blvd to Chin Page Rd	Durham	0.55	$5,852,885	At or below county average	At or below county average
15	East End Connector (EEC)	NC 147 to US 70 E; US 70:EEC to NC 98	Durham	2.50	$155,401,000	25% - 50% above county average	10% - 25% above county average
16	Elizabeth Brady Rd Ext	US 70 Business to St Mary's Rd	Orange	1.30	$33,594,000	At or below county average	At or below county average
16.1	Eno Mountain Rd/Mayo Rd	Orange Grove Rd intersection realignment	Orange	0.00	$5,000,000	More than 50% above county average	At or below county average
17	Estes Dr	Greensboro Rd to NC 86	Orange	1.70	$6,600,000	10% - 25% above county average	10% - 25% above county average
22.1	Fayetteville Rd	Renaissance Pkwy to NC 751	Durham	1.90	$20,826,715	At or below county average	At or below county average
23	Fayetteville Rd	Woodcroft Pkwy to Cornwallis Rd	Durham	2.31	$23,134,000	More than 50% above county average	25% - 50% above county average
24.11	Garrett Rd	NC 751 to US 15-501	Durham	3.09	$16,753,108	Up to 10% above county average	25% - 50% above county average
26.11	Globe Rd Ext (Brier Creek Parkway)	Miami Blvd. To Wake County Line	Durham	2.18	$23,198,709	At or below county average	At or below county average
27	Glover Rd	Glover Rd/NC 147 interchange; 147 to Angier	Durham	0.64	$33,231,525	At or below county average	At or below county average
28.11	Glover Rd	Angier to US 70	Durham	0.59	$6,278,550	At or below county average	At or below county average
30	Hillandale Rd	I-85 to Carver St	Durham	0.62	$10,943,000	At or below county average	At or below county average

ID	Project	Project Limits	County	Length (miles)	Total Cost (2008 dollars)	Percent Minority Population	Percent of Households Below Poverty
31	Hillandale Rd	Carver to Horton Rd	Durham	1.38	$14,342,351	10% - 25% above county average	At or below county average
32	Hillandale Rd Ext	Horton Rd to Guess Rd	Durham	0.55	$9,094,040	At or below county average	At or below county average
33	Old Fayetteville Rd.	Strowd Lane to Old Fayetteville/NC 54 (bike, ped. & transit accommodations)	Orange	0.85	$1,800,000	10% - 25% above county average	At or below county average
35	Homestead Rd	High School Rd to NC 86	Orange	1.58	$10,300,000	10% - 25% above county average	10% - 25% above county average
36	Homestead Rd	Old NC 86 to High School Rd	Orange	1.74	$8,825,634	10% - 25% above county average	At or below county average
39	Horton Rd	Duke St to Hillandale Rd	Durham	1.94	$22,322,436	10% - 25% above county average	At or below county average
40	(Horace Williams Network) Carolina North	Carolina North Campus (this is not an extension of Weaver Dairy Rd)	Orange	1.14	$12,131,435	At or below county average	10% - 25% above county average
43	I-40 (general purpose widening)	US 15-501 to NC 86	Orange	4.08	$43,790,031	More than 50% above county average	10% - 25% above county average
44	I-40 (general purpose widening)	NC 86 to I-85	Orange	7.32	$77,277,997	10% - 25% above county average	At or below county average
45	I-40 HOV	Wake County Line to US 15-501	Durham/ Orange	12.62	$578,756,215	At or below county average	At or below county average
46	I-540	Ramp improvement: I-540 W to I-40 W	Durham	0.86	$4,930,000	At or below county average	At or below county average
48	I-85	I-40 to the Durham Co line	Orange	8.35	$210,782,000	At or below county average	At or below county average
49	I-85	US 70 to Redwood Rd	Durham	5.25	$132,527,605	At or below county average	At or below county average
51	Lake Hogan Farms Rd Ext	Lake Hogan Farms Rd to Eubanks Road	Orange	0.96	$10,419,610	At or below county average	At or below county average
52	Latta Rd	Guess Rd to Roxboro Rd	Durham	1.20	$5,409,315	At or below county average	At or below county average
53.11	Leesville Rd Ext	Leesville Rd to US 70/Page Rd	Durham	0.81	$9,587,110	At or below county average	At or below county average
57	Lynn Rd Ext	NC 98/Glover Rd Ext to Existing Lynn Rd	Durham	0.86	$9,346,199	At or below county average	At or below county average

ID	Project	Project Limits	County	Length (miles)	Total Cost (2008 dollars)	Percent Minority Population	Percent of Households Below Poverty
60	Midland Terrace	NC 98 to Geer St	Durham	2.44	$17,207,959	More than 50% above county average	At or below county average
61	Midland Terrace	Dearborn to Old Oxford Rd/Hamlin Junction	Durham	0.98	$17,862,527	More than 50% above county average	10% - 25% above county average
63	MLK Pkwy (NC 55 interchange)	NC 55 to Cornwallis Rd connector	Durham	0.28	$29,850,000	10% - 25% above county average	At or below county average
64.13	NC 147 General purpose widening	East End Conn to I-40	Durham	4.78	$52,645,086	At or below county average	At or below county average
66	NC 147 South Ext (Triangle Pkwy - toll)	I-40 to Wake County Line	Durham	2.40	$156,700,000	At or below county average	At or below county average
69	NC 54	I-40 Interchange to NC 55	Durham	5.24	$36,357,032	At or below county average	At or below county average
70	NC 54	I-40 to Barbee Chapel Rd	Durham	1.65	$34,540,862	At or below county average	At or below county average
75	NC 55 (Alston Ave.)	NC 147 to NC 98	Durham	0.90	$23,320,000	More than 50% above county average	More than 50% above county average
77.1	NC 751	S Roxboro St to NC 54	Durham	0.70	$10,245,211	At or below county average	At or below county average
77.2	NC 751	NC 54 to Renaissance Pkwy	Durham	1.23	$12,783,400	At or below county average	At or below county average
77.3	NC 751	Renaissance Pkwy to Fayetteville/Scott King Rd	Durham	1.94	$20,162,436	At or below county average	At or below county average
80	NC 86	Old NC 10 to US 70 Business	Orange	0.90	$11,513,707	At or below county average	At or below county average
81	NC 86	US 70 Bypass to NC 57	Orange	0.34	$3,533,623	More than 50% above county average	At or below county average
81.1	NC 98 (Holloway St)	Wake County Line to Mineral Springs	Durham	6.46	$68,218,832	10% - 25% above county average	At or below county average
83	Northern Durham Pkwy	US 70 E to I-85 North	Durham	8.07	$133,434,364	10% - 25% above county average	At or below county average
84	Northern Durham Pkwy	I-85 North to Old Oxford Hwy	Durham	3.80	$64,991,547	More than 50% above county average	More than 50% above county average
85	Northern Durham Pkwy	Old Oxford Hwy to Roxboro Rd	Durham	2.64	$28,093,849	At or below county average	At or below county average
86	Old NC 86	I-40 to Lafayette Dr.	Orange	0.80	$6,176,000	At or below county average	At or below county average

ID	Project	Project Limits	County	Length (miles)	Total Cost (2008 dollars)	Percent Minority Population	Percent of Households Below Poverty
87	Old NC 86	Lafayette Dr to US 70 Business	Orange	1.63	$13,124,000	More than 50% above county average	At or below county average
88	Old Oxford Rd	Roxboro Rd to Snow Hill Rd	Durham	2.57	$27,790,031	More than 50% above county average	More than 50% above county average
89	Olive Branch Rd Ext	NC 98 to Wake County Line	Durham	1.48	$16,869,085	At or below county average	At or below county average
89.3	Orange Grove Connector	Orange Grove Rd to US 70	Orange	0.40	$5,336,644	At or below county average	At or below county average
90	Page Rd	I-40 to Page Rd Ext	Durham	3.88	$40,324,871	At or below county average	At or below county average
91	Riddle Rd Extension	Ellis Rd to NC 147	Durham	0.49	$5,214,389	At or below county average	At or below county average
92	Roxboro Road (501N)	Duke Street to Goodwin Rd	Durham	2.65	$40,962,074	More than 50% above county average	At or below county average
94	Roxboro St	Cornwallis Rd to MLK Pkwy	Durham	1.29	$4,240,000	More than 50% above county average	At or below county average
95.11	Scott King Rd	Grandale Dr to Hopson Rd	Durham	1.15	$13,317,851	At or below county average	At or below county average
96	Seawell School Connector	Lake Hogan Farms Rd to Seawell School Rd	Orange	1.61	$17,132,991	10% - 25% above county average	At or below county average
96.1	Sherron Rd	US 70 to NC 98	Durham	3.25	$33,777,276	At or below county average	At or below county average
97	Smith Level Rd	Rock Haven Rd to NC 54 bypass	Orange	0.75	$5,400,000	At or below county average	More than 50% above county average
98	South Columbia St	NC 54 to Manning Dr. (upgrade to include bicycle lanes)	Orange	0.86	$3,650,000	10% - 25% above county average	More than 50% above county average
102	SW Durham Dr	Meadowmont Dr to I-40	Durham	1.79	$21,208,481	At or below county average	At or below county average
104	SW Durham Dr.	Watkins Rd (Old Chapel Hill Rd to US 15-501)	Durham	0.70	$10,245,211	At or below county average	At or below county average
106	SW Durham Dr.	US 15-501 to Mt. Moriah Rd	Durham	0.35	$9,054,232	At or below county average	At or below county average
113	US 15-501 (freeway conversion)	Bypass to I-40	Durham	1.88	$106,381,000	10% - 25% above county average	25% - 50% above county average
114	US 15-501 Bypass	Pickett Rd to Morreene Rd	Durham	2.64	$35,386,491	25% - 50% above county average	More than 50% above county average

ID	Project	Project Limits	County	Length (miles)	Total Cost (2008 dollars)	Percent Minority Population	Percent of Households Below Poverty
116	US 70 (freeway conversion)	Lynn Rd to Wake Co line	Durham	4.08	$128,210,945	At or below county average	At or below county average
119	Weaver Dairy Rd	NC 86 to Erwin Rd	Orange	2.65	$11,070,000	10% - 25% above county average	At or below county average
123.1	Woodcroft Pkwy Ext	Garrett Rd to Hope Valley Rd	Durham	0.25	$2,660,402	At or below county average	At or below county average

ID	Project	From	To	County	Length (miles)	Total Cost (2008 dollars)	Percent Minority Population	Percent of Households Below Poverty
A10	Old Wake Forest Rd	Litchford Rd	Capital Blvd	Wake	1.2	$ 17,563,219	More than 50% above county average	25% - 50% above county average
A101	US 70	Lumley/Westgate Rd	Duraleigh/ Millbrook Rd	Wake	3.3	$ 38,450,000	At or below county average	At or below county average
A104	Morrisville Parkway	Green Level To Durham	NC 55	Wake	1.83	$ 19,157,799	At or below county average	At or below county average
A111	Reedy Creek Rd	N.E. Maynard Rd	Harrison Avenue	Wake	1.17	$ 8,933,877	25% - 50% above county average	At or below county average
A112a	Smithfield Rd	US 64 Bypass	Major Slade Rd	Wake	2.6	$ 19,853,059	More than 50% above county average	At or below county average
A112b	Smithfield Rd	Major Slade Rd	Johnston Co. line	Wake	1.4	$ 10,690,109	At or below county average	At or below county average
A114	Ten Ten Rd	Holly Springs Rd	US 1	Wake	3.4	$ 25,961,693	At or below county average	At or below county average
A117	New Hope Rd	Old Poole Rd	Rock Quarry Rd	Wake	1.8	$ 13,744,426	More than 50% above county average	At or below county average
A118b	NC 55	Jicarilla Rd	Rawls Ch Rd	Wake	1.6	$ 12,217,267	At or below county average	Up to 10% above county average
A119	McCrimmon Parkway	Airport Blvd	NC 54	Wake	0.6	$ 22,000,000	At or below county average	At or below county average
A120	Tryon Rd Ext	Garner Rd	Rock Quarry Rd	Wake	2.9	$ 21,050,000	More than 50% above county average	More than 50% above county average
A125a	Forestville Rd	Horton Rd	Buffaloe Rd	Wake	3.4	$ 25,961,693	25% - 50% above county average	10% - 25% above county average
A125a2	Forestville Rd	Buffaloe Rd	Rogers Rd	Wake	7.5	$ 57,268,440	25% - 50% above county average	25% - 50% above county average

ID	Project	From	To	County	Length (miles)	Total Cost (2008 dollars)	Percent Minority Population	Percent of Households Below Poverty
A125b	Heritage Lake Rd	Rogers Rd	End of Existing Heritage Lake Rd	Wake	0.93	$ 7,101,287	At or below county average	Up to 10% above county average
A126a	Ligon Mill Rd	Burlington Mills Rd	US 1A	Wake	2.32	$ 9,208,815	At or below county average	Up to 10% above county average
A127a	Ligon Mill Rd Connector	US 1A	NC 98 Bypass	Wake	0.96	$ 7,330,360	At or below county average	At or below county average
A127b	Ligon Mill Rd Connector	NC 98 Bypass	NC 98	Wake	1.18	$ 9,010,235	At or below county average	At or below county average
A127c	Ligon Mill Rd Connector	NC 98	Stadium Dr	Wake	0.78	$ 5,955,918	At or below county average	10% - 25% above county average
A12a	Falls of Neuse Rd	Raven Ridge Rd	Fonville Rd	Wake	1.3	$ 18,000,000	Up to 10% above county average	At or below county average
A130a	Mitchell Mill Rd (West)	US 401	Louisbury Rd	Wake	1.13	$ 8,628,445	25% - 50% above county average	25% - 50% above county average
A130c	US 401/Mitchell Mill Rd Interchange			Wake		$ 25,500,000	25% - 50% above county average	25% - 50% above county average
A131	NC 96	US 64	NC 98	Wake	16.27	$ 64,580,784	More than 50% above county average	More than 50% above county average
A134	Litchford Rd	Old Wake Forest Rd	Falls of Neuse Rd	Wake	2.99	$ 11,868,257	At or below county average	At or below county average
A135a	Lead Mine Rd	Town & Country Rd	Millbrook Rd	Wake	0.54	$ 2,143,431	Up to 10% above county average	10% - 25% above county average
A138a	Timber Dr/Jones Sausage Connector	US 70	Timber Dr Ext	Wake	0.65	$ 6,804,683	25% - 50% above county average	At or below county average
A138b	Timber Dr/Jones Sausage Connector	Jones Sausage Rd	US 70	Wake	0.28	$ 2,931,248	More than 50% above county average	25% - 50% above county average
A138c	Timber Dr/Jones Sausage Connector	White Oak Rd	I-40 (South)	Wake	5.02	$ 38,331,676	More than 50% above county average	25% - 50% above county average

ID	Project	From	To	County	Length (miles)	Total Cost (2008 dollars)	Percent Minority Population	Percent of Households Below Poverty
A139	Timber Dr / US 70 Interchange			Wake	1.92	$ 25,500,000	More than 50% above county average	More than 50% above county average
A13b	New Falls of Neuse Blvd	Falls of Neuse Rd	Waterlow Park Lane	Wake	0.83	$ 8,689,056	Up to 10% above county average	At or below county average
A13c	Falls of Neuse Blvd	I-540	New Falls of Neuse Blvd	Wake	3.6	$ 23,220,000	Up to 10% above county average	At or below county average
A14	Ray Rd	Leesville Rd	Strickland Rd	Wake	3.21	$ 12,741,507	At or below county average	At or below county average
A140a	Vandora Springs Rd & Ext	Timber Dr	Old Stage Rd	Wake	1.02	$ 7,788,508	10% - 25% above county average	At or below county average
A142a	Timber Dr East	Waterfield Rd	White Oak Rd	Wake	1.17	$ 7,600,000	Up to 10% above county average	10% - 25% above county average
A142b	Timber Dr East	White Oak Rd	New Rand Rd	Wake	1.27	$ 19,333,000	25% - 50% above county average	At or below county average
A143a	White Oak Rd	US 70	I-540	Wake	4.3	$ 32,833,906	10% - 25% above county average	More than 50% above county average
A143b	White Oak Rd	I-540	NC 42 (Johnston Co.)	Wake	3.1	$ 23,670,955	Up to 10% above county average	10% - 25% above county average
A148a	Eagle Rock Rd	US 64 Bypass	Martin Pond Rd	Wake	1.4	$ 6,097,044	Up to 10% above county average	More than 50% above county average
A149a	Poole Rd	I-540	Martin Pond Rd	Wake	5.6	$ 42,760,435	More than 50% above county average	More than 50% above county average
A15	Blue Ridge Rd	Duraleigh Rd	Glen Eden Dr	Wake	0.95	$ 3,770,851	At or below county average	Up to 10% above county average
A150	NC 98	Durham County Line	NC 98 Bypass	Wake	8.86	$ 67,653,117	At or below county average	At or below county average
A151	Aviation Parkway Ext	Brier Creek Parkway	US 70	Wake	1.79	$ 83,434,206	At or below county average	At or below county average
A155a	T.W. Alexander Dr Ext	US 70	Brier Creek Pkwy	Wake	0.66	$ 6,909,370	At or below county average	At or below county average
A155b	T.W. Alexander Dr	Aviation Parkway	US 70	Wake	1.02	$ 22,698,508	At or below county average	At or below county average
A155c	T.W. Alexander Dr Ext	Brier Creek Parkway	Leesville Rd	Wake	1.8	$ 44,343,736	At or below county average	At or below county average

ID	Project	From	To	County	Length (miles)	Total Cost (2008 dollars)	Percent Minority Population	Percent of Households Below Poverty
A157a	Eastern Parkway	Angier Rd	NC 55	Wake	3.9	$ 97,399,049	At or below county average	Up to 10% above county average
A157b	Eastern Parkway	NC 55	US 401	Wake	1.79	$ 91,828,095	At or below county average	Up to 10% above county average
A16	Rock Quarry Rd	Old Birch Rd	Sunnybrook Rd	Wake	0.83	$ 7,188,634	More than 50% above county average	More than 50% above county average
A160a	Ralph Stephens Rd (Part NL)	Avent Ferry	NC 55	Wake	1.07	$ 7,846,257	10% - 25% above county average	Up to 10% above county average
A160b	Ralph Stephens Rd (Part NL)	Piney Grove Wilbon	NC 55	Wake	1	$ 7,332,950	10% - 25% above county average	Up to 10% above county average
A160c	Ralph Stephens Rd Interchange			Wake	0	$ 25,500,000	10% - 25% above county average	Up to 10% above county average
A162	Buffaloe Rd	Southall Rd	I-540	Wake	2.39	$ 18,325,901	More than 50% above county average	At or below county average
A163a	Holly Springs Rd	Sunset Lake Rd	Old Holly Springs Apex	Wake	3.58	$ 27,336,135	10% - 25% above county average	Up to 10% above county average
A164a	Green Level-to-Durham	O'Kelly Chapel Rd	Carpenter Fire Station Rd	Wake	1.28	$ 9,773,814	At or below county average	At or below county average
A166	Center St/1010	US 1	Apex Peakway	Wake	1.04	$ 23,558,728	At or below county average	At or below county average
A169a	Wendell Falls Parkway	US 64 Bypass	Martin Pond Rd	Wake	1.69	$ 45,352,175	More than 50% above county average	More than 50% above county average
A16b	Rock Quarry Rd	Sunnybrook Rd	New Hope Rd	Wake	1.09	$ 8,323,013	More than 50% above county average	25% - 50% above county average
A171	Green Level West Rd	NC 55	I-540	Wake	0.9	$ 19,622,213	At or below county average	At or below county average
A172	Kelly Rd	Jenks Rd	Old US 1	Wake	5.23	$ 39,935,192	At or below county average	At or below county average
A174a	Martin Pond Rd	Poole Rd	Knightdale-Eagle Rock Rd	Wake	2.21	$ 16,875,100	Up to 10% above county average	More than 50% above county average
A174b	Martin Pond Rd	Knightdale-Eagle Rock Rd	Wendell Blvd	Wake	0.84	$ 8,793,744	Up to 10% above county average	More than 50% above county average
A178a	Olive Chapel Rd	Kelly Rd	NC 55	Wake	1.93	$ 14,737,079	At or below county average	At or below county average

ID	Project	From	To	County	Length (miles)	Total Cost (2008 dollars)	Percent Minority Population	Percent of Households Below Poverty
A178b	Olive Chapel Rd	Richardson Rd	Kelly Rd	Wake	1.81	$ 7,184,463	At or below county average	At or below county average
A178c	Olive Chapel Rd	New Hill Olive Chapel Rd	Richardson Rd	Wake	1.31	$ 5,199,805	At or below county average	At or below county average
A179a	Richardson Rd	US 64 (West)	Olive Chapel Rd	Wake	1.42	$ 40,365,614	At or below county average	At or below county average
A179b	Richardson Rd	Olive Chapel Rd	Humie Olive Rd		1.86	$ 14,202,573	At or below county average	At or below county average
A181a	Old US 1	NC 751	Humie Olive Rd	Wake	2.38	$ 9,446,974	At or below county average	At or below county average
A181b	Old US 1	Humie Olive Rd	Apex Peakway	Wake	2.53	$ 19,318,554	Up to 10% above county average	At or below county average
A193b	Sunset Lake Rd	Hilltop-Needmore Rd	Optimist Farm Rd	Wake	2.55	$ 19,471,270	At or below county average	At or below county average
A197a	Main Campus Dr Connector	Main Campus Dr	Main Campus Dr	Wake	0.68	$ -	25% - 50% above county average	More than 50% above county average
A197b	Cent Campus Connector & Interchange	Main Campus Dr Connector	I-40	Wake	0.38	$ 15,819,061	25% - 50% above county average	More than 50% above county average
A199	Pullen Rd	Western Blvd	Centennial Pkwy	Wake	0.4	$ 4,013,180	More than 50% above county average	More than 50% above county average
A1a	Perry Creek Rd Ext	Fox Rd	I-540	Wake	0.97	$ 7,406,718	More than 50% above county average	At or below county average
A1b	Perry Creek Rd Ext	I-540	Buffaloe Rd	Wake	0.7	$ 9,488,120	More than 50% above county average	At or below county average
A20	Hillsborough St Safety & Enhancement	Gorman St	Gardner St	Wake	0.84	$ 11,000,000	More than 50% above county average	More than 50% above county average
A201a	Rock Quarry Rd	New Hope Rd	Battle Bridge Rd	Wake	1.4	$ 10,690,109	More than 50% above county average	More than 50% above county average
A201b	Rock Quarry Rd	Battle Bridge Rd	East Garner Rd	Wake	3.3	$ 25,198,114	At or below county average	More than 50% above county average
A205	Six Forks Ext	Atlantic Avenue	Capital Blvd	Wake	0.56	$ 5,862,496	10% - 25% above county average	At or below county average

ID	Project	From	To	County	Length (miles)	Total Cost (2008 dollars)	Percent Minority Population	Percent of Households Below Poverty
A207a	Judd Parkway NE	Existing Judd Parkway	NC 55 (BRd St)	Wake	1.7	$ 12,980,846	At or below county average	At or below county average
A207a1	Judd Parkway NE (part NL)	Existing Judd Parkway	NC 55 (BRd St)	Wake	1.7	$ 12,466,016	At or below county average	At or below county average
A207b1	Judd Parkway SW (part NL)	NC 42	Existing Judd Parkway	Wake	0.8	$ 5,912,191	At or below county average	25% - 50% above county average
A207c1	Judd Parkway W (part NL)	Wilbon Rd	NC 42	wake	1.2	$ 10,913,710	More than 50% above county average	More than 50% above county average
A21	Lake Boone Trail Ext	Blue Ridge Rd	Edwards Mill Ext	Wake	0.28	$ 2,931,248	At or below county average	At or below county average
A214	Garner Rd	Tryon Rd	Rock Quarry Rd	Wake	7.16	$ 28,420,308	More than 50% above county average	25% - 50% above county average
A217a	Sunset Lake Rd	Main St	Optimist Farm Rd	Wake	3.4	$ 25,961,693	At or below county average	At or below county average
A217b	Sunset Lake Rd Ext	Old Holly Springs Apex	Main St	Wake	1.7	$ 17,796,862	Up to 10% above county average	At or below county average
A218a	Old Holly Springs Apex Rd	Holly Springs Rd	Jessie Dr	Wake	2.52	$ 19,242,196	Up to 10% above county average	At or below county average
A218b	Jessie Dr (part NL)	Ten Ten Rd	Old Holly Springs Rd	Wake	3.5	$ 26,725,272	Up to 10% above county average	At or below county average
A218c	Old Holly Springs Apex Rd	Tingen Rd	Jessie Dr	Wake	1.06	$ 4,207,476	Up to 10% above county average	At or below county average
A219a	McCrimmon Parkway Ext	NC 54	Louis Stevens Rd	Wake	1.74	$ 3,600,000	At or below county average	At or below county average
A219b	McCrimmon Parkway Ext	Louis Stevens Rd	NC 55	Wake	0.94	$ 9,840,618	At or below county average	At or below county average
A220a	Morrisville Carpenter Rd	Townhall Dr	Davis Dr	Wake	1.4	$ 3,000,000	At or below county average	At or below county average
A220b	Morrisville Carpenter Rd	Davis Dr	Louis Stephens Dr	Wake	0.7	$ 5,345,054	At or below county average	At or below county average
A221	NC 54	N.W. Maynard Rd	Wilson St	Wake	0.93	$ 7,101,287	At or below county average	At or below county average

ID	Project	From	To	County	Length (miles)	Total Cost (2008 dollars)	Percent Minority Population	Percent of Households Below Poverty
A222a	NC 54	Cary Parkway	Weston Parkway	Wake	0.9	$ 10,375,819	At or below county average	At or below county average
A222b	NC 54	Weston Parkway	Perimeter Park Dr	Wake	2.4	$ 24,943,219	At or below county average	At or below county average
A222c	NC 54	Perimeter Park Dr	Northern Twn Limits	Wake	1.8	$ 28,196,122	At or below county average	At or below county average
A223c	Kit Creek Rd	Kit Creek Rd	Kit Creek Rd	Wake	0.3	$ 2,000,000	At or below county average	At or below county average
A228a	NC 50	Timber Dr	I-540	Wake	4.6	$ 35,124,643	Up to 10% above county average	10% - 25% above county average
A228b	NC 50	I-540	NC 42	Wake	2.16	$ 16,493,311	At or below county average	At or below county average
A230	S.E. Maynard Rd	Cary Towne Blvd	Walnut St	Wake	0.26	$ 1,985,306	At or below county average	At or below county average
A231	Trinity Rd	Edwards Mill Rd Ext	Trenton Rd	Wake	1.1	$ 8,399,371	At or below county average	More than 50% above county average
A234	Western Blvd	Gorman St	Avent Ferry Rd	Wake	1.21	$ 17,709,579	More than 50% above county average	More than 50% above county average
A235b	US 1A	Rogers Rd	Forbes Rd	Wake	1.55	$ 1,700,000	At or below county average	Up to 10% above county average
A236	NC 54	NE Maynard Rd	NW Maynard Rd	Wake	2.06	$ 15,729,732	25% - 50% above county average	At or below county average
A237a	Old Apex Rd	West Chatham St	Cary Parkway	Wake	1.55	$ 11,835,478	At or below county average	More than 50% above county average
A237b	Old Apex Rd	Cary Parkway	Laura Duncan Rd	Wake	0.39	$ 2,977,959	At or below county average	At or below county average
A24	Edwards Mill Rd Ext - part II	Trinity Rd	Chapel Hill Rd	Wake	0.67	$ 7,014,057	At or below county average	More than 50% above county average
A240a	North Harrison Avenue	Reedy Creek Rd	Weston Parkway	Wake	0.81	$ 11,855,173	At or below county average	At or below county average
A240b	North Harrison Avenue	Weston Parkway	I-40	Wake	0.48	$ 19,775,288	At or below county average	At or below county average
A240c	North Harrison Avenue	Dry Rd	Kildaire Farm Rd	Wake	0.32	$ 5,034,630	At or below county average	At or below county average

ID	Project	From	To	County	Length (miles)	Total Cost (2008 dollars)	Percent Minority Population	Percent of Households Below Poverty
A26	McCrimmon Parkway	Airport Blvd	Aviation Parkway	Wake	0.4	$ 4,900,000	At or below county average	At or below county average
A27a	Louis Stephens Dr Ext (part NL)	Wake County Line	Kit Creek Rd	Wake	1.23	$ 9,392,024	At or below county average	At or below county average
A27b	Louis Stephens Dr Ext (part NL)	Kit Creek Rd	O'Kelly Chapel Rd	Wake	1.13	$ 8,628,445	At or below county average	At or below county average
A27c	Louis Stephens Dr Ext (part NL)	O'Kelly Chapel Rd	McCrimmon Pkwy	Wake	1.57	$ 11,988,193	At or below county average	At or below county average
A27d	Louis Stephens Dr Ext (part NL)	McCrimmon Pkwy	Morrisville Carpenter Rd	Wake	0.35	$ -	At or below county average	At or below county average
A28b	Davis Dr	Farm Pond Rd	US 64	Wake	1.1	$ 8,399,371	At or below county average	At or below county average
A2a	Southall Rd	Skycrest Dr	Buffaloe Rd	Wake	1.54	$ 15,000,000	At or below county average	At or below county average
A2b	Southall Rd	Southall Rd (Existing)	Hedingham Blvd	Wake	0.28	$ 2,931,248	At or below county average	At or below county average
A3	Spring Forest Rd Ext	US 401	Buffaloe Rd	Wake	1.16	$ 12,143,741	More than 50% above county average	At or below county average
A30	Morrisville Parkway (part NL)	Davis Dr	NC 55	Wake	1.37	$ 10,461,035	At or below county average	At or below county average
A302a	Guy Rd	NC 55 (south of Angier)	NC 210	Wake	2.1	$ 16,035,163	At or below county average	At or below county average
A302b	Northeastern Angier Bypass	NC 210	NC 55 (north of Angier)	Wake	3	$ 22,907,376	At or below county average	Up to 10% above county average
A302c	Rawls Ch Rd	NC 55 (north of Angier)	US 401	Wake	4.09	$ 31,230,389	At or below county average	Up to 10% above county average
A302d	Southern FV Bypass	Angier Rd	Piney Grove Wilbon	Wake	2.4	$ 50,624,982	At or below county average	25% - 50% above county average
A302e	Northeastern Angier Bypass	Benson Road	NC 55 (north of Angier)	Wake	1.12	$ 1,120,000	At or below county average	Up to 10% above county average

ID	Project	From	To	County	Length (miles)	Total Cost (2008 dollars)	Percent Minority Population	Percent of Households Below Poverty
A303	Northern Fuquay-Varina Bypass	Sunset Lake	Avent Ferry Road	Wake	3.07	$ 23,441,881	10% - 25% above county average	Up to 10% above county average
A32	Walker St	Chatham St	Chapel Hill Rd	Wake	0.25	$ 2,913,238	25% - 50% above county average	More than 50% above county average
A33	Kildaire Farm Rd	Walnut St	Dowell St	Wake	0.28	$ 4,098,084	At or below county average	At or below county average
A34	Cary Parkway	Evans Rd	Harrison Avenue	Wake	1.74	$ 13,286,278	At or below county average	At or below county average
A36b	Chatham St	Reedy Creek Rd	N.E. Maynard Rd	Wake	0.27	$ 3,951,724	Up to 10% above county average	At or below county average
A36c	Chatham St	N.E. Maynard Rd	I-40 bridge	Wake	0.93	$ 13,611,495	More than 50% above county average	25% - 50% above county average
A37	Walnut St	Maynard Rd	Macedonia Rd	Wake	1.29	$ 18,880,461	At or below county average	At or below county average
A38	Tryon Rd	US 64	Kildaire Farm Rd	Wake	0.8	$ 11,708,813	At or below county average	At or below county average
A380	US 64	US 1	Laura Duncan Rd	Wake	2.49	$ 11,000,000	At or below county average	At or below county average
A39	Alston Avenue	Kit Creek Rd	NC 55	Wake	2.12	$ 16,187,879	At or below county average	At or below county average
A40	Kildaire Farm Rd	Swift Creek	Ten Ten Rd	Wake	2	$ -	At or below county average	At or below county average
A404	South Franklin St (part NL)	NC 98 (Wake Forest Bypass)	Rogers Rd	Wake	1.1	$ 11,432,309	At or below county average	Up to 10% above county average
A406a	Shotwell Rd	East Garner Rd	US 70	Wake	0.86	$ 6,566,781	At or below county average	At or below county average
A407a	NC 42	NC 401	Old Stage Rd	Wake	4.1	$ 31,306,747	At or below county average	Up to 10% above county average
A407b	NC 42	Old Stage Rd	NC 50	Wake	5.42	$ 41,385,993	At or below county average	10% - 25% above county average
A407c	NC 42	NC 50	I 40	Wake	2.28	$ 31,239,606	At or below county average	At or below county average

ID	Project	From	To	County	Length (miles)	Total Cost (2008 dollars)	Percent Minority Population	Percent of Households Below Poverty
A41	Kildaire Farm Rd	Ten Ten Rd	Kildaire Farm Connector	Wake	2.03	$ 15,500,658	At or below county average	At or below county average
A410	Lake Pine Dr/Old Raleigh Rd	Cary Parkway	Apex Peakway	Wake	1.7	$ 12,980,846	At or below county average	At or below county average
A412	US 70 - Upgrade to Freeway	Aviation Pkwy Ext (Durham Co line)	Lumley/Westgate Rd	Wake	2.69	$ 53,457,192	At or below county average	At or below county average
A413	NC 54 (Chapel Hill Rd)	Corporate Center Dr	Hillsborough St	Wake	1.33	$ 13,822,701	At or below county average	More than 50% above county average
A417	Spring Forest Rd	Fox Rd	US 401	Wake	0.67	$ 2,659,442	More than 50% above county average	10% - 25% above county average
A426	NC 55 (Main St)	Holly Springs Rd	Bobbitt Rd	Wake	2.96	$ 22,601,944	Up to 10% above county average	At or below county average
A427a	Avent Ferry Rd	NC 55 Bypass	Cass Holt	Wake	3.68	$ 28,099,715	10% - 25% above county average	Up to 10% above county average
A428	Green Oaks Parkway	SR 1152 (New Hill Rd)	NC 55 Bypass	Wake	1.4	$ -	At or below county average	At or below county average
A43	Lake Wheeler Rd	Tryon Rd	I-40	Wake	1.3	$ 9,926,530	More than 50% above county average	More than 50% above county average
A431	Wake Forest Rd	Six Forks Rd	I 440	Wake	0.5	$ -	More than 50% above county average	At or below county average
A432	Skycrest Dr	Brentwood Rd	Trawick Rd	Wake	0.95	$ 7,254,002	More than 50% above county average	Up to 10% above county average
A434	Sunnybrook Rd	Rock Quarry Rd	Poole Rd	Wake	1.81	$ 7,184,463	More than 50% above county average	More than 50% above county average
A438	Blue Ridge Rd	Glen Eden	Crabtree Valley Avenue	Wake	1.01	$ 4,009,010	At or below county average	Up to 10% above county average
A439	Buck Jones Rd	Farmgate Rd	Western Blvd	Wake	1.13	$ 5,025,328	More than 50% above county average	More than 50% above county average
A440a	Carpenter Fire Station Rd	NC 55	County Line Rd	Wake	0.47	$ 3,588,822	At or below county average	At or below county average

ID	Project	From	To	County	Length (miles)	Total Cost (2008 dollars)	Percent Minority Population	Percent of Households Below Poverty
A440b	Carpenter Fire Station Ext	NC 55	Morrisville Carpenter Rd	Wake	0.3	$ 3,140,623	At or below county average	At or below county average
A443b	Jenks Rd	Wimberly Rd	US 64	Wake	0.51	$ 3,894,254	At or below county average	At or below county average
A444	NC 50	I 540	NC 98	Wake	5.06	$ 38,637,108	At or below county average	At or below county average
A445	NC 50	NC 98	Wake Co Line	Wake	6.12	$ 46,731,047	At or below county average	At or below county average
A448	Six Forks Rd	Rowan St	Sandy Forks Rd	Wake	1.46	$ 11,148,256	10% - 25% above county average	Up to 10% above county average
A449	Perry Rd Ext	Apex Peakway	Jessie Dr	Wake	1.1	$ 11,515,617	Up to 10% above county average	At or below county average
A450	RTP Access Routes	Internal RTP access points	External access points	Wake	0.84	$ 8,730,127	At or below county average	At or below county average
A457	Westgate Rd	Leesville Rd	US 70	Wake	1.4	$ 29,100,422	At or below county average	At or below county average
A46a	Tryon Rd	Lake Wheeler Rd	Norfolk Southern Rail	Wake	1.3	$ 9,926,530	More than 50% above county average	More than 50% above county average
A46b	Tryon Rd	Norfolk Southern Rail	Existing Tryon Rd Alignment	Wake	0.5	$ -	More than 50% above county average	More than 50% above county average
A46c	Tryon Rd	New Tryon Rd Alignment	S. Wilmington St	Wake	0.4	$ 3,054,317	More than 50% above county average	More than 50% above county average
A47	Sunnybrook Rd	Poole Rd	New Bern Avenue	Wake	1.29	$ 9,850,172	More than 50% above county average	More than 50% above county average
A480	US 401(South)	US 70	NC 55 (FV)	Wake	10.85	$ 96,678,343	25% - 50% above county average	More than 50% above county average
A482	Wade Avenue	Ridge Rd	Faircloth St	Wake	0.36	$ 1,000,000	At or below county average	More than 50% above county average
A486	Blue Ridge-Hillsborough Grade Separation	Blue Ridge Rd	TTA Rail Line at Hillsborough	Wake	1	$ 25,500,000	At or below county average	More than 50% above county average

ID	Project	From	To	County	Length (miles)	Total Cost (2008 dollars)	Percent Minority Population	Percent of Households Below Poverty
A49a	Poole Rd	Maybrook Dr	Barwell Rd	Wake	1	$ 7,635,792	More than 50% above county average	At or below county average
A49b	Poole Rd	Barwell Rd	I-540	Wake	1.57	$ 11,988,193	More than 50% above county average	10% - 25% above county average
A4c	Rogers Lane	Daleview Dr	Southall Rd	Wake	1.06	$ 4,747,476	More than 50% above county average	At or below county average
A51	Smithfield Rd	Forestville Rd	Bethlehem Rd	Wake	1.57	$ 7,446,000	25% - 50% above county average	10% - 25% above county average
A511	Piney Grove Wilbon Rd	Brayton Park Rd	Southern FV Bypass	Wake	5.11	$ 43,218,583	More than 50% above county average	More than 50% above county average
A52	Smithfield Rd	Bethlehem Rd	US 64 Bypass	Wake	1.796023	$ 13,744,426	More than 50% above county average	10% - 25% above county average
A521	O'Kelley Chapel Rd	Louis Stephens Dr	NC 55	Wake	0.62	$ 6,385,933	At or below county average	At or below county average
A522	New Alston Connector	NC 55	Green Level -to-Durham	Wake	1.09	$ 7,992,916	At or below county average	At or below county average
A526	Sloan Rd Ext	Sloan Rd	Trinity Rd	Wake	0.4	$ 2,933,180	More than 50% above county average	25% - 50% above county average
A53	Davis Dr	Morrisville-Carp	Durham County Line	Wake	1.1	$ -	At or below county average	At or below county average
A530	Evans Rd	Aviation Parkway	Weston Parkway	Wake	0.5	$ 3,817,896	At or below county average	At or below county average
A54	Pleasant Valley Rd	Duraleigh Rd	Glenwood Avenue	Wake	0.34	$ 2,596,169	10% - 25% above county average	10% - 25% above county average
A55	Perry Creek Rd	US 1	US 401	Wake	1.61	$ 12,293,625	More than 50% above county average	More than 50% above county average
A56a	NC 98 Bypass	US 1	NC 98	Wake	1.44	$ 15,074,989	At or below county average	Up to 10% above county average
A56c	NC 98	NC 98 Bypass	US 401	Wake	5.29	$ 40,393,340	At or below county average	Up to 10% above county average
A57	Sandy Forks Rd	Falls of Neuse	Six Forks Rd	Wake	1.31	$ 5,199,805	25% - 50% above county average	10% - 25% above county average
A59b	Sumner Blvd Ext	Old Wake Forest Rd	Capital Blvd	Wake	0.38	$ 9,830,309	More than 50% above county average	25% - 50% above county average
A63	Cary Parkway Ext	Harrison Avenue	Trinity Rd	Wake	2.05	$ 15,032,548	At or below county average	At or below county average

ID	Project	From	To	County	Length (miles)	Total Cost (2008 dollars)	Percent Minority Population	Percent of Households Below Poverty
A640	Aviation Parkway Interchange	National Guard Dr	I-40	Wake	0.42	$ 12,750,000	At or below county average	At or below county average
A641	Airport Blvd Interchange			Wake	0.82	$ 12,750,000	At or below county average	At or below county average
A64a	Aviation Parkway	I-40	Dominion Dr		0.93	$ 9,137,500	At or below county average	At or below county average
A64b	Aviation Parkway	Evans Rd	NC 54	Wake	0.92	$ 3,400,000	At or below county average	At or below county average
A66a	O'Kelley Chapel Rd	Alston Avenue	NC 55	Wake	1.21	$ 9,239,308	At or below county average	At or below county average
A68a	Green Pace Rd	NC 96	Water Plant Rd	Wake	0.82	$ 6,261,349	10% - 25% above county average	25% - 50% above county average
A68b	Water Plant Rd - Part new location	Green Pace Rd	W Gannon Avenue	Wake	0.93	$ 7,101,287	10% - 25% above county average	25% - 50% above county average
A71	Holly Springs Rd	Ten Ten Rd	Kildaire Farm Rd Connector	Wake	0.84	$ 9,684,098	At or below county average	At or below county average
A72	Holly Springs Rd	Tryon Rd	SE Cary Parkway	Wake	0.61	$ 4,657,833	At or below county average	At or below county average
A73a	Jones Franklin Rd	Tryon Rd	Dillard Dr	Wake	0.67	$ 5,115,981	At or below county average	At or below county average
A73b	Jones Franklin Rd	Dillard Dr	I-440	Wake	0.34	$ 3,676,169	More than 50% above county average	More than 50% above county average
A73c	Jones Franklin Rd	I-440	Western Blvd	Wake	1.01	$ 4,009,010	More than 50% above county average	More than 50% above county average
A74c	Piney Plains Rd	Dillard Dr	Walnut St	Wake	0.43	$ 6,293,487	At or below county average	At or below county average
A75a	County Line Rd	North of O'Kelly Chapel	Yates Store Rd	Wake	1.09	$ -	At or below county average	At or below county average
A75b	County Line Rd	Yates Store Rd	Green Level Church	Wake	1.09	$ 7,992,916	At or below county average	At or below county average
A75c	County Line Rd	Green Level West	Beckwith Farm Rd	Wake	1.96	$ 14,372,583	At or below county average	At or below county average

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A80b	New Hope Rd	US 64 Bypass	New Bern Ave	Wake	1.19	$ 13,447,680	More than 50% above county average	At or below county average
A82	Trinity Rd Ext	Chatham St	Cary Towne Blvd	Wake	0.69	$ 7,223,432	More than 50% above county average	25% - 50% above county average
A85b	Leesville Rd	Westgate Rd	Lynn Rd	Wake	2.31	$ 17,638,680	At or below county average	At or below county average
A86a	Leesville Rd	I-540 Interchange	New Leesville Blvd	Wake	1.17	$ 8,933,877	At or below county average	At or below county average
A86b	Leesville Rd	New Leesville Blvd	TW Alexander Dr Ext	Wake	0.97	$ 7,406,718	At or below county average	At or below county average
A87	New Leesville Blvd Ext	Terminus	Carpenter Pond Rd	Wake	0.47	$ 4,920,309	At or below county average	At or below county average
A88	New Rand Rd	NC 50	Old Garner Rd	Wake	1.63	$ 6,469,986	More than 50% above county average	More than 50% above county average
A89a	US 401 Widening	Ligon Mill Rd / Mitchell Mill Rd	Forestville Rd	Wake	1.23	$ 12,001,000	25% - 50% above county average	25% - 50% above county average
A9	Strickland Rd	Leesville Rd	Creedmoor Rd	Wake	2.73	$ 20,845,712	At or below county average	At or below county average
A90a	US 401 Widening	Forestville Rd	US 401 Rolesville Bypass	Wake	1	$ 8,944,000	25% - 50% above county average	25% - 50% above county average
A90b	US 401 Rolesville Bypass	US 401	US 401	Wake	4.5	$ 47,109,341	25% - 50% above county average	25% - 50% above county average
A90c	US 401 Widening	US 401 Rolesville Bypass	Franklin County	Wake	1.56	$ 11,911,836	At or below county average	At or below county average
A90d	US 401 Widening	Franklin County	NC 39 (Louisburg)	Franklin	10.5	$ 22,485,000	At or below county average	At or below county average
A91	Jones Sausage Rd	Rock Quarry Rd	I-40	Wake	1.5	$ 11,453,688	More than 50% above county average	25% - 50% above county average

ID	Project	From	To	County	Length (miles)	Total Cost (2008 dollars)	Percent Minority Population	Percent of Households Below Poverty
A96b	NC 55	Apex Peakway (south)	Olive Chapel Rd	Wake	1.67	$ 19,472,000	Up to 10% above county average	At or below county average
A97b	Airport Blvd	I-40	NC 54	Wake	0.71	$ -	At or below county average	At or below county average
F10	I-440 Widening	US 1/64	Wade Avenue	Wake	3.5	$ 77,015,000	More than 50% above county average	More than 50% above county average
F110	US 1	US 64	NC 540	Wake	5.3	$ 54,779,698	Up to 10% above county average	At or below county average
F11-1a	US 1 North - Upgrade to Freeway	I-540	Thornton Road	Wake	1.62	$ 82,247,019	More than 50% above county average	More than 50% above county average
F11-1b	US 1 North - Upgrade to Freeway	Thornton Rd	Burlington Mills Rd	Wake	1.55	$ 60,559,466	Up to 10% above county average	Up to 10% above county average
F12	NC 540 Tri-Ex Turnpike - A2 (was NC 147 Triangle Pkwy)	Durham Co. Line	NC 540 Tri-Ex - A1	Wake	3.5	$ 174,703,000	At or below county average	At or below county average
F16	I-40	US 1-64	Wade Avenue	Wake	3.89	$ 38,486,000	More than 50% above county average	More than 50% above county average
F3	NC 540 Tri-Ex Turnpike - C3 (was I-540 SE Wake Frwy)	I-40 (South)	US 64 East Bypass	Wake	10.8	$ 255,272,000	Up to 10% above county average	More than 50% above county average
F40	I-40 HOV/HOT Project	Durham County Line	Wade Avenue	Wake	9.2	$ 240,000,000	At or below county average	At or below county average
F42	I-540 Tri-Ex (Northern) Turnpike Conversion	I-40	US-64 Bypass	Wake	25.82	$ 366,111,882	More than 50% above county average	More than 50% above county average
F43	I-40	US 1/64	Lake Wheeler Rd	Wake	4.43	$ 84,037,559	25% - 50% above county average	More than 50% above county average
F44a	I-40 (East)	I-440	US 70 Business (Garner)	Wake	4.4	$ 71,979,235	More than 50% above county average	More than 50% above county average

ID	Project	From	To	County	Length (miles)	Total Cost (2008 dollars)	Percent Minority Population	Percent of Households Below Poverty
F44b	I-40 (East)	US 70 Business (Garner)	NC 42	Wake	6.3	$ 158,070,734	Up to 10% above county average	10% - 25% above county average
F44c	I-40 (East)	NC 42	NC 210	Wake	6.78	$ 100,436,670	At or below county average	At or below county average
F44d	I-40 (East)	NC 210	CAMPO MAB	Wake	6.78	$ 102,056,670	At or below county average	At or below county average
F4b	NC 540 Tri-Ex Turnpike - B1 (was I-540 W. Wake Frwy)	NC 55 (Morrisville /Cary)	US 1	Wake	10.1	$ 600,359,000	Up to 10% above county average	At or below county average
F4c	NC 540 Tri-Ex Turnpike - B2 (was I-540 W. Wake Frwy)	US 1	NC 55 Bypass	Wake	2.3	$ 150,000,000	Up to 10% above county average	At or below county average
F5	NC 540 Tri-Ex Turnpike - C1 (was I-540 S. Wake Frwy)	NC 55 Bypass	US 401 (South)	Wake	7.8	$ 213,000,000	Up to 10% above county average	At or below county average
F6	NC 540 Tri-Ex Turnpike - C2 (was I-540 S. Wake Frwy)	US 401 (South)	I-40 (South)	Wake	8.7	$ 177,000,000	Up to 10% above county average	10% - 25% above county average
F7	US 64 East	US 64 Bypass (Wendell)	US 64/US 264 (Zebulon)	Wake	7.35	$ 182,865,857	More than 50% above county average	25% - 50% above county average
Grnv108	Intrsctn Rlgnmnt @ US 15, NC 56, NC50			Granville	1	$ 1,908,948	At or below county average	10% - 25% above county average
Grnv18	NC 50	Wake Co.	Creedmoor Loop	Granville	3.8	$ 29,016,010	25% - 50% above county average	10% - 25% above county average
Grnv32	Brassfield Rd	Creedmoor Loop	Hayes Rd	Granville	1.8	$ 13,744,426	25% - 50% above county average	Up to 10% above county average
Grnv33	Brassfield Rd	Hayes Rd	NC 96	Granville	4.07	$ 31,077,673	At or below county average	At or below county average
Grnv35	Woodland Church Rd	Wake Co. line	Bruce Garner Rd	Granville	4.41	$ 17,504,687	At or below county average	At or below county average

ID	Project	From	To	County	Length (miles)	Total Cost (2008 dollars)	Percent Minority Population	Percent of Households Below Poverty
Grnv47	Creedmoor Loop A	NC 56	US 15	Granville	1.59	$ 16,645,300	At or below county average	10% - 25% above county average
Grnv48	Creedmoor Loop B	US-15	Relocated US 15	Granville	0.66	$ 5,039,623	At or below county average	10% - 25% above county average
Grnv49	Creedmoor Loop C	Relocated US 15	Brassfield Rd	Granville	1.89	$ 19,785,923	25% - 50% above county average	10% - 25% above county average
Grnv81a	Old Weaver Trail	From NC 50 (Wake Co)	Northside Rd Ext	Granville	1.65	$ 12,599,057	At or below county average	10% - 25% above county average
Grnv93	Cash Rd / Gate 2 Rd	Old Weaver Trail	I-85	Granville	3.94	$ 30,085,020	At or below county average	10% - 25% above county average
Grnv94	I-85 / Brogden Interchange			Granville	3.94	$ 25,500,000	Up to 10% above county average	At or below county average
Hrnt5	US 401	Fuquay-Varina	Lillington UPD	Harnett	7.5	$ 57,268,440	At or below county average	25% - 50% above county average
Jhns1a	NC 42 East Widening	US 70	Sr 1902	Johnston	1.23	$ 9,392,024	More than 50% above county average	Up to 10% above county average
Jhns1b	NC 42 East Widening	SR 1902	Buffaloe Rd	Johnston	4.44	$ 30,725,000	More than 50% above county average	Up to 10% above county average
Jhns2a	NC 42 West	US 70 Business	US 70 Bypass	Johnston	3.01	$ 36,813,734	25% - 50% above county average	At or below county average
Jhns2b	NC 42 West Widening	US 70 Bypass	I-40	Johnston	3.37	$ 56,895,867	At or below county average	At or below county average
Jhns6	Pritchard Rd/Smithfield Rd Widening	Covered Bridge Rd	Wake County line	Johnston	2.4	$ 18,325,901	At or below county average	At or below county average

Appendix 9 -- Acronyms

BG MPO:	Burlington-Graham Metropolitan Planning Organization
CAAA:	Clean Air Act Amendments of 1990 (United States)
CAMPO:	Capital Area Metropolitan Planning Organization
CATS:	Capital Area Transit System
CFR:	Code of Federal Regulations
CHT:	Chapel Hill Transit
CMAQ:	Congestion Mitigation/Air Quality
CO:	Carbon Monoxide
CTP:	Comprehensive Transportation Plan
CTRAN:	Cary Transit System
DATA:	Durham Area Transit Authority
DAQ:	Division of Air Quality (North Carolina)
DCHC MPO:	Durham-Chapel Hill –Carrboro Metropolitan Planning Organization
DENR:	Department of Environment and Natural Resources (North Carolina)
DMV:	Division of Motor Vehicles
DOT:	Department of Transportation (North Carolina)
EPA:	Environmental Protection Agency (United States)
FHWA:	Federal Highway Administration
FTA:	Federal Transit Administration
HBO:	Home Based Other (trip purpose)
HBS:	Home Based Shopping (trip purpose)
HBW:	Home Based Work (trip purpose)
HOT:	High Occupancy Toll
HOV:	High Occupancy Vehicle
HPMS:	Highway Performance Management System
I/M:	Inspection/Maintenance
ISTEA:	Intermodal Surface Transportation Efficiency Act
ITRE:	Institute for Transportation Research and Education
ITS:	Intelligent Transportation Systems
KT RPO:	Kerr-Tar Rural Transportation Planning Organization
LRTP:	Long Range Transportation Plan
MPO:	Metropolitan Planning Organization
MTIP:	Metropolitan Transportation Improvement Program
NAAQS:	National Ambient Air Quality Standards
NCDOT:	North Carolina Department of Transportation
NHB:	Non Home Based (trip purpose)
NO_x:	Nitrogen Oxides
RPO:	Rural Transportation Planning Organization
RTAC:	Rural Transportation Advisory Committee
RTCC:	Rural Technical Coordinating Committee
RVP:	Reid Vapor Pressure
SAFETEA-LU:	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SIP:	State Implementation Plan (for air quality)
STAC:	Special Transit Advisory Commission
STP-DA	Surface Transportation Program-Direct Allocation
TAC:	Transportation Advisory Committee
TAZ:	Traffic Analysis Zone
TARPO:	Triangle Area Rural Transportation Planning Organization
TCC:	Technical Coordination Committee

TCM:	Transportation Control Measure
TDM:	Transportation Demand Management
TRM:	Triangle Regional Model
TEA-21:	Transportation Efficiency Act for the 21st Century
TIP:	Transportation Improvement Program
TRM:	Triangle Regional Model
UCPRPO:	Upper Coastal Plain Rural Transportation Planning Organization
UPWP:	Urban Planning Work Program
USEPA:	United States Environmental Protection Agency
V/C:	Volume to Capacity Ratio (measure of congestion on a road segment)
VKT:	Vehicle Kilometers of Travel
VMT:	Vehicle Miles of Travel
VOC:	Volatile Organic Compounds

Appendix 10 -- Greenhouse Gas Emissions

The City of Raleigh, City of Durham, Town of Chapel Hill, Town of Carrboro, Town of Hillsborough, Town of Cary, Durham County, and Orange County are members of the organization ICLEI Local Governments for Sustainability. As members, these jurisdictions have committed to reducing greenhouse gas emissions from their local government operations and in their communities. Many of the Triangle area ICLEI members are in the process of creating a local greenhouse gas emissions inventory and adopting an emissions reduction target. The effort to reduce greenhouse gas emissions is currently a local effort. It is not required in the air quality conformity process. The modeling and analysis is completed separately from the air quality conformity analysis.

In September 2007, the City of Durham and Durham County completed an emissions inventory and adopted greenhouse gas emission reduction targets. One of Durham's targets is to reduce emissions by thirty percent from 2005 levels by 2035 from the community at-large. This emission target includes emissions from the transportation sector as well as the residential, commercial, industrial, and solid waste sectors.

The DCHC MPO used the traffic modeling results and ICLEI's Cities for Climate Protection software to create a comparison of greenhouse gas emissions from the transportation sector for the 2005 baseline year and the 2035 planning year for Durham County. The results are shown in the table below.

	Daily VMT	**Greenhouse Gases (equivalent CO2)**	**Percent Change from 2005**
2005 Baseline	10,673,559	2,624,880	(not applicable)
2035 E+C	17,397,077	3,595,980	+37.0%
2035 Projection	17,603,017	3,921,560	+49.4%

The analysis shows that the 2035 Long Range Transportation Plan does not meet Durham's thirty percent target for the reduction of greenhouse gas emissions from the 2005 baseline. Achieving the 2035 greenhouse gas target would require a reduction in vehicle-miles-travelled from the 2005 baseline and/or less polluting vehicles. The modeling results show that vehicle-miles-travelled will increase by 65% from 2005 to 2035. In addition, the modeling uses the current fuel efficiency standards in the estimation of future greenhouse gas emissions. These standards currently are not designed to address the effects of climate change and reduced greenhouse gas emissions. However, it is likely that fuel efficiency standards will soon be changed to address the growing concern of climate change. In 2007, the United States Supreme Court ruled that the U.S. Environmental Protection Agency must regulate new vehicle emission standards to control greenhouse gas emissions that contribute to climate change (*Commonwealth of Massachusetts et al. v. Environmental Protection Agency et al.*). New vehicle emission standards would greatly help Durham meet its targets.

As the other local governments complete their greenhouse gas emission inventories and set their reduction targets, the DCHC MPO and the Capital Area MPO will further evaluate the impact of their LRTPs on greenhouse gas emissions. In addition, if new federal or state regulations on greenhouse gas emission take effect, the two MPOs will ensure that the two LRTPs are in compliance.

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Appendix 11 – Year of Expenditure for Costs and Revenues

The Financial Plan, section 8 of this report, provides the 2035 LRTP costs and revenues for the DCHC MPO and CAMPO in current year dollars. This appendix uses the same table structure to present the costs and revenues in year of expenditure dollars.

2035 LRTP Costs – Year of Expenditure

DCHC MPO -- Cost Category	Time Period 2009-15	2016-25	2026-35	Total
Roadways - Total	**$ 663**	**$ 2,423**	**$ 3,662**	**$ 6,219**
Roadways	$ 18	$ 1,105	$ 3,051	$ 4,174
Tolled roads (excluding I-40 HOT)	$ 177	$ -	$ -	$ 177
Non-tolled trust fund urban loops	$ 175	$ 770	$ 96	$ 1,041
Maintenance	$ 293	$ 548	$ 515	$ 827
Light Rail and Commuter Rail - Total	**$ 176**	**$ 2,022**	**$ 1,116**	**$ 3,314**
Bus - Total	**$ 373**	**$ 1,087**	**$ 2,144**	**$ 3,604**
Other - Total	**$ 77**	**$ 366**	**$ 611**	**$ 1,054**
Pedestrian/Bicycle	$ 48	$ 241	$ 405	$ 694
Transportation Demand Management	$ 8	$ 20	$ 30	$ 58
Intelligent Transportation Systems	$ 6	$ 33	$ 55	$ 94
Transportation System Management	$ 14	$ 73	$ 122	$ 209
Total	**$ 1,289**	**$ 5,898**	**$ 7,533**	**$ 14,720**

CAMPO -- Cost Category	Time Period 2009-15	2016-25	2026-35	Total
Roadways - Total	**$ 2,304**	**$ 5,226**	**$ 8,936**	**$ 16,466**
Roadways	$ 754	$ 3,063	$ 6,116	$ 9,933
Tolled roads (excluding I-40 HOT)	$ 1,044	$ 1,019	$ 856	$ 2,919
Non-tolled trust fund urban loops	$ -	$ -	$ -	$ -
Maintenance	$ 507	$ 1,144	$ 1,964	$ 3,615
Light Rail and Commuter Rail - Total	**$ 517**	**$ 2,465**	**$ 1,427**	**$ 4,408**
Bus - Total	**$ 402**	**$ 897**	**$ 1,251**	**$ 2,550**
Other - Total	**$ 90**	**$ 180**	**$ 309**	**$ 579**
Pedestrian/Bicycle	$ 34	$ 77	$ 115	$ 226
Transportation Demand Management	$ 19	$ 44	$ 65	$ 129
Intelligent Transportation Systems	$ 25	$ 58	$ 87	$ 170
Transportation System Management	$ 12	$ -	$ 42	$ 55
Total	**$ 3,313**	**$ 8,769**	**$ 11,923**	**$ 24,004**

Note: Totals in both tables might differ slightly from sum of subtotal because subtotals are rounded to nearest million

2035 LRTP Revenues – Year of Expenditure

DCHC MPO -- Revenue Category	Time Period 2009-15	2016-25	2026-35	Total
Roadways - Total	**$ 1,086**	**$ 2,336**	**$ 2,088**	**$ 5,510**
Traditional Funding	$ 478	**$ 1,018**	**$ 1,478**	**$ 2,974**
Tolled roads (excluding I-40 HOT)	$ 177	**$ -**	**$ -**	**$ 177**
Non-tolled trust fund urban loops	$ 138	**$ 770**	**$ 96**	**$ 1,003**
Maintenance	$ 293	**$ 548**	**$ 515**	**$ 1,356**
Light Rail - Total	**$ 156**	**$ 1,433**	**$ 987**	**$ 2,575**
Bus - Total	**$ 405**	**$ 875**	**$ 1,335**	**$ 2,615**
Total	**$ 1,647**	**$ 4,644**	**$ 4,410**	**$ 10,700**

CAMPO -- Revenue Category	Time Period 2009-15	2016-25	2026-35	Total
Roadways - Total	**$ 1,971**	**$ 4,132**	**$ 4,632**	**$ 10,735**
Traditional Funding	**$ 398**	**$ 1,935**	**$ 2,444**	**$ 4,778**
Tolled roads (excluding I-40 HOT)	**$ 1,044**	**$ 1,019**	**$ 856**	**$ 2,919**
Non-tolled trust fund urban loops				
Maintenance	**$ 529**	**$ 1,178**	**$ 1,332**	**$ 3,039**
Transit - Total	**$ 463**	**$ 1,514**	**$ 1,069**	**$ 3,045**
Total	**$ 2,434**	**$ 5,646**	**$ 5,700**	**$ 13,780**

Note: Totals in both tables might differ slightly from sum of subtotal because subtotals are rounded to nearest million