Appendices

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Connect2050 Appendix 1 -- Community Engagement

Background

Chapter 5.2, Stakeholder and Public Engagement, presents the activities carried out for the major milestones in the 2050 MTP development process to educate the public and get their feedback. The public notices, hearings, surveys, social media and other activities produced many detailed responses from the public. Although these responses are too numerous to compile and summarize in the 2050 MTP report, the MPOs provided comprehensive copies of this information on their websites as the 2050 MTP completed the various stages of development from mid-2020 through early 2022. This appendix identifies and provides links to the many comment compilations and summaries that were produced for the three principal milestones where public engagement occurred for the MTP: 1- Goals and Objectives; 2- Alternatives Analysis; and 3- Draft Plan (including the report).

Goals and Objectives

The MPOs developed a set of Goals and Objectives to guide the financial, project selection and other key decisions in the 2050 MTP development process. These Goals and Objectives, which were approved in September 2020, will continue to drive the MPOs' policies and decision-making over the next several years, as well. The available public feedback from the Goals and Objectives engagement is identified below.

<u>Written Comments</u> - DCHC MPO: The link below is a copy of the full text of comments that the DCHC MPO received in emails, social media (e.g., Twitter), and agency letters during the Goals and Objectives public comment period.

• Goals and Objectives-DCHC MPO-Comments: https://bit.ly/3r0fest

<u>Written Comments</u> - CAMPO: The link below is a summary of the public engagement process and a copy of the full text of comments that CAMPO received in emails, voicemail, letter and public hearing for the **entire 2050 MTP public engagement process** (i.e., including Goals and Objectives, Alternatives Analysis and the Draft Plan.

Goals and Objectives-CAMPO-Comments: https://bit.ly/345nbnh

<u>Survey</u> - CAMPO and DCHC MPO: The MPOs conducted a survey on the Goals and Objectives that received more than 2,000 responses. The links below include a summary of the survey and full text of comments received for each of the individual Goals.

- Survey Summary (starts on slide 48)
- Survey: General Suggestions for Goals
- Survey: Goal 1 Environment & Climate Change
- Survey: Goal 2 Connect People & Places
- Survey: Goal 3 <u>Multimodal & Affordable</u>
- Survey: Goal 4 <u>Congestion & Reliability</u>

- Survey: Goal 5 Infrastructure & Resilience
- Survey: Goal 6 Equity & Participation
- Survey: Goal 7 <u>Safety & Health</u>
- Survey: Goal 8 Economic Vitality

Alternatives Analysis

The MPOs released three alternatives to address the expected future travel demand and asked the public to provide feedback using several different tactics to encourage and gather that feedback.

<u>Written Comments</u> - DCHC MPO: The links below are copies of the public hearing comments and of the full text of comments that the DCHC MPO received in emails, social media (e.g., Twitter), and agency letters during the Alternatives Analysis public comment period. The two MPOs boards also held a joint meeting in September of 2021 and during the public comments item at the meeting, several speakers addressed the 2050 MTP development – specifically the alternative scenarios.

- Alternatives Analysis-DCHC MPO-Public Hearing: https://bit.ly/3rJqSqM
- Alternatives Analysis-DCHC MPO-Written Comments: https://bit.ly/3u3XmPp
- Joint Meeting of DCHC MPO & CAMPO Boards Meeting Minutes (page 27): https://bit.ly/345nbnh

<u>Recorded Comments</u> - CAMPO and DCHC MPO: The link below is a recording of session two of the online public workshop that the MPOs conducted on August 19, 2021.

Alternatives Analysis - DCHC MPO-Recorded Comments: https://bit.ly/3Avh2Ng

<u>Survey</u> - CAMPO and DCHC MPO: The MPOs conducted a survey on the Alternatives Analysis that received nearly 1,000 responses. The link below includes a summary of the survey on slides 1 through 11.

Survey Summary -DCHC MPO: https://bit.ly/3o0biGl

<u>Focus Groups</u> - DCHC MPO: The DCHC MPO conducted four focus groups of approximately ten participants from communities that commonly don't have adequate access to the public planning process, including minority, low-income, young and elderly residents. The link below includes a summary of the focus group feedback starting on slide 12.

• Focus Groups-DCHC MPO-Summary: https://bit.ly/300biGl

Draft Plan

The MPOs released a draft plan called the Preferred Option and then a full report based on that draft plan. Again, the MPOs used several different media to encourage and gather feedback but the volume of feedback was lower than in previous MTP development milestones.

<u>Written Comments</u> - DCHC MPO: The links below are copies of the public comments received, mostly by email, in response to the Preferred Option and full report.

- Preferred Option-DCHC MPO-Written Comments
- Full report-DCHC MPO-<u>Written Comments</u>
- Preferred Option and Full Report CAMPO <u>Written Comments</u> (This is a copy of the full text of comments that CAMPO received in emails, voicemail, letter and public hearing for the entire 2050 MTP public engagement process including Goals and Objectives, Alternatives Analysis and the Draft Plan.)

For additional details, to view other materials such as paid advertisements, email blasts, survey questions or response data, etc., contact staff from either CAMPO: comments@campo-nc.us or DCHC MPO: Andy Henry.

Connect2050 APPENDIX 2 -- Complete Corridor and Roadway Projects

Complete Corridor and Roadway Project List – Durham-Chapel Hill-Carrboro MPO

MTP ID	Highway Project	From	То	Existing Lanes	Proposed Lanes	Improvement Type	Length (miles)	Estimated Cost	STI Tier	Reg. Sig.(a)	Exempt (b)	TIP#
	orizon Year	110	1 .0			. , , , ,	(1.10.	0.8.(4)	(~)	
	Cornwallis Rd/Miami Blvd/NCRR bridge and					New					Yes	
700	interchange	Miami Blvd	Cornwallis Rd	N/A	N/A	Interchange	N/A	\$27,478,000	Reg	No	93.126	P-5717
15	East End Connector (EEC)	NC 147	north of NC 98 in Durham	0	4	New Location	3.2	(funded prior to 2021)	St	Yes	No	U-0071
23	Fayetteville Rd	Barbee Rd	Cornwallis Rd	2	4	Widening	1.0	(funded prior to 2021)	Div	Yes	No	N/A
701	Glover Rd/ rail bridge	Glover Rd	NCRR rail line	N/A	N/A	Grade separation	N/A	\$47,428,000	Div	No	Yes 93.126	P-5706
407	Lynn Rd/Pleasant Dr Connector	Lynn Rd	Pleasant Dr	0	2	New Location	0.6	(funded prior to 2021)	Div	No	No	N/A
75.2	NC 55 (Alston Ave)	Main St	NC 98	2	2	Modernization	0.5	(funded prior to 2021)	Reg	No	No	U-3308
75.1	NC 55 (Alston Ave)	NC 147	Main St	2	4	Widening	0.4	(funded prior to 2021)	Reg	No	No	U-3308
77.3	NC 751	Renaissance Pkwy	O'Kelly Chapel Rd	2	4	Widening	2.7	\$30,375,800	Reg	No	No	N/A
43	1-40	Durham County line	NC 86	4	6	Widening	3.9	\$85,617,000	St	Yes	No	I-3306A
44	I-40	NC 86	I-85	4	6	Widening	7.8	\$133,914,000	St	Yes	No	I-3306A
123.11	Woodcroft Pkwy Ext	Garrett Rd	Hope Valley Rd	0	2	New Location	0.0	\$ 3,793,000	Div	No	No	U-5823
201	Falconbridge Rd Extension	Farrington Rd	NC 54	0	4	New Location	0.9	\$ 23,359,000	Div	No	No	N/A
379	Freeland Memorial Extension	S Churton St	New Collector Rd	0	2	New Location	0.5	\$ 4,484,200	Div	No	No	N/A
202	Hopson Rd	Davis Dr	S Miami Blvd (NC 54)	2	4	Widening	0.7	\$ 7,280,000	Div	No	No	N/A

MTP ID	Highway Project	From	То	Existing Lanes	Proposed Lanes	Improvement Type	Length (miles)	Estimated Cost	STI Tier	Reg. Sig.(a)	Exempt (b)	TIP#
223	Legion Rd Ext	Legion Rd	Fordham Blvd	0	2	New Location	0.1	\$ 2,100,000	Div	No	No	N/A
437	New Collector Rd	Orange Grove Rd Ext	Becketts Ridge Rd	0	2	New Location	0.8	\$10,124,800	Div	No	No	N/A
220	Purefoy Rd Ext	Sandberg Ln	Weaver Dairy Rd	0	2	New Location	0.6	\$ 5,287,800	Div	No	No	N/A
221	S Elliot Rd Ext	Fordham Blvd	Ephesus Church Rd	0	2	New Location	0.3	\$ 5,922,000	Div	No	No	N/A
113.0	US 15-501/Garrett Rd Interchange	US 15-501	Garrett Rd	N/A	N/A	New Interchange	N/A	\$32,000,000	St	Yes	No	U-5717
690	US 70/Northern Durham Parkway	US 70	Northern Durham Parkway	N/A	N/A	New Interchange	N/A	(part of US70 project)	St	Yes	No	U-5518
2040 Ho	orizon Year								<u> </u>			
346	Danziger Dr Extension	Mt Moriah Rd	E Lakewood Dr	0	2	New Location	0.4	\$ 7,177,800	Div	No	No	N/A
124	Duke St	I-85	W Lakewood Av	2	2	Two-way conversion	0.0	\$ 4,435,000	Reg	No	No	N/A
23.2	Fayetteville Rd	Woodcroft Pkwy	Barbee Rd	2	2	Modernization	1.4	\$ 10,495,190	Div	Yes	No	U-6021
111	Fordham Blvd (US 15-501)	I-40	Ephesus Ch Rd	4	4	Modernization	1.6	\$ 46,586,400	St	Yes	No	U-5304F
240	Fordham Blvd (US 15-501)	NC 54	Ephesus Ch Rd	4	4	Modernization	2.1	\$ 49,481,600	St	Yes	No	U-5304D
73	Fordham Blvd (US 15-501)	NC 54	NC 86 (S Columbia St)	4	4	Modernization	2.3	\$ 39,600,000	St	Yes	No	U-5304B
36	Homestead Rd	Old NC 86	Rogers Rd	2	2	Modernization	2.1	\$ 14,327,600	Div	No	No	N/A
35	Homestead Rd	Rogers Rd	NC 86	2	2	Modernization	1.3	\$ 9,597,000	Div	No	No	N/A
636	I-40/NC 54 Interchange	I-40	NC 54	N/A	N/A	Interchange Upgrade	N/A	\$130,620,000	St	Yes	No	U-5774F
45.1	I-40 Managed Roadway	Wake County Line	NC 54	8	8	Modernization	9.8	\$ 34,000,000	St	Yes	No	I-6006
48	I-85	Orange Grove Rd	Sparger Rd	4	6	Widening	7.8	\$186,760,000	St	Yes	No	I-0305
650	I-85/S Churton St	I-85	S Churton St	N/A	N/A	Interchange Upgrade	N/A	\$ 28,980,000	St	No	No	I-5967

MTP ID	Highway Project	From	То	Existing Lanes	Proposed Lanes	Improvement Type	Length (miles)	Estimated Cost	STI Tier	Reg. Sig.(a)	Exempt (b)	TIP#
	, ,					Interchange	,			0 ()	. ,	
646	I-85/NC 86	I-85	NC 86	N/A	N/A	Upgrade	N/A	\$ 35,140,000	St	No	No	I-5984
50.11	Jack Bennet Rd/Lystra Rd	US 15-501 South	Farrington Mill/Point Rd	2	2	Modernization	4.1	\$ 28,793,800	Div	No	No	N/A
51	Lake Hogan Farms Rd	Eubanks Rd	Legends Way	0	2	New Location	0.7	\$ 6,169,800	Div	No	No	N/A
121	Mangum St	W Lakewood Av	N Roxboro St	2	2	Two-way conversion	0.0	\$ 2,870,000	Reg	Yes	No	N/A
410	Marriott Way	Friday Center Dr	Barbree Chapel Rd	0	2	New Location	0.2	\$ 954,800	Div	No	No	N/A
123	N Gregson St/Vickers Av	W Club Blvd	University Dr	2	2	Two-way conversion	0.0	\$ 4,435,000	Reg	No	No	N/A
64	NC 147 (modernization)	Swift Av	Future I-885	4	4	Modernization	3.0	\$ 69,896,559	St	No	No	N/A
	NC 147 (modernization)	Future I-885	1-40	4	4	Modernization	3.9	\$ 58,473,199	St	Yes	No	N/A
69.41	NC 54	Barbee	NC 55	2	2	Modernization	1.3	\$ 9,745,533	Reg	No	No	U-5774J
69.31	NC 54	Fayetteville	Barbee	2	2	Modernization	1.0	\$ 7,496,564	Reg	No	No	U-5774I
70.3	NC 54	Fordham Blvd (US 15-501)	Barbee Chapel Rd	6	6	Modernization	1.2	\$ 59,234,000	Reg	Yes	No	U-5774B
69.21	NC 54	Highgate Dr	Fayetteville Rd	4	4	Modernization	0.4	\$ 2,998,626	Reg	No	No	U-5774H
69.11	NC 54	I-40 Interchange	NC 751	2	2	Modernization	1.2	\$ 8,995,877	Reg	No	No	U-5774G
69.22	NC 54	NC 751	Highgate Dr	2	2	Modernization	1.5	\$ 11,244,846	Reg	No	No	U-5774H
428	NC 54	Old Fayetteville Rd	Orange Grove Rd	2	2	Modernization	2.9	\$ 50,040,000	Reg	Yes	No	R-5821A
70	NC 54	I-40	Barbee Chapel Rd	4	4	Modernization	1.6	\$ 11,994,502	Reg	Yes	No	U-5774C
70.2	NC 54/Farrington Rd	NC 54	Farrington Rd	N/A	N/A	New Grade Separation	N/A	(cost part of U-5774F)	Reg	Yes	No	U-5774E
75.3	NC 55 (Alston Ave)	Main St	NC 98	2	4	Modernization	0.6	\$ 1,400			No	N/A
440	New Hope Commons Dr Extension	Eastowne Dr	New Hope Commons Dr	0	2	New Location	0.4	\$ 6,423,200	Div	No	No	N/A
89.3	Orange Grove Connector	Orange Grove Rd	NC 86	0	2	New Location	0.4	\$ 7,418,600	Div	No	No	N/A

MTP ID	Highway Project	From	То	Existing Lanes	Proposed Lanes	Improvement Type	Length (miles)	Estimated Cost	STI Tier	Reg. Sig.(a)	Exempt (b)	TIP#
						Two-way				0 ()		
122	Roxboro St	W Lakewood Av	W Markham Av	2	2	conversion	0.0	\$ 2,870,000	Reg	Yes	No	N/A
87	S Churton St	Eno River in Hillsborough	I-40	2	4	Widening	2.2	\$ 79,178,000	Div	No	No	U-5845
230	Southwest Durham Dr	NC 54	I-40	0	2	New Location	2.0	\$ 17,362,800	Div	No	No	N/A
479	US 15-501	Smith Level Rd	US 64	4	4	Synchronized Street	10.5	\$117,700,000	St	Yes	No	U-6192
113.1	US 15-501 (possible boulevard conversion)	US 15-501 Bypass	I-40	6	6	Modernization	2.0	\$ 46,597,706	St	Yes	No	U-6067
130	US 15-501 Business (modernization)	US 15-501 Bypass	Chapel Hill Rd	4	4	Modernization	1.6	\$ 11,994,502	Reg	No	No	N/A
131	US 15-501 Business (modernization)	Chapel Hill Rd	University Dr	2	2	Modernization	0.8	\$ 5,997,251	Reg	No	No	N/A
485.1	US 70	Lynn Rd	S Miami Blvd	4	4	Modernization	1.6	\$ 37,278,165	St	Yes	No	U-5720A
116.1	US 70	S Miami Blvd	MPO Boundary	4	4	Modernization	2.5	\$ 58,247,133	St	Yes	No	U-5720B
120	W Morgan/W Ramseur/	N Roxboro St	W Main St	4	4	Two-way conversation	0.0	\$ 16,500,000	Div	No	No	N/A
2050 Ho	prizon Year											
304.1	Angier Av Ext	US 70	Northern Durham Pkwy	0	2	New Location	0.8	\$ 7,050,100	Div	No	No	N/A
343	Crown Pkwy/Roche Dr	Page Rd	T.W. Alexander Dr	0	2	New Location	2.7	\$ 15,457,400	Div	No	No	N/A
364	Eno Mountain Rd realignment	Mayo St	Eno Mountain Rd	2	2	New Location	0.3	\$ 5,800,000	Div	No	Yes 93.126	N/A
28.11	Glover Rd	Angier	US 70	0	2	New Location	0.6	\$ 5,199,600	Div	No	No	N/A
382	Hebron Rd Extension	Hebron Rd	Roxboro Rd (501 N)	0	2	New Location	0.5	\$ 5,056,800	Div	No	No	N/A
434	Holloway St (NC 98)	Miami Blvd	Nichols Farm Dr	4	4	Modernization	3.3	\$ 85,800,000	Reg	No	No	N/A
77.11	Hope Valley Rd (NC 751)	NC 54	Woodcroft Pkwy	4	4	Modernization	0.4	\$ 2,998,626	Reg	No	No	N/A
53	Leesville Rd Ext	US 70/Page Rd Ext	Leesville Rd	0	2	New Location	0.4	\$ 3,701,600	Div	No	No	N/A

MTP ID	Highway Project	From	То	Existing Lanes	Proposed Lanes	Improvement Type	Length (miles)	Estimated Cost	STI Tier	Reg. Sig.(a)	Exempt (b)	TIP#
57	Lynn Rd Extension	US 70	Existing Lynn Rd	0	2	New Location	1.1	\$ 9,606,800	Div	No	No	N/A
242	Mt Carmel Ch Rd	US 15-501	Bennett Rd	2	2	Modernization	0.4	\$ 2,795,800	Div	No	No	N/A
14.1	N Duke St (501 N)	I-85	N Roxboro split	5	4	Modernization	2.5	\$ 18,590,600	Reg	Yes	No	N/A
80	NC 86	Old NC 10	US 70 Business	2	4	Widening	0.9	\$ 10,162,600	Reg	No	No	N/A
81	NC 86 (and US 70 intersection)	US 70 Bypass	North of NC 57	2	4	Widening	0.3	\$ 21,300,000	Reg	No	No	N/A
83.1	Northern Durham Pkwy	Sherron Rd	NC 98	2	2	Modernization	4.3	\$ 19,040,000	Div	No	No	N/A
83.11	Northern Durham Pkwy	US 70 E	Sherron Rd	2	2	Modernization	2.7	\$ 32,900,000	Div	No	No	N/A
502	Patriot Dr Extension	S Miami Blvd	Page Rd	0	2	New Location	1.9	\$ 18,320,400	Div	No	No	N/A
92	Roxboro Rd (501 N)	Duke St	Goodwin Rd	4	4	Modernization	2.7	\$ 20,403,600	Reg	Yes	No	N/A
106.1	Southwest Durham Dr	US 15-501 Business	Mt Moriah Rd	0	4	New Location	0.4	\$ 5,133,800	Div	No	No	N/A
114	US 15-501 Bypass (modernization)	MLK Parkway	Cameron Blvd	4	4	Modernization	2.7	\$ 40,481,445	St	Yes	No	N/A
501	Yates Store Rd Extension	Yates Store Rd	Wake Rd	0	2	New Location	1.4	\$ 16,126,600	Div	No	No	N/A

These footnotes clarify the table data.

- (a) Reg. Sig. means Regionally Significant.
- (b) Projects that are exempt may continue to move forward in the case of a plan lapse whereas non-exempt projects will not receive federal action until there is an approved MTP. In this column, exempt projects are indicated by the regulation section that provides the exemption, e.g., 93.126.



Connect2050 -- CAMPO Complete Corridor and Roadway Projects

A187b3 Apex Peak A686 Atlantic Av	kway (East) kway (East) venue	Garden Square Ln Center St / Ten Ten Rd Old Raleigh Rd	Church Street NC 55	1				,	TIP#	Improvement	Significant	Statute	Year
A187b3 Apex Peak A686 Atlantic Av	kway (East)	Old Raleigh Rd	NC 55		4	0.44	\$7,999,072	Division		New Location			2030
A686 Atlantic Av	venue			0	4	0.8	\$8,800,000	Division		New Location			2030
		History and a Dhad	Center Street	2	4	0.75	\$10,377,660	Division		Widening			2030
	ry Road Connector	Highwoods Blvd	New Hope Church Rd	4	4	1	\$11,600,000	Division		Median		93.126	2030
A544c1 Avent Ferr		Avent Ferry Road	Rex Road	0	2	1.15	\$15,997,793	Division		New Location			2030
A784 Avent Ferr	ry-Stinson Ave Realignment	Avent Ferry Road	Stinson Avenue	0	3	0.389	\$5,754,745	Division	EB-6049	New Location			2030
F17b Aviation E	Extension	TW Alexander Drive	US 70	0	6	0.7	\$87,724,000	Division	U-5518	New Location	✓		2030
A64d Aviation P	Parkway	I-40	Gateway Centre Blvd	4	6	0.3	\$7,054,457	Division		Widening			2030
A683a Barwell Ro	d	Rock Quarry Rd	Berkley Lake Drive	2	3	1.15	\$10,800,000	Division		Center Turn Lane		93.127	2030
A684 Blount/Pe	erson Streets	Sasser St	Hoke St	3	2	4.1	\$6,100,000	Division		TSM		93.126	2030
A682 Blue Ridge	e Rd	Duraleigh	Crabtree Valley Avenue	2	3	2	\$10,500,000	Division		Center Turn Lane		93.127	2030
A697 Blue Ridge	e Road Ext	Duraleigh Rd	Edwards Mill Road	0	2	0.3	\$2,618,343	Division		New Location			2030
A755a Buffaloe R	Rd	Spring Forest Rd Ext	Old Milburnie Rd	4	6	1.74		Division		Widening			2030
A930 Burlington	n Mills Rd Realignment	Burlington Mills Rd	S Main St	0	2	0.24	\$3,024,000	Division	U-6241	New Location			2030
A440b Carpenter	r Fire Station Ext	NC 55	Morrisville Carpenter Rd	0	4	0.3	\$5,453,913	Division	U-5502	New Location			2030
A440a1 Carpenter	r Fire Station Rd	Cameron Pond Drive	NC-55	2	4	0.94	\$11,881,090	Division	U-6227	Widening			2030
A236a Chapel Hil	II Rd	NW Maynard Rd	Academy St	2	4	1	\$11,310,000	Division		Widening	✓		2030
A236b Chapel Hil	II Rd	Academy St	NE Maynard Rd	2	4	1	\$11,500,000	Division		Widening	✓		2030
A834 Collector S	Street - Wake Forest	Connector Dr	Ligon Mill Rd	0	2	0.42	\$7,742,918	Division		New Location			2030
A835 Collector S	Street - Wake Forest	Unicon Dr	Collector Street	0	2	0.4	\$7,374,208	Division		New Location			2030
A28b Davis Dr		Farm Pond Rd	US 64	2	4	1.1	\$15,220,568	Division		Widening			2030
A681 Dixie Fore:	est Road	Spring Forest Road	Atlantic Ave / Litchford Road	2	3	0.25	\$1,950,000	Division		Center Turn Lane		93.127	2030
A744 East Acade	lemy Street Extension	Purfoy Road	Lakestone Commons Avenue	0	2	0.2	\$1,622,502	Division		New Location			2030
A13c Falls of Ne	euse Blvd	I-540	Durant Rd	4	6	0.9	\$9,935,000	Division	U-5826	Widening			2030
A164a2 Green Lev	vel Church Rd	O'Kelly Chapel Rd	McCrimmon Parkway	2	4	0.91	\$12,591,560	Division		Widening			2030
A557 Green Lvl	W Rd	NC 540	Green Level Ch Rd	2	4	0.95	\$12,923,000	Division	U-5500A	Widening			2030
A605a High Speed	ed Rail - Rogers Rd Intersection (RR)	Rogers Rd	Rogers Rd	2	4		\$26,390,000	Division	P-5707	Grade Separation		93.126	2030
A20b1 Hillsborou	ugh St	Gardner St	Shepherd St	4	3	0.47	\$2,394,000	Division	U-4447	TSM		93.126	2030
A20b2 Hillsborou	ugh St	Shepherd St	Gorman St	3	3	0.47	\$2,394,000	Division	U-4447	TSM		93.126	2030
A623d2 Hilltop Ne	eedmore Extension	Herbert Atkins Road	Basal Creek (East Fork)	0	2	0.3	\$2,769,039	Division		New Location			2030
A833 Holding Vi	'illage Way	Highpoint St	Friendship Chapel Rd	0	2	0.21	\$3,871,459	Division		New Location			2030
A163a1 Holly Sprir	ngs Rd	Old Holly Springs Rd	NC-55 / Main St	2	4	1.2	\$16,604,255	Division		Widening			2030
A163a2 Holly Sprir	ngs Rd	NC-55 / Main St.	Flint Point Lane	2	4	0.8	\$3,540,000	Division	U-6094	Widening			2030
A163a3 Holly Sprir	ngs Rd	Flint Point Lane	Sunset Lake Road	2	4	1.8	\$24,906,383	Division	U-6243	Widening			2030

12/6/2021

Project ID	Road Name	From	То	Existing Lanes	Proposed Lanes	Distance (Miles)	Total Cost	STI Category	TIP#	Proposed Improvement	Regionally Significant	AQ Exempt Statute	Horizon Year
A218e	Jessie Dr	NC 55	Ten Ten Rd	0	2	1.58	\$15,152,608	Division	111 11	New Location		Statute	2030
A138c1	Jones Sausage Rd	Garner Road	Amazon driveway	2	4	0.88	\$12,176,454	Division		Widening			2030
A630	Judd Parkway NW	NC 55	Judd Pkwy (NL)	2	4	0.74	\$8,079,513	Division	U-5317	Widening			2030
A207c	Judd Parkway W	Wilbon Rd	NC 42	0	4	1.56	\$17,032,487	Division	U-5317	New Location			2030
A414a	Kildaire Farm Connector	Kildaire Farm Road	Holly Springs Rd	0	4	0.3	\$5,453,913	Division	R-2721	New Location			2030
A414b	Kildaire Farm Connector	Sunset Lake Rd	Kildaire Farm Road	0	4	0.6	\$10,907,825	Division		New Location			2030
A21	Lake Boone Trail	Blue Ridge Rd	Edwards Mill Ext	0	4	0.28	\$5,090,319	Division		New Location			2030
A127a	Ligon Mill Rd	US 1A	NC 98 Bypass	2	4	0.61	\$8,724,044	Division		Widening			2030
A127b1	Ligon Mill Rd Connector	NC 98 Bypass	Richland Creek	0	4	0.25	\$13,749,700	Division		New Location			2030
A127b2	Ligon Mill Rd Connector	Richland Creek	NC 98	0	2	0.75	\$8,358,919	Division		New Location			2030
A27c1a	Louis Stephens Dr	Little Drive	Poplar Pike Lane	0	2	0.5	\$6,906,000	Division	U-5827	New Location			2030
A615	Marsh Creek/ Trawick Rd	Capital Blvd	New Hope Rd	2	2	1.41	\$10,700,000	Division		Median		93.126	2030
A174c	Martin Pond Road	Wendell Falls Parkway	Poole Road	2	3	0.5	\$5,944,463	Division		Widening			2030
A119	McCrimmon Parkway	Airport Blvd	NC 54	2	4	0.86	\$21,188,350	Division	U-5747B	Widening		93.126	2030
A219a1	McCrimmon Parkway	NC 54	Davis Dr	2	4	1.14	\$15,248,650	Division	U-5747A	Widening			2030
A220a	Morrisville Carpenter Rd	Page St	Davis Dr	2	4	1.3	\$8,159,000	Division	U-5618	Widening			2030
A220b	Morrisville Carpenter Rd	Davis Dr	Louis Stephens Dr	2	4	0.7	\$9,685,816	Division		Widening			2030
A220c	Morrisville Carpenter Rd	Louis Stephens Dr	Good Hope Ch Rd	2	4	0.28	\$3,874,326	Division		Widening			2030
Jhns13a	NC 42 Extension	US 70 BUS	Ranch Road	0	2	0.4	\$2,556,411	Division	U-6223	New Location			2030
A10	Old Wake Forest Rd	Litchford Rd / Atlantic Blvd	Capital Blvd	2	4	1.2	\$11,050,000	Division		Widening			2030
A160d	Piney Grove-Wilbon Rd	Brayton Park Pl	Ralph Stevens Rd	0	4	0.34	\$5,550,376	Division	U-5318	New Location			2030
A54	Pleasant Valley Rd	Duraleigh Rd	Glenwood Avenue	2	3	0.34	\$4,501,580	Division		Center Turn Lane		93.127	2030
A49a	Poole Rd	Maybrook Dr	Barwell Rd	2	4	1	\$9,800,000	Division		Widening			2030
A160a	Ralph Stephens Rd	Piney Grove-Wilbon Rd	NC 55	2	4	0.59	\$7,330,722	Division	U-5318	Widening			2030
A160e	Ralph Stephens Rd	Avent Ferry	S. Main St	0	4	0.48	\$7,367,864	Division	U-5318	New Location			2030
A14a	Ray Rd	Leesville Rd	Lynn Rd	2	3	0.6	\$7,565,680	Division		Center Turn Lane		93.127	2030
A111	Reedy Creek Road	N.E. Maynard Rd	Harrison Avenue	2	3	1.2	\$9,561,000	Division	U-5501	Center Turn Lane		93.127	2030
A179a1	Richardson Rd	US 64 (West)	Olive Chapel Rd	0	2	1.38	\$24,778,270	Division		New Location			2030
A16	Rock Quarry Rd	Old Birch Dr	Sunnybrook Rd	2	5	0.8	\$14,183,000	Division	U-6093	Widening			2030
A201a	Rock Quarry Rd	New Hope Rd	Battle Bridge Rd	2	4	1.4	\$20,350,000	Division		Widening			2030
A921	Rogers Branch Rd	Penfield St	Forestville Rd	0	2	0.13	\$1,199,917	Division		New Location			2030
A769	Rolesville Rd	US 401	Fowler Rd	2	3	1.09	\$13,744,319	Division		Widening			2030
A450	RTP Access Routes	Internal RTP access points	External access points	2	4	0.84	\$9,533,762	Division	U-4410	New Location			2030
A746	Rush Street	Hammond Rd	Garner Rd	3	2	0.58	\$3,284,401	Division		TSM		93.126	2030
A404	S. Franklin St	NC 98 (Wake Forest Bypass)	Rogers Rd	2	4	1.1	\$15,220,568	Division		Widening			2030
A448	Six Forks Rd	Ramblewood Road	Lynn Road	5	6	2.4	\$45,000,000	Division		Widening			2030
A240c	South Harrison Avenue	Dry Rd	Kildaire Farm Rd	0	2	0.23	\$2,563,402	Division		New Location			2030
12/6/2021													

Dunio et ID	Dood Name	F	T-0	Existing Lanes	Proposed Lanes	Distance (Miles)	Tatal Cast	STI Catagory Til	D.#	Proposed Improvement	Regionally Significant	AQ Exempt	Horizon Year
Project ID A2b1	Road Name Southall Rd	From Hedingham Blvd	To Skycrest Dr	3	3	0.65	\$8,605,961	STI Category TII	P#	TSM		Statute	2030
A2b2	Southall Rd	Hedingham Blvd	New Bern Ave	0	3	0.47	\$6,080,925	Division		New Location			2030
A881	Stone Monument Dr Extension	Ligon Mill Rd	End of Road	0	2	0.15	\$2,765,328	Division		New Location			2030
A193a2	Sunset Lake Rd	US 401	Product Road	2	4	0.45	\$5,687,756	Division		Widening			2030
A231a	Trinity Rd	Edwards Mill Rd Ext	Wade Park Blvd	3	4	0.75	\$10,377,660	Division		Widening			2030
A82a	Trinity Rd Ext	Walnut Creek	Cary Towne Blvd	2	4	0.34	\$13,909,312	Division		Widening			2030
A82b	Trinity Rd Ext	Walnut Creek	Chatham St	0	2	0.44	\$3,840,236	Division		New Location			2030
A46a	Tryon Rd	Lake Wheeler Rd	Par Drive	2	4	1.3	\$6,800,000	Division		Widening			2030
A685	Wake Forest Rd	Brookside Dr	Automotive Way	2	2		\$2,300,000	Division		TSM		93.126	2030
A707	Wake Forest Road	Sasser Street	Brookside Drive	4	3	0.71	\$1,970,000	Division		TSM		93.126	2030
A745	Wallace Adcock Blvd	US 401	NC 42	0	4	0.69	\$12,358,162	Division		New Location			2030
A731	Walter Myatt Road	Panther Lake Road	Eddie Howard Road	2	3	0.77	\$1,107,000	Division N//	A	Center Turn Lane		93.127	2030
A695a1	Wendell Valley Blvd	Wendell Falls Parkway	Knightdale Eagle Rock Road	0	3	1.04	\$13,815,495	Division		New Location			2030
A81a	Western Blvd Ext	Western Blvd	Saddle Seat Dr	0	2	1.62	\$13,732,173	Division		New Location			2030
A705a	Angier Western Bypass	NC-55 (Wake County)	NC-210 (Harnett County)	0	4	3	\$27,080,357	Regional R-5	5705B	New Location	✓		2030
A705b	Angier Western Bypass	NC-210	NC-55 (Harnett County)	0	4	2.73	\$27,376,440	Regional R-5	5705A	New Location	<u> </u>		2030
A664	Hilltop Road Relocation	Hilltop Road	Lake Wheeler Road	0	2	0.53	\$2,350,000	Regional		New Location			2030
Jhns1b	NC 42 East Widening	Glen Laurel Rd	Buffaloe Rd	2	4	4.35	\$90,219,000	Regional R-3	3825B	Widening			2030
A222c1	NC 54	Carrington Mill Blvd	Northern Twn Limits	3	6	0.3	\$7,910,595	Regional U-5	5750	Widening	<u> </u>		2030
A222c2	NC 54	Perimeter Park Dr	Carrington Mill Blvd	2	4	1	\$26,334,405	Regional U-5	5750	Widening	✓		2030
A486	NC 54 - Blue Ridge (RR)	Blue Ridge Rd	Beryl Rd	4	4	3	\$69,748,000	Regional U-4	4437	Grade Separation		93.126	2030
A118b	NC 55	Jicarilla Rd	Kennebec Church Rd	2	4	1.48	\$13,359,642	Regional R-5	5705B	Widening			2030
Hrnt4b2	NC-55	NC 55 Bypass	Oak Grove Church Rd	2	4	1.26	\$12,635,280	Regional R-5	5705A	Widening	✓		2030
A98c	Technology Drive Interchange	Technology Drive	NC-55 Bypass			0	\$28,300,000	Regional		Interchange	✓		2030
A130c	US 401	Mitchell Mill Rd	Ventura Cir	6	8	0.5	\$55,780,000	Regional U-5	5748	CFI	✓		2030
A480a2	US 401	Garner Station Road	Old Stage Road	4	6	1.4	\$21,503,000	Regional U-5	5302	Superstreet	<u> </u>	93.126	2030
A480b	US 401	Ten Ten Rd	NC 540	4	6	1.2	\$7,485,100	Regional U-5	5746	Widening	✓		2030
A90c	US 401	US 401 Rolesville Bypass	Flat Rock Church Rd	2	4	5.98	\$27,950,000	Regional R-2	2814C	Widening	✓		2030
A664a	US 401 Superstreet	Lake Wheeler Road	Hilltop Needmore Road	4	4	0.82	\$1,850,000	Regional		Superstreet		93.126	2030
A754	Wilmington Street Realignment	US 401	Garner Station	0	2	1.2	\$0	Regional		New Location			2030
A641	Airport Blvd Interchange (Impr)					0.82	\$34,720,000	Statewide I-5	700	Interchange	✓	93.127	2030
A651	Apex Peakway / Salem St Interchange (RR)	James St	Towhee Dr			0.3	\$12,500,000	Statewide U-5	5928	Interchange		93.126	2030
A644	Chatham St/Maynard Rd Rail Grade Separation (RR	₹		4	4	0	\$38,000,000	Statewide P-5	5718	Grade Separation		93.126	2030
A659	Durant Rd Grade Separation (RR)						\$14,595,000		5720	Grade Separation		93.126	2030
A657	E Millbrook Rd Grade Separation (RR)						\$13,390,000		5737	Grade Separation		93.126	2030
A648	Friendship Road Interchange	US 1	Friendship Road			0	\$20,455,050	Statewide		Interchange	✓		2030
F43	I-40	US 1/64	Lake Wheeler Rd	6	8	4.4	\$63,900,000	Statewide I-5	701	Widening	✓		2030

Project ID	Road Name	From	То	Existing Lanes	Proposed Lanes	Distance (Miles)	Total Cost	STI Category	TIP#	Proposed Improvement	Regionally Significant	AQ Exempt Statute	Horizon Year
F44a	I-40 (East)	1-440	US 70 Business (Garner)	6	8	4.4	\$195,131,775	Statewide	I-5111A	Widening	✓	Statute	2030
F44b	I-40 (East)	US 70 Business (Garner)	NC 42	4	8	6.3	\$279,393,224	Statewide	I-5111BA an	Widening	✓		2030
A640	I-40/Aviation	National Guard Dr	I-40			0.42	\$22,366,172	Statewide	I-5506	Interchange	✓	93.127	2030
F44b1	I-40/Cleveland	Cleveland Rd	Cleveland Rd			1	\$56,532,500	Statewide	I-4739	Interchange			2030
F44b2	I-40/NC 42	NC 42	NC 42			1	\$56,532,500	Statewide	I-4739	Interchange		93.127	2030
F10	1-440	US 1/64	Wade Avenue	4	6	3.5	\$408,157,000	Statewide	U-2719	Widening	✓		2030
F83	I-440 Interchange Improvements	Wake Forest Road (SR 2000)	Wake Forest Road (SR 2000)			2	\$19,655,000	Statewide	I-5708	Interchange		93.127	2030
F87	I-540 EB Aux Lane	East of US 70	Leesville Road	6	7	1.365	\$20,500,000	Statewide	I-5968	Widening			2030
F89	I-95	1-40	Johnston/Harnett County Line	4	8	3.3	\$87,764,747	Statewide	I-5986	Widening	✓		2030
F5	NC 540	NC 55	US 401	0	6	7.8	\$257,989,000	Statewide	R-2721	New Location	✓		2030
F6	NC 540	US 401	I-40	0	6	8.7	\$385,697,000	Statewide	R-2828	New Location	✓		2030
A656	New Hope Road Grade Separation (RR)						\$17,545,000	Statewide	P-5715	Grade Separation		93.126	2030
F11-1a	US 1	I-540	Thornton Road	4	8	1.74	\$291,200,000	Statewide	U-5307A	Widening	✓		2030
A412	US 70	Durham / Wake County Line	Lumley/Westgate Rd	4	8	2	\$132,328,280	Statewide	U-5518A	Widening	✓		2030
A634	US 70 / Brier Creek Interchange						\$37,451,400	Statewide	U-5518C	Interchange	✓		2030
A645	US 70 / TW Alexander Interchange					0	\$79,896,320	Statewide	U-5518B	Interchange			2030
A647	West St Extension (RR)	Martin St	Cabarrus St	0	2	0.2	\$10,000,000	Statewide	U-5521	New Location			2030
2040 MTP													
A577	Ackerman Road	NC 50	Bryan Rd	0	3	0.64	\$13,184,925	Division		New Location			2040
A165b	Airport Blvd Ext	Davis Dr	Louis Stephens Rd	0	2	0.36	\$4,535,279	Division		New Location			2040
A187b2	Apex Peakway (East)	Laura Duncan	Old Raleigh Road	2	4	0.3	\$4,151,064	Division		Widening			2040
A545	Arthur Pierce Rd	Kildaire Farm	Holly Springs Rd	2	3	1.03	\$11,662,470	Division		Center Turn Lane		93.127	2040
A427a	Avent Ferry Rd	Piney Grove Wilbon	Elm St	2	4	0.6	\$4,149,347	Division	U-5889	Widening			2040
A427b	Avent Ferry Rd	Cass Holt	Piney Grove Wilbon	2	4	0.7	\$4,841,654	Division	U-5889	Widening			2040
A64a	Aviation Parkway	Gateway Centre Blvd	Dominion Dr	2	4	0.6	\$16,767,600	Division	U-5811	Widening			2040
A64b	Aviation Parkway	Evans Rd	NC 54	2	4	0.9	\$25,151,400	Division	U-5811	Widening			2040
A706	Aviation Parkway	Gateway Centre Blvd	Dominion Dr	4	6	0.6	\$9,683,540	Division		Widening			2040
F17a	Aviation Parkway Ext	Brier Creek Parkway	TW Alexander	0	4	1.2	\$21,546,322	Division		New Location	✓		2040
A683b	Barwell Rd	Berkley Lake Drive	Poole Rd	2	3	1.2	\$15,131,361	Division		Center Turn Lane		93.127	2040
A162	Buffaloe Rd	Southall Rd	Stone Station Drive	2	4	1.5	\$20,755,319	Division		Widening			2040
A402a1	Buffaloe Rd	Spring Forest Rd Extension	I-540	2	4	0.4	\$5,854,064	Division		Widening			2040
A402a2	Buffaloe Rd	Forestville Road	Old Milburnie Rd	2	4	0.8	\$11,708,129	Division		Widening			2040
A166	Center St/1010	US 1	Apex Peakway	2	4	0.97	\$17,421,537	Division	U-5825A	Widening			2040
A36c	Chatham St	N.E. Maynard Rd	I-40 bridge	2	4	0.93	\$12,868,298	Division		Widening			2040
Jhns10b	Cleveland Rd	NC 42	Barber Mill Rd	2	4	5.1	\$56,900,000	Division	U-6216	Widening			2040
A703	Cleveland Road Connector	Cleveland Road	NC-42	0	2	0.8	\$13,410,000	Division	U-6208	New Location			2040
A200	Creech/Jones Sausage Connector	Creech Rd	Jones Sausage Rd	0	3	1.09	\$14,479,701	Division		Widening			2040

Droject ID	Road Name	From	То	Existing Lanes	Proposed Lanes	Distance (Miles)	Total Cost	STI Category	TID#	Proposed Improvement	Regionally Significant	AQ Exempt Statute	Horizon Year
Project ID A759	E Green St	From US 1	Whitaker St	2	2	1.35	\$17,172,000	Division	IIP#	TSM		93.126	2040
A148a1	Eagle Rock Rd	Kioti Dr	Leith Driveway	4	4	0.3	\$3,791,837	Division		TSM			2040
4148a2	Eagle Rock Rd	US 64	Martin Pond Rd	2	4	0.86	\$11,454,672	Division		Widening			2040
A750	East Academy Street	N. Judd Parkway NE	Purfoy Road	0	2	0.57	\$6,352,778	Division		New Location			2040
A169d1	Eastern Wendell Bypass	NC 231	Morphus Bridge Rd	0	4	1.36	\$22,966,224	Division		New Location			2040
A737	East-West Road	Woodfield (Dead End) Road	Old Holly Springs Apex Road	0	4	0.9	\$13,314,321	Division	N/A	New Location			2040
A530	Evans Rd	Aviation Parkway	Weston Parkway	5	6	0.5	\$11,757,428	Division		Widening			2040
A13d	Falls of Neuse Blvd	Durant Rd	Old Falls of Neuse Blvd	4	6	2.06	\$48,440,601	Division		Widening			2040
A589a	Forestville Rd Ext	US 64	Old Knight Rd	0	2	0.29	\$3,232,115	Division		New Location			2040
A774	Friendship Chapel Rd	Holding Village Way	Heritage Hills Way	0	2	0.7	\$6,461,091	Division		New Location			2040
A749	Granite Falls Blvd	Burlington Mills Rd	Grand Rock Way	0	3	0.41	\$6,368,684	Division		New Location			2040
A164c2	Green Level Church Rd	Kit Creek Road	Folklore Way	2	4	0.95	\$13,145,036	Division	NOT IN TIP	Widening			2040
A168b	Green Level Church Rd	Green Level Rd West	Morrisville Parkway	2	4	1.86	\$21,110,473	Division		Widening			2040
439	Green Level Church Road	Kit Creek Rd	NC 55	2	4	2.12	\$24,061,400	Division		Widening			2040
A613	Harris Rd	US 1	N. Main Street	2	4	1.42	\$34,484,398	Division		Widening			2040
Grnv132	Hillsboro Street	West Hillsboro Street	West Lyon Street	2	2	0.13	\$1,448,879	Division		Intersection Realignment			2040
4 564	Hillsborough St Widening	Western Blvd	Bashford Rd	2	4	1.09	\$15,082,199	Division		Widening			2040
A623d1	Hilltop Needmore Extension	Bass Lake Road	Hilltop Needmore Road	2	4	0.75	\$9,479,593	Division		Widening			2040
A623d4	Hilltop Needmore Extension	Hilltop Needmore Road	Wade Nash Rd	0	4	0.5	\$11,766,959	Division		New Location			2040
A623c	Hilltop Needmore Widening	Sunset Lake Rd	Keith Hills St	2	4	0.68	\$7,717,807	Division		Widening			2040
A403a	Hodge Rd (Widening)	Poole Rd	US 64	2	4	3.15	\$45,405,139	Division		Widening			2040
A403b	Hodge Rd Ext	US 64	Old Milburnie Rd	0	4	1	\$16,123,098	Division		Widening			2040
A69	Holly Springs Rd	Cary Parkway	Penny Rd	2	4	2.22	\$27,583,396	Division		Widening			2040
A70	Holly Springs Rd	Penny Rd	Ten Ten Rd	2	4	1.22	\$15,158,443	Division		Widening			2040
A71	Holly Springs Rd	Ten Ten Rd	Kildaire Farm Rd Connector	2	4	0.84	\$11,622,979	Division		Widening			2040
A218b	Jessie Dr (part NL)	Veridea Parkway	NC 55	0	4	1.64	\$29,814,723	Division		New Location			2040
A224a	Johnson Pond Rd / Bells Lake Road	Optimist Farm Rd	Hilltop-Needmore Rd	2	4	2.05	\$28,365,603	Division		Widening			2040
4560a	Jones Franklin	Western Blvd	Fort Sumter Rd	2	3	0.87	\$10,812,997	Division		Center Turn Lane		93.127	2040
A560b	Jones Franklin	Fort Sumter Rd	Dillard Dr	2	4	1.44	\$18,924,159	Division		Widening	•		2040
A207a2	Judd Parkway NE	NC 55	Products Road (future ext)	2	4	1.5	\$17,024,575	Division		Widening			2040
A223a	Kit Creek Rd	Wake Rd	Green Level Ch Rd	0	4	0.42	\$6,771,701	Division		New Location			2040
A136b	Lake Wheeler Rd	Penny Rd	Ten Ten Rd	2	4	3.55	\$44,108,583	Division		Widening			2040
\85b1	Leesville Rd	Westgate Rd	O'Neal Rd	2	4	1	\$11,600,000	Division		Widening			2040
A85b2	Leesville Rd	O'Neal Road (A Leesville Road Ca	Lynn Rd	2	4	1.75	\$24,214,539	Division		Widening			2040
\86b	Leesville Rd	New Leesville Blvd	TW Alexander Dr Ext	2	4	0.97		Division		Widening			2040
A127b3	Ligon Mill Rd Connector	Richland Creek	NC 98	2	4	0.75	\$10,377,660	Division		Widening			2040
\134	Litchford Rd	Old Wake Forest Rd	Falls of Neuse Rd	3	4	2.99		Division		Widening			2040

Drainet ID	Road Name	Erom	To	Existing Lanes	Proposed Lanes	Distance (Miles)	Total Cost	STI Category	TID#	Proposed Improvement	Regionally Significant	AQ Exempt Statute	Horizon Year
Project ID A27d	Louis Stephens Dr Ext (part existing)	From Poplar Pike Lane	To Airport Blvd	2	4	1.22	\$15,420,138	Division	NOT IN TIP	Widening		Statute	2040
A219a2	McCrimmon Parkway Ext	Davis Dr	Louis Stephens Rd	2	4	0.82	\$4,727,273	Division		Widening			2040
A104b	Morrisville Parkway	Green Level Ch Rd	NC 55	2	4	1.83	\$15,000,000	Division	U-5315C	New Location	✓		2040
A59a	N.E. Regional Center	Gresham Lake Rd	I 540	0	4	0.8	\$20,087,551	Division		New Location			2040
A616a	New Hill Place	NC 55 (Bus)	NC 55 Bypass	0	3	1.08	\$32,714,660	Division		New Location			2040
A616b2	New Hill Place	NC 55 Bypass	Old Holly Springs Apex	2	4	0.71	\$9,210,173	Division		New Location			2040
A80b	New Hope Rd	US 64 Bypass	New Bern Ave	2	4	1.19	\$19,210,479	Division		Widening			2040
Jhns4a1	Northern Connector	NC 42 East	N. Oneil St	0	2	2.21	\$17,320,250	Division		New Location			2040
Jhns14	Northern Connector Ext	N Oneil St	Covered Bridge Rd	0	2	0.12	\$1,589,843	Division		New Location			2040
A124a	Northside Loop (Harris Rd)	N. Main Street	N. White St	0	3	0.44	\$11,530,009	Division		New Location			2040
Frnk11	Oak Park Blvd	Hicks Rd	Cedar Creek Rd	0	2	1.39	\$11,520,709	Division		New Location			2040
A237a	Old Apex Rd	West Chatham St	Cary Parkway	2	4	1.55	\$21,447,163	Division		Widening			2040
A237b	Old Apex Rd	Cary Parkway	Laura Duncan Rd	2	4	0.39	\$5,396,383	Division		Widening			2040
A775	Old Battle Bridge Rd	Eagle Rock Rd	Old Tarboro Rd	2	3	0.58	\$7,679,166	Division		Center Turn Lane		93.127	2040
A579	Old Faison Rd Widening	Hodge Rd	Bethlehem Rd	2	4	2.06	\$29,026,970	Division		Widening			2040
A218a	Old Holly Springs Apex Rd	Holly Springs Rd	Jessie Dr	2	4	2.52	\$36,432,355	Division		Widening			2040
A137a	Old Stage Rd	US 401	Ten Ten Rd	2	4	4.2	\$47,668,810	Division		Widening			2040
A137b	Old Stage Rd	Ten Ten Rd	Rock Service Station	2	4	1.49	\$17,380,709	Division		Widening			2040
A202	Old US 70	Rock Quarry Rd	Shotwell Rd	2	4	3.22	\$36,546,088	Division		Widening			2040
A1	Perry Creek Rd	US 401	Fox Road	2	4	0.53	\$6,965,142	Division		Widening		93.126	2040
A2	Perry Creek Rd	Wallace Martin Rd	Buffaloe Road	0	4	0.96	\$23,335,158	Division		New Location			2040
A449	Perry Rd Ext	Apex Peakway	Technology Drive Ext	0	4	1.29	\$56,996,265	Division		New Location			2040
A49b	Poole Rd	Barwell Rd	I-540	2	4	1.57	\$21,723,901	Division		Widening			2040
A531a	Purfoy Rd Widening	US 401	Holland Rd	2	4	1.41	\$18,529,906	Division		Widening			2040
A606	Raven Ridge Rd	Falls of Neuse Blvd	Shadow Lawn Dr	2	3	0.63	\$7,943,964	Division		Center Turn Lane		93.127	2040
A543b	Rex Rd Realignment	Avent Ferry Connector	Cass Holt Rd	0	4	0.31	\$5,310,545	Division		New Location			2040
A406a	Shotwell Rd	Old US 70	US 70 Bus	2	4	0.86	\$11,899,716	Division		Widening			2040
A406c	Shotwell Rd	Main St	Old Baucom Rd	2	4	2.12	\$24,061,400	Division		Widening			2040
A205	Six Forks Rd	Atlantic Avenue	Capital Blvd	0	4	0.56	\$25,981,124	Division		New Location			2040
A161	Skycrest Dr	New Hope Rd	Forestville Rd	1	4	3.4	\$83,312,057	Division		New Location			2040
A432	Skycrest Dr	Brentwood Rd	New Hope Rd	2	4	1.6	\$22,139,007	Division		Widening			2040
A112a	Smithfield Rd	US 64 Bypass	Major Slade Rd	2	4	2.6	\$35,975,887	Division		Widening			2040
A3	Spring Forest Rd	US 401	Buffaloe Rd	0	4	1.52	\$31,389,472	Division		New Location			2040
A417	Spring Forest Rd	Fox Rd	US 401	2	4	0.67	\$8,125,290	Division		Widening			2040
A59c	Sumner Blvd	Ruritania St	Gresham Lake Rd	0	3	0.99	\$15,901,039	Division		Widening			2040
A59b	Sumner Blvd Ext	Old Wake Forest Rd	Capital Blvd	0	3	0.38	\$14,058,620	Division		New Location			2040
A434	Sunnybrook Rd	Rock Quarry Rd	Poole Rd	2	4	1.81	\$25,044,752	Division		Widening			2040
12/6/2021													

				Existing	Proposed	Distance				Proposed	Regionally	AQ Exempt	Horizon
Project ID	Road Name	From	То	Lanes	Lanes	(Miles)	Total Cost	STI Category	TIP#	Improvement	Significant	Statute	Year
A193b	Sunset Lake Rd	Hilltop-Needmore Rd	Optimist Farm Rd	2	4	2.55	\$35,284,043	Division		Widening			2040
A155c	T.W. Alexander Dr	Sunfield Cir	Leesville Rd	0	4	1.06	\$17,090,484	Division		New Location			2040
A113	Ten Ten Rd	Holly Springs Rd	Bells Lake Rd	2	4	1.95	\$26,981,915	Division		Widening			2040
A114b	Ten Ten Rd	Kildaire Farm Road	US 1	2	4	1.96	\$27,970,100	Division	U-5825B	Widening			2040
A779	Thornton Rd Ext	Thornton Rd	Ligon Mill Rd	0	2	1.28	\$17,806,518	Division		New Location			2040
A142a3	Timber Dr Ext	Timber Dr East	S Greenfield Pkwy	0	4	0.71	\$17,928,378	Division		New Location			2040
A138a	Timber Dr/Jones Sausage Connector	US 70	Timber Dr Ext	0	4	0.72	\$13,089,390	Division		New Location			2040
A142a2	Timber Drive East	Element Cir	White Oak Rd	0	4	1.12	\$20,361,274	Division		New Location			2040
A218d	Tingen Rd	Apex Peakway	Old Holly Springs Apex Rd	2	4	0.55	\$6,726,947	Division		Widening		93.127	2040
A667	Todd Lane Extension	Marshburn Road	Wendell Blvd / US-64 BUS	0	3	1.27	\$15,350,585	Division		New Location			2040
A433	Trawick Rd	Marsh Creek Rd	New Bern Avenue	2	3	1.44	\$11,076,156	Division		Center Turn Lane		93.127	2040
A231b	Trinity Rd	Wade Park Blvd	Trenton Rd /Arrington Rd	3	4	0.4	\$5,534,752	Division		Widening			2040
A82c	Trinity Rd Ext	Walnut Creek	Chatam St	2	4	0.44	\$6,088,227	Division		Widening			2040
A120a	Tryon Rd	Garner Rd	Creech Rd	0	4	1.33	\$24,179,013	Division	U-3111	Widening			2040
A120b	Tryon Rd	Creech Rd	Quarry Ridge Ln	0	4	1.07	\$23,995,362	Division	U-3111	Widening			2040
A38	Tryon Rd	US 64	Kildaire Farm Rd	5	6	0.8	\$18,811,884	Division		Widening			2040
A672	Unicon Drive Ext	Height Lane	Unicon Drive	0	2	0.15	\$6,664,193	Division		New Location			2040
A218c	Veridea Parkway	Tingen Rd	Jessie Dr	2	4	1.06	\$12,964,662	Division		Widening		93.127	2040
A37	Walnut St	Maynard Rd	Macedonia Rd	4	6	1.29	\$30,334,163	Division		Widening			2040
A149b2	Wendell Falls Pkwy	Richardson Road	Jake May Drive	2	4	1	\$11,349,717	Division		Widening			2040
A695b	Wendell Valley Blvd	Knightdale Eagle Rock Road	US 64	0	4	1.06	\$17,304,115	Division		New Location			2040
A77b2	West Lake Rd	Ten Ten Rd	Middle Creek Park Avenue	3	4	1.23	\$17,019,362	Division		Widening			2040
A75c	Wimberley Rd	Morrisville Parkway	Green Level West Rd	0	4	1.46	\$23,833,969	Division		New Location			2040
A75b1	Yates Store Rd	New Hope Church Road	Elan Hall Road	2	4	0.75	\$9,318,715	Division		Widening			2040
A75b2	Yates Store Rd	Elan Hall Road	Morrisville Parkway	0	4	0.9	\$14,692,173	Division		New Location			2040
Jhns13b	NC 42 (Ranch Road & Partial New Location)	US 70 BUS / NC 42	US 70 Bypass	2	4	1.96	\$24,773,336	Regional		Widening			2040
A195	Creedmoor Rd	Glenwood Ave	Strickland Rd	4	6	4.11	\$96,646,054	Regional		Widening	✓		2040
A712	East Williams Street (NC 55)	Lufkin Road	Technology Drive	5	6	1.38	\$27,292,927	Regional	Not applical	Superstreet	✓		2040
A157a	Eastern Parkway	Piney Grove Wilbon	NC 55	0	4	4.2	\$72,695,102	Regional		New Location			2040
A157a2	Eastern Parkway / Angier Road Interchange						\$18,367,800	Regional		Interchange	✓		2040
A157a1	Eastern Parkway / US 401 Interchange						\$18,367,800	Regional		Interchange	✓		2040
A98a	Holly Springs Road Interchange	Holly Springs Road	NC-55 Bypass				\$27,000,000	Regional		Interchange	✓		2040
A98c2	Jessie Dr Interchange	NC 55	Jessie Dr			1.27	\$23,421,583	Regional		Interchange			2040
A758	Knightdale Blvd	Neuse River	N. First Ave.	4	6	3.72	\$60,037,947	Regional		Widening	✓		2040
Hrnt3c1	NC 210	NC 50	Raleigh Road	2	4	2.1	\$78,524,381	Regional	U-6203	Widening	✓		2040
A407a	NC 42	NC 55	Old Stage Rd	2	4	4.1	\$46,533,839	Regional		Widening	✓		2040
A407b1	NC 42	Old Stage Rd	John Adams Rd	2	4	0.95	\$10,782,231	Regional		Widening			2040

Duning at ID	Dood Nove	F	T-	Existing Lanes	Proposed Lanes	Distance (Miles)	Tatal Cast	CTI Cotocom	TID #	Proposed Improvement	Regionally Significant	AQ Exempt	Horizon Year
Project ID A407b2	Road Name NC 42	From John Adams Rd	To NC 50	2	4	4.39	\$49,825,257	STI Category Regional	HP#	Widening		Statute	2040
A407b3	NC 42	NC 50	1-40	2	4	2	\$23,200,000	Regional	R-3410B	Widening			2040
Jhns15	NC 42	Buffalo Rd	CAMPO Boundary	2	2	11.4	\$16,607,000	Regional	U-5998	TSM			2040
Jhns2a	NC 42 West	US 70 Business	US 70 Bypass	2	4	3	\$35,000,000	Regional	R-3410A	Widening			2040
Jhns2b	NC 42 West	US 70 Bypass	1-40	2	4	3.6	\$41,800,000	Regional	R-3410B	Widening			2040
A228a	NC 50	Timber Dr	1-540	2	4	4.91	\$85,900,000	Regional		Widening	✓		2040
A444	NC 50	1540	NC 98	2	4	5.5	\$122,000,000	Regional	U-5891	Widening			2040
A221	NC 54	N.W. Maynard Rd	Wilson Rd	2	6	0.93	\$8,502,268	Regional		Widening	✓		2040
A222b	NC 54	Weston Parkway	McCrimmon Pkwy Grade Sep	2	4	2.4	\$74,000,000	Regional		Widening	✓		2040
A413	NC 54 (Chapel Hill Rd)	Corporate Center Dr	Hillsborough St	2	4	1.33	\$14,159,158	Regional		Widening	✓		2040
A118c	NC 55	Kennebec Church Road	North Broad St	2	2	0.87	\$9,706,000	Regional		Widening	✓		2040
A622	NC 55	Apex Peakway (South)	Salem St	3	4	0.89	\$33,168,300	Regional	U-2901B	Widening	✓		2040
A652	NC 55	Morrisville Carpenter Rd	NC 540	5	6	1.55	\$27,834,807	Regional	0 23015	Widening	✓		2040
A716	NC 55	Lufkin Road	Apex Peakway (South)	4	6	0.51	\$8,231,009	Regional		Widening			2040
A94	NC 55	NC 540	Kit Creek Rd	5	6	1.58	\$11,907,535	Regional		Widening	✓		2040
A96b	NC 55	Salem St	Olive Chapel Road	2	1	1.04	\$19,731,700	Regional	U-2901B	Center Turn Lane		93.127	2040
Hrnt4a	NC 55 Business (North Raleigh Street)	North Broad Street	Depot Street	2	2	1.65	\$12,400,000	Regional	0-23016	Center Turn Lane		93.127	2040
A98	NC 55 Bypass	North Main St	Honeycutt Connector	5	6	5.95	\$146,500,000	Regional		Widening	✓	93.127	2040
Grnv20b	NC 56	965 feet south of Holly Drive	Brogden Road	2	2	1.14	\$13,734,624	Regional		Widening			2040
Grnv20c	NC 56	Brogden Road	US 15	2	5	0.34	\$4,184,326	Regional		Widening			2040
A150	NC 98	Durham County Line	Thompson Mill Rd	2	3	8.86		Regional		-			2040
	NC-55/Carpenter Fire Station Road DDI	NC-55		2	4	8.80	\$122,594,753	ŭ		Widening			2040
A440c			Carpenter Fire Station Road	-		0.45	\$26,963,475	Regional		Interchange	V		
A929	New Bern Ave (East Bound)	Freedom Drive	Patriots Drive	5	6	0.15	\$1,210,442	Regional		Widening			2040
A190	New Hill Holleman Rd	Old US 1	Avent Ferry Rd	2	4	4.85	\$59,676,565	Regional		Widening			2040
A173a	New Hill Olive Chapel Rd	Olive Chapel Road	US 64	2	4	0.63	\$7,150,322	Regional		Widening			2040
A708	New Hill Olive Chapel Rd	US 64	US 64				\$67,010,000	Regional	R-5887	Interchange			2040
A725	North Broad Street	Judd Parkway Northwest/Northea		5	4	0.28	\$2,346,000	Regional		Median		93.126	2040
A732	North Broad Street widening	Wade Nash Rd / Fuquay-Varina Pk		4	6	1.07	\$16,405,531	Regional	N/A	Widening	✓		2040
A679b	Northern Judd Parkway	NC 55 / Broad St	Old Honeycutt Road	0	4	3	\$161,300,000	Regional	U-5751	New Location	✓		2040
A98b	South Main Street Interchange	South Main Street	NC-55 Bypass			0	\$29,000,000	Regional		Interchange	✓		2040
A480a3	US 401	Old Stage Road	Simpkins Road	4	6	1	\$21,500,000	Regional	U-6116	Superstreet	✓		2040
A480a4	US 401	Simpkins Road	Ten Ten Road	4	6	3.1	\$64,740,402	Regional		Widening	✓		2040
A90d	US 401	Flat Rock Church Rd	Fox Park Rd	2	4	5.29	\$32,065,000	Regional	R-2814D	Widening	✓		2040
A90c1	US 401 & NC 98 Interchange						\$18,367,800	Regional		Interchange	✓		2040
A480a1	US 401 / US 70 BUS	US 401 / US 70 BUS Flyover	Garner Station Road / Mechanical	4	6	1.2	\$23,998,338	Regional		Widening	✓		2040
A619a	US 401 Widening	NC 540	US 401 Bypass	4	6	1.58	\$44,858,736	Regional		Widening	✓		2040
A678	US 401/Ten Ten	Ten Ten Rd	Ten Ten Rd				\$82,100,000	Regional	U-6112	Interchange	✓		2040

Project ID	Road Name	From	То	Existing Lanes	Proposed Lanes	Distance (Miles)	Total Cost	STI Category	TIP#	Proposed Improvement	Regionally Significant	AQ Exempt Statute	Horizon Year
A101	US 70	Lumley/Westgate Rd	Hilburn Road	4	6	4.1	\$132,600,000	Regional	U-2823	Widening	✓	Statute	2040
A300	US 70	US 401	I-40	4	6	4.3	\$142,023,977	Regional		Widening	<u> </u>		2040
A139	US 70 / Timber Drive	Hammond Road	Timber Drive			0	\$15,400,000	Regional	U-5744	CFI	✓		2040
A301	US 70 Business	I-40	NC 42	4	6	7.1	\$56,010,000	Regional		Widening	<u> </u>		2040
F84	I-540 Managed Shoulder	US 1	I-495 (Knightdale Bypass)	0	2	8.2	\$35,930,466	Statewide	I-5982	TSM	<u> </u>		2040
F85	I-540 Managed Shoulder	I-40	US 1	0	2	17.2	\$74,467,458	Statewide	I-5982	TSM	<u> </u>		2040
A689	Beryl Road Realignment	Beryl Road	Royal St	2	2	0.24	\$3,500,000	Statewide	P-5736	Intersection Realignment		93.126	2040
Grnv94	Brogden Interchange						\$20,455,050	Statewide		Interchange	✓		2040
F86	Capital Blvd - Corridor Upgrades	I-440	I-540	0	0	5.25	\$500,937,413	Statewide		New Location	✓		2040
F88	Centennial Pkwy/Lake Wheeler Intersection Realig	I-40	Centennial	4	4	0.4	\$7,630,989	Statewide		Intersection Realignment	✓		2040
F14	Clayton Bypass (US 70)	I-40	US 70 Business	4	6	8.69	\$156,054,499	Statewide		Widening	✓		2040
A687	Corporate Center Extension (RR)	Corporate Center Dr	Bashford Rd	0	2	0.5	\$22,000,000	Statewide		New Location		93.126	2040
A79b	Crabtree Valley Ave	Blue Ridge Rd	Creedmoor Rd	2	4	0.61	\$18,096,806	Statewide	I-5870	Widening			2040
A79a	Crabtree Valley Ave / I-440 Connector	1-440	Blue Ridge Rd	0	3	0.15	\$72,568,194	Statewide	I-5870	New Location			2040
F44c	I-40 (East)	NC 42	NC 210	4	6	6.78	\$141,531,527	Statewide		Widening	✓		2040
F44d	I-40 (East)	NC 210	CAMPO MAB	4	6	6.78	\$149,259,779	Statewide		Widening	✓		2040
F43b	I-40 / US 1 / US 64 Interchange	I-40 / US 1 / US 64	I-40 / US 1 / US 64			4	\$152,300,000	Statewide	I-5703	Interchange		93.127	2040
F112	I-40 / Wade Avenue Interchange Improvement						\$30,000,000	Statewide		Interchange	✓		2040
F41b	I-40 Managed Lanes	Johnston County	Cornwallis Rd	8	10	2.88	\$20,462,870	Statewide		Widening	✓		2040
F45	I-40 Managed Lanes	Cornwallis Rd	NC 210	6	8	4.47	\$26,920,480	Statewide		Widening	✓		2040
F46	I-40 Managed Lanes	NC 210	CAMPO MAB	6	8	6.75	\$36,179,936	Statewide		Widening	✓		2040
F81a	I-40 Widening	Wade Avenue	US 1/64	6	8	4.18	\$37,734,000	Statewide	I-5704	Widening	✓		2040
F86a	I-440 / Capital Blvd Interchange						\$127,000,000	Statewide	I-5970	Interchange	✓	93.127	2040
Grnv1	I-85	Durham co. line	Vance Co. Line	4	6	24	\$533,938,405	Statewide		Widening	✓		2040
A639a	I-87 / I-495 / Smithfield Road Interchange Improve						\$7,410,000	Statewide	I-6007	Interchange		93.127	2040
A639b	I-87 / I-495 Bypass	I-440	US-64	6	8	9.73	\$97,300,000	Statewide		Widening	✓		2040
A642	N Harrison Ave HSR Grade Sep (RR)	Adams St	W Chatham St	4	4	0	\$22,600,000	Statewide	P-5708	Grade Separation		93.126	2040
F13	NC 147 Toll Extension (CAMPO Portion)	NC 540	McCrimmon Pkwy / Little Drive	0	4	1.5	\$91,700,000	Statewide	U-5966	New Location	✓		2040
F13a	NC 147 Toll Extension (CAMPO Portion)	NC 540	McCrimmon Pkwy / Little Drive	0	4	1.5	\$0	Statewide	U-5966	New Location	✓		2040
F3	NC 540 Tri-Ex (Phase VI)	I-40 (South)	US 64 East Bypass	0	6	10.8	\$333,060,000	Statewide	R-2829	New Location	✓		2040
A800	Perry Creek Rd Grade Separation	Perry Creek Rd	US 401	6	6		\$5,020,785	Statewide		Grade Separation			2040
A688	Powell Drive Realignment (RR)	Powell Dr	Youth Center Dr	2	2	0.35	\$44,000,000	Statewide		New Location		93.126	2040
Frnk26	Tanyard St Ext	Mason St	N Main St	0	2	0.18	\$7,054,118	Statewide		New Location		93.126	2040
A114a	Ten Ten Rd	US 1	US 1			0.37	\$48,373,364	Statewide	U-5825A	Interchange		93.127	2040
A138b	Timber Dr/Jones Sausage Connector	Garner Road	US 70	0	4	0.28	\$27,604,000	Statewide		New Location		93.126	2040
A643	Trinity Rd Realignment	NC - 54	Soccer Street / Chatham St	2	2	0	\$40,700,000	Statewide	P-5734	New Location		93.126	2040
F110b	US 1	US 64	NC 55	4	6	3.1	\$74,800,000	Statewide	U-6066	Widening	✓		2040

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Due!est ID	Dood Name	Fuere	T.	Existing Lanes	Proposed Lanes	Distance (Miles)	Tatal Cast	CTI Cotogomi	TID #	Proposed Improvement	Regionally Significant	Exempt	Horizon Year
Project ID F110c	Road Name US 1	From NC 55	To NC 540	4	6	2.2	\$51,732,681	STI Category Statewide	HP#	Widening	✓	Statute	2040
F11-1b	US 1	Thornton Rd	Burlington Mills Rd	4	8	1.66	\$165,300,000	Statewide	U-5307B	Widening	✓		2040
F11-1c	US 1	Burlington Mills Rd	Falls of Neuse Rd	4	6	2.3	\$71,050,000	Statewide	U-5307C	Widening	✓		2040
F11-1d	US 1	Falls of Neuse Rd	NC 98 (Durham Rd)	4	6	2.3	\$71,050,000	Statewide	U-5307C	Widening	✓		2040
F11-1e1	US 1	NC 98 (Durham Road)	Harris Road	4	6	2	\$149,100,000	Statewide	U-5307 D	Widening	✓		2040
Frnk1	US 1	Extend frwy project from US-1A	CAMPO MAB	4	6	8.28	\$229,478,754	Statewide		Widening	✓		2040
F110a	US 1 / NC 55 Diverging Diamond Interchange	,, ,					\$22,300,000	Statewide	U-5981	Interchange		93.127	2040
Frnk25	US 1 Access Rd	Northern Connector	Swen St	0	2	2.17	\$20,029,382	Statewide		New Location			2040
Frnk27	US 1 Freeway Access Roads	Purnell Rd	Park Ave	0	2	5.61	\$62,524,712	Statewide		New Location	✓		2040
F11-1e2	US 1 North - Upgrade to Freeway	Harris Road	US 1A (Youngsville)	4	6	3.91	\$121,812,365	Statewide		Widening	✓		2040
A799	US 401	Ligon Mill Rd	Louisburg Rd	4	6	2.17	\$33,271,029	Statewide		Widening			2040
F15a3	US 64 (superstreet)	US 1	Lake Pine Dr	4	6	1.95	\$108,112,875	Statewide	U-5301C	Superstreet	✓		2040
F15a2	US 64 / Lake Pine Interchange (New)	Lake Pine Drive	Lake Pine Drive			0.75	\$41,581,875	Statewide	U-5301B	Interchange	✓		2040
F15a1	US 64 / Laura Duncan Interchange (New)	US 64	Laura Duncan Rd			0.5	\$27,721,250	Statewide	U-5301A	Interchange	✓		2040
F15a	US 64 West Conversion to Expressway	Laura Duncan Road	I-540	4	6	5.7	\$79,869,532	Statewide		Widening	✓		2040
F15b	US 64 West Conversion to Freeway	NC-540 Tri-Ex Turnpike	NC 751	4	6	3.2	\$84,450,618	Statewide		Widening	✓		2040
F7a	US 64/US 264	US 64 Business (Wendell Blvd)	US 264	4	6	6.8	\$136,700,000	Statewide	I-6005	Widening	✓		2040
A742	Vandora Springs Grade Separation (RR)	Vandora Springs Rd	Vandora Hills Pl	2	2	0.056	\$5,644,918	Statewide	P-5738	Grade Separation		93.126	2040
A562	Wade Ave	1-40	I-440	4	6	3.1	\$76,611,000	Statewide	U-5936	Widening	✓		2040
Frnk13	Western Service Rd	Bert Winston Rd	Pocomoke Rd	0	2	2.7	\$21,160,486	Statewide		New Location			2040
A143a1	White Oak Interchange	I-40	I-40				\$20,455,050	Statewide		Interchange	✓		2040
2050 MTP	•												
Frnk28	Mason St Closure	Mason St	Elm St	2	0	0	\$0			Road Closure			2050
A406b	Amelia Ch Rd	US 70	East of NC 42	2	4	2	\$22,699,434	Division		New Location			2050
A203	Auburn-Knightdale Rd	Grasshopper Rd	Raynor Rd	2	4	7.58	\$86,030,853	Division		Widening			2050
A427c	Avent Ferry Rd	New Hill Holleman	Cass Holt	2	4	3.69	\$41,880,455	Division		Widening			2050
A741	Aversboro Rd	Timber Dr	Thompson Rd Ext	2	3	1	\$12,609,467	Division	N/A	Center Turn Lane		93.127	2050
A538	Bass Lake Rd Widening	Holly Springs Rd	Hilltop-Needmore Rd	2	4	2.77	\$31,908,347	Division		Widening			2050
A576	Buffaloe Rd	NC 50	Aversboro Rd	2	3	1.48	\$18,662,011	Division		Center Turn Lane		93.127	2050
A755b	Buffaloe Rd	Spring Forest Rd Ext	Old Milburnie Rd	4	6	1.74		Division		Widening			2050
A133	Burlington Mills Rd	US 1	US 401	2	4	4.77	\$54,806,422	Division		Widening			2050
Jhns10a	Cleveland Rd	NC 50	NC 42	2	4	2.11	\$29,195,816	Division		Widening			2050
A748	Dunn Road	Neland St	Durant Rd	0	2	1	\$11,145,225	Division		New Location			2050
A676	East Wake Drive	Old Milburnie Rd	Forestville Road	0	3	0.44	\$6,284,261	Division		Center Turn Lane		93.127	2050
A102	Edwards Mill Rd Ext - part III	Chapel Hill Rd	Western Blvd Ext	0	4	0.7	\$46,425,000	Division	U-3817	New Location		93.126	2050
A125a1	Forestville Rd	Old Milburnie Rd	Buffaloe Rd	2	4	1.29	\$17,849,575	Division		Widening			2050
A125a2	Forestville Rd	Buffaloe Rd	Rogers Rd	2	4	7.5	\$103,776,597	Division		Widening			2050
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Due in at 10	Dood Nows	Fuere	To	Existing Lanes	Proposed Lanes	Distance (Miles)	Tatal	STI Coto com	TID #	Proposed Improvement	Regionally Significant	AQ Exempt	Horizon Year
Project ID A125a4	Road Name Forestville Rd	From East Wake Dr	To Old Knight Rd	2	3	2.27	\$30,054,665	STI Category Division	HP#	Widening	Significant	Statute	2050
A416	Fox Rd	Old Wake Forest Rd	US 401	2	4	2.06	\$28,503,972	Division		Widening			2050
Frnk15	Franklinton Northern Rd	W River Rd	US 1 Frontage Rd	0	2	1.8	\$26,935,413	Division		New Location			2050
A163b	Friendship Rd Widening	Old Holly Springs Apex	New Hill Holleman	2	4	1.93	\$26,281,103	Division		Widening			2050
A722	Fuqua-Varina Parkway East	NC 55	NC 42	0	4	2.55	\$46,358,258	Division	N/A	New Location			2050
A729	Fuguay-Varina Parkway (West)	Wade Nash Rd	Piney Grove Wilbon Road at Piney	0	4	4.27	\$76,477,322	Division	,	New Location			2050
A723	Fuquay-Varina Parkway East	NC 42	US 401	0	4	1.44	\$26,178,781	Division	N/A	New Location			2050
A698	Gorman St Widening	Kaplan Drive	Western Blvd	2	3	0.95	\$7,307,186	Division	14/71	Center Turn Lane		93.127	2050
A192	Graham Newton Rd	Penny Rd	Optimist Farm Rd	2	2	2.83	\$27,770,030	Division		Median		93.126	2050
A168a	Green Level Church Rd	Green Level Rd West	Jenks Rd	2	4	1.76	\$19,975,501	Division		Widening		33.120	2050
Jhns7a	Guy Rd	Garner Rd	Amelia Church Rd	2	4	3.41	\$43,100,549	Division	R-3618	Widening			2050
Jhns7b	Guy Rd	Amelia Church Rd	NC 42	2	4	0.98	\$12,386,668	Division	R-3618	Widening			2050
A125b	Heritage Lake Rd	Rogers Rd	NC 98	2	4	1.73	\$23,937,802	Division	11 3010	Widening			2050
A623a	Hilltop Needmore Widening	US 401	Johnson Pond Rd	2	4	1.3	\$14,754,632	Division		Widening			2050
A403c	Hodge Rd	Auburn-Knightdale Rd	Poole Rd	2	4	1.9	\$21,564,462	Division		Widening			2050
A756	Holden Rd	US 1	N. College St.	2	2	1.81	\$23,964,292	Division		Widening			2050
A163c	Holly Springs New Hill Rd	Friendship Rd	Old Holly Springs Apex Rd	2	1	3.58	\$47,047,563	Division		Widening			2050
A699	Holly Springs Rd	Cary Parkway	Penny Rd	1	6	2.22	\$34,037,643	Division		Widening			2050
A700	Holly Springs Rd	Penny Rd	Ten Ten Rd	4	6	1.22		Division		Widening			2050
A700 A701	Holly Springs Rd	Ten Ten Rd	Kildaire Farm Rd Connector	4	6	1.59	\$24,378,312	Division		Widening			2050
A218f	Jessie Dr	NC 55	Ten Ten Rd	2	4	1.58	\$23,008,728	Division		Widening			2050
Grnv113	Joe Peed Rd Turn Lane	US 15	WB Clark Rd	2	2	1.34		Division		Center Turn Lane		93.127	2050
	Jones Franklin Rd			2	4		\$15,172,534					95.127	
A73a <mark>A772</mark>	Jonesville Rd	Tryon Rd US 401 Bypass	Dillard Dr Mitchell Mill Rd	2	2	0.67	\$9,270,709 \$25,218,934	Division Division		Widening Center Turn Lane		93.127	2050
	Kildaire Farm Rd	Ten Ten Rd	Kildaire Farm Connector	2	4	2.03	\$34,200,000	Division		Widening		95.127	2050
A410				2	4					-			
A410	Lake Pine Dr/Old Raleigh Rd	Cary Parkway	Apex Peakway	_	4	1.7	\$23,522,695	Division		Widening			2050
A136a	Lake Wheeler Rd	Tryon Rd	Penny Rd	2	3	1.79	\$21,281,178	Division		Widening			2050
A136c	Lake Wheeler Rd	Ten Ten Rd	Hilltop-Needmore Rd	2	4	3.4	\$42,244,840	Division		Widening			2050
A136d	Lake Wheeler Rd	Hilltop-Needmore Rd	US 401	2	4	0.57	\$7,082,223	Division		Widening			2050
A136e	Lake Wheeler Rd	Centennial Pkwy	S. Saunders St	2	3	0.94	\$12,445,544	Division		Widening			2050
A554	Laura Duncan Widening	US 64	Old Apex Rd	2	4	1.04	\$11,803,705	Division		Widening			2050
A135a	Lead Mine Rd	Town & Country Rd	Millbrook Rd	3	4	0.54		Division		Widening			2050
A135b	Lead Mine Rd	Millbrook Rd	Lynn Rd	2	4	1.12	\$15,497,305	Division		Widening			2050
A135c	Lead Mine Rd	Lynn Rd	Sawmill Rd	2	4	0.99	\$13,698,511	Division		Widening			2050
A126a	Ligon Mill Rd	Burlington Mills Rd	US 1A	2	3	2.32		Division		Center Turn Lane		93.127	2050
A126b	Ligon Mill Rd	US 401	Burlington Mills Rd	2	3	2.57		Division		Center Turn Lane		93.127	2050
A127c	Ligon Mill Rd Connector	NC 98	Stadium Dr	0	4	0.78	\$14,180,173	Division		New Location			2050

			_	Existing	•	Distance (Miles)			Proposed	Regionally Significant	AQ Exempt	Horizon
Project ID A219b	Road Name McCrimmon Parkway Ext	From Louis Stephens Rd	To NC 55	Lanes 0	Lanes	0.94	Total Cost STI Category \$15,155,712 Division	TIP#	Improvement New Location	Significant	Statute	Year 2050
A415	Milburnie Rd	Hodge Rd Ext	Forestville Rd	2	4	1.5	\$21,278,318 Division		Widening			2050
A130b	Mitchell Mill Rd	Forestville Road	Rolesville Rd	2	4	3.47	\$50,784,009 Division		Widening			2050
A117	New Hope Rd	Old Poole Rd	Rock Quarry Rd	2	4	1.8	\$24,906,383 Division		Widening			2050
Jhns4a2	North Connector	NC 42 East	N. Oneil St	2	4	2.21	\$25,082,874 Division		Widening			2050
				5	6	0.81			-			2050
A240a	North Harrison Avenue	Reedy Creek Rd	Weston Parkway	7	0		\$19,047,033 Division		Widening			2050
A240b	North Harrison Avenue	Weston Parkway	I-40	7	8	0.48	\$22,358,553 Division		Widening			
Grnv81	Northside Rd Ext	Northside Rd	Old Weaver Rd	0	4	0.92	\$14,833,250 Division		New Location			2050
A66a	O'Kelley Chapel Rd	Alston Avenue	NC 55	3	4	1.21	\$13,733,157 Division		Widening			2050
A137c	Old Stage Rd	Rock Service Station	NC 42	2	4	3.27	\$37,113,574 Division		Widening			2050
A181b	Old US 1	Humie Olive Rd	Apex Peakway	2	4	2.53	\$28,714,783 Division		Widening			2050
A601	Old Wake Forest Rd	Falls of Neuse Rd	Atlantic Ave	2	3	1.43	\$18,031,538 Division		Center Turn Lane		93.127	2050
Grnv81a	Old Weaver Trail	From NC 50 (Wake Co)	Northside Rd Ext	2	4	1.65	\$18,727,033 Division		Widening			2050
Jhns16	Oneil St	W Main St	North Connector	2	3	1.87	\$24,758,689 Division		Center Turn Lane		93.127	2050
A42a	Penny Rd	Ten Ten Rd	Kildaire Farm Rd	2	4	1.25	\$17,296,099 Division		Widening			2050
A511	Piney Grove Wilbon Rd	Brayton Park Rd	Southern FV Bypass	2	4	6.5	\$73,773,159 Division		Widening			2050
A149b1	Poole Rd	Martin Pond Rd	Richardson Road	2	3	1	\$6,906,900 Division		Center Turn Lane		93.127	2050
A402e	Proctor St	NC 96	Shepard School Rd	2	3	0.85	\$10,105,587 Division		Center Turn Lane		93.127	2050
A179a2	Richardson Rd	US 64 (West)	Olive Chapel Rd	2	4	1.38	\$12,696,206 Division		Widening			2050
A201b	Rock Quarry Rd	Battle Bridge Rd	East Garner Rd	2	4	3.3	\$45,661,703 Division		Widening			2050
A605	Rogers Rd	Heritage Center Dr	Heritage Branch Rd	3	5	0.35	\$4,307,394 Division		Widening			2050
A813	Rogers Rd Access Management	US 1 Alt / S Main St	Marshall Farm St	2	3	2.09	\$26,584,800 Division		TSM			2050
A612	S Cross St/N White St	NC 98	Main St	2	3	3.85	\$43,592,730 Division		Center Turn Lane		93.127	2050
A551	Salem St Widening	US 64	Apex Peakway	2	3	0.64	\$7,608,913 Division		Center Turn Lane		93.127	2050
A680a	Six Forks Road	I-540	Durant Road	2	4	0.9	\$12,453,192 Division		Widening			2050
A51	Smithfield Rd	Forestville Rd	Bethlehem Rd	2	4	1.57	\$21,723,901 Division	U-3441	Widening			2050
A52	Smithfield Rd	Bethlehem Rd	US 64 Bypass	2	4	1.8	\$24,906,383 Division		Widening			2050
A752	Smithfield Rd	Sandy Trail Dr	Grasshopper Rd	4	6	2.65	\$42,768,968 Division		Widening			2050
Jhns3	South Connector	Little Creek Church Rd	NC 42	0	2	2	\$15,674,434 Division	R-3618	New Location			2050
A547	Stephenson Rd	Ten Ten Rd	Sunset Lake Rd	2	3	2.03	\$22,985,257 Division		Center Turn Lane		93.127	2050
A193a1	Sunset Lake Rd	Product Road	Hilltop-Needmore Rd	2	4	2.2	\$39,501,590 Division		Widening			2050
A217a	Sunset Lake Rd	Main St	Optimist Farm Rd	2	4	3.4	\$47,045,391 Division		Widening			2050
A217b	Sunset Lake Rd Ext	Old Holly Springs Apex	Main St	0	4	1.7	\$30,905,505 Division		New Location			2050
A572	Trailwood Dr Turn Lane	Avent Ferry Rd	Tryon Rd	2	3	1.62	\$21,724,260 Division		Center Turn Lane		93.127	2050
A563	Trinity Rd	NC 54	Chatham St	2	4	1	\$4,441,638 Division		Widening			2050
A780	US 1 at Stadium	Stadium Dr	Jenkins Rd			0.5	\$5,750,000 Division		Interchange			2050
A140b	Vandora Springs Rd & Ext	Old Stage Rd	US 401	0	2	1.62	\$17,703,060 Division		New Location			2050
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Project ID	Road Name	From	То	Existing Lanes	Proposed Lanes	Distance (Miles)	Total Cost	STI Category	TIP#	Proposed Improvement	Regionally Significant	AQ Exempt Statute	Horizon Year
A167a	Wendell Northern Bypass	US 64 BUS (Wendell Blvd)	Old Zebulon Road	0	2	2.4	\$22,152,312	Division	111 π	New Location		Statute	2050
A695a2	Wendell Valley Blvd	Wendell Falls Parkway	Knightdale Eagle Rock Road	2	4	1.04	\$12,921,951	Division		Widening			2050
A77a	West Lake Rd	Larboard Rd	Bells Lake Rd	0	2	1.25	\$10,595,812	Division		New Location			2050
A234	Western Blvd	Gorman St	Pullen Rd	5	6	1.21	\$28,452,975	Division		Widening	✓		2050
A670	Western Wendell Ext	Poole Road	Lake Glad Road	0	4	1.4	\$22,572,337	Division		New Location			2050
A457	Westgate Rd	Leesville Rd	US 70	2	4	1.4	\$19,371,631	Division	U-2918	Widening			2050
A143a	White Oak Rd	US 70	I-540	2	4	4.46	\$61,712,483	Division		Widening	✓		2050
A143b	White Oak Rd	I-540	NC 42	2	4	2.53	\$35,007,305	Division		Widening			2050
A138d	White Oak-Guy Rd Connector	White Oak Rd	Guy Rd	0	4	1.92	\$30,956,348	Division		New Location			2050
Frnk10	Bunn Bypass	NC 39 (north)	NC 39 (south)	0	4	1.3	\$20,960,027	Regional		New Location	✓		2050
Grnv48	Creedmoor Loop B	US-15	Relocated US 15	2	4	0.66	\$7,490,813	Regional		Widening			2050
A810	E. Gannon Ave.	Stratford Drive	US 264 Highway	3	4	1.95	\$21,878,400	Regional		TSM			2050
A726	East Broad Street	Wake Chapel Road	Bengal Boulevard	3	4	0.22	\$2,774,083	Regional	N/A	Median		93.126	2050
A782	Knightdale Blvd	N. First Ave.	I-87	4	4	2.86	\$36,379,200	Regional		TSM		93.126	2050
A811	N Arendell Ave	US 64 Highway	E Gannon Ave	3	4	0.72	\$9,158,400	Regional		TSM			2050
A807	N Main Street	Future NC 96 Bypass	Knollwood Lane	2	3	1.84	\$24,361,491	Regional		Center Turn Lane		93.127	2050
Hrnt2a	NC 210	NC 55	Angier Western Bypass	2	3	1.46	\$19,330,313	Regional		Center Turn Lane	✓	93.127	2050
Hrnt2b	NC 210	Angier Western Bypass	Capital Area MPO Boundary	2	4	3	\$34,049,150	Regional		Widening	✓		2050
Hrnt3a1	NC 210	NC 55	Lipscomb Rd	2	3	1.69	\$21,310,000	Regional		Widening	✓		2050
Hrnt3a2	NC 210	Lipscomb Rd	Old Stage Rd	2	4	1.32	\$16,684,084	Regional		Widening	✓		2050
Hrnt3b	NC 210	Old Stage Rd	NC 50	2	4	6.46	\$73,788,801	Regional		Widening	✓		2050
Hrnt3c2	NC 210	Raleigh Road	Lassiter Pond Rd	2	4	5.1	\$57,883,555	Regional		Widening	✓		2050
A65	NC 39	Debnam Rd (Wake Co.)	Hatcher Rd (Johnston Co.)	2	4	12.74	\$144,595,391	Regional		Widening	✓		2050
Frnk6	NC 39	From N. metro boundary southwa	Wake County boundary	2	4	17.69	\$219,613,921	Regional		Widening	✓		2050
Jhns13c	NC 42 (East) / US 70 BUS Interchange						\$20,455,050	Regional		Interchange	✓	93.126	2050
A535b	NC 42 Turn Lane	Coley Farm Rd	NC 55	2	3	0.47	\$5,926,450	Regional		Center Turn Lane	✓	93.127	2050
A535a	NC 42 Widening	Christian Light Rd	Coley Farm Rd	2	4	2.98	\$33,822,156	Regional		Widening	✓		2050
A535c	NC 42 Widening	Christian Light Rd	Cass Holt Rd	2	4	2.94	\$33,368,167	Regional		Widening	✓		2050
A144	NC 50	Timber Dr	US 70	3	3	1.5	\$18,914,201	Regional		Center Turn Lane		93.127	2050
A228b	NC 50	I-540	NC 42	2	4	1.85	\$20,996,976	Regional		Widening	✓		2050
A228c	NC 50	NC 42	NC 210	2	4	5.63	\$64,368,537	Regional		Widening			2050
A445a	NC 50	NC 98	Beaver Creek Rec	2	4	3.9	\$48,457,317	Regional		Widening			2050
A445b	NC 50	Beaver Creek Rec	Old Weaver Trail	2	4	2	\$24,849,906	Regional		Widening			2050
Grnv18	NC 50	Old Weaver Trail	Dove Rd	2	4	2.67	\$30,303,744	Regional		Widening			2050
A229	NC 54	Chapel Hill Rd	Harrison Avenue	5	6	0.8	\$18,811,884	Regional		Widening	✓		2050
A233a	NC 54	Reedy Creek Rd	Chapel Hill Rd	5	6	0.4	\$9,405,942	Regional		Widening	✓		2050
A233b	NC 54	Reedy Creek Rd	Harrison Avenue	5	6	0.99	\$23,279,706	Regional		Widening	✓		2050

Project ID	Road Name	From	То	Existing Lanes	Proposed Lanes	Distance (Miles)	Total Cost	STI Category TIP#	Proposed Improvement	Regionally Significant	AQ Exempt Statute	Horizon Year
A118a	NC 55	Old Honeycutt Road	Jicarilla Rd	2	4	2.49	\$26,086,000	Regional R-5705C	Widening	✓	Statute	2050
A426	NC 55 (Main St)	Holly Springs Rd	Technology Drive	2	4	2.79	\$38,604,894	Regional	Widening	✓		2050
Frnk4a	NC 56	W. of West Sandling Rd	US 1	2	4	3.63	\$41,199,472	Regional	Widening	✓		2050
Frnk4b	NC 56	US 1	Peach Orchard Rd	2	4	6.76	\$76,724,085	Regional	Widening	✓		2050
Grnv20a	NC 56	I-85	South of Holly Drive (965 ft)	2	4	1.12	\$14,156,192	Regional	Widening			2050
Grnv21	NC 56	NC 50	Hayes Rd	2	4	2.6	\$35,975,887	Regional	Widening	✓		2050
Grnv22a	NC 56	Hayes Rd	Hester Rd	2	4	3.23	\$36,659,585	Regional	Widening	✓		2050
Grnv22b	NC 56	Hester Rd	W of Wes Sandling Rd	2	4	4.18	\$47,441,816	Regional	Widening	•		2050
A728	NC 751	Avent Ferry Road	US 401	0	4	5.28	\$98,486,000	Regional	New Location			2050
A131b	NC 96	Ferrell Rd	US 401	2	3	8.47	\$89,401,123	Regional	Center Turn Lane	•	93.127	2050
A131c	NC 96	US 401	SE of Youngsville	2	3	4.14	\$52,203,194	Regional	Center Turn Lane		93.127	2050
A418c	NC 96	NC 96 Bypass	US 1	2	4	1	\$13,836,880	Regional	Widening			2050
A798	NC 96	Green Grove Rd	Rice Rd	2	4	1.28	\$18,306,192	Regional	Widening			2050
Frnk3	NC 96	From Granville County	US 1	2	4	4.84	\$73,300,429	Regional	Widening	✓		2050
Grnv23	NC 96	Franklin CO.	NC 56	2	4	8.97	\$101,806,959	Regional	Widening	✓		2050
A418b	NC 96 Bypass	NC 96/Park Ave	NC 96	0	4	2.06	\$37,450,200	Regional	New Location			2050
A596	NC 96 Widening	US 64/264	Ferrel Road	2	4	2.88	\$36,819,939	Regional	Widening	✓		2050
A401a	NC 97	Wendell Blvd	Rotary Dr	2	4	4.96	\$68,630,923	Regional	Widening			2050
A402g	NC 97	Old Bunn Rd	NC 39	2	4	0.64	\$7,263,819	Regional	Widening	✓		2050
A794	NC 97/Gannon Ave	Rotary Dr	Old US 264	2	3	1.72	\$22,772,698	Regional	Widening			2050
A56c	NC 98	NC 98 Bypass	US 401	2	4	5.29	\$73,197,093	Regional	Widening			2050
A608a	NC 98	Debarmore St	Ligon Mill Rd (future connector)	2	4	1.07	\$13,524,219	Regional	Widening	✓		2050
A611	NC 98 Turn Lane	NC 98 Bypass	Allen St.	2	3	0.71	\$8,952,722	Regional	Center Turn Lane		93.127	2050
A56d	NC 98 Widening	US 401	NC 39	2	4	8.52	\$96,699,587	Regional	Widening	✓		2050
A56e	NC 98 Widening	NC 39	Wake County line	2	4	3.72	\$42,220,946	Regional	Widening	✓		2050
Hrnt4b1	NC-55	Depot Street	NC 55 Bypass	2	3	2.29	\$27,225,641	Regional	Center Turn Lane	✓	93.127	2050
Hrnt4b3	NC-55	Oak Grove Church Rd	Old Stage Rd	2	4	1.37	\$17,316,056	Regional	Widening	✓		2050
A173b	New Hill Olive Chapel Rd	Old US 1	Olive Chapel Road	2	3	3.83	\$26,453,427	Regional	Center Turn Lane		93.127	2050
A717	Schieffelin Road-Lufkin Road Connector with grade	Schieffelin Road	Lufkin Road	0	2	0.11	\$12,400,000	Regional	Grade Separation			2050
A760	US 1 Alt	Harris Rd	Youngsville Southern Bypass	2	4	1.56	\$22,830,851	Regional	Widening	•		2050
Grnv2	US 15	I-85	Gate #2 Rd	2	4	2.42	\$37,119,846	Regional	Widening	✓		2050
Grnv3	US 15	Gate #2	WB Clark	2	4	1.94	\$22,018,451	Regional	Widening	✓		2050
Hrnt5	US 401	Fuquay-Varina	Lillington UPD	2	4	7.5	\$85,122,876	Regional R-2609	Widening	✓		2050
A617a	US 401 Bypass	US 401 (E of FV)	NC 55	1	6	6.41	\$220,038,350	Regional	New Location	•		2050
A619c	US 401 Improvements	NC 55/42	Judd Parkway	4	4	1.2	\$9,120,000	Regional U-5980	Median		93.126	2050
A534b	US 401 Widening	Judd Pkwy	Eastern Parkway	2	4	1.53	\$17,365,067	Regional	Widening	•		2050
A619b	US 401 Widening	US 401 Bypass	NC 55/42 (FV)	4	6	3.32	\$94,281,264	Regional	Widening	•		2050

Project ID	Road Name	From	То	Existing Lanes	Proposed Lanes	Distance (Miles)	Total Cost	STI Category	TIP#	Proposed Improvement	Regionally Significant	AQ Exempt Statute	Horizon Year
Grnv4a	US-15	NC 50	Hester Rd	2	4	2.95	\$33,951,296	Regional		Widening	✓		2050
Grnv4b	US-15	Hester Rd	MPO Boundary	2	4	4.38	\$49,711,759	Regional		Widening	✓		2050
A446	Glenwood Avenue	Womans Club Dr	Oberlin Rd	5	6	1.07	\$25,160,895	Statewide		Widening	✓		2050
F40	I-40 Managed Lanes	Durham County Line	Wade Avenue	0	2	9.2	\$579,090,000	Statewide	I-5702	Widening	✓		2050
F41	I-40 Managed Lanes	Wade Avenue	Johnston County	8	10	21.29	\$211,274,569	Statewide		Widening	✓		2050
F42b	I-540 Managed Lanes	I-40	US-64 Bypass	2	2	25.82	\$538,539,038	Statewide		Widening	✓		2050
F7b	US 64 East	US 64 Bypass (Wendell)	US 64/US 264 (Zebulon)	6	8	7.35	\$217,740,626	Statewide		Widening	✓		2050

12/6/2021

Connect2050 Appendix 3 -- Transit Fixed Guideway and Shared Regional Investments

Appendix 3 lists major capital investments, including shared regional investments outlined in Chapter 7 of the MTP document. In addition to the listed projects, transit networks used in the analysis are available on line at the following sites:

<u>CAMPO transit investments</u> (mapping also includes roadway and active transportation layers, all of which can be turned on or off by accessing the "layers list" icon at the top right of the map)

DCHC MPO transit investments

For DCHC MPO, in addition to the capital investments listed in this appendix, the mapping includes two types of highlighted investments:

- 1. Regional express bus services between Chapel Hill and Hillsborough, Chapel Hill and Chatham County, and Durham and Granville County; and
- 2. Frequent bus service along four transit emphasis corridors sections of roadways with improved sidewalks, bus stops, intersection crossings and signals, and other transit-supportive investments:
 - i) Chapel Hill Road,
 - ii) Holloway Street,
 - iii) Roxboro Road,
 - iv) Fayetteville Street

Project Title	Programming Description	MTP Horizon Year and TIP #	МРО
Commuter Rail Transit (CRT)	CRT using the existing North Carolina Railroad Company (NCRR) corridor. West Durham to Clayton by 2030, then extended to Hillsborough and Selma by 2050.	West Durham to Clayton, 2030 Hillsborough to Selma, 2050	DCHC MPO and CAMPO
Regional Transit Center	Relocation of the existing Regional Transit Center to a new site to serve local and regional bus service, future BRT and future CRT	2030	DCHC MPO and CAMPO
Bus Rapid Transit – Chapel Hill North-South	BRT in Chapel Hill, from Eubanks Road, through the UNC Healthcare complex, and to Southern Village. Part on bus-only lanes and part in mixed traffic.	2030	DCHC MPO
Bus Rapid Transit – Central Durham	BRT in central Durham, from the Duke University and Medical Center area, through downtown Durham and the central bus station, to the North Carolina Central University and Durham Tech area. Part on dedicated lanes and part in mixed-traffic.	2040	DCHC MPO

Project Title	Programming Description	MTP Horizon Year and TIP #	МРО
Bus Rapid Transit – Durham/Chapel Hill	BRT between Durham and Chapel Hill, from UNC Healthcare complex to the Duke University and Medical Center area, via US 15-501. Part on busonly lanes, including possibly on bus-on-shoulder-system (BOSS), part in mixed-traffic.	2050	DCHC MPO
Bus Rapid Transit – Durham/RTP	BRT between central Durham and the Research Triangle Park (RTP), from the North Carolina Central University/Durham Tech area to the regional transfer center in the RTP, via NC 147. In mixed traffic, and part possibly on bus-on-	2050	DCHC MPO
Bus Rapid Transit – Chapel Hill/RTP	BRT between Chapel Hill and the Research Triangle Park (RTP), from UNC Healthcare complex to the regional transit center in the RTP, via NC 54 and I-40. In mixed traffic, and part on bus-on-shoulder-system (BOSS).	2050	DCHC MPO
Bus Rapid Transit – Wake New Bern	BRT - New Bern East - Downtown Raleigh to Stony Brook Rd - Fixed Guideway	2030	CAMPO
Bus Rapid Transit - Wake	BRT - New Bern East - Stonybrook Rd to New Hope Rd - Mixed Traffic	2030	САМРО
Bus Rapid Transit - Wake	BRT - RTP to Morrisville - Mixed Traffic	2030	CAMPO
Bus Rapid Transit - Wake	BRT - Morrisville to Downtown Cary - Mixed Traffic	2030	CAMPO
Bus Rapid Transit - Wake	BRT - Downtown Cary to Downtown Raleigh - Fixed Guideway	2030	CAMPO
Bus Rapid Transit - Wake	BRT - Downtown Raleigh to Midtown Raleigh/North Hills - Fixed Guideway	2040	CAMPO
Bus Rapid Transit - Wake	BRT – Harrison/Kildaire Farm, SAS Campus Dr. to and Regency Park, via Harrison Ave., Kildaire Farm Rd., and Regency Dr Fixed Guideway	2050	САМРО
Commuter Rail – S-Line	CRT using the existing CSX S-Line corridor. Apex to Franklinton by 2040.	Apex to Franklinton, 2040	CAMPO

Connect2050 Appendix 4. Active Transportation Projects

Most active transportation investment in the 2050 MTP is "programmatic," meaning the funding is allocated for projects, but details on locations and designs are still to be determined. Projects in the latter periods of the plan typically fall into this category. This appendix includes those projects that are either underway or where a planning study has identified a type of facility, a preferred location and estimated cost for the project. Many active transportation projects would be part of "complete streets" investments and are not included in this section. Similarly, many transit improvement projects have active transportation elements and generally are not included in this section. Each row in the table is a separate project. Projects are color-coded by MPO (green for DCHC MPO and yellow for CAMPO) and separated by time period.

Project Title	Cost & Funding Source	Programming Description	MTP Horizon Year and TIP #	МРО
Louis Stephens Dr Street-Side Trail	LAPP FY22	Construct a multi-use path along Louis Stephens Dr Street-Side Trail in Wake County.	2030	CAMPO
Downtown Fuquay-Varina Pedestrian Improvement	LAPP FY22	Construct pedestrian improvements through downtown Fuquay-Varina to better facilitate safe mobility options.	2030	CAMPO
Ronald Drive- Forest Ridge	LAPP FY22	Construct sidewalks along Ronald Drive and Forest Ridge to increase access to bus stop improvements.	2030	CAMPO
Holly Ridge School Pedestrian Safety Improvements	LAPP FY22	Construct sidewalks connecting Holly Ridge School Systems to local residential areas to increase safety while traveling to/from school.	2030	CAMPO
NW Cary Parkway Sidewalk	LAPP FY22	Construct sidewalks along the NW Cary Parkway in Wake County.	2030	CAMPO
House Creek Trail Grade Separation	LAPP FY23	Construct a grade separation for the House Creek Trail under Blue Ridge Road.	2030	CAMPO
1st Street		Construct a bike lane along 1st Street in Knightdale, Wake County.	2050	CAMPO
Amelia Church Road		Construct a multi-use path along Amelia Church Road in Clayton, Johnston County.	2050	CAMPO
American Tobacco Trail		Construct extension to the American Tobacco Trail multi-use path to the Chatham County Line.	2040	CAMPO
Angier Road		Construct a bike lane along Angier Road in Fuquay-Varina, Wake County, Harnett County.	2050	CAMPO
Apex Peakway		Construct a wide outside lane along Apex Peakway in Apex, Wake County.	2040	CAMPO
Atkins Drive		Construct a multi-use path along Atkins Drive in Wake County, Harnett County.	2050	CAMPO

Project Title	Cost & Funding Source	Programming Description	MTP Horizon Year and TIP #	МРО
ATT-Nature Park Equestrian	331.33	Construct branch off of the American Tobacco Trail to the Nature Park in Apex, Wake County.	2050	CAMPO
Austin Creek Greenway		Construct a greenway along the Austin Creek in Wake County.	2050	CAMPO
Avent Ferry Road		Construct a wide outside lane along Avent Ferry Road in Holly Springs, Wake County.	2050	CAMPO
Averette Road		Construct a bike lane along Averette Road in Rolesville, Wake County.	2050	CAMPO
Barbee Street		Construct a mutli-use path along Barbee Street in Zebulon, Wake County.	2050	CAMPO
Barwell Road		Construct a bike lane along Barwell Road in Raleigh, Wake County.	2030	CAMPO
Bass Lake Road		Construct a multi-use path along Bass Lake Road in Fuquay-Varina, Wake County.	2050	CAMPO
Beaver Creek Greenway		Construct a greenway along the Beaver Creek in Wake County.	2050	CAMPO
Beaverdam Creek Greenway		Construct a greenway along the Beaverdam Creek in Wake County.	2050	CAMPO
Beech Tree Greenway		Construct a greenway along the Beech Tree Creek in Wake County.	2050	CAMPO
Benson Road		Construct a bike lane along Benson Road in Garner, Wake County.	2050	CAMPO
Beryl Road		Construct a bike lane along Beryl Road in Raleigh, Wake County.	2050	CAMPO
Bethlehem Road		Construct a wide outside lane along Bethlehem Road in Knightdale, Wake County.	2050	CAMPO
Big Branch Greenway		Construct a greenway along the Big Branch Creek in Wake County.	2050	CAMPO
Black Creek Greenway		Construct a greenway along the Black Creek in Wake County.	2050	CAMPO
Blue Ridge Connector		Construct a protected bike lane along Blue Ridge Road in Raleigh.	2050	CAMPO
Brantleytown Road		Construct a wide outside lane along Brantleytown Road in Nash County, Franklin County.	2050	CAMPO
Brassfield Road		Construct a bike lane along Brassfield Road in Creedmoor, Granville County.	2050	CAMPO
Brentwood Drive		Construct a bike lane along Brentwood Drive in Raleigh, Wake County.	2050	CAMPO
Brier Creek Parkway		Construct a bike lane along Brier Creek Parkway in Raleigh, Wake County.	2040	CAMPO

Project Title	Cost & Funding Source	Programming Description	MTP Horizon Year and TIP #	МРО
Bruce Garner Road		Construct a wide outside lane along Bruce Garner Road in Wake County, Granville County.	2050	CAMPO
Buffaloe Road		Construct a bike lane along Buffaloe Road in Wake, County.	2050	CAMPO
Burlington Mills Road		Construct a wide outside lane along Burlington Mills Road Bike Lanes in Wake Forest, Wake County.	2050	CAMPO
BUS 64		Construct a multi-use path along BUS 64 in Wendell, Wake County.	2050	CAMPO
Camp Branch Greenway		Construct a greenway along the Camp Branch Creek in Wake Country.	2050	CAMPO
Cannady Mill Road		Construct a wide outside lane along Cannady Mill Road in Granville County.	2050	CAMPO
Cape Fear River Greenway		Construct a greenway along the Cape Fear River in Harnett County, Wake County.	2050	CAMPO
Capital Boulevard		Construct a wide outside lane along Capital Boulevard in Raleigh, Wake County.	2050	CAMPO
Carolina Pines Avenue		Construct a bike lane along Carolina Pines Avenue in Raleigh, Wake County.	2050	CAMPO
Carolinian Avenue		Construct a bike lane along Carolinian Avenue in Knightdale, Wake County.	2050	CAMPO
Cary Pkwy Street- Side Trail		Construct a multi-use path along Cary Pkwy Street-Side Trail in Wake County.	2050	CAMPO
Castleberry Road/Neuse River Loop		Construct a bike lane along Castleberry Road/Neuse River Loop in Archer Lodge, Johnston County.	2050	CAMPO
Cedar Creek Greenway		Construct a greenway along the Cedar Creek in Franklin County.	2050	CAMPO
Center Street		Construct a wide outside lane along Center Street in Wake County.	2050	CAMPO
Chalybeate Springs Road		Construct a bike lane along Chalybeate Springs Road in Harnett County.	2050	CAMPO
Chapel Hill Road		Construct a bike lane along Chapel Hill Road in Raleigh, Cary, Wake County.	2040	CAMPO
Christian Lights Road		Construct a multi-use path along Christian Lights Road in Harnett County.	2050	CAMPO
Church Street		Construct a wide outside lane along Church Street in Creedmoor, Granville County.	2050	CAMPO
CLNA Rail with Trail		Construct a greenway along the CLNA Railroad in Wake County.	2050	CAMPO
Cornwallis Road		Construct a wide outside lane along Cornwallis Road in Wake County, Johnston County.	2050	CAMPO

Project Title	Cost & Funding	Programming Description	MTP Horizon Year	МРО
	Source		and TIP #	0.11100
Crabtree Creek - Hare Snipe Creek		Construct a greenway along the Hare Snipe Creek, part of the Crabtree Creek Greenway, in Wake County	2050	CAMPO
Crabtree Creek - Sycamore Creek Trail		Construct a greenway along the Sycamore Creek, part of the Crabtree Creek Greenway, in Wake County	2050	CAMPO
Crabtree Creek - Turkey Creek		Construct a greenway along the Turkey Creek, part of the Crabtree Creek Greenway, in Wake County	2050	CAMPO
Creech Road		Construct a bike lane along Creech Road in Garner, Wake County.	2050	CAMPO
Creedmoor Road		Construct a bike lane along Creedmoor Road in Raleigh, Wake County.	2040	CAMPO
Cross Link Road		Construct a bike lane along Cross Link Road in Raleigh, Wake County.	2050	CAMPO
Cross Street		Construct a multi-use path along Cross Street in Youngsville, Wake Forest, Wake County, Franklin County.	2050	CAMPO
Davis Drive		Construct a multi-use path along Davis Drive in Morrisville, Cary, Apex, Wake County.	2050	CAMPO
Dawson Street		Construct a bike lane along Dawson Street in Raleigh, Wake County.	2050	CAMPO
Dillard Dr Street- Side Trail		Construct a multi-use path along Dillard Dr Street-Side Trail in Wake County.	2050	CAMPO
Dove Road		Construct a wide outside lane along Dove Road in Creedmoor, Granville County.	2050	CAMPO
Dunn Creek Greenway		Construct a greenway along the Dunn Creek in Wake County.	2040	CAMPO
Durant Road		Construct a bike lane along Durant Road in Wake County.	2040	CAMPO
Durham Road		Construct a bike lane along Durham Road in Wake Forest, Wake County.	2050	CAMPO
Dutchman's Branch Greenway		Construct a greenway along the Dutchman's Branch in Wake County.	2050	CAMPO
East Street		Construct a sharrow along East Street in Raleigh, Wake County.	2040	CAMPO
Everett Avenue		Construct a sharrow along Everett Avenue in Raleigh, Wake County.	2050	CAMPO
Faircloth Street		Construct a bike lane along Faircloth Street in Raleigh, Wake County.	2040	CAMPO
Falls Lake Trail		Construct a greenway along the Falls Lake border in Wake County.	2050	CAMPO
Forestville Road		Construct a bike lane along Forestville Road in Wake Forest, Raleigh, Knightdale, Wake County.	2050	CAMPO

Project Title	Cost & Funding Source	Programming Description	MTP Horizon Year and TIP #	МРО
Friendship Road		Construct a bike lane along Friendship Road in Apex, Wake County.	2050	CAMPO
Gannon Avenue		Construct a bike lane along Gannon Avenue in Zebulon, Wake County.	2050	CAMPO
Garner Road		Construct a bike lane along Garner Road in Raleigh, Wake County.	2040	CAMPO
Glenkirk Street		Construct a multi-use path along Glenkirk Street in Cary, Wake County.	2040	CAMPO
Glenwood Avenue		Construct a wide outside lane along Glenwood Avenue in Raleigh, Wake County.	2040	CAMPO
Globe Road		Construct a bike lane along Globe Road in Raleigh, Wake County, Durham County.	2050	CAMPO
Gorman Street		Construct a bike lane along Gorman Street in Raleigh, Wake County.	2030	CAMPO
Granville County Rail Trail		Construct a greenway along the CNLA railroad in Granville County	2050	CAMPO
Green Level Church Road Multi-Use Trail		Construct a multi-use path along Green Level Church Road Multi-Use Trail in Apex, Cary, Wake County.	2050	CAMPO
Green Level Road		Construct a bike lane along Green Level Road in Cary, Apex, Wake County.	2050	CAMPO
Green Pace Road		Construct a bike lane along Green Pace Road in Zebulon, Wake County.	2050	CAMPO
Green Road		Construct a bike lane along Green Road in Raleigh, Wake County.	2040	CAMPO
Triangle Town Center		Construct a greenway connecting Triangle Town Center and residential areas in Wake County.	2040	CAMPO
Guy Road		Construct a wide outside lane along Guy Road in Clayton, Wake County, Johnston County.	2050	CAMPO
Harris Creek Greenway		Construct a greenway along the Harris Creek in Wake County	2050	CAMPO
Harris Road		Construct a bike lane along Harris Road in Wake Forest, Wake County.	2050	CAMPO
Hatcher Grove Greenway		Construct a greenway around the Hatcher Grove development in Wake County.	2050	CAMPO
Hawthorne Road		Construct a bike lane along Hawthorne Road in Raleigh, Wake County.	2050	CAMPO
Hector Creek Greenway		Construct a greenway along the Hector Creek in Wake County.	2050	CAMPO
Heritage Lake Road		Construct a bike lane along Heritage Lake Road in Wake Forest, Wake County.	2050	CAMPO

Project Title	Cost & Funding Source	Programming Description	MTP Horizon Year and TIP #	МРО
Hester Road		Construct a wide outside lane along Hester Road in Granville County.	2050	CAMPO
High House Road		Construct a multi-use path along High House Road in Cary, Wake County.	2050	CAMPO
Highcroft Street		Construct a multi-use path along Highcroft Street in Wake County.	2050	CAMPO
Hillsborough St		Construct a bike lane along Hillsborough St in Raleigh, Wake County.	2040	CAMPO
Needmore Road		Construct a multi-use path along Needmore Road in Fuquay-Varina, Wake County.	2050	CAMPO
Hilltop Road		Construct a multi-use path along Hilltop Road in Wake County.	2050	CAMPO
Historic Fuquay Varina Greenway		Construct a multi-use path along Historic Fuquay Varina zone in Holly Springs, Fuquay-Varina, Wake County.	2050	CAMPO
Hodge Road		Construct a wide outside lane along Hodge Road in Knightdale, Wake County.	2050	CAMPO
Holden Road		Construct a wide outside lane along Holden Road in Youngsville, Franklin County.	2050	CAMPO
New Hill Road		Construct a bike lane along New Hill Road in Holly Springs, Wake County.	2050	CAMPO
Holly Springs Road		Construct a wide outside lane along Holly Springs Road in Holly Springs, Wake County.	2050	CAMPO
Horseman Creek Trail		Construct a greenway along the Horseman Creek in Wake County.	2050	CAMPO
Horseshoe Road		Construct a wide outside lane along Horseshoe Road in Granville County.	2050	CAMPO
Horton Mill Rd		Construct a multi-use path along Horton Mill Road in Wake County.	2050	CAMPO
Horton Road		Construct a bike lane along Horton Road in Wake County.	2050	CAMPO
Hunter Street		Construct a bike lane along Hunter Street in Apex, Wake County.	2050	CAMPO
Irongate Greenway		Construct a greenway along the Irongate Creek in Wake County.	2050	CAMPO
Jackson Road		Construct a wide outside lane along Jackson Road in Wake County, Franklin County.	2050	CAMPO
Jacobs Creek Greenway		Construct a greenway along the Jacobs Creek in Wake County.	2050	CAMPO
Jenkins Road		Construct a bike lane along Jenkins Road in Wake Forest, Wake County.	2050	CAMPO

Project Title	Cost & Funding Source	Programming Description	MTP Horizon Year and TIP #	МРО
Jones Dairy Road		Construct a bike lane along Jones Dairy Road in Wake Forest, Rolesville, Wake County.	2050	CAMPO
Jones Sausage Road		Construct a bike lane along Jones Sausage Road in Raleigh, Garner, Wake County.	2050	CAMPO
Judd Parkway		Construct a wide outside lane along Judd Parkway in Fuquay-Varina, Wake County.	2040	CAMPO
Kelly Road		Construct a multi-use path along Kelly Road in Apex, Wake County.	2050	CAMPO
Kennebec Road		Construct a wide outside lane along Kennebec Road in Wake County.	2050	CAMPO
Kit Creek Greenway		Construct a greenway along the Kit Creek in Wake County.	2040	CAMPO
Koupela Dr		Construct a mutli-use path along Koupela Drive in Wake County.	2050	CAMPO
Lake Benson Greenway		Construct a greenway along the Lake Benson shoreline in Wake County.	2050	CAMPO
Lake Neuseoco Greenway		Construct a greenway along the Lake Neuseoco shoreline in Wake County.	2050	CAMPO
Lake Pine Drive		Construct a multi-use path along Lake Pine Drive in Cary, Apex, Wake County.	2040	CAMPO
Lake Wheeler Road		Construct a bike lane along Lake Wheeler Road in Raleigh, Wake County.	2040	CAMPO
Lawrence Road		Construct a wide outside lane along Lawrence Road in Granville County.	2050	CAMPO
Leesville Road		Construct a protected bike lane along Leesville Road in Wake County.	2040	CAMPO
Ligon Mill Road		Construct a bike lane along Ligon Mill Road in Wake Forest, Raleigh, Wake County.	2040	CAMPO
Lineberry Road		Construct a bike lane along Lineberry Road in Raleigh, Wake County.	2040	CAMPO
Little Branch Greenway		Construct a greenway along the Little Branch Creek in Wake County.	2050	CAMPO
Little Brier Creek Greenway		Construct a greenway along the Little Brier Creek in Wake County.	2050	CAMPO
Little Creek Greenway		Construct a greenway along the Little Creek in Wake County.	2050	CAMPO
Little River Greenway		Construct a greenway along the Little River in Wake County.	2050	CAMPO
Louisburg Road		Construct a wide outside lane along Louisburg Road in Raleigh, Wake County.	2030	CAMPO

Project Title	Cost & Funding Source	Programming Description	MTP Horizon Year and TIP #	МРО
Lumley-Westgate connector		Construct a protected bike lane along Lumley-Westgate connector in Wake County.	2050	CAMPO
Lumley Road		Construct a bike lane along Lumley Road in Wake County.	2040	CAMPO
Lynn Road		Construct a bike lane along Lynn Road in Raleigh, Wake County.	2030	CAMPO
Mack Todd Road		Construct a wide outside lane along Mack Todd Road in Zebulon, Wake County.	2050	CAMPO
Macon Road Trail connector		Construct a multi-use path along Macon Road Trail connector in Wake County.	2050	CAMPO
Main Street		Construct a bike lane along Main Street in Youngsville, Franklin County.	2050	CAMPO
Marks Creek Greenway		Construct a greenway along the Marks Creek in Wake County.	2050	CAMPO
Martin Luther King Jr Boulevard		Construct a bike lane along Martin Luther King Jr Boulevard in Raleigh, Wake County.	2040	CAMPO
Martin Street		Construct a sharrow along Martin Street in Raleigh, Wake County.	2030	CAMPO
Maude Stewart Road /Kennebec Road		Construct a multi-use path along Maude Stewart Road /Kennebec Road in Angier, Wake County.	2050	CAMPO
Maynard Road		Construct a bike lane along Maynard Road in Cary, Wake County.	2050	CAMPO
Mays Crossroad Road		Construct a shoulder lane along Mays Crossroad Road in Wake County.	2050	CAMPO
McCrimmon Parkway		Construct a bike lane along McCrimmon Parkway in Morrisville, Cary, Wake County.	2030	CAMPO
McDowell Street		Construct a bike lane along McDowell Street in Raleigh, Wake County.	2040	CAMPO
Method Road		Construct a bike lane along Method Road in Raleigh, Wake County.	2040	CAMPO
Mial Plantation Road		Construct a bike lane along Mial Plantation Road in Wake County.	2050	CAMPO
Michell Mill Road		Construct a bike lane along Michell Mill Road in Wake County.	2050	CAMPO
Middle Creek Greenway		Construct a greenway along the Middle Creek in Wake County.	2050	CAMPO
Mingo Creek Greenway		Construct a greenway along the Mingo Creek in Wake County.	2030	CAMPO
Miramonte Greenway		Construct a greenway around the Miramonte development in Apex, Wake County.	2040	CAMPO

Project Title	Cost & Funding Source	Programming Description	MTP Horizon Year and TIP #	МРО
Mitchell Mill Road		Construct a wide outside lane along Mitchell Mill Road in Wake County.	2050	CAMPO
Morrisville Carpenter Road		Construct a multi-use path along Morrisville Carpenter Road in Morrisville, Wake County.	2030	CAMPO
Morrisville Pkwy Street-Side Trail		Construct a multi-use path along Morrisville Pkwy Street-Side Trail in Cary, Wake County.	2040	CAMPO
NC-55		Construct a multi-use path along NC-55 in Holly Springs, Apex, Wake County.	2040	CAMPO
NC 210		Construct a wide outside lane along NC 210 in Angier, Johnston County, Harnett County.	2050	CAMPO
NC 39		Construct a shoulder lane along NC 39 in Franklin County, Wake County.	2050	CAMPO
NC 42		Construct a wide outside lane along NC 42 in Fuquay-Varina, Clayton, Wake County, Johnston County.	2040	CAMPO
NC 50		Construct a bike lane along NC 50 in Garner, Wake County, Johnston County.	2050	CAMPO
NC 55		Construct a bike lane along NC 55 in Fuquay-Varina, Holly Springs, Cary, Morrisville, Angier, Wake County, Harnett County.	2050	CAMPO
NC 55		Construct a multi-use path along NC 55 in Holly Springs, Cary, Apex, Wake County.	2040	CAMPO
NC 56		Construct a multi-use path along NC 56 in Franklinton, Creedmoor, Granville County, Franklin County.	2040	CAMPO
NC 96		Construct a wide outside lane along NC 96 in Zebulon, Youngsville, Granville County, Wake County, Franklin County.	2050	CAMPO
NC 96 N Arendell Avenue		Construct a multi-use path along NC 96 N Arendell Avenue in Wake County.	2050	CAMPO
NC 96 S Arendell Avenue		Construct a multi-use path along NC 96 S Arendell Avenue in Wake County.	2050	CAMPO
NC 97		Construct a bike lane along NC 97 in Wendell, Wake County.	2050	CAMPO
NC 98		Construct a wide outside lane along NC 98 in Wake Forest, Wake County.	2040	CAMPO
Neils Creek Trail		Construct a greenway along the Neils Creek in Wake County.	2050	CAMPO
Neuseco Lake/Beaverdam Lake Boardwalk		Construct a multi-use path along Neuseco Lake/Beaver Dam Lake Boardwalk in Wake County.	2050	CAMPO
New Bern Avenue		Construct a wide outside lane along New Bern Avenue in Raleigh, Wake County.	2050	CAMPO

Project Title	Cost & Funding Source	Programming Description	MTP Horizon Year and TIP #	МРО
New Hill-Olive Chapel Road	331.33	Construct a shoulder lane along New Hill-Olive Chapel Road in Wake County, Chatham County.	2040	CAMPO
New Hill Hollerman Road Bike Lane		Construct a wide outside lane along New Hill Hollerman Road Bike Lane in Wake County.	2040	CAMPO
New Hill Road		Construct a bike lane along New Hill Road in Wake County.	2050	CAMPO
New Hope Church Road		Construct a bike lane along New Hope Church Road in Raleigh, Wake County.	2030	CAMPO
New Hope Road		Construct a bike lane along New Hope Road in Raleigh, Wake County.	2040	CAMPO
Norwood Road/Mountains to Sea Trail		Construct a wide outside lane along Norwood Road/Mountains to Sea Trail in Wake County.	2050	CAMPO
Honeycutt Creek (Mountains to Sea Trail)		Construct a greenway along the Honeycutt Creek in Wake County.	2030	CAMPO
Lower Barton Creek Trail		Construct a greenway along the Lower Barton Creek in Wake County.	2050	CAMPO
Oberlin Road		Construct a sharrow along Oberlin Road in Raleigh, Wake County.	2030	CAMPO
Old Baucom Road		Construct a bike lane along Old Baucom Road in Wake County.	2050	CAMPO
Old Buies Creek Road		Construct a wide outside lane along Old Buies Creek Road in Harnett County.	2050	CAMPO
Old Creedmoor Road		Construct a wide outside lane along Old Creedmoor Road in Wake County.	2050	CAMPO
Old Halifax Road		Construct a shoulder lane along Old Halifax Road in Wake County.	2050	CAMPO
Old Knight Road		Construct a sharrow along Old Knight Road in Knightdale, Wake County.	2050	CAMPO
Old Milburnie Road		Construct a bike lane along Old Milburnie Road in Wake County.	2050	CAMPO
Old Raleigh Road		Construct a multi-use path along Old Raleigh Road in Apex, Wake County.	2050	CAMPO
Old Stage Road		Construct a multi-use path along Old Stage Road in Harnett County.	2050	CAMPO
Old US 1 / Salem St.		Construct a multi-use path along Old US 1 / Salem St. in Apex, Wake County.	2050	CAMPO
Old Weaver Trail		Construct a wide outside lane along Old Weaver Trail in Wake County, Granville County.	2050	CAMPO

Project Title Cost & Funding Source		Programming Description	MTP Horizon Year and TIP #	МРО	
Olive Chapel Road		Construct a bike lane along Olive Chapel Road in Apex, Wake County.	2050	CAMPO	
Panther Creek Greenway		Construct a greenway along the Panther Creek in Wake County.	2050	CAMPO	
Park Drive		Construct a bike lane along Park Drive in Raleigh, Wake County.	2050	CAMPO	
Parkway Bike Lane	Wake County.		2050	CAMPO	
Pecan Road		Construct a bike lane along Pecan Road in Raleigh, Wake County.		CAMPO	
Penny Road		Construct a wide outside lane along Penny Road in Cary, Wake County.	2050	CAMPO	
Perry Chapel Road / Sims Bridge Road	d / Sims Wake County		2050	CAMPO	
Piney Grove Rawls Road	Construct a wide outside lane along Piney Grove Rawls Road in Wake County, Harnett County.		2050	CAMPO	
Piney Grove Wilbon Road	Construct a multi-use path along Piney Grove Wilbon Road in Wake County		2050	CAMPO	
Piney Plains Greenway		Construct a greenway around the Piney Plains development in Wake County.		CAMPO	
Pirate's Cove Greenway		Construct a greenway around the Pirate's Cove development in Wake County.	2050	CAMPO	
Pocomoke Road		Construct a bike lane along Pocomoke Road in Franklin County.	2050	CAMPO	
Poole Road		Construct a multi-use path along Poole Road in Raleigh, Wake County.	2040	CAMPO	
Poplar Creek Greenway		Construct a greenway along the Poplar Creek in Wake County.	2050	CAMPO	
Possum Track Road		Construct a wide outside lane along Possum Track Road in Wake County.	2050	CAMPO	
Powell Drive		Construct a bike lane along Powell Drive in Raleigh, Wake County.	2040	CAMPO	
Pritchard Road	chard Road Construct a bike lane along Pritchard Road in Clayton, Wake County, Johnston County.		2050	CAMPO	
Purfoy Road		Construct a bike lane along Purfoy Road in Fuquay-Varina, Wake County.	2050	CAMPO	
		Construct a wide outside lane along Purnell Road in Wake Forest, Wake County.	2050	CAMPO	
Raleigh Boulevard	i	Construct a bike lane along Raleigh Boulevard in Raleigh, Wake County.	2040	CAMPO	

Project Title Cost & Funding Source		Programming Description	MTP Horizon Year and TIP #	МРО	
Raven Ridge Road		Construct a wide outside lane along Raven Ridge Road in Wake County.	2050	CAMPO	
Rawls Church		Construct a multi-use path along Rawls Church in Harnett County.	2050	CAMPO	
Richland Creek Greenway	vay		2050	CAMPO	
Ridge Road		Construct a bike lane along Ridge Road in Raleigh, Wake County.		CAMPO	
Ridgetop Way	Construct a bike lane along Ridgetop Way in Wake Forest, Wake County.		2040	CAMPO	
Riley Hill Road		Construct a shoulder lane along Riley Hill Road in Wake County.	2050	CAMPO	
River Road		Construct a wide outside lane along River Road in Franklinton, Franklin County.	2050	CAMPO	
Rock Quarry Road			2040	CAMPO	
Rogers Lane	Construct a bike lane along Rogers Lane in Raleigh, Wake County.		2050	CAMPO	
Royal Mill Avenue	Royal Mill Avenue Construct a wide outside lane along Royal Mill Avenue in Wake Wake County.		2050	CAMPO	
Rush Street		Construct a bike lane along Rush Street in Raleigh, Wake County.	2050	CAMPO	
S Academy Street/E Chatham Street		Construct a multi-use path along S Academy Street/E Chatham Street in Cary, Wake County.	2040	CAMPO	
Salem Street		Construct a multi-use path along Salem Street in Apex, Wake County.	2040	CAMPO	
Sanderford Road		Construct a bike lane along Sanderford Road in Raleigh, Wake County.	2040	CAMPO	
Sanders Road		Construct a bike lane along Sanders Road in Granville County.	2050	CAMPO	
Sanford Creek/ Cedar Fork Greenway	edar Fork County		2050	CAMPO	
Saunders Street	aunders Street Construct a bike lane along Saunders Street in Raleigh, Wake County.		2040	CAMPO	
Shotwell Road	hotwell Road Construct a bike lane along Shotwell Road in Clayton, Wake County, Johnston County.		2050	CAMPO	
Sierra Drive			2050	CAMPO	
Sippahaw Trail		Construct a greenway along the Sippahaw Development in Wake County.	2050	CAMPO	

Project Title Cost & Funding Source		Programming Description	MTP Horizon Year and TIP #	МРО	
Six Forks Road		Construct a wide outside lane along Six Forks Road in Wake County.	2050	CAMPO	
Smith Creek Greenway		Construct a greenway along the Smith Creek in Wake County.	2040	CAMPO	
Smith Road		Construct a wide outside lane along Smith Road in Granville County.	2050	CAMPO	
Smithfield Road		Construct a wide outside lane along Smithfield Road in Knightdale, Wake County.	2050	CAMPO	
South Avenue			2040	CAMPO	
South Saunders Street			2040	CAMPO	
Speight Branch Greenway	eight Branch Construct a greenway along the Speight Branch Creek in Wake County.		2050	CAMPO	
Spring Forest Road			2040	CAMPO	
Stony Hill Road	ny Hill Road Construct a wide outside lane along Stony Hill Road in Wake County.		2050	CAMPO	
Sunset Hills Greenway			2040	CAMPO	
Sunset Lake Road		Construct a multi-use path along Sunset Lake Road in Holly Springs, Wake County.	2040	CAMPO	
Sunset Lake Road		Construct a bike lane along Sunset Lake Road in Wake County.	2050	CAMPO	
Swift Creek Greenway		Construct a greenway along the Swift Creek in Wake County, Franklin County.	2050	CAMPO	
Tar River Greenway		Construct a greenway along the Tar River in Granville County.	2050	CAMPO	
Tarboro Road		Construct a wide outside lane along Tarboro Road in Franklin County.	2050	CAMPO	
Ten Ten Road		Construct a bike lane along Ten Ten Road in Garner, Cary, Wake County.	2040	CAMPO	
Terrible Creek Trail			2050	CAMPO	
Thistledown Drive	Construct a bike lane along Thistledown Drive in Raleigh, Wake County.		2040	CAMPO	
Thompson Mill Road			2050	CAMPO	
Traditions Grande Blvd		Construct a bike lane along Traditions Grande Blvd in Wake Forest, Wake County.	2040	CAMPO	

Project Title	Source		MTP Horizon Year and TIP #	МРО
Trailwood Drive		Construct a bike lane along Trailwood Drive in Raleigh, Wake County.	2040	CAMPO
Trenton Road		Construct a multi-use path along Trenton Road in Wake County.	2030	CAMPO
Triangle Bikeway (Wake County portion)	\$49,500,000 Federal/Local	Construct a shared use path along Slater Rd, I-40, Wade Avenue, and other routes from the Durham County-Wake County boundary to the bicycle-pedestrian bridge over I-440 in Raleigh	2040 TBD	CAMPO
Triangle Town Blvd		Construct a multi-use path along Triangle Town Blvd in Wake County.	2040	CAMPO
Trinity Road		Construct a multi-use path along Trinity Road in Wake County.	2040	CAMPO
Tryon Road		Construct a bike lane along Tryon Road in Wake County.	2040	CAMPO
Upchurch Meadow			2050	CAMPO
US 15		Construct a bike lane along US 15 in Creedmoor, Granville County.	2050	CAMPO
US 1A/Forestville Road		Construct a bike lane along US 1A/Forestville Road in Youngsville, Wake Forest, Wake County, Franklin County.	2050	CAMPO
US 210		Construct a multi-use path along US 210 in Harnett County.	2050	CAMPO
US 401		Construct a bike lane along US 401 in Rolesville, Raleigh, Garner, Fuquay-Varina, Harnett County, Wake County, Franklin County.	2050	CAMPO
US 70		Construct a wide outside lane along US 70 in Raleigh, Wake County.	2050	CAMPO
US 70 BUS		Construct a protected bike lane along US 70 BUS in Raleigh, Garner, Clayton, Wake County, Johnston County.	2050	CAMPO
USBR 1-Globe & Kitty Hawk Roads		Construct a bike lane along USBR 1-Globe & Kitty Hawk Roads in Wake County	2050	CAMPO
Vandora Springs Road		Construct a bike lane along Vandora Springs Road in Garner, Wake County.	2040	CAMPO
Varnell Avenue		Construct a bike lane along Varnell Avenue in Raleigh, Wake County.	2050	CAMPO
W Lenoir St		Construct a protected bike lane along W Lenoir St in Raleigh, Wake County.	2040	CAMPO
Wade Nash Road		Construct a wide outside lane along Wade Nash Road in Wake County.	2050	CAMPO
Wake Chapel Road		Construct a bike lane along Wake Chapel Road in Fuquay-Varina, Wake County.	2050	CAMPO

Project Title	Source		MTP Horizon Year and TIP #	МРО
Walnut Creek Big Branch Creek		Construct a greenway from Walnut Creek to Big Branch Creek in Wake County.	2050	CAMPO
Walnut Creek Trail		Construct a greenway along the Walnut Creek in Wake County.	2040	CAMPO
Walter Myatt Road		Construct a multi-use path along Walter Myatt Road in Wake County.	2050	CAMPO
Water Plant Road		Construct a bike lane along Water Plant Road in Wake County.	2050	CAMPO
Western Blvd		Construct a multi-use path along Western Blvd in Wake County.	2050	CAMPO
Western Blvd Extension			2030	CAMPO
Westgate Road	Construct a protected bike lane along Westgate Road in Raleigh, Wake County.		2040	CAMPO
White Oak Creek Greenway		Construct a greenway along the White Oak Creek in Wake County.	2040	CAMPO
White Oak Road		Construct a bike lane along White Oak Road in Garner, Wake County.	2050	CAMPO
White Street		Construct a bike lane along White Street in Wake Forest, Wake County.	2040	CAMPO
Whitt Road (Connector)		Construct a bike lane along Whitt Road (Connector) in Wake County, Granville County.	2050	CAMPO
Yates Mill Pond connector		Construct a multi-use path along Yates Mill Pond connector in Wake County.	2040	CAMPO
Yonkers Road		Construct a bike lane along Yonkers Road in Raleigh, Wake County.	2040	CAMPO
Youngsville Rail Greenway		Construct a greenway along the Youngsville railroad in Wake County.	2050	CAMPO
Zebulon Rail Greenway		Construct a greenway along the CNLA railroad in Wake County.	2050	CAMPO

Project Title	Source		MTP Horizon Year and TIP #	МРО
Alston Avenue Sidewalks in Durham	\$706,000 Federal/Local	Sidewalks along Alston Avenue from Capp Street to Riddle Road.	2030 C-5183B	DCHC MPO
Barnes Street	\$292,000	Construct a sidewalk on Barnes Street in Carrboro from SR 1005 (Jones Ferry Road) to King Street.	2030	DCHC
Sidewalk	Federal/Local		EB-5890	MPO
Bicycle Detector	\$56,000	Bicycle detector loops at selected intersections in Carrboro.	2030	DCHC
Loops	Federal/Local		U-4726DF	MPO
Bike Lane Vertical	tion Federal/Local Add Vertical protection to buffered bicycle failes in Buffain.		2030	DCHC
Protection			BL-0030	MPO
Burdens Creek	I ' ' '. IDENELI AND CONSTIDEN ELENWAY HOLL IVY ALEXANDEL DITVE AIOUE		2030	DCHC
Greenway			No TIP #	MPO
Carpenter- Fletcher Road (Bike/Ped)	her Road /Ped) Federal/Local from Woodcroft Parkway to Alston Avenue.		2030 U-4726HO	DCHC MPO
Chapel Hill Rd Transit Emphasis Corridor	oel Hill Rd sit Emphasis \$590,000 Construct sidewalk on Chapel Hill Rd from Lakewood Ave to Morehead Ave		2030 CH800	DCHC MPO
Cornwallis Road			2030	DCHC
(SR 1158)			U-4724	MPO
Cornwallis Road Bridge over NC- 147 Sidepath Improvements	\$155,000 Local	Widen and buffer bicycle/pedestrian sidepath on Cornwallis Road over NC- 147	2030 No TIP #	DCHC MPO
Davis Drive Greenway Modernization	\$1,035,000 Local	Design, reconstruct, and widen an existing roadway sidepath to greenway standards along Davis Drive from I-40 north to East Cornwallis Road.	2030 No TIP #	DCHC MPO
Downtown Durham Wayfinding Program	wntown \$752,000 Install signage and kiosks throughout Downtown Durham to facilitate ayfinding		2030 С-5605Н	DCHC MPO
Downtown Multi	ntown Multi \$215,000 Construct a multipuse nath connecting Greenshore and Lloyd Streets		2030	DCHC
Use Path			C-5605A	MPO
Duke Belt Line	Selt Line \$14,460,000 Construct multiuse trail on former rail corridor in Durham from Pettigrew Street to Avondale Drive.		2030	DCHC
Trail			EB-5904	MPO
Durham Bicycle	\$829,000	Stripe eight miles of bicycle lanes in the City of Durham. Liberty St from Dillard to N Miami Blvd Fayetteville St from Main St to East Umstead St	2030	DCHC
Lane Striping	Federal/Local		C-5605E	MPO

Project Title	Cost & Funding Source	Programming Description	MTP Horizon Year and TIP #	МРО
Durham Bike	\$1,212,000	 Lakewood from Fayetteville St to Duke St N Miami Blvd from E Geer St to Raynor Stadium/Olympic from Roxboro to Horton Raynor Liberty to Miami E Cornwallis Rd from S Roxboro St to Fayetteville St American Dr from Constitution to Morreene 	2020	DCHC
Facilities II	Federal/Local	Construct buffered bicycle lanes in Durham on West Club Boulevard from Washington Street to Broad Street; the Blackwell St / Corcoran St / Foster St corridor from the American Tobacco Trailhead at Morehead Street to Washington Street; and Chapel Hill Street from Ramseur Street to Swift Avenue.	2030 BL-0028	MPO
Durham Neighborhood Bike Routes	rederal/Local	 Sign, mark, and construct when necessary approximately seven miles of neighborhood bike routes in Durham. Arnette Avenue/Jackson Street/Buchanan Avenue/Shepherd Street to connect West Chapel Hill Street and Hermitage Court West Corporation Street/Cleveland Street/Dowd Street/Gurley Street/Gray Avenue/Hanover Street/Juniper Street to connect Glendale Avenue and Spruce Street Hermitage Court/Hermitage Court Drive/East Forest Hills Boulevard/Overhill Terrace/West Enterprise Street to connect Arnette Avenue and the American Tobacco Trail Glendale Avenue to connect the Duke Park Connector Trail and West Corporation Street Otis Street/Formosa Avenue/Concord Street to connect the American Tobacco Trail and North Carolina Central University at Fayetteville Street Spruce Street/Southgate Street/Maple Street/Ashe Street to connect Juniper Street and Driver Street Belt Street/Hopkins Street/Taylor Street to connect Liberty Street and Maple Street Watts Street to connect Main Street and West Club Boulevard 	2030 C-5605I	DCHC MPO
Durham Neighborhood Bike Routes II	i Federal/Local	Design and construct bicycle boulevards on 7 corridors using signs, pavement markings, and speed and volume management measures to give	2030 BL-0031	DCHC MPO

Project Title	Cost & Funding Source	Programming Description	MTP Horizon Year and TIP #	МРО
		priority to bicyclists. Corridors include Englewood Avenue from Georgia Ave to Watts St.; Knox St from Watts St. to Acadia; Bivins St. from Chapel Hill Rd to Arnette Avenue; Iredell St from Main St. to West Club Blvd., Maryland Av from West Club Blvd to Ellerbee Creek Trail; Cleveland St / Corporation St from Holloway St to Riggsbee Ave; Juniper St from Spruce St to Guthrie Ave.; Lincoln St / Grant St from Lawson St to Lakeland St., Ridgeway Ave / Lakeland St from Lawson St to Mathison St.; Lavender Ave from Elgin St to Stephenson St; Stephenson St from Lavender Ave to Club Blvd; Umstead St / Lodge St from Fayetteville St to Fargo St.		
Durham Sidewalk SW-66	Local	Construct sidewalk on Clayton Rd and Freeman Rd from Chandler Rd to Obsidian Way; on Hillsborough Rd from Bus Stop to N LaSalle St; on Holloway St from Gary Ave to Guthrie Ave; on Old Oxford Rd from N Roxboro St to Dearborn Dr; on Corporation St from N Duke St to Mangum St.	2030 SW-66	DCHC MPO
Durham Sidewalk SW-68		Construct sidewalk on SW Durham Dr from Durham Chapel Hill Blvd to Old Chapel Hill Rd; Fulton St SUP NC 147 to Pratt St; Broad St from Forest Rd to Hillcrest Dr; Holt School Rd from Existing Sidewalk to Newby Dr; North Pointe Dr from Existing Sidewalk to Existing Sidewalk; Fayetteville St from Gap at Mt Zion Daycare; Stadium Dr from N Duke St to Olympic Ave; Raynor St from Holloway St to Liberty St	2030 SW-68	DCHC MPO
E Club Blvd Sidewalk Phase II	Local	Construct a sidewalk on the north side of E Club Blvd from Glenbrook Dr to Stephenson St.	2030 No TIP #	DCHC MPO
Estes Drive Bike/Ped - Carrboro	Federal/Local	Construct bike/ped improvements on Estes Drive from North Greensboro Street to south of the railroad tracks in Carrboro. Project connects to Frances Shetley Bikeway.	2030 EB-5886A	DCHC MPO
Estes Road Bike/Ped - Chapel Hill	\$3,968,000 Federal/Local	Construct bike/ped improvements on Estes Drive from NC 86 (Martin Luther King, Jr. Parkway) to the railroad tracks in Chapel Hill.	2030 EB-5886B	DCHC MPO
Fordham Blvd Sidepath (Orange County Bicycle Route 1)		Construct trail along US 15/501 Fordham Blvd from Cleland Drive to Willow Drive in Chapel Hill. Upgrade existing off-road path located along US 15/US 501 Fordham Blvd and construct new section of path.	2030 EB-5721	DCHC MPO
Fordham Boulevard Sidepath		Construct a multiuse path on Fordham Boulevard from Willow Drive to Old Durham-Chapel Hill Road.	2030 EB-5998	DCHC MPO
Guess Road Sidewalks	\$1,615,000 Federal/Local	Construct sidewalks on both sides of NC 157 (Guess Road) from SR 1407 (West Carver Street) to Hillcrest Drive in Durham.	2030 EB-5834	DCHC MPO

Project Title	Cost & Funding Source	Programming Description	MTP Horizon Year and TIP #	МРО
Hillandale Road (Bike/Ped)	\$5,067,000 Federal/Local	Construct sidewalks and bicycle facilities along Hillandale Road from I-85 to NC 147.	2030 U-4726HN	DCHC MPO
Homestead Road Sidewalks	\$1,300,000 Federal/Local	Construct sidewalks along Homestead Road in Chapel Hill.	2030 U-4726IK	DCHC MPO
Jones Creek Greenway	\$666,000 Federal/Local	Construct a 100-foot bridge and 650 foot paved trail in Carrboro to fill gap between the Upper Bolin Trail and Twin Creeks Greenway and implement program to support non-vehicle trips to Morris Grove Elementary School.	2030 C-5181	DCHC MPO
Jones Ferry Road Sidewalk	\$561,000 Federal/Local	Construct a sidewalk on the north side of SR 1005 (Jones Ferry Road) from SR 1010 (West Main Street) to Davie Road in Carrboro.	2030 EB-5880	DCHC MPO
LaSalle Street Sidewalks	\$1,955,000 Federal/Local	Construct sidewalks on both sides of LaSalle Street from Kangaroo Drive to US 70 Business (Hillsborough Road) and on one-side of LaSalle Street from Hillsborough Road to Sprunt Avenue.	2030 EB-5703	DCHC MPO
Morgan Creek Greenway East (Chapel Hill)	Cost and Funding Construct a greenway from Merritt's Pasture to Oteys Road TBD		2030 No TIP #	DCHC MPO
Morgan Creek Greenway (West)	i Federal/Local	Western section, SR 1919 (Smith Level Road) to University Lake in Carrboro. Construct greenway and connections.	2030 EL-4828A	DCHC MPO
Morreene Road (SR 1317)		Construct bike lanes and sidewalks along Morreene Road in Durham, from Neal Road to SR 1320 (Erwin Road).	2030 C-4928	DCHC MPO
NC 54 Pedestrian Improvements		Construct sidewalk and install pedestrian signals and crosswalks on NC 54 from Westbrook Drive in Carrboro to west of the US 15-501 / NC 86 interchange in Chapel Hill.	2030 BL-0044	DCHC MPO
NC 54 Sidepath	Federal/Local	Construct a sidepath along north side of NC 54 from James Street to Anderson Park in Carrboro.	2030 EB-5994	DCHC MPO
Federal/Local		Construct sections of sidewalk on south side of NC 54, from NC 55 to Research Triangle Park western limit in Durham.	2030 EB-5708	DCHC MPO
NC-54 Bridge over NC-147 Sidepath Improvements	4 Bridge over \$458,000 Widen and buffer bicycle/pedestrian sidepath on NC-54 bridge over NC-147		2030 No TIP #	DCHC MPO
NC 54/NC 55 Pedestrian Refuge Islands	Federal/Local	Construct Pedestrian Refuge Islands at the intersection of NC 54 and NC 55 in Durham.	2030 HS-2005C	DCHC MPO
NC 55 Sidewalks	\$1,351,000 Federal/Local	Construct sidewalk on east side of NC 55 from SR 1171 (Riddle Road) to Cecil Street in Durham. Fill in missing gaps.	2030 EB-5835	DCHC MPO
North Estes Drive (SR 1750)	Fodoral/Local	Construct five foot sidewalks and five-foot bike lanes on North Estes Drive from NC 86 (Martin Luther King, Jr. Boulevard) to Caswell Drive in Chapel	2030 C-5179	DCHC MPO

Project Title	Cost & Funding Source	Programming Description	MTP Horizon Year and TIP #	МРО
		Hill. Construct a ten-foot multi-use path along North Estes Drive from NC 86 (Martin Luther King, Jr. Boulevard) to Elliott Road in Chapel Hill.		
Old Chapel Hill Rd / Old Durham Rd	Federal/Local	Construct bicycle, pedestrian, and transit improvements on Old Chapel Hill Rd / Old Durham Rd from US 15/501 in Orange County to SR 1113 (Pope Rd) in Durham County.	2030 EB-4707A	DCHC MPO
R. Kelly Bryant Bridge Trail	\$5,316,000 Federal/Local	Kelly Bryant Bridge, in Durham.		DCHC MPO
Raynor Street Sidewalks	et \$778,000 Federal/Local Construct sidewalk on one side of street along Raynor Street from North Miami Boulevard to North Hardee Street in Durham.		2030 EB-5704	DCHC MPO
Rogers Road Sidewalks	\$1,372,000 Federal/Local			DCHC MPO
Sidewalk Gaps – Bike+Walk Plan III	State/Local	Construct sidewalk on Leon St from Existing Sidewalk to Existing Sidewalk; Hunt St from Mangum St to Rigsbee St; S Elm St from Dale St to E Main St; Lumley Rd from Existing from Sagebrush Ln to Existing from; Pickett Rd from Ashland Dr to Lindenshire Dr; S Cheek Rd from Andover Dr to N Hardee St; E Club Blvd from Glenbrook Dr to Ambridge Rd.	2030 LC505	DCHC MPO
Sidewalk Gaps – Bike+Walk Plan IV (SW-69)		Construct sidewalk to fill gaps on Shannon Rd between University Dr and MLK Jr Pkwy; McGehee Rd, from Chapel Hill Rd to Vesson Ave; University Dr from Steele Ave to James St; and Neal Rd between Bishopstone Dr and Constitution Dr.	2030 No TIP # SW-69	DCHC MPO
South Greensboro Street Sidewalks	\$2,049,000 Federal/Local	Construct 3,100 linear feet of sidewalk on one side of South Greensboro Street in Carrboro.	2030 C-5650	DCHC MPO
Third Fork Creek Trail	rederal/Local	Construct a shared use path and sidewalks in Durham from Southern Boundaries Park to the American Tobacco Trail. Install a beacon at SR 1158 (Cornwallis Road). This is an extension of the existing Third Fork Creek Trail.	2030 EB-5837	DCHC MPO
Triangle Bikeway Durham and Orange Counties	rederal/Local	Construct a shared use path along NC 54, I-40, Slater Road, and other routes from the NC-54 / US 15-501 interchange in Chapel Hill to the Durham County-Wake County boundary.	2040 TBD	DCHC MPO
US 501 Bypass (North Duke Street) Sidewalks	\$4,774,000 Federal/Local	Construct sidewalk on east side of North Duke Street from Murray Avenue to US 501 Business (North Roxboro Road) to fill in existing gaps.	2030 EB-5715	DCHC MPO

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).

Background on DCHC MPO Bicycle and Pedestrian Projects

The 2050 MTP does not specifically list all of the bicycle and pedestrian projects in the Durham-Chapel Hill-Carrboro MPO. The local jurisdictions and counties have identified, and in many cases prioritized these projects and have coordinated their interaction in the jurisdiction boundary areas through the DCHC MPO. As a result, the 2050 MTP defersto those local governments and the project identified in the adopted DCHC MPO Comprehensive Transportation Plan, as amended.

Durham-Chapel Hill-Carrboro MPO Regional and Statewide Bicycle Routes

A major objective of the 2045 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. Themap 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.

DCHC MPO Regional Routes

In planning the regional bicycle routes, twelve specific zones of connections were targeted. The following listing shows the identified regional routes within each zone of connection:

Connections between Carrboro and Chapel Hill

- Homestead Road
- Homestead Road / Weaver Dairy Road
- Morgan Creek Trail (off-road) / Columbia Street
- Bolin Creek Trail (off-road)
- The Campus to Campus Connector (on and off-road connecting UNC-CH main campus to Carolina North)

Connections between Carrboro-Chapel Hill and Hillsborough

- Columbia Street / NC 86
- Old NC 86/Churton Street between Hillsborough Rd. (Carrboro) and Orange Grove Rd. (Hillsborough)
- NCDOT Mountains-to-Sea Bicycle Route (see description below)

New Hope Church Road (between NC 86 and Old NC 86)

Connections between Carrboro-Chapel Hill and Chatham County

- Smith Level Road / US 15-501
- US 15-501
- Jones Ferry Road
- Mt. Carmel Church Road
- NCDOT Mountains-to-Sea Bicycle Route (see description below)

Connections between Hillsborough and Chatham County

- Orange Grove Road / Dodson's Crossroads Road
- White Cross Road

Connections between Durham and Chatham County

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

Connections between Durham and Hillsborough

- Morreene Road / Neal Road / Bennett Memorial Road / Old NC 10 / NC 86
- St. Mary's Road
- New Sharon Church Road
- Cornwallis Road / Erwin Road / NC 751 / Old NC 10 / NC 86

Connections between Durham and Carrboro-Chapel Hill

- 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
- Triangle Bikeway

Connections between Carrboro-Chapel Hill and Research Triangle Park

- NC 54
- NC 54 / Barbee Chapel Road / Farrington Road / Stage Coach Road / NC 751 / Massey ChapelRoad / 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
- Triangle Bikeway

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
- Triangle Bikeway

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 / Mason Road / St. Mary's Road

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

- Chin Page Road
- T.W. Alexander Drive
- Triangle Bikeway

DCHC MPO Statewide Routes

In addition to the regional bicycle routes, two statewide bicycle routes are identified in the Durham-Chapel Hill-Carrboro MPO region:

- 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 CarmelChurch Road, and Farrington Road)
- East Coast Greenway in Durham and Chatham counties (uses the American Tobacco Trail, the Downtown Trail, the Durham Belt Line Trail, and a portion of the North-South Greenway Trail).

Connect2050 Appendix 5. Resources on Technologies: Connected and Autonomous Vehicles, Electrification, Telepresence

This appendix contains links to resources on emerging technological changes that are influencing patterns and modes of travel, and the environmental impacts of travel: connected and autonomous vehicles, electrification and telepresence. As MPOs and NCDOT implement the recent update of the Triangle Intelligent Transportation Systems (ITS) study, understanding the potential roles, market penetration rates and impacts of connected and autonomous vehicles will be important considerations.

Because knowledge about connected and autonomous vehicles, electrification and telepresence is evolving rapidly, this appendix highlights web sites and points of contact that can be expected to update information as it becomes available.

Connected and Autonomous Vehicles

Resources from the American Planning Association

Resources from the <u>Victoria Transport Policy Institute</u>

Resources from The National Highway Transportation Safety Administration

Resources from the <u>Transportation Research Board</u>

Resources from the <u>US Department of Transportation</u>

Links to Other Sources:

https://rpa.org/work/reports/new-mobility

https://www.caranddriver.com/features/autonomous-addressing-the-totality-of-the-driverless-car-feature

Vehicle Electrification

Resources from the American Council for an Energy Efficient Economy

Resources from the NC Clean Energy Technology Center

The <u>Triangle Clean Cities Coalition</u> maintains information on alternative fuel resources, including information on EV infrastructure programs.

Telepresence

Telepresence refers to connections based on virtual and remote technology that can replace in-person travel. Originally focused on tele-work, the COVID pandemic resulted in extensive adoption for other purposes, including remote meetings, remote schooling and tele-medicine.

<u>Triangle Transportation Choice</u>s, the Triangle region's transportation demand management program developed a <u>toolkit for telework programs</u> and can be contacted for telepresence resources.



Transportation Policy Priorities FOR THE TRIANGLE METRO REGION

KEYS TO A MOBILE FUTURE



Transportation is big, but it is always part of something bigger: economic development opportunities, healthy, active neighborhoods, greater access to jobs and education. The Triangle Metro Region urban, suburban and rural -- was home to 35% of the state's growth from 2010-2020, and is expected to add another million people over the next generation. A transportation policy that enables North Carolina to continue to compete effectively must focus on 3 key areas:



Economic Development & the Attraction of Diverse Talent



Healthy, Complete Communities Equitable for All Residents



Safety for All Travelers, From Youth to Seniors

REGIONAL POLICY PRIORITIES



Seven key priorities can result in fast-growing regions staying ahead of the growth curve, rural areas and small towns taking advantage of economic opportunities and every community providing complete streets and safe solutions tailored to local conditions.

INVEST FOR SUCCESS

- Create dedicated, recurring state funding as a match for competitive federal funds, such as the BUILD, passenger rail, and Capital Investment Grant (CIG) programs.
- Create state economic development funding for multi-modal investments serving job hubs in small towns, rural areas, and along major metro mobility corridors.

The BuildNC bond was a good start, but fast, flexible funding is needed for multimodal projects not well suited to the long and constrained STI process. Regions will do their part - they need a handshake, not a handout from the state - a committed partner to match regional action with state action.



- Minnesota's Transportation Economic Development Program could be a model for a nimble, economic-based effort -

MAKE INVESTMENTS RELIABLE AND PREDICTABLE

Remove constraints and account for multimodal benefits for rail transit funding.

The STI program allocates funding in a reasonable way, with one exception: rail transit. Rail transit should be held to the same standards as other investments, and its measurable multi-modal benefits should be included. Constraints on state funding should be removed so that projects can compete on a level playing field and funded on their merits. Businesses tell us that risks, uncertainties, and changing rules stifle success - transportation investment is a key business for the state and its communities.





^{- \$1} million invested in transit generates 4,200 job-hours; \$1 million in roadway investment generates 2,400 job-hours -

ENABLE MORE COST-EFFECTIVE CRITICAL CORRIDOR INVESTMENTS

Relax the cap on statewide tier funding within a corridor.

While the reasoning behind a cap is sound, its application leads to piece-meal spending which costs more in the long run and affects travelers throughout the state. The cap can also prevent investments on parallel reliever roadways that could be cost-effective and complimentary investments.



- 30% of vehicles on the Triangle's busiest stretch of I-40 - which is hampered by the corridor cap - is from areas outside Wake and Durham counties -

REMOVE FUNDING BARRIERS FOR SMALL TOWNS AND RURAL AREAS IN DIVISIONS WITH LARGE MPOS

Exempt Surface Transportation Block Grant-Direct Allocation Funding from the STI Allocation.

These funds are allocated from the federal government to MPOs to address mobility challenges in urban areas. Exempting these funds from the STI formula at the Division Tier would allow funding to be more evenly distributed and let small towns and rural counties better compete for funds.



- NC's STI program already exempts 8 other categories of transportation revenues -

MAKE NC A LEADER IN ACTIVE TRANSPORTATION INVESTMENTS

Surpass peer states in funding economically beneficial and safety-focused bicycle & pedestrian projects.

Whether its a critical link in NCDOT's Great Trails State Plan, an important sidewalk connection to make travel to school safer, or a Main Street bike and pedestrian project to serve businesses, state funding provides crucial leverage for federal funds and local contributions.



- 16% of crash fatalities are pedestrian or cyclists; the state is a necessary partner in solutions -

STRENGTHEN SUPPORT FOR DEMAND-MANAGEMENT & TECHNOLOGY

Stabilize and grow NCDOT's investment in Transportation Demand Management (TDM) to match local and regional commitments. Implement the Regional Technology (ITS) plan for roadways and transit.

The most cost-effective dollar spent efficiently manages the demand for the supply of roads we already have. Working with employers on ways to offer workers alternatives to peak-hour, drive-alone commuting and deploying technologies to maximize the roadway supply are key elements of smart cities.



- The Triangle TDM program has reduced vehicle miles traveled by over 300 million miles over the past 5 years -

RECOGNIZE STATEWIDE PROJECTS IN OTHER MODES, NOT SOLELY ROADWAYS AND FREIGHT RAIL

Establish standards and scoring criteria for designated statewide passenger rail and trail investments.

Just as highways serve statewide interests, so do other modes. Charlotte to Raleigh passenger rail serves 5 NCDOT divisions and 3 NCDOT regions. Great trails traverse the state - the East Coast Greenway stretches from VA to SC and the Mountains-to-Sea Trail runs 1,175 miles from the Great Smoky Mountains to the Outer Banks.



-Raleigh to Charlotte passenger rail contributes \$60 million to business output and \$30 million to GSP annually-









Invest for Success



A Triangle Metro Region Transportation Priority

Create dedicated, recurrent state transportation funding as a match for competitive federal funds, together with state economic development funding for key multi-modal investments serving job hubs.

The BuildNC bond was a good start, but fast, flexible funding is needed for multi-modal projects not well suited to the long and constrained STI process.

Regions will do their part -- they need a handshake, not a handout from the state --



Regions will do their part -- they need a handshake, not a handout from the state a committed state partner to match regional action with state action.



- State funding for shovel-ready and shovel-worthy projects may drive any federal stimulus funding decisions -

Opportunity comes to those who are prepared for it. North Carolina needs special transportation funds that move at the speed of business and are fast and flexible enough to dovetail with changing federal transportation funding opportunities and business expansion decisions:

- NC has a history as a "donor" state when it comes to competitive grants, especially for major transit capital investments
- Recent major economic development location decisions, such as for the Amazon HQ2, have emphasized the importance of investing in quality transit to attract jobs

Dedicated State Funding to Match Competitive Federal Funds

What success looks like: A ready-to-go pool of state matching funds that local and state applicants for competitive federal grants can count on to increase their chances for success.

Recent Success

North Carolina awarded \$47.5 million CRISI grant to purchase freight line for future passenger service

The 10-mile line is called the "missing link" for future highperformance passenger rail service between Raleigh, N.C., and Richmond, Va.

Author — Mischa Wanek-Libman





Key Policy Considerations

- Understanding federal scoring systems and tailoring projects for maximum success
- Ensuring sufficient levels of funding to provide matches, while being able to pivot funding if applicants are not successful
- Nurturing relationships with federal agencies and local partners to ensure our ability to deliver projects on time & on budget

Project Types that Might Benefit

- BRT and passenger rail projects through the Federal Capital Investment Grants (CIG) program
- Roadway, transit and bikeped projects seeking BUILD funding
- Projects eligible for any infrastructure stimulus legislation that may occur

Economic Development Funding for Mobility Investments in Key Hubs

What success looks like: A state economic development fund that can quickly respond to mobility needs of major economic development projects

Examples from Successful Regions



Key Policy Considerations

- Understanding how federal programs like Opportunity Zones and FTA Joint Development could leverage economic development and serve key travel markets
- Determining the best source(s) for revenues and the best way to allocate funds to worthy projects
- Building partnerships between transportation staffs and economic development staffs

Types of Projects that Might Benefit

- Major expansions or relocations that prioritize fast and reliable transit
- Mega-site industrial employers that expect good freight rail and highway access
- Projects eligible for any infrastructure stimulus legislation that may occur

Next Steps for the Metropolitan Planning Organizations

- Work with NCDOT, NC Department of Commerce, Economic Development Partnership of NC and State legislators on legislative proposals
- Work with NCDOT and regional partners to build expertise in federal grant opportunities and scoring mechanisms, and identify eligible projects
- Work with partners to conduct feasibility studies to move top projects into shovel-ready or shovel-worthy status
- Build and nurture relationships with federal agencies that oversee competitive grant funding
- Understand typical mobility-related "asks" of major economic development projects
- Understand the region's "mega sites" and the mobility investments that could serve them better

How to Invest for Success in Your Community

- Fund the planning and feasibility studies needed to make projects shovel-ready and shovel-worthy
- Consider a transportation bond to provide local matching funds to leverage federal funds
- Work with businesses and anchor institutions to develop collaborative partnerships and solutions
- Revise land use, parking & affordable housing policies to align with multi-modal corridor standards









Make NC a Leader in Active Transportation Investments



A Triangle Metro Region Transportation Priority

Surpass peer states in funding economically beneficial and safety-focused bicycle and pedestrian projects and programs

Whether it's a critical link in NCDOT's Great Trails State Plan, an important sidewalk connection to make travel safer, or a Main Street bike and pedestrian project to serve businesses, state funding provides crucial leverage for federal funds and local contributions.



- 16% of crash fatalities are either pedestrians or cyclists -

North Carolina and the Triangle Metro Region should prioritize active transportation investments that support healthy and safe communities. Primary focus areas are:

- Improved implementation of Complete Streets projects
- Active Routes to School, Parks, and Transit approaches that have demonstrated health, equity, and academic performance benefits.

Complete Streets

What success looks like: NCDOT Complete Streets policy implementation is based on the land use and travel characteristics of corridors, along with the needs of users, not on the type of facility that is built or the community it is in. NCDOT, MPOs, RPOs, and local communities seamlessly blend federal, state and local funds to achieve results.

A Successful Complete Street



Key State Actions

- Restore state funding for independent active transportation projects to put all modes on a level playing field.
- Make facility maintenance easier.
- Lower the local match requirements to incentivize more investments.
- Leverage all funding programs, including safety, for active transportation.
- Develop best practices for tracking success in active transportation.

Triangle Projects That Could Benefit

- NC 98 Corridor
- Triangle Bikeway
- NCDOT Great Trails State routes

Active and Safe Routes to Schools, Parks and Transit

What success looks like: Communities partner with NCDOT, MPOs, schools and transit agencies to expand the reach of the Active Routes to School program to link neighborhoods to parks, transit routes, existing schools and planned schools.

A Successful Active School Key Policy Considerations



- Physical activity has a proven positive impact on learning and health
- Schools that participate see improvements in academic performance as well as classroom behavior
- Working together, NCDOT and MPOs can use flexible funding for active routes to schools, parks and transit
- A "Vision Zero" approach can lead to safety funding proportional to biking and walking fatalities

Next Steps for the Metropolitan Planning Organizations

- Assign MPO staff to work with NCDOT to track complete streets implementation progress.
- Work with NCDOT to develop modified procedures and standards that can make the design, funding, and maintenance of complete street elements easier to accomplish.
- Maintain the current emphasis on active and safe routes to schools, but expand the focus to parks, transit stops, job hubs, and grocery stores.
- Work with legislators to restore state funds for stand-alone bicycle/pedestrian projects.
- Give priority to projects with active transportation elements in existing funding programs.
- Work with NCDOT staff to allocate maintenance funds for state roads transferred to municipal responsibility.

How to Support Active Transportation Investment in Your Community

- School staff and PTAs organize 'walking and cycling school bus' efforts.
- Staff and advisory boards give input at early stages of school siting and design processes, and design criteria for schools support walking and biking access.
- Active transportation investments and strategies are infused in all local land use, transportation, parks and school planning and site selection efforts, focusing on equitable investments to connect neighborhoods to key hubs and services.









Strengthen Support for Demand Management & Technology



A Triangle Metro Region Transportation Priority

Stabilize and grow state investment in Transportation Demand Management (TDM) to match local and regional commitments. Implement the Regional Technology (ITS) Plan for roadways and transit.

The most cost-effective dollar spent is on efficiently managing the demand for the supply of roads we already have. Working with employers on ways to offer workers alternatives to peak-hour, drive-alone commuting and deploying technologies to maximize the roadway supply are key elements of the smart city movement.





- The Triangle TDM program has reduced vehicle miles traveled by over 300 million miles over the past 5 years -

The Triangle Metro Region is already a leader in the state in deploying emerging technologies and demand management solutions that optimize roadway and transit capital projects. Two key focus areas should be:

- Taking the already successful Regional Transportation Demand Management Partnership to the next level.
- A three-pronged approach to Smart Cities Technology Applications that optimizes how we travel and paves the way for automated, connected vehicles.

Regional Transportation Demand Management Partnership

What success looks like: NCDOT, the Triangle Metro's MPOs and key partners collaborate to recruit, recognize and reward employers and communities that implement different tiers of Transportation Demand Management practices.

Employer Success





Key Ingredients

- A regional collaboration between NCDOT, both MPOs and Triangle J COG with 14 competitivelyselected service providers.
- Employer-focused with emphasis on anchor institutions, city centers and the RTP
- Coordinated outreach, including virtual webinars on telecommuting during COVID.

Success Metrics (FY19)

- 6.5 million vehicle trips avoided
- 70 million commute miles reduced
- 2.9 million gallons of gas saved
- 58 million pounds of carbon dioxide release prevented
- 32 designated Best Workplaces for Commuters

Smart City Technologies

What success looks like: Technology applications that overcome uncertainty and take evidence-based steps to better manage freeways, local streets and travel in our region's hubs.

Active Freeway Management

- Melds communications, controls and optimization strategies
- Reduces delay and increases reliability
- Provides as much as an additional lane of freeway capacity
- More cost-effective than traditional road projects
- Can be used with managed lanes and toll facilities

Traffic Signal Systems

- Integrated, community-wide network for maximum benefit
- Linked to a traffic management center
- Efficient congestion management and faster incident response
- Key element for connected & automated vehicle infrastructure



Mobility in Regional Hubs

- City centers and anchor institutions are key destinations
- Combination of technology, pricing and parking strategies
- People-friendly, rather than vehicle-oriented, actions
- Apply lessons learned from Durham's Bloomberg Mayor's Challenge Grant to other key job hubs.



Next Steps for the Metropolitan Planning Organizations

- Work with NCDOT to use federal Congestion Mitigation and Air Quality (CMAQ) funding on eligible TDM and technology projects.
- Work with NCDOT and other partners to transform the Best Workplaces program into a tiered "best in class" statewide recognition program for employers and communities with TDM programs.
- Lead the implementation of the new Regional Intelligent Transportation Systems (ITS) plan by forming a work group and prioritizing actions.
- Work with state officials to reinstate the ability of local communities to adopt TDM ordinances in places where criteria for travel alternatives can be met.
- Include equity concerns in TDM funding decisions and program monitoring.

How to Support TDM and Technology in Your Community

- Engage large employers, including local government, to implement TDM practices.
- Seek opportunities to deploy emerging technologies.
- Participate in the new Regional ITS Deployment Plan Working Group.
- Work with NCDOT and MPOs on signal system and active freeway management opportunities.







Connect2050 Appendix 7. Air Quality

Background

The National Ambient Air Quality Standards (NAAQS) defines the allowable concentration for six different pollutants (carbon monoxide, lead, nitrogen dioxide, particulate matter, ozone, and sulfur dioxide). In the past, portions of the Triangle area were designated as "non-attainment" for oxides of nitrogen and volatile organic compounds (VOC) that are precursors to ozone, and for carbon monoxide because the area did not meet the NAAQS standard. As a result, North Carolina Department of Environment and Natural Resources (NCDENR), which is responsible for creating the State Implementation Plan (SIP) to address the non-attainment issues, included the Triangle area in the SIP. Basically, the MPOs complied with the SIP by demonstrating that certain emissions from the future transportation sector would not exceed a specified threshold, called the SIP budget. The compliance requirements and emission calculation methodology were presented in a detailed report called the *Research Triangle Regional Conformity Determination Report*. The 20-year CO maintenance requirements for the Triangle expired in 2015.

On December 26, 2007, the Triangle Area was redesignated as attainment with a maintenance plan for ozone under the eight-hour standard. The U.S. Court of Appeals for the DC Circuit in the South Coast Air Quality Management District v EPA, No. 15-1115, issued a decision on February 16, 2018. In that decision, the Court struck down portions of the 2008 Ozone National Ambient Air Quality Standards (NAAQS) State Implementation Plan Requirements Rule which vacated the revocation of transportation conformity requirements for the 1997 8-hour Ozone NAAQS.

In November 2018, U. S. EPA issued Guidance for the South Coast v EPA Court Decision. U. S. EPA's guidance states that transportation conformity for MTPs and TIPs for the 1997 ozone NAAQS can be demonstrated without a regional emissions analysis pursuant to 40 CFR 93.109(c). Transportation conformity for the 1997 ozone NAAQS would be required on MTP and TIP actions as of February 16, 2019.

As a result, the Triangle is still required to demonstrate transportation-air quality conformity, but is not required to calculate future emissions and compare them to an emissions limit, termed a "budget." However, the MPOs believe that monitoring and lowering pollutant emissions is a prudent practice given the positive health, environmental and economic benefits of doing so. Thus, to ensure that the 2050 MTP continues to support these positive benefits, this appendix compares the emissions set forth in the SIP that was used for the last long-range plan that required a quantitative analysis (2040 MTP) with those estimated to result from implementation of the 2050 MTP.

The 2050 MTP Conformity Determination Report can be viewed on each MPO's web site and on the Triangle J COG web site.

2050 MTP Air Quality

Connect2050 has a significant focus on air quality:

Goal -- Protect the Human and Natural Environment and Minimize Climate Change
Objective – Reduce transportation sector emissions
Objective – Achieve net zero carbon emissions

The tables that follow compare the SIP budget used in the 2040 MTP, with the projected emissions from the current plan, i.e., 2050 MTP. The values are for the daily kilograms of emissions of oxides of nitrogen (NOx) and carbon monoxide (CO) for the counties that are in the respective air quality areas. In every case, the projected 2050 MTP emissions are only a fraction of the SIP budget, being as low as 10% in Granville County for NOx and only reaching the highest fraction among the group at 27% in Wake County for NOx and for CO. These future lower emissions are not surprising. It is expected that the Corporate Average Fuel Economy (CAFE) standards will continue to improve the average fuel economy of cars and light trucks. In addition, vehicle emission standards continue to reduce tailpipe pollutants and improve fuel quality.

NOx (kg/day)

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	2040 MTP	2050	MTP/
County (1)	SIP Budget	<u>MTP</u>	SIP Budget
Durham	4,960	1,173	24%
Wake	16,532	4,397	27%
Granville	1,714	163	10%
Franklin	1,139	202	18%
Johnston	5,958	838	14%
Orange	3,742	650	17%

⁽¹⁾ Chatham not included because only partial county data is available for the prior budget

CO (kg/day)

(9) //			
	2040 MTP	2050	MTP/
County (2)	SIP Budget	<u>MTP</u>	SIP Budget
Durham	160,771	24,827	15%
Wake	348,604	94,545	27%

⁽²⁾ Only Durham and Wake counties had a prior CO budget.

The three tables on the next page show daily pollutant emissions from the transportation sector for the Triangle Region, CAMPO and DCHC MPO. The tables feature the different pollutants by the base year (year 2016), Existing + Committed (E+C), and adopted 2050 MTP scenarios. The E+C is essentially a nobuild scenario. It is the population and employment in the year 2050 on the current and underway

network of roadways and transit service. The MOVES3 emissions model uses vehicle-miles-traveled (VMT) and speed data from the Triangle Regional Model (i.e., transportation model) to produce this data.

Although the VMT will increase nearly 80% over this time period (2016 to 2050), most of the pollutants are forecasted to decrease. This reduction comes because tailpipe emissions standards continue to improve, the efficiency of the motor vehicle fleet (average miles per gallon) is expected to improve), the age of the motor fleet is getting newer, and the proportion of electric vehicles is expected to increase.

Unfortunately, carbon dioxide emissions from the transportation sector will continue to increase despite a reduction in the per capita consumption of gasoline and wider use of electric vehicles.

Emissions - Triangle Region	Year ==>	2016	2050	2050	% change
Pollutant	Scenario ==> Unit of Measure	Existing	Existing + Committed	Adopted	2016 to 2050 Adopted
Carbon Monoxide (CO)	1,000 kilograms	321	166	170	-47%
Nitrous Oxides (NOx)	1,000 kilograms	26	8	8	-70%
Volatile Organic Compounds (VOC)	1,000 kilograms	19	11	12	-39%
Particulate Matter (PM2.5)	kilograms	561	297	304	-46%
Greenhouse Gases (CO ₂ equivalent)	1 million kilograms	27	33	34	22%
Daily Energy Consumption per capita	gallon of gasoline	1.6	1.1	1.1	-29%

Emissions - CAMPO	Year ==>	2016	2050	2050	% change
Pollutant	Scenario ==> Unit of Measure	Existing	Existing + Committed	Adopted	2016 to 2050 Adopted
Carbon Monoxide (CO)	1,000 kilograms	195	106	111	-43%
Nitrous Oxides (NOx)	1,000 kilograms	16	5	5	-67%
Volatile Organic Compounds (VOC)	1,000 kilograms	12	7	8	-35%
Particulate Matter (PM2.5)	kilograms	340	190	198	-42%
Greenhouse Gases (CO ₂ equivalent)	1 million kilograms	17	21	22	31%
Daily Energy Consumption per capita	gallon of gasoline	1.4	1.0	1.1	-27%

Emissions - DCHC MPO	Year ==>	2016	2050	2050	% change
Pollutant	Scenario ==> Unit of Measure	Existing	Existing + Committed	Adopted	2016 to 2050 Adopted
Carbon Monoxide (CO)	1,000 kilograms	83	37	38	-54%
Nitrous Oxides (NOx)	1,000 kilograms	7	2	2	-74%
Volatile Organic Compounds (VOC)	1,000 kilograms	5	3	3	-48%
Particulate Matter (PM2.5)	kilograms	145	67	68	-53%
Greenhouse Gases (CO ₂ equivalent)	1 million kilograms	7	7	7	6%
Daily Energy Consumption per capita	gallon of gasoline	1.7	1.1	1.2	-30%

Note: CO₂ typically represents about 80% of Greenhouse Gas (GHG) emissions.

Listed below are more detailed calculations from the emissions analysis output across a range of parameters.

DAQ updated Data run using Wake County emission coefficients and Region VMT

TRM Region, Weekday Emissions, 2050 MTP

pollutant		2050 FCvFinal
СО	kg	170,034
NOx	kg	7,908
VOC	kg	11,653
PM2.5	kg	304
Daily CO2 Equivalent	kg	33,591,523
Daily CO2 Equivalent Weekday per capita	kg	10.62
Annual CO2 Equivalent per capita	kg	3,692
Total Daily Energy Consumption	kj	464,001,662,976
Total Daily Energy Consumption	gallon [U.S.] of auto gasoline	3,521,567
Daily Energy Consumption per capita	gallon [U.S.] of auto gasoline	1.11
Annual Energy Consumption per capita	gallon [U.S.] of auto gasoline	387
Population		3,163,933

Durham

pollutant		2050 FCvFinal
СО	kg	24,827
NOx	kg	1,173
VOC	kg	1,729
PM2.5	kg	45
CO2	kg	4,984,911
Total Daily Energy Consumption	gallon [U.S.] of auto gasoline	522,593
VMT Factor Durham		14.6%

Orange

pollutant		2050 FCvFinal
СО	kg	13,969
NOx	kg	650
VOC	kg	957
PM2.5	kg	25
CO2	kg	2,759,622
Total Daily Energy Consumption	gallon [U.S.] of auto gasoline	289,305
VMT Factor Orange		8.2%

Chatham

pollutant		2050 FCvFinal
СО	kg	6,597
NOx	kg	307
VOC	kg	452
PM2.5	kg	12
CO2	kg	1,303,341
Total Daily Energy Consumption	gallon [U.S.] of auto gasoline	136,636
VMT Factor Chatham		3.9%

DCHC (based on DCHC VMT in TRM Summary Report)

	, , ,	
pollutant		2050 FCvFinal
СО	kg	37,939
NOx	kg	1,764
VOC	kg	2,600
PM2.5	kg	68
CO2	kg	7,495,190
Total Daily Energy Consumption	gallon [U.S.] of auto gasoline	785,758
VMT Factor DCHC		22.3%

DCHC (based on TRM Summary Report Population) per capita

pollutant		2050 FCvFinal
СО	kg	0.056
NOx	kg	0.003
VOC	kg	0.004
PM2.5	 kg	0.000
111213	N5	0.000
CO2	kg	11.075
	gallon [U.S.] of auto	
Total Daily Energy Consumption	gasoline	1.161
Population DCHC		676,776

Wake

pollutant		2050 FCvFinal
СО	kg	94,545
NOx	kg	4,397
VOC	kg	6,480
PM2.5	kg	169
CO2	kg	18,678,119
Total Daily Energy Consumption	gallon [U.S.] of auto gasoline	1,958,120
VMT Factor - Wake		55.6%

Franklin

pollutant		2050 FCvFinal
СО	kg	4,354
NOx	kg	202
VOC	kg	298
PM2.5	kg	8
CO2	kg	860,115
Total Daily Energy Consumption	gallon [U.S.] of auto gasoline	90,170
VMT Factor - Franklin		2.6%

Granville

pollutant		2050 FCvFinal
СО	kg	3,499
NOx	kg	163
VOC	kg	240
PM2.5	kg	6
CO2	kg	691,212
Total Daily Energy Consumption	gallon [U.S.] of auto gasoline	72,463
VMT Factor - Granville		2.1%

Harnett

pollutant		2050 FCvFinal
СО	kg	2,843
NOx	kg	132
VOC	kg	195
PM2.5	kg	5
CO2	kg	561,618
Total Daily Energy Consumption	gallon [U.S.] of auto gasoline	58,877
VMT Factor - Harnett		1.7%

Johnston		
pollutant		2050 FCvFinal
со	kg	18,029
NOx	kg	838
VOC	kg	1,236
PM2.5	kg	32
CO2	kg	3,561,717
Total Daily Energy Consumption	gallon [U.S.] of auto gasoline	373,393
VMT Factor - Johnston		10.6%

Person

pollutant		2050 FCvFinal
СО	kg	1,372
NOx	kg	64
VOC	kg	94
PM2.5	kg	2
CO2	kg	271,013
Total Daily Energy Consumption	gallon [U.S.] of auto gasoline	28,412
VMT Factor - Person		0.8%

CAMPO total based on TRM Summary Report VMT

CAMPO (Total)

pollutant		2050 FCvFinal
СО	kg	110,533
NOx	kg	5,140
VOC	kg	7,575
PM2.5	kg	198
CO2	kg	21,836,727
Total Daily Energy Consumption	US gals	2,289,253
CAMPO VMT Factor		65.0%

CAMPO total based on TRM Summary Report Population (per capita)

CAMPO (per capita)

pollutant		2050 FCvFinal
СО	kg	0.051
NOx	kg	0.002
VOC	kg	0.003
PM2.5	kg	0.000
CO2	kg	10.039
Total Daily Energy Consumption	US gals	1.052
CAMPO Population from TRM Summary Report		2,175,144

Connect2050 Appendix 8 – MTP Draft Plan and Draft Report Comments

Background

Appendix 1 describes the complete community engagement process for the development of the 2050 Metropolitan Transportation Plan and provided links to various resources related to the engagement. For ease of reference, this appendix extracts the information specifically related to the draft plan and this MTP report, since it was the final opportunity to influence the plan and report and completes the activities laid out in each MPO's Public Participation Plan.

Draft Plan & MTP Report Comments and Responses

The MPOs released a draft plan called the Preferred Option and then a full report based on that draft plan. Again, the MPOs used several different media to encourage and gather feedback but the volume of feedback was lower than in previous MTP development milestones.

<u>Written Comments</u> - DCHC MPO: The links below are copies of the public comments received, mostly by email, in response to the Preferred Option and full report.

- Preferred Option-DCHC MPO-Written Comments
- Full report-DCHC MPO-Written Comments
- Preferred Option and Full Report CAMPO <u>Written Comments</u> (This is a copy of the full text of comments that CAMPO received in emails, voicemail, letter and public hearing for the entire 2050 MTP public engagement process including Goals and Objectives, Alternatives Analysis and the Draft Plan.)

For additional details, to view other materials such as paid advertisements, email blasts, survey questions or response data, etc., contact staff from either CAMPO: comments@campo-nc.us or DCHC MPO: Andy Henry.

Connect2050 -- Appendix 9. Acronyms

AV: Autonomous Vehicle

BG MPO: Burlington-Graham Metropolitan Planning Organization

BIL: Bipartisan Infrastructure Law (2021 federal legislation also known as IIJA)

CAAA: Clean Air Act Amendments of 1990 (United States)
CAMPO: Capital Area Metropolitan Planning Organization

CAV: Connected and Autonomous Vehicles

CFR: Code of Federal Regulations

CHT: Chapel Hill Transit

CMAQ: Congestion Mitigation/Air Quality

CO: Carbon Monoxide

CTP: Comprehensive Transportation Plan
DAQ: Division of Air Quality (North Carolina)

DCHC MPO: Durham-Chapel Hill –Carrboro Metropolitan Planning Organization

DEQ: Department of Environmental Quality (North Carolina)

DMV: Division of Motor Vehicles

DOT: Department of Transportation (North Carolina)
EPA: Environmental Protection Agency (United States)

FAST Act: Fixing America's Surface Transportation Act (federal transportation law)

FHWA: Federal Highway Administration
FRA: Federal Railroad 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

HTF: Highway Trust Fund
I/M: Inspection/Maintenance

IIJA: Infrastructure Investment and Jobs Act (2021 federal legislation; also know as BIL)

ITRE: Institute for Transportation Research and Education

ITS: Intelligent Transportation Systems

KT RPO: Kerr-Tar Rural Transportation Planning Organization

MAP-21: Moving Ahead for Progress in the 21st Century (federal law prior to the FAST Act)

MPO: Metropolitan Planning Organization

MTIP: Metropolitan Transportation Improvement Program

MTP: Metropolitan Transportation Plan

NAAQS: National Ambient Air Quality Standards

NCDOT: North Carolina Department of Transportation

NHB: Non Home Based (trip purpose)

NO_x: Nitrogen Oxides

REINVEST: Neighborhoods based on measures of Race, Ethnicity, Income, Vehicles and Housing Status

RPO: Rural Transportation Planning Organization
RTAC: Rural Transportation Advisory Committee
RTCC: Rural Technical Coordinating Committee

RVP: Reid Vapor Pressure

SIP: State Implementation Plan (for air quality)
SPOT: Strategic Prioritization Office - Transportation

STAC: Special Transit Advisory Commission

STBGP: Surface Transportation Block Grant Program (federal funding category)
STI: Strategic Transportation Investments (NC transportation legislation)

STP-DA Surface Transportation Program-Direct Allocation (recently transformed to STBGP)

TAC: Transportation Advisory Committee

TAP: Transportation Alternatives Program (federal funding program)
TARPO: Triangle Area Rural Transportation Planning Organization

TAZ: Traffic Analysis Zone

TCC: Technical Coordination Committee
TCM: Transportation Control Measure
TDM: Transportation Demand Management

TIFIA: Transportation Infrastructure Finance and Innovation Act

TIP: Transportation Improvement Program

TRM: Triangle Regional Model

TSM: Transportation System Management

UCPRPO: Upper Coastal Plain Rural Transportation Planning Organization

UPWP: Unified Planning Work Program – the annual planning budget by task for an MPO

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. Detailed Transportation and Growth Maps and Measures of Effectiveness Table

Detailed Transportation and Growth Maps

To provide greater levels of detail and the ability to focus in on specific portions of the region to see what investments are planned in what time frames, the MPOs have created online mapping tools rather than include paper copies of maps in a separate appendix. The maps for each MPO may be accessed at the web pages linked below:

CAMPO

DCHC MPO

Measures of Effectiveness

Evaluation measures provide a comparative set of metrics for statistical analyses between transportation systems and land use scenarios. They also provide an opportunity to validate the usefulness of the Triangle Regional Model (TRM) as a tool to perform travel forecasts and create output necessary for staff, elected officials, and the public to determine the best approach to invest limited financial resources in the regional transportation system. Comparisons can be performed in a number of ways for different purposes to depict the 2050 MTP. As a result, measures of effectiveness for future TRM runs may vary slightly from those presented in this appendix.

The table on the next few pages compares the transportation network performance for the Capital Area MPO and Durham-Chapel Hill-Carrboro MPO planning areas for the 2016 Base network, the 2050 Deficiency network (Existing + Committed), and the 2050 Metropolitan Transportation Plan (MTP) network. The 2016 network represents the current state of the system. The 2050 E+C (existing plus committed) network includes only those projects that will be operational in the next few years but serving the forecast 2050 population and employment. The 2050 MTP network represents the highway and transit networks from the 2050 MTP, serving the 2050 forecasted population and employment.

The measures of effectiveness in this summary table are system-wide metrics and therefore do not provide performance information on specific roadways or travel corridors, or at the scale of a municipality or type of area (e.g., urban and suburban). The congestion maps (V/C maps), presented in Section 6.3 of the full report, provide a more localized picture of transportation performance for individual roadways or roadway segments. The conclusions drawn from the measures of effectiveness (system-wide) and congestion maps (roadway specific) tend to be similar. For example, the 2050 Deficiency Congestion Map illustrates a high degree of regional congestion as compared to the 2016 congestion map. This is validated by comparing performance measure values for the 2050 Deficiency and 2050 MTP networks such as daily "Vehicle Hours Traveled" (VHT daily – Row 1.2.2). Vehicle Hours Traveled is highest for the 2050 Deficiency roadway network as compared to the 2016 base year and 2050 MTP networks.

Measures of Effectiveness By Scenario (Based on Triangle Regional Model)

		2016 Base Year		2050 Existing + Committed		2050 MTP	
		САМРО	DCHC	САМРО	DCHC	САМРО	DCHC
1	Performance Measures						
1.1.2	Total Vehicle Miles Traveled (VMT-daily)	31,922,919	13,612,286	60,768,564	21,264,845	61,507,129	20,994,897
1.1.2a	Total Vehicle Miles Traveled (VMT-per capita)	26	31	28	32	28	31
1.2.2	Total Vehicle Hours Traveled (VHT-daily)	807,481	335,601	2,336,887	677,058	1,873,311	645,006
1.2.2a	Total Vehicle Minutes Traveled (VHT-per capita)	40	45	65	61	51	57
<u>1.3</u>	Average Speed by Facility (miles/hour)						
1.3.1	- Freeway	62	59	50	48	56	51
1.3.2	- Arterial	35	35	28	30	32	30
1.3.3	- All Facility	45	46	37	39	42	40
<u>1.4</u>	Peak Average Speed by Facility (miles/hour)						
1.4.1	- Freeway	60	57	45	45	53	48
1.4.2	- Arterial	34	34	26	28	30	29
1.4.3	- All Facility	44	45	33	36	39	38
<u>1.5</u>	Daily Average Travel Length - All Person Trips						
1.5.1	- Travel Time (minutes)	15	13	21	16	18	16
1.5.2	- Travel Distance (miles)	7.1	6.1	7.3	6.1	7.4	6.1
<u>1.6</u>	Daily Average Travel Length - Work Trips						
1.6.1	- Travel Time	23	20	36	25	28	23
1.6.2	- Travel Distance - Work Trips	13.1	10.4	12.9	10.2	13.5	10.3
<u>1.7</u>	Peak Average Travel Length - All Person Trips						
1.7.1	- Peak Travel Time	15	14	21	18	18	18
1.7.2	- Peak Travel Distance	7.1	6.4	6.9	6.4	7.0	7.1
1.8	Daily Avg. Travel Length - Commercial Vehicle Trips	<u>5</u>					
1.8.1	- Travel Time	11	10	12	11	11	11
1.8.2	- Travel Distance	7.1	6.7	6.7	6.5	7.0	6.5
1.9	Daily Average Travel Length - Truck Trips						
1.9.1	- Travel Time	12	11	14	13	13	13
1.9.2	- Travel Distance	8.5	7.9	8.1	7.8	8.5	7.8
1.10	Hours of Delay (daily)	92,019	37,909	917,621	195,359	472,608	163,466
1.10a	Minutes of Delay (daily) (per capita)	5	5	26	18	13	14
1.10.1	Truck Hours of Delay (daily)	3,522	1,939	27,164	10,911	14,501	8,996

		2016 Base Year		2050 Existing + Committed		2050 MTP		
		CAMPO	DCHC	CAMPO	DCHC	САМРО	DCHC	
1.10.1a	Truck Minutes of Delay (daily) (per trip)	1.5	2.1	6.7	8.0	3.6	6.5	
<u>1.11</u>	Percent of Congested VMT (volume > capacity) - All Day							
1.11.1	- Freeway	5%	6%	40%	52%	22%	36%	
1.11.2	- Arterial	4%	5%	26%	18%	13%	16%	
1.11.3	- All Facility	4%	5%	29%	33%	16%	24%	
1.12	Percent of Congested VMT (volume > capacity) - Pe	<u>ak</u>						
1.12.1	- Freeway	8%	10%	54%	61%	33%	44%	
1.12.2	- Arterial	7%	7%	39%	26%	20%	24%	
1.12.3	- All Facility	7%	8%	41%	39%	24%	31%	
1.12.4	- Designated truck routes	3%	6%	34%	26%	11%	26%	
1.12.5	- Facilities w/bus routes	7%	8%	39%	49%	24%	32%	
2	Mode Share Measures					<u>.</u>		
<u>2.1</u>	All Trips - Mode Share (%)							
2.1.1	- Drive alone (single occupant vehicle -SOV)	50%	45%	48%	44%	48%	44%	
2.1.2	- Carpool (Share ride)	42%	37%	42%	36%	42%	36%	
2.1.3	- Bus	1%	2%	1%	2%	1%	3%	
2.1.4	- Rail	N/A	N/A	N/A	N/A	0.2%	0.1%	
2.1.5	- Non-Motorized (Bike and Walk)	7%	15%	9%	17%	9%	17%	
<u>2.2</u>	Work Trips - Mode Share (%)							
2.2.1	- Drive alone (single occupant vehicle -SOV)	85%	78%	79%	79%	80%	77%	
2.2.2	- Carpool (Share ride)	10%	11%	10%	10%	10%	9%	
2.2.3	- Bus	2%	6%	2%	4%	3%	7%	
2.2.4	- Rail	N/A	N/A	N/A	N/A	0.8%	0.2%	
2.2.5	- Non-Motorized (Bike and Walk)	3%	5%	8%	6%	5%	7%	
<u>2.3</u>	Peak Trips - Mode Share (%)							
2.3.1	- Drive alone (single occupant vehicle -SOV)	48%	45%	46%	44%	46%	43%	
2.3.2	- Carpool (Share ride)	45%	40%	45%	39%	44%	39%	
2.3.3	- Bus	1%	2%	1%	2%	1%	3%	
2.3.4	- Rail	N/A	N/A	N/A	N/A	0.3%	0.1%	
2.3.5	- Non-Motorized (Bike and Walk)	7%	13%	9%	14%	9%	15%	

		2016 Base Year		2050 Existing + Committed		2050 MTP	
		CAMPO	DCHC	САМРО	DCHC	САМРО	DCHC
3	Transit Measures						
3.1	Transit Ridership (regionwide)						
3.1.1	- GoTriangle (rail included in rail scenarios)	17,0)35	30,363		82,031	
3.1.2	- GoRaleigh	23,8	353	62,385		120,633	
3.1.3	- CHT	29,7	'97	59,7	794	57,8	315
3.1.4	- GoDurham	23,2	186	26,8	342	32,0	006
3.1.5	- NCSU	11,8	373	18,9	999	13,2	274
3.1.6	- DUKE	8,0	18	12,727		10,289	
3.1.7	- OPT	57	6	109		780	
3.1.8	- GoCary	2,59	97	3,688		6,172	
3.1.9	Total	117,036		214,908		323,001	
3.2	Total Rail Ridership	N/A		N/A		14,215	
4	Other Measures						
4.1	Population	1,217,431	446,275	2,146,157	666,483	2,187,196	676,414
4.2	Employment	609,931	289,221	1,265,265	518,726	1,268,563	519,320
4.3	Total Daily Person Trips	5,213,978	2,068,634	9,849,516	3,320,199	10,036,354	3,341,508
4.3.1	Work Person Trips	812,095 258,122		1,450,155	415,076	1,475,396	419,180
4.4	Total Daily CV (commercial vehicle) Trips	331,836	133,002	590,191	202,059	597,112	204,050
4.4.1	Daily Truck Trips	137,572	54,882	241,819	82,260	244,249	82,882
4.5	Total Highway Lane Miles	6,781	2,597	7,061	2,675	9,034	2,781
4.6	Transit Service Miles	54,4	48	60,015		139,356	

Notes:

N/A = Not available

Travel time is in <u>minutes</u>, and travel distance is in <u>miles</u>. VMT does not include travel on centroid connectors.

CV = Commercial vehicles (which includes large and small trucks and vans).

Trucks = Subset of Commercial Vehicles that includes only large trucks.

Transit <u>ridership</u> is higher than transit <u>trips</u> because a trip involving a transfer counts as two riders in ridership numbers.

Average Speed (1.3 and 1.4), Percent of Congested VMT (1.11 and 1.12) and Hours of Delay (1.10) calculations do not include local streets or centroid connectors (which often represent local streets in modeling networks).

The 2050 population and employment vary slightly between the 2050 E+C and 2050 MTP Adopted scenarios because those totals were identified at different phases of the 2050 MTP development process. The 2050 MTP Adopted values include both land-use model and U.S. Census updates.

Connect2050 Appendix 11 – Financial Plan Details

Background

Appendix 11 includes a discussion of the assumptions and methods used in the development of the 2050 MTP financial plan, which is covered in Chapter 8. This appendix focuses on how the values used in this plan may differ from other sources, and how the fiscal constraint spreadsheet developed by the Triangle J Council of Governments can be used and modified to analyze different sets of assumptions or provide revised estimates as plans are revised.

Chapter 8 shows cost and revenues in "constant 2020 dollars" for several reasons:

- Underlying data sources treat future inflation differently, so stating all costs in a common 2020 base provides a consistent way to treat revenues and costs, regardless of what future inflation may actually be.
- 2. During the development of the MTP, the timing of projects is often modified throughout the plan development, review and adoption process, which would require re-calculation of (and thus changed totals for) project costs if they are stated in "current dollars" (also termed Year-of-Expenditure dollars) moved to a different future year as the draft plan is reviewed and revised due to community engagement.
- 3. Costs for projects are typically developed as if they were built today and in a single year, but many projects have multi-year schedules, with design and engineering, right-of-way acquisition and utility work, and construction taking place over several years.
- 4. People think in terms of the value of a dollar today, so putting costs and revenues in future inflated "Year of Expenditure" or the "current dollars" of some future year makes it difficult for people to understand the context of investments.
- 5. Pandemic-related increases in funding for transportation, along with associated supply chain economic disruptions have resulted in higher recent inflation for many products and services, including those that go into transportation projects. Although many economists expect these inflationary spikes to be temporary, their amount and duration remains unclear.
- 6. Major financial inputs for the plan are either underway or will be significantly revised over the next several months, further complicating the ability to estimate the exact timing of projects. Both the Durham and Orange County Transit Tax Plans are in development at the time of this MTP adoption. NCDOT is updating the Transportation Improvement Program (TIP); NCDOT staff have indicated that project costs and schedules in the current TIP will; certainly change, and many may do so dramatically, with some projects that were expected to be completed over the next several years pushed further into the future. And although the new federal Bipartisan Infrastructure Bill has been enacted, the nature of additional funding for projects in the Triangle Region is only partly understood.

For all these reasons, the foundations for both the revenues and costs in the financial plan are expressed in 2020 constant dollars, as summarized below. The Triangle J COG transportation staff maintains a fiscal constraint workbook that can translate both revenues and costs between 2020 and future years, using varying assumptions about both cost inflation and revenue growth. As an example, since local transit revenues are tied to sales taxes, cost inflation for items on which transit sales tax is collected will lead to higher revenues than would occur in the absence of the inflation. Since MTP investments take place over a 30-year time period, using a long-term average inflation rate (historically two to three percent) is generally considered advisable, even though inflation will vary during the period.

The default financial model starts with a 2% annual discount rate (and inflation rate) to translate constant 2020 dollars into any future year (current) dollars, as shown in the example on this page.

Time Value of Money @ 2% annual inflation rate	2020	2021	2022	2023
Constant 2020 \$	\$100	\$100	\$100	\$100
Current \$ for Year Shown	\$100	\$102	\$104	\$106

This appendix also notes the two important new revenue sources that are included in the last two decades of this plan: state transportation revenues based on the NC MOVES project and additional local-option revenues being discussed in the Charlotte Region.

More detail on the NC MOVES process and outcomes can be found at: https://www.ncdot.gov/initiatives-policies/Transportation/nc-2050-plan/Pages/default.aspx

Although this financial plan addresses revenues and costs as if they were independent of one another, in North Carolina's transportation prioritization process they are tightly linked – many revenues are *only* available if corresponding costs are associated with narrowly-defined project types. The revenues section below discusses how this inflexibility affects the financial plan.

Revenues

Revenues fall into one of two broad categories: "traditional" revenues from long-standing state and federal sources, and "special" revenues from locally controlled sources or projected new state or local revenue streams. This section also highlights where "discretionary" or grant revenue sources are assumed, typically as federal shares of rail or bus rapid transit infrastructure projects.

For the near-term period of the plan, covering the 2021-30 ten year period, costs and revenues are based on the current 2020-29 TIP, on county-based transit tax revenue spreadsheets maintained by GoTriangle and on local government Capital Improvement Programs. Where projects from these sources begin between 2021-30 but continue to rely on revenues post-2030, the amount of revenues needed to complete the projects are deducted from the available amount in the 2031-40 period.

Traditional State and Federal Transportation Revenues

To calculate a reasonable share of traditional state and federal revenues for complete corridors and roadways, which largely flow through the NCDOT's Strategic Transportation Investment (STI) process, this Plan uses two primary sources:

- 1. actual 2020-2029 State Transportation Improvement Program (STIP) estimates for the 2021-30 near-term period.
- 2. NC Moves 2050 revenue projections for the 2031-2050 mid-term and long-term periods.

STI represents the majority of state and federal funding available for capital projects. STI revenues are divided into three categories of funding: Statewide Mobility, Regional Impact, and Division Needs. The method assumed that CAMPO and DCHC would receive a portion of the Regional Impact and Division Needs revenues commensurate with the MPOs' portion of the population within their respective regions and divisions (based on the most recent 2020 Census Data), and that CAMPO and DCHC could assume up to a portion of the Statewide Mobility revenues commensurate with the average proportion of this funding that has gone to each MPO in previous cycles under the STI policy (34% for CAMPO and 10% for DCHC). Since statewide tier revenues can only be expended on statewide tier projects, the actual amounts of statewide tier revenues in each revenue was then adjusted to match total statewide tier project costs in the adopted plan.

A similar approach was used for projecting growth of the Highway Fund, which is used for maintenance and operations projects. For the Highway Fund, each MPO was assumed to receive an amount proportional to its population within the state. Because the population of the area is projected to grow faster than the state as a whole, this results in a growing percentage of funds for the MPO areas over time—this plan used 2040 population forecasts to calculate the percentage for each MPO: CAMPO at 16.7% of the state population and DCHC MPO at 5.5% of the state population.

Congestion Mitigation and Air Quality (CMAQ) funds are exempt from STI, so they were calculated separately. The amount of funding for CMAQ is based on the amounts in the current federal transportation funding bill, the Infrastructure Investment and Jobs Act, and grow at an annual rate derived from that law.

The financial model assumes a long-term 2% annual discount rate (or inflation rate) to translate between 2020 constant dollars and future current year or Year of Expenditure (YOE) dollars, since different data sources use different reporting methods. All revenues in this chapter are reported in year 2020 constant dollars. Although revenues are generally considered either "roadway" or "transit" revenues, some funds, such as in the federal Surface Transportation Program (STP), are not restricted to highways and can be "flexed," or transferred, to programs for other transportation modes such as transit, pedestrian and bicycles.

The method used the fiscal year 2020-2029 State Transportation Improvement Program (STIP) for the years 2021 through 2030, adjusting for the one-year difference. The STIP identifies the budgeted state and federal funding source for transportation projects and therefore is the best available source for near term revenue forecasts.

The NCDOT financial model and STIP do not represent all of the available complete corridor and roadway revenues. The MPOs expect to have additional funding available from the following sources:

- Toll Revenues A portion of revenues for managed lane and toll road projects are assumed to come from toll revenue bonds, which are paid back over time by users.
- Local Funding Local governments often issue bonds to finance specific projects such as
 roadways, intersection improvements, street paving, bicycle facilities and sidewalks; the revenue
 to repay these bonds is typically the property or sales tax revenues received by the local
 government over time. These amount are often shown in a local government's Capital
 Improvement Program (CIP).
- Private Funding –Sections of some of the roads in the 2050 MTP, or widenings of existing roads, will be paid for by private developers as they develop adjacent property. Additionally, some of the rail crossing related projects include private funding from railroad partners.

The table below summarizes the complete corridor/roadway revenue sources and calculation assumptions.

Complete Corridor and Roadway Revenue Assumptions

Item	CAMPO Assumptions	DCHC Assumptions
Capital - Federal / State (STI)	2020-2029 STIP for near-term period. May 2020 NC MOVES 2050 Revenue Forecast for 2031-50. Division Needs and Regional Impact category amounts based on MPO population within Division or Region. Statewide Mobility category amount based on average performance from previous STI cycles.	2020-2029 STIP for near-term period. May 2020 NC MOVES 2050 Revenue Forecast for 2031-50 Division Needs and Regional Impact category amounts based on MPO population within Division/Region. Statewide Mobility category amount based on average performance from previous STI cycles.
Maintenance Federal/State/Other	Portion of anticipated NCDOT Highway Fund revenues relative to MPO population. Future revenue based on May 2020 NC MOVES 2050 revenue forecast.	Portion of anticipated NCDOT Highway Fund revenues relative to MPO population. Future revenue based on May 2020 NC MOVES 2050 revenue forecast.
Congestion Mitigation and Air Quality	Amount of CMAQ funding suballocated to MPO is grown at an annual rate consistent with the annual growth rate authorized in the 2021 IIJA act.	Amount of CMAQ funding suballocated to MPO is grown at an annual rate consistent with the annual growth rate authorized in the 2021 IIJA act.
Toll roadway	MPO Staff forecast.	MPO Staff forecast.
Local (Capital Improvement Program)	MPO Staff forecast.	MPO Staff forecast.
Private	MPO Staff forecast.	MPO Staff forecast.
Translation between \$2020 Constant and \$YOE	2% annual discount (inflation) rate.	2% annual discount (inflation) rate.

Existing Transit Revenues

The transit financial models discussed in an earlier part of this section are used to forecast transit costs and revenues. In April 2009, the North Carolina House passed the Congestion Relief and Intermodal 21st Century Transportation Fund (House Bill 148). The legislation permits a local voter referendum to increase the sales tax to raise revenues for transit systems. The half-cent sales tax increase has been approved in Durham, Wake and Orange Counties. There are several major transit revenue assumptions in *Figure 8.2* that forecast the implementation of new revenue sources permitted by House Bill 148, including the ½ cent sales tax for transit services. In addition to these major assumptions, there are many detailed bus and rail transit revenue assumptions that are important enough to be identified in this report, including municipal set-asides for transit and/or "non-supplementation" amounts required as a part of the conditions for county transit taxes.

The table below summarizes the major assumptions used for calculating the bus and rail transit revenues from existing sources at existing rates.

Major Transit Revenue Assumptions

Item	CAMPO Assumptions	DCHC Assumptions
Year ½ cent sales tax began	Wake County: 2016	Durham County: 2013 Orange County: 2013
Transit sales tax revenues (after 2021)	Wake County: 4% and 5% (FY23)	Durham County: 2.8-6.1% annual growth rate (see Appendix 11) Orange County: 2.8-4.5% annual growth rate (see Appendix 11)
GoTriangle Vehicle Registration Fee	Wake County: \$8, grows at 2% annual rate.	Durham County: \$8, grows at 1.5% annual rate. Orange County: \$10, grows at 1.5% annual rate.
County Vehicle Registration Fee	Wake County: \$7; grows at 2% annual rate.	Durham County: \$7; grows at 1.5% annual rate. Orange County: \$7; grows at 1.5% annual rate.
Rental Car Tax (5%)	Wake County: 2.5% annual growth rate.	Durham County: 2.5% annual growth rate. Orange County: 2.5% annual growth rate.
Local Property Tax for Transit	Continued "non-supplementation" required by HB148	Continued "non-supplementation" required by HB148
University-Based Systems	Continued Wolfline services at current levels, paid from university resources.	Continued Duke Transit and NCCU Eagle Shuttle services, paid from university resources; continued UNC-CH contribution to Chapel Hill Transit System.
Projects that include Federal Capital Investment Grant \$	All CRT and BRT projects (50% federal funding assumed)	All CRT and BRT projects (50% federal funding assumed)

Additional/New Revenue Sources

The current transportation revenue sources will not produce enough revenue to finance the multimodal transportation projects that are considered essential in the Triangle, and that are included in this plan.

Therefore, the MPOs have assumed Additional/New Revenue Sources to address this funding gap. The MPOs have a reasonable expectation to realize these new revenue sources based on the many local and statewide commissions that have studied transportation financing and recommended new funding sources

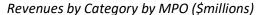
It is important to note the following background information on the Additional/New Revenue Sources proposed in the 2050 MTP:

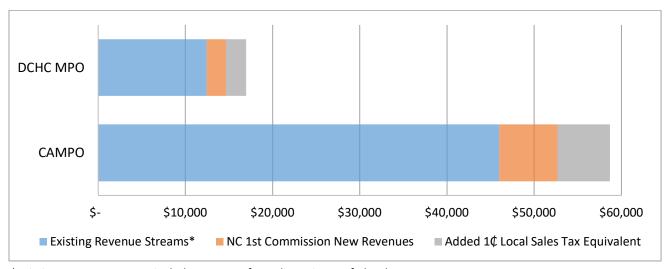
- These new revenue options would require legislation from the North Carolina General Assembly. The MPOs are not currently authorized to make these tax and revenue program changes.
- The plan assumes these new or additional revenue sources would only be available in the midterm and long-term time periods, so would not start yielding revenue until 2031.
- The exact type and mechanism for increasing these revenues, e.g., sales tax, property tax, VMT fees, is not specified.
- New or additional revenues are assumed to be put in place without the constraints of existing revenues; i.e., the MPOs could program them to any transportation projects in this plan. The table below presents the assumptions for Additional New Revenue Sources.

Assumptions for Additional/New Revenue Sources

Item	Revenue Assumptions	CAMPO Amount (\$ millions)	DCHC MPO Amount (\$ millions)
Sales Tax (or equivalent) in MPO Counties	Level of effort equivalent to an additional one cent sales tax increase in 2031 for transportation improvements. Revenue increases commensurate with projections for existing sales taxes. Requires NC General Assembly action.	\$ 6,040	\$ 2,340
NC First Commission Revenues	New funding for transportation improvements based on 2040 population-based share of NC First Commission-recommended levels of additional funding. Available for 2031-2050 time periods. Requires NC General Assembly action.	\$ 6,690	\$ 2,200
Total		\$ 12,730	\$ 4,540

The result of adding First Commission proportionate-share revenues and additional county-based sales-tax equivalent revenues would be an increase of \$17 billion in revenues to the region over the 30-year horizon, an increase of 30% over the revenues that would be available without these sources.





^{*}existing revenue streams include revenues from discretionary federal grants

Airport Revenues and Costs

The Vision 2040 Master Plan for Raleigh-Durham International Airport (RDU) projected revenues to 2040 and defined a list of projects to be constructed with those revenues. Through 2040, the Airport forecast \$2.7 billion in revenue (in year of expenditure dollars), from the following sources:

- \$1.57 billion from RDU funds
- \$659 million from RDU debt
- \$182 million from federal funds
- \$281 million from customer facility charges
- \$10 million from NCDOT

The Vision 2040 Master Plan showed the following expenditures through the year 2040, using the revenues identified above:

- \$905 million in critical infrastructure preservation projects
- \$1.8 billion in discretionary infrastructure projects

The Master Plan also identifies additional projects that could be constructed if demand warrants and additional funding can be secured:

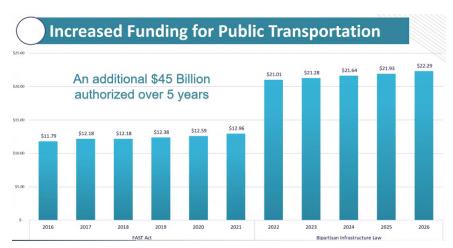
- \$677 million in private equity projects
- \$2.04 billion in deferred projects

2021 Federal Infrastructure Investment and Jobs Act (IIJA)

The Infrastructure Investment and Jobs Act (IIJA), also called the Bipartisan Infrastructure Law, was signed on November 15, 2021. The bill provides for substantial increases in transportation funding over five federal fiscal years, starting October 1, 2021 and running through September 30, 2026, which is within the first 10-year period of this plan. Federal transportation revenues will be provided both through increases in traditional "formula" funds (revenues that flow automatically to eligible recipients based on criteria) and through existing and new "competitive" grant programs, such as the RAISE, INFRA, Bus & Bus Facility, and Capital Investment Grant (CIG) programs; the latter program is the source for federal shares of the rail and Bus Rapid Transit investments in this plan.

A large portion of these funds are guaranteed, although some will still be subject to annual appropriation by Congress. Of the \$661 billion allotted to US DOT agencies, \$567 billion (85%) is in guaranteed funding.

Estimates are that North Carolina will receive about \$7.7 billion over the five years in formula funding for highways and bridges, and close to a billion dollars in formula funding for transit – a 32% increase over FAST-Act formula transit funding levels.



Federal FAST Act and IIJA Transit Funding Levels

The increased highway and bridge funding comes at a critical time, as NCDOT has indicated that the current STIP, covering FY20-29 – and which represents the first 10 years of this MTP, can't be achieved with the funding originally assumed, and that the next version of the STIP, covering FY24-33, will show large increases in current project costs and the delay of many currently programmed projects.

For this reason, the MPOs have decided that for the purpose of this version of the 2050 MTP, the new IIJA highway and bridge funding will be reserved to address higher costs of projects already in the current STIP and the first decade of this plan. If the cost picture improves, then these added IIJA revenues can be used to advance projects already in this plan, and will be addressed through an MTP amendment at the time the FY24-33 TIP is adopted.

The increased transit funding and any competitive grant revenues make it more likely that the ambitious transit projects in this MTP can be funded, and possibly advanced as well, and potentially lessen the need for borrowing to implement transit infrastructure projects on the schedules anticipated in this MTP.

In summary, Connect 2050 revenues:

- 1. include existing revenue sources, rates and proportionate shares as reflected in the current TIP and the NC MOVES 2050 forecasts
- 2. reflect current local transit tax revenue calculations from county-based fiscal spreadsheets, plus additional municipal transit revenues, as available. University-operated services are assumed to be continued, but their revenues and equivalent costs are not included in summary totals.
- 3. include toll funding directly tied to toll road projects
- 4. include municipal and private roadway funding based on local CIPs and past trends
- include airport-based revenues in RDU's Vision2040 plan plus NCDOT STI programming for airports, directly tied to airport costs
- 6. add a new NC First Commission-based revenue source for 2031-50, based on population shares
- 7. add a new county-based sales-tax equivalent revenue source for 2031-50
- 8. treat new federal Infrastructure Investment and Jobs Act (IIJA) revenues over and above baseline FAST-Act levels as a "reserve" for expected higher project costs in the 2024-33 STIP neither these reserve revenues nor an estimate of higher costs are reflected in this plan's spreadsheets, but are expected to be added when this MTP is amended as part of the 2024-33 TIP process.

Costs

The two MPOs used the same cost assumptions for the major parts of the plan, including:

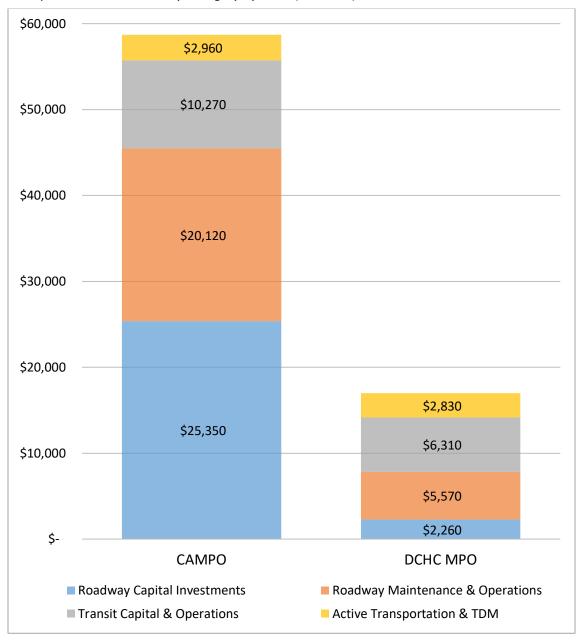
- <u>Complete Corridor and Roadway</u>: The plan used the following hierarchy for highway costs. For example, the TIP cost was used for projects in the TIP, but if none is available (i.e., the project is not yet in the TIP), then the SPOT cost was used, and so on:
 - FY 2020-2029 Transportation Improvement Program (TIP);
 - Available feasibility studies
 - Strategic Planning Office of Transportation (NCDOT SPOT) data from the prioritization process.
 - 2015 highway cost estimate spreadsheet from NCDOT.
- <u>Bus Transit and Rail Transit</u>: Used GoTriangle-maintained financial models used for the Durham County, Orange County and Wake County transit plans and annual work plans. Commuter Rail costs from the Phase I Commuter Rail Study (West Durham to Clayton segments).
- <u>Travel Demand Management</u> (TDM): Used cost estimates from the regional plan administered by the Triangle J Council of Governments.
- Intelligent Transportation Systems (ITS): Used cost categories from the project list in the Triangle Region ITS Strategic Deployment Plan Update. (June 2020). For projects with a TIP number or where a feasibility study had been prepared, the most recent TIP or feasibility study costs were used. For other projects, the mid-point of the cost range was used as a first-pass estimate. Time periods used in the MTP may differ from the time periods in the ITS plan update.
- <u>Airports</u>: costs match revenues from the RDU Vision2040 Plan and STI airport projects.

Lists of projects and associated costs are shown in Appendices 2, 3 and 4, categorized by mode.

Balancing Costs and Revenues

The figure below summarizes the sources and uses of revenues for each MPO, demonstrating that projects can be delivered based on revenues that can be reasonably expected during the time frame of this plan.

Transportation Investment by Category by MPO (\$millions)



Connect2050 Appendix 12. Environmental Justice and Critical Environmental Resource Maps

This appendix contains a series of maps illustrating the results of analyzing environmental justice criteria and inventorying critical environmental resources. A brief overview of the two sets of maps is given below, with additional details given in Chapter 9 of the 2050 MTP report. An online, interactive map that includes all layers in this appendix can be viewed here.

Environmental Justice Maps

The first set of five maps in this appendix display 2050 MTP highway projects (all, new, widening, and others) and transit corridors overlayed on communities of concern. Communities of concern were identified for the DCHC MPO and CAMPO region using American Community Survey 2015-2019 estimates for six indicators: race (non-White), ethnicity (Hispanic or Latino origin), age (70+), income (below 150% of the poverty line), vehicle availability (zero-car households), and English proficiency (people who do not speak English or speak English "less than very well"). The percentage of the population in each census block group was calculated for each indicator, with block groups in the 75th percentile (top 25%) counted as meeting each indicator threshold. The composite communities of concern layer shown in the first five maps displays the total number of thresholds that were met for each block group in the region.

Critical Environmental Resource Maps

The second set of eleven maps in this appendix display 2050 MTP and CTP highway projects to identify projects that might have significant impacts on the environment or protected spaces. Many of the CTP projects are not included in the final adopted 2050 MTP, but are included in these maps to ensure that a comprehensive record of all of the potential future projects was being evaluated.

Environmental Justice Metrics (CAMPO Pilot)

As part of the MPOs efforts to better document the impact of the recommended improvements to the transportation network for the region, additional land use displacement metrics are being studied for inclusion in future joint MTPs.

Currently, a summary analysis of the impact of highway improvements on forecasted land use values for parcels within the region is under development. This analysis applies approximate right-of-way buffers to mapped highway corridors in the CAMPO region and then tabulates the number and area of parcels that fall within them.

These tabulations are further summarized in Table 1 by land use type (forecast in 2050) as designated by the local planning staff responsible for submitting this data at the outset of MTP development. Finally, these tabulations are summarized in Table 2 by the underlying presence of identified communities of concern (as outlined earlier in this appendix).

This preliminary analysis permits MPO staff to begin cataloging the direct impact of highway improvement recommendations to future land use and the communities that are historically most likely to be excluded from planning outreach efforts. Future development of this analysis aims to apply a statistically rigorous measure of impact that better answers questions such as:

"When compared to the entire region, are the recommended highway improvements in this plan significantly impacting particular subsets of forecasted land use and communities of concern?"

"What impacts from the recommended improvements are considered beneficial or consequential to these land use types and communities of concern?"

The tables below are the results of the preliminary analysis outlined above for the CAMPO bound data of the last alternative scenario (All Together) to be considered for the 2050 MTP. A new analysis applied to the adopted scenario, for the entire region, of the joint 2050 MTP is planned post-adoption as a part of further analysis development.

Table 1. Area of impact (in square miles) of recommended highway improvements by forecasted land use type (2050) – CAMPO region only

Land Use Type	New Location	Other	Widening	Total Area
Civic	0.33	0.14	0.83	1.31
Commercial	0.80	0.49	3.49	4.78
Residential	3.26	0.66	8.50	12.41
School	0.03	0.00	0.09	0.12
Total Area	4.42	1.30	12.91	18.62

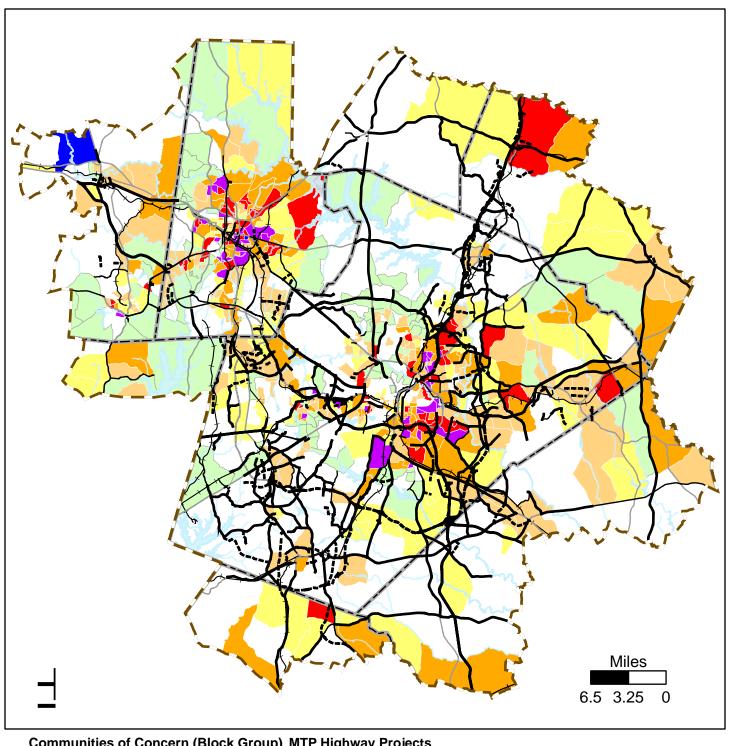
Table 2. Summary count, and percentage total, of parcels by land use type and community of concern status impacted by recommended highway improvements in the CAMPO region

Analysis Zone	Residential Parcels	Residential %	Commercial Parcels	Commercial %	Civic Parcels	Civic %	School Parcels	School %
Entire CAMPO Region	442,896	100	21,562	100	17,089	100	391	100
CAMPO Community of Concern	229,253	51.8	13,765	63.9	10,988	64.3	216	55.2
CAMPO Highway Project Buffer	36,116	8.2	8,115	37.6	3,056	17.9	201	51.4
CAMPO Highway Project Buffer and Community of Concern	18,524	4.2	4,601	21.3	1,807	10.6	113	28.9



Highway Projects - 2050 MTP



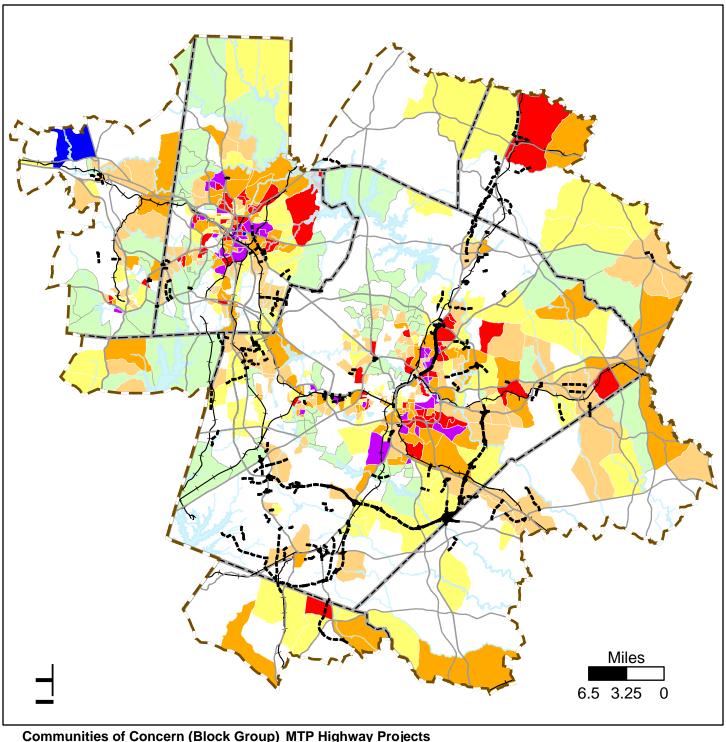


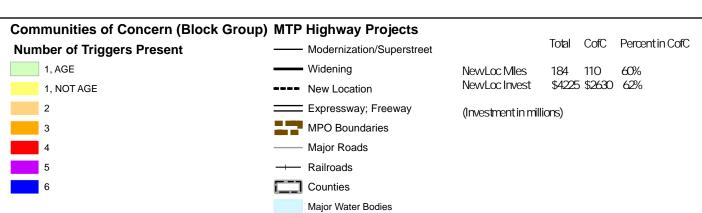




Highway Projects - New Locat on 2050 MTP



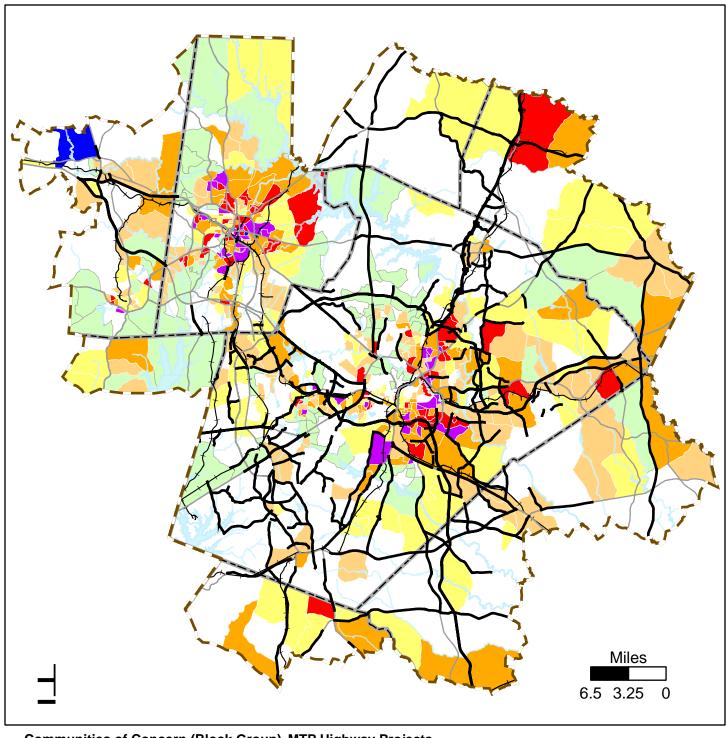


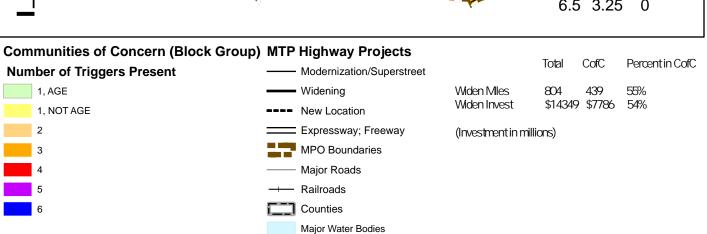




Highway Projects - Widening 2050 MTP



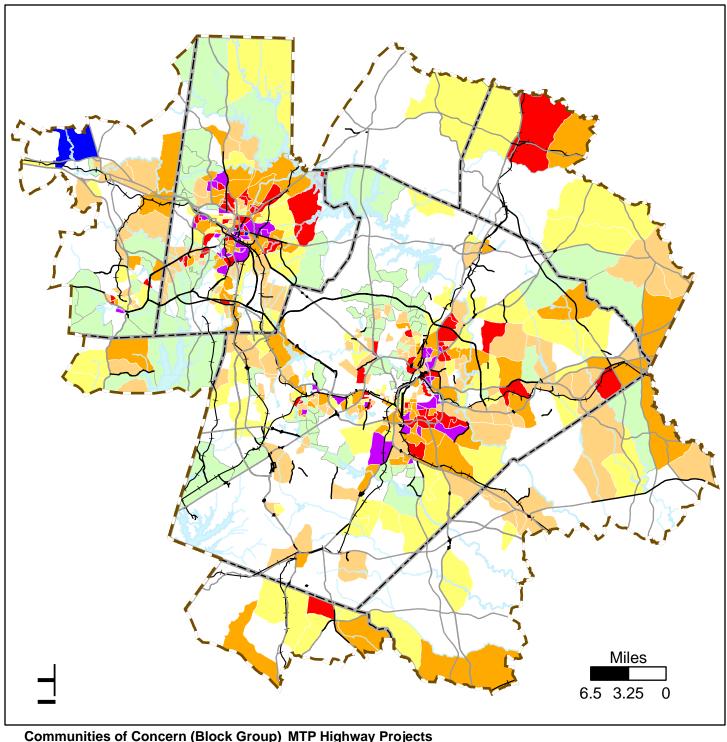


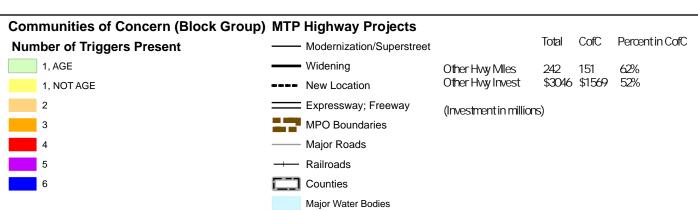




Highway Projects - All Others 2050 MTP



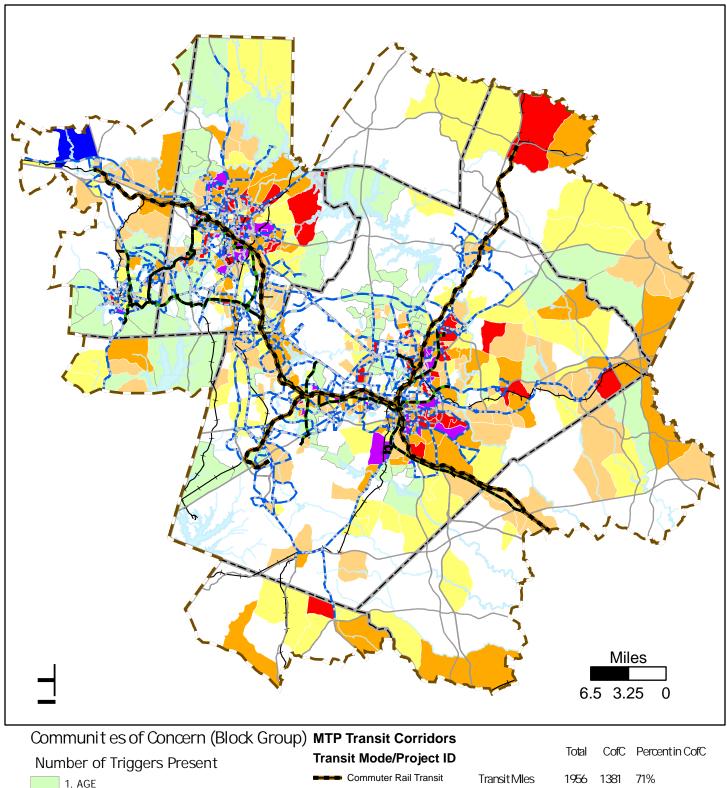






Transit Corridors - 2050 MTP



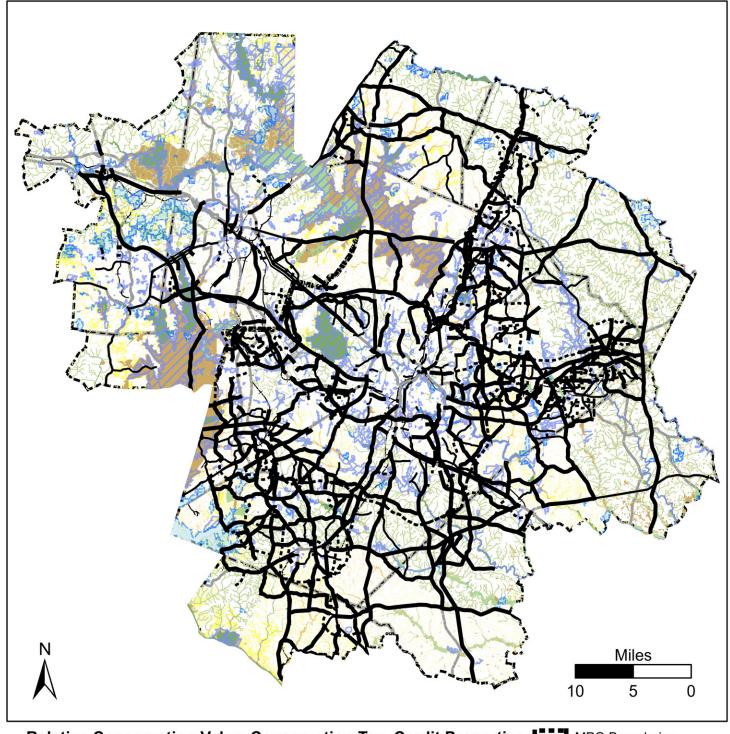






Biodiversity and Wildlife Habitat 2050 MTP and CTP





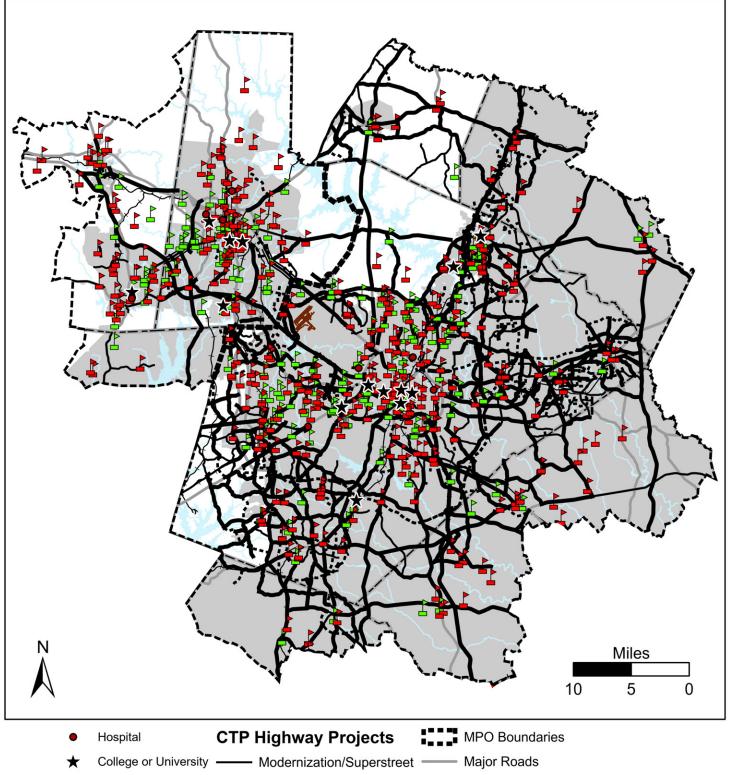


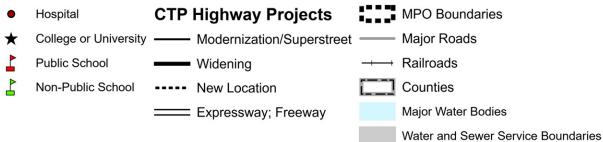
Expressway; Freeway



Development 2050 MTP and CTP



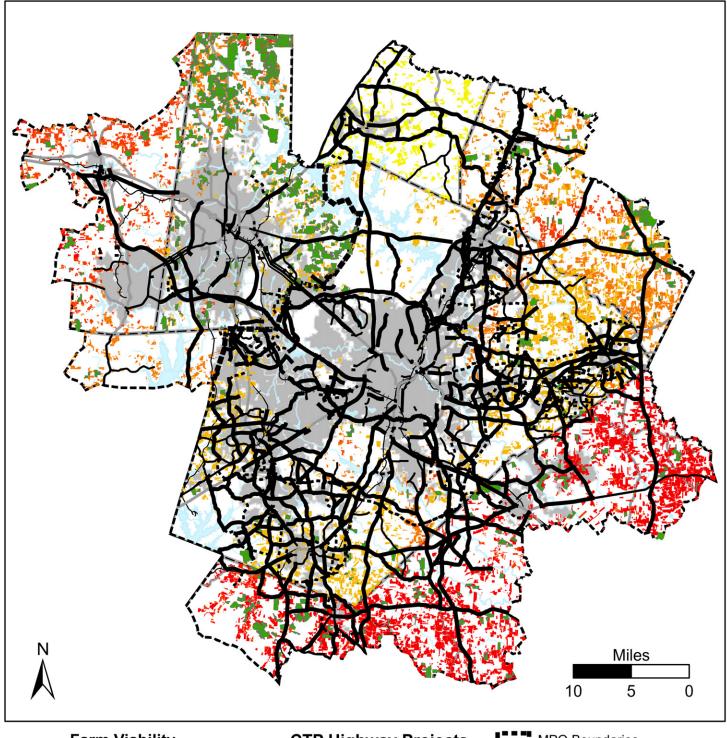


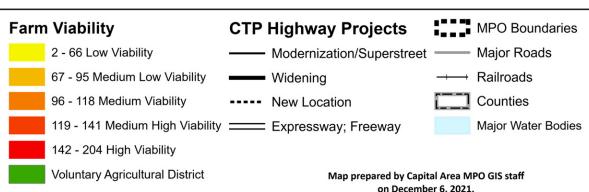




Farmland 2050 MTP and CTP



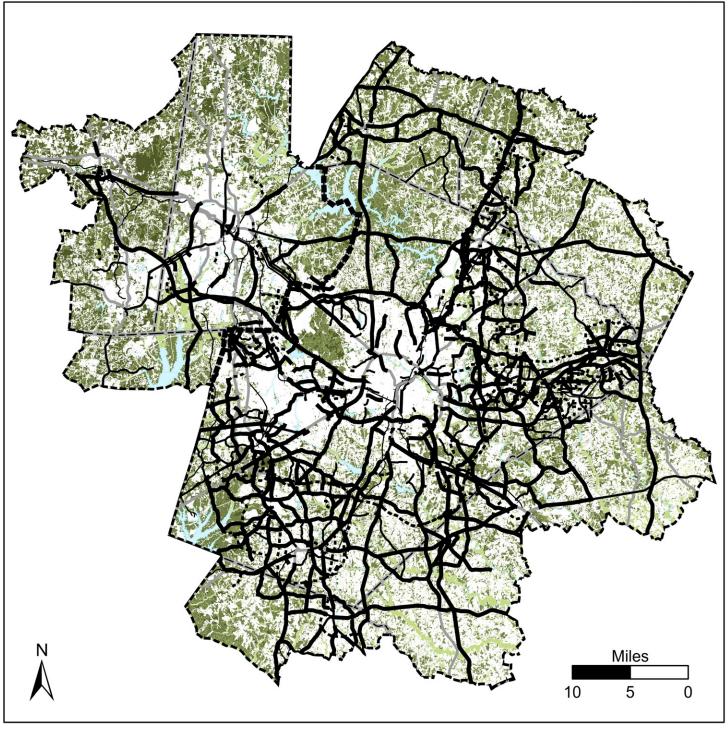


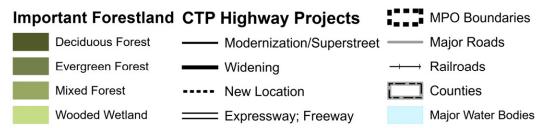




Forest 2050 MTP and CTP

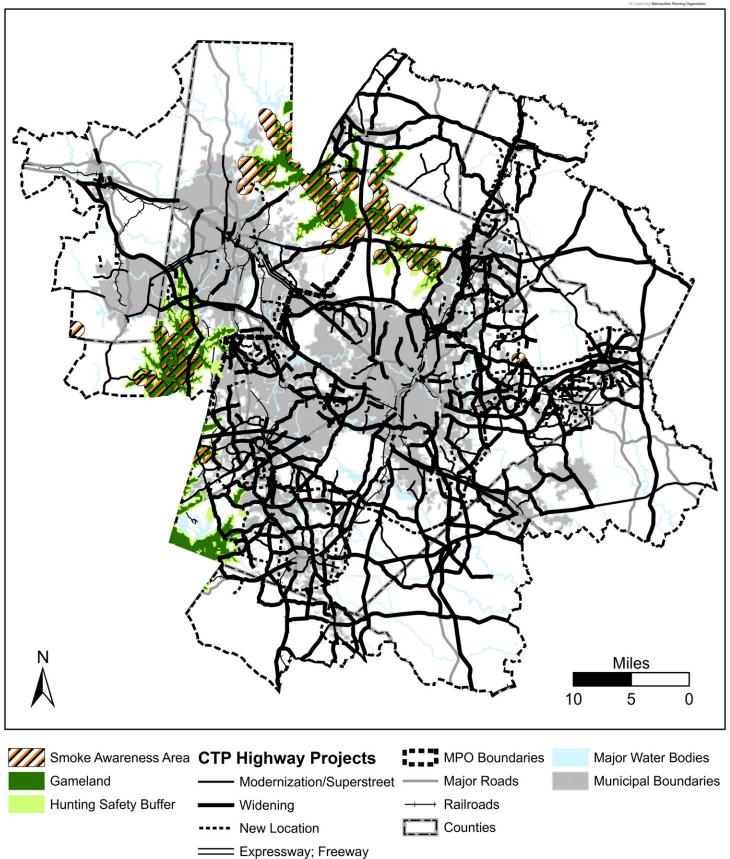








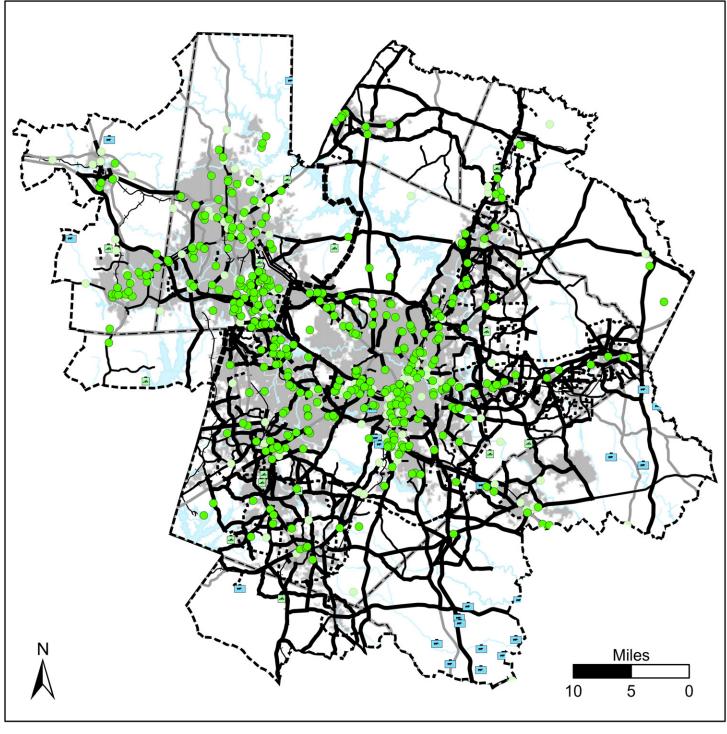
Gamelands, Hunting Buffers, and Smoke (2050 MTP and CTP CAN





Hazards 2050 MTP and CTP





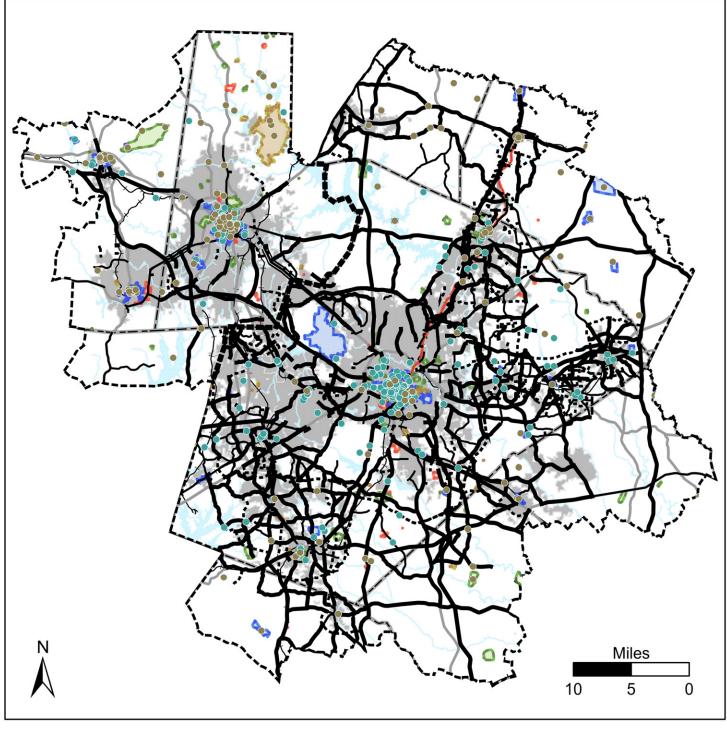


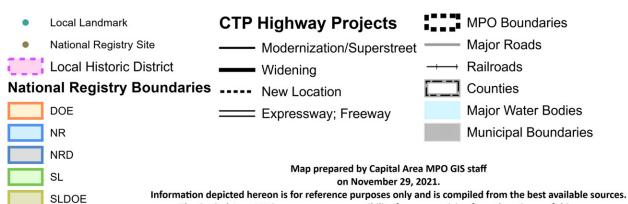
Hazardous Substance Disposal Site



Historic Sites 2050 MTP and CTP





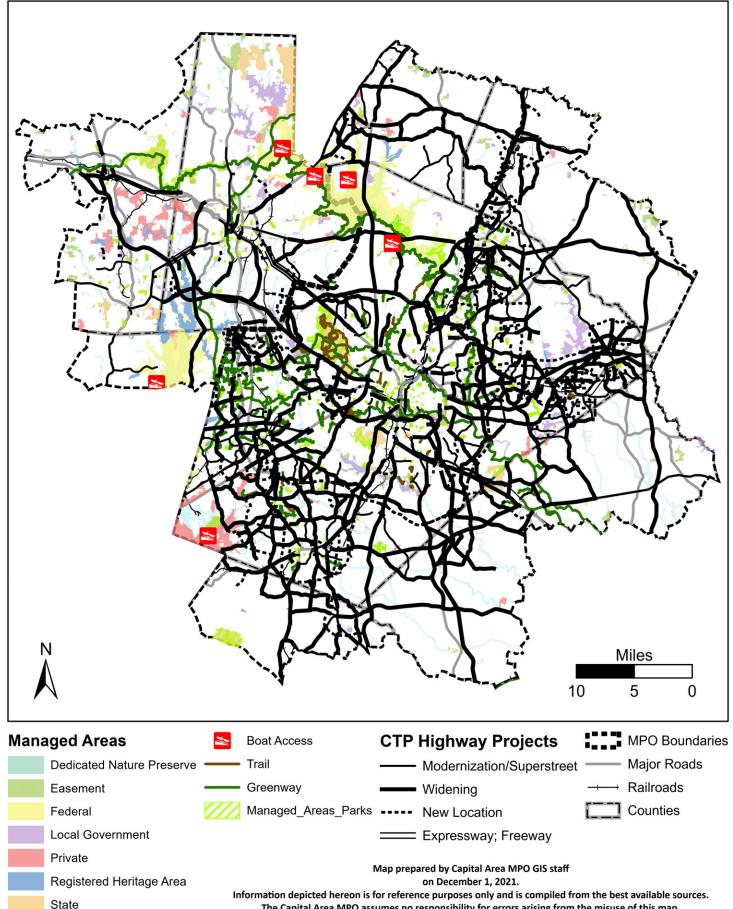


The Capital Area MPO assumes no responsibility for errors arising from the misuse of this map.



Parks and Recreation 2050 MTP and CTP



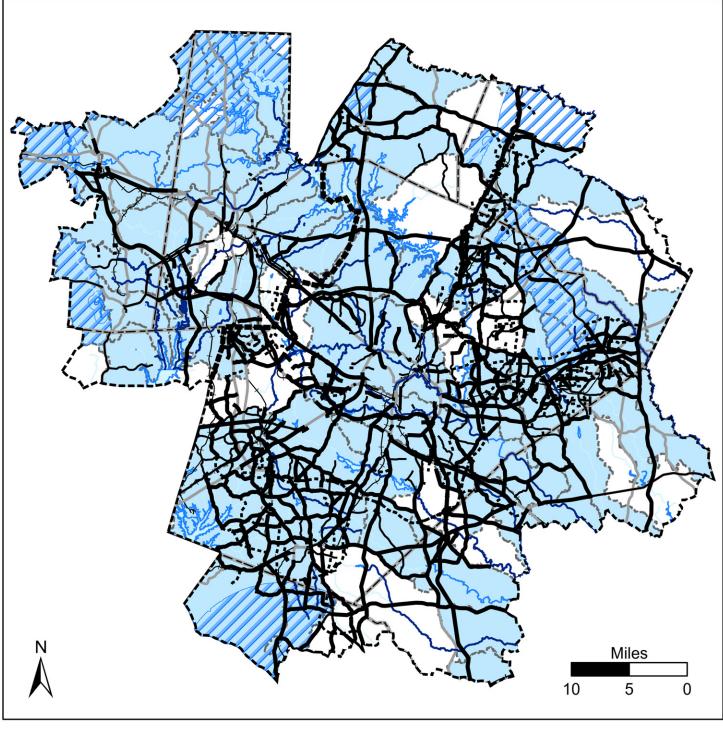


The Capital Area MPO assumes no responsibility for errors arising from the misuse of this map.



Water Resources 2050 MTP and CTP





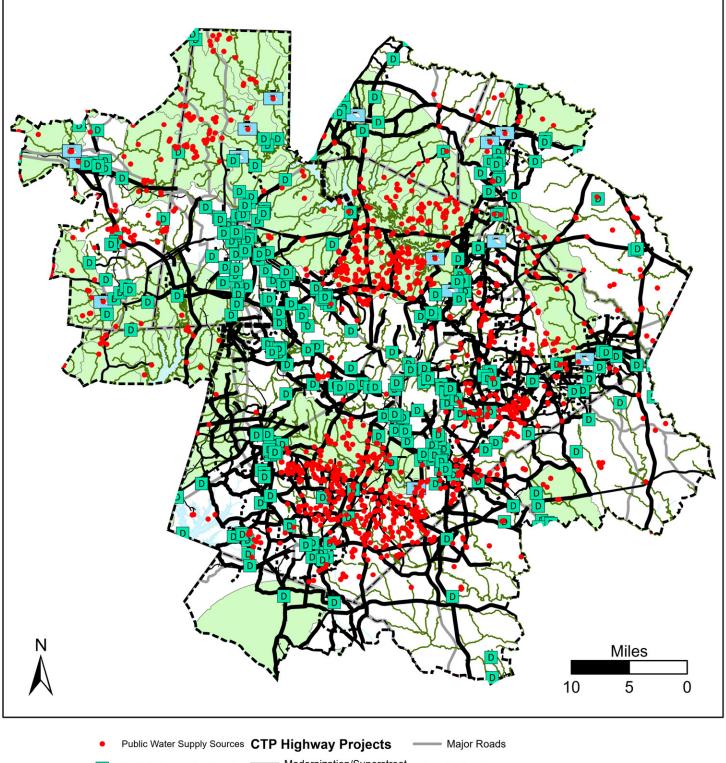






Water Supply 2050 MTP and CTP





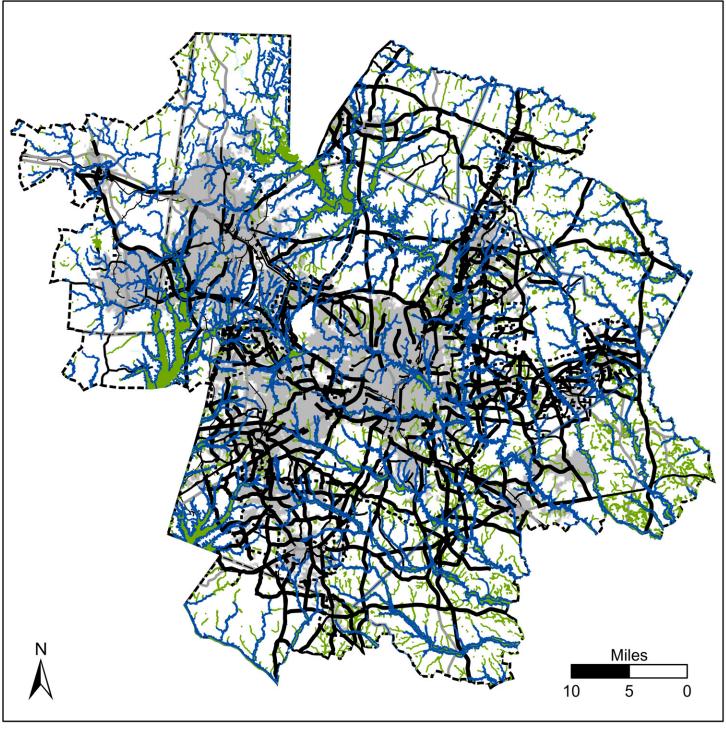


Map prepared by Capital Area MPO GIS staff on December 1, 2021.



Wetlands and Floodplains 2050 MTP and CTP







Connect2050 Appendix 13. Federal Transportation Performance Measures

Background

Appendix 13 includes the federally-required performance measures at the time of this plan's initial adoption. Section 4.4 of the plan puts the federal Transportation Performance Measures (TPMs) performance measures in context with the full set of performance measures associated with the 2050 MTP. Since the MPOs and NCDOT periodically update the specific target values of some of the measures, this appendix is designed to be able to provide a guide to the values without requiring an amendment of the full plan.

Overview

The two MPOs are required by federal law through the Moving Ahead for Progress in the 21st Century Act (MAP-21) and the Fixing America's Surface Transportation (FAST) Act to adopt specific transportation performance measures. These measures are divided into four categories: Safety (Highway and Public Transit), Pavement and Bridge Condition, System Performance/Freight, and Transit Assets.

The following are the values for each performance measure at the time of initial MTP adoption. These values are revised periodically and the most current values can be obtained from each MPO.

Federal Performance Measures: Highway Safety

The safety measure is a federal Transportation Performance Measure (TPM) and thus the MPOs are required to set targets for those measures and include those targets in their long-range transportation plan, i.e., Metropolitan Transportation Plan (MTP). CAMPO and DCHC MPO both resolved to plan and program projects to meet the targets in the North Carolina 2022 Highway Safety Improvement Plan (HSIP). The HSIP targets are set to reduce fatalities and serious injuries by one-half by the year 2035, and eventually to zero by the year 2050. Those targets included the following statewide reductions by December 21, 2022:

- 1. <u>total fatalities</u> by 12.17 percent from 1,428.8 (2016-2020 average) to 1,254.9 (2018-2022 average);
- 2. fatality rate by 13.78 percent from 1.226 (2016-2020 average) to 1.057 (2018-2022 average);
- 3. total serious injuries by 19.79 percent from 4,410.2 (2016-2020 average) to 3,537.6 (2018-2022 average);
- 4. serious injury rate by 21.68 percent from 3.782 (2016-2020 average) to 2.962 (2018-2022 average); and,
- 5. <u>total nonmotorized fatalities</u> and <u>serious injuries</u> by 17.93 percent from 592.2 (2016-2020 average) to 486.0 (2018-2022 average).

Based on the U.S. Department of Transportation (USDOT)/Federal Highway Administration (FHWA) review of the safety targets and actual data, North Carolina has not met or made significant progress toward achieving its safety performance targets. In fact, the number of fatalities and serious injuries and the corresponding rates continue to increase. As a result, the North Carolina Department of Transportation (NCDOT) must ensure that all federal Highway Safety Improvement Program (HSIP) funding is obligated to safety projects and must develop a detailed implementation plan.

On the next page, the CAMPO and DCHC MPO safety target data are presented in tables that show the 5-year rolling average. Some of the values show slight increases and decreases in the first several years, but all of the values have steadily increased since 2012-2016 period.

Capital Area MPO Safety Data and Targets

Target Setting Crash Data

Year	Fatalities (5 Year Average)	Fatality Rate (5 Year Average)	Serious Injuries (5 Year Average)	Serious Injury Rate (5 Year Average)	Non-motorized Fatalities and Serious Injuries (5 Year Average)
2008 - 2012	95.6	0.880	149.8	1.378	32.4
2009 - 2013	95.2	0.864	147.0	1.333	34.0
2010 - 2014	92.4	0.823	155.0	1.378	36.6
2011 - 2015	92.0	0.793	163.6	1.403	40.8
2012 - 2016	95.8	0.797	193.4	1.591	43.6
2013 - 2017	93.8	0.756	255.0	2.012	47.0
2014 - 2018	93.6	0.729	328.4	2.519	50.8
2015 - 2019	99.2	0.748	412.8	3.085	62.4
2016 - 2020	108.2	0.836	485.6	3.730	71.8
2022 Target*	86.6	0.651	377.7	2.820	54.7

DCHC MPO Safety Data and Targets

Target Setting Crash Data

Year	Fatalities (5 Year Average)	Fatality Rate (5 Year Average)	Serious Injuries (5 Year Average)	Serious Injury Rate (5 Year Average)	Non-motorized Fatalities and Serious Injuries (5 Year Average)
2008 - 2012	29.6	0.630	74.6	1.590	18.6
2009 - 2013	30.8	0.640	70.8	1.474	17.6
2010 - 2014	32.0	0.647	74.8	1.514	18.6
2011 - 2015	32.8	0.651	80.6	1.601	20.2
2012 - 2016	34.0	0.658	79.4	1.541	20.8
2013 - 2017	36.0	0.675	84.8	1.586	19.4
2014 - 2018	36.0	0.658	88.4	1.615	20.2
2015 - 2019	38.8	0.695	95.8	1.716	22.4
2016 - 2020	41.4	0.764	107.4	1.995	24.0
2022 Target*	34.3	0.613	84.3	1.507	20.5

^{*}Target based on State's methodology of reducing crashes by 50% by the year 2035

Rates are in units of crashes per 100 MVMT

Last update: 9/16/21

Federal Performance Measures: Public Transit Safety

This transit safety measure is a federal Transportation Performance Measure (TPM). Thus, the MPOs are required to support the Public Transportation Agency Safety Plan (PTASP) targets that the relevant transit systems set, and include the targets in their long-range transportation plan, i.e., Metropolitan Transportation Plan (MTP). The transit systems that receive urbanized area formula grants must develop and implement a safety management system (SMS) that encompasses the following targets:

- the number and rate of fatalities, injuries and events; and,
- the mean distance between mechanical failures.

These targets and the values are presented in the table on the next page. A few notes help to better understand the targets:

- Total is per year;
- Rate is per 100,000 vehicle revenue miles;
- Distance is mean miles between major mechanical failures; and,
- Events are reportable fatalities, injuries, evacuations, collisions and incidents.
- N/A indicates that the transit system does not operate that type of service.

CAMPO and DCHC MPO Transit Safety Data and Targets

							Mechanical
	Fatalities:		Injuries:		Events:		Failures:
Transit System	Total	Rate	Total	Rate	Total	Rate	Distance
Chapel Hill Transit - Fixed Route	0	0	0	0	0	0	25,000
Chapel Hill Transit - Non Fixed Route	0	0	0	0	2.34	0.6	35,000
GoCary - Fixed Route	0	0	3	0.5	7	1.18	20,000
GoCary - Non Fixed Route	0	0	1	0.2	1	0.2	80,000
GoDurham - Fixed Route	0	0	11	0.3	46	7.2	20,551
GoDurham - Non Fixed Route	0	0	0	0	1	0.05	50,000
GoRaleigh - Fixed Route	0	0	207	125.7	325	197.3	294,156
GoRaleigh - Non Fixed Route	0	0	8	4.82	63	38.25	61,347
GoTriangle - Fixed Route	0	0	3	0.125	3	0.125	25,577
GoTriangle - Non Fixed Route	0	0	3	0.125	3	0.125	99,902
GoWakeAccess - Fixed Route	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GoWakeAccess - Non Fixed Route	0	0	4	0.19	17	0.81	116,687
Orange Public Transportation -							
Fixed Route	0	0	1	0.238	1.5	1.5	25,000
Orange Public Transportation -							
Non Fixed Route	0	0	1	0.238	1.5	1.5	25,000

Federal Performance Measures: Pavement and Bridge Condition

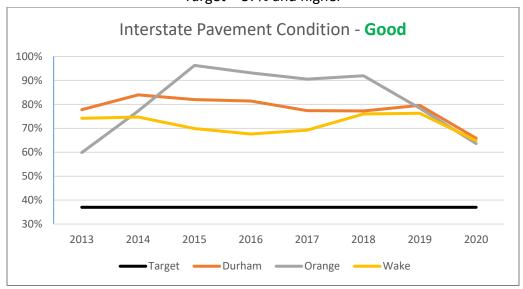
Over the last few years, CAMPO and DCHC MPO each adopted resolutions to support the North Carolina targets for pavement and bridge condition as part of the federal Transportation Performance Measures (TPM) targets. As required by federal regulations, these TPMs must be adopted as part of the Metropolitan Transportation Plan (MTP).

The tables on pages 7-9 show the graded condition for pavement on interstates and non-interstate national highway system (NHS) roadways for the years 2013 through 2020, and for bridges on the NHS network. The target is stated above the graphic box and shown as a static black line in the graph. The level of available data varied and thus staff was able to more easily produce graphs for bridge data for all the counties in the MPOs but pavement data for only Wake, Durham and Orange counties.

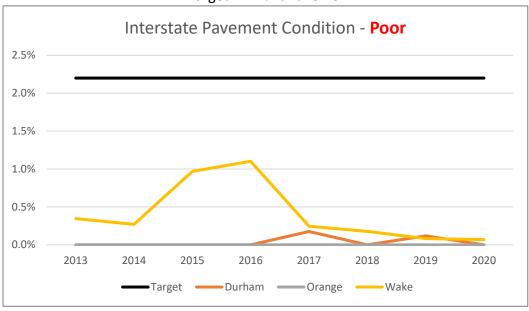
<u>Pavement condition</u> -- Wake, Durham and Orange counties meet the interstate pavements targets, but Durham and Orange counties do not meet the targets for a few years for the non-interstate NHS roadways. In all counties, the roadway condition for non-interstate NHS roadways appears to be deteriorating.

<u>Bridge condition</u> – Most counties consistently exceed the bridge target for good condition. However, Orange, Franklin, Harnett, and Granville counties fail to meet the bridge target for poor condition for several years. Orange and Granville counties also do not meet the bridge target for good condition for a few years.

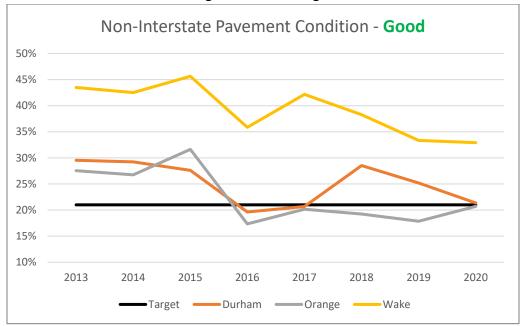
Target = 37% and higher



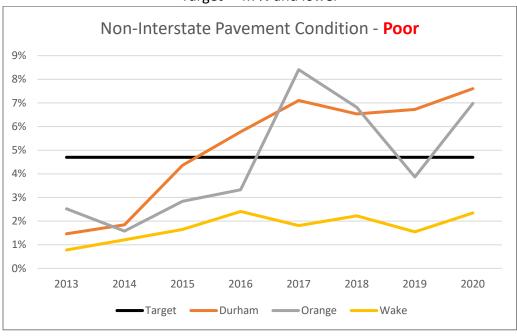
Target = 2.2% and lower



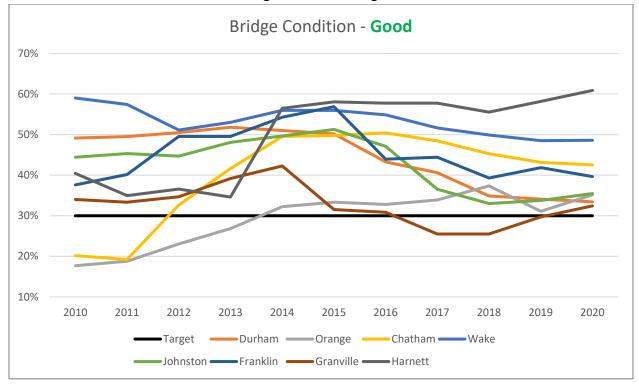
Target = 21% and higher



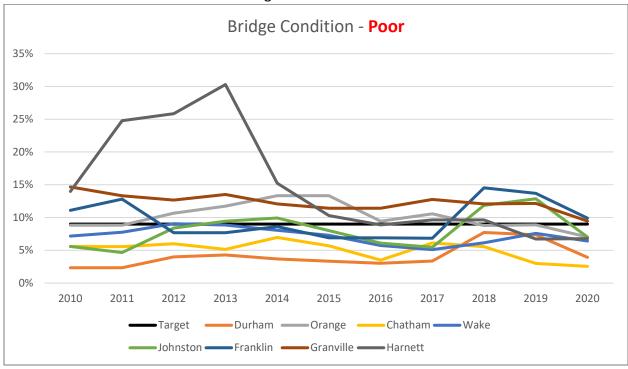
Target = 4.7% and lower



Target = 30% and higher



Target = 9% and lower



Federal Performance Measures: System Performance/Freight

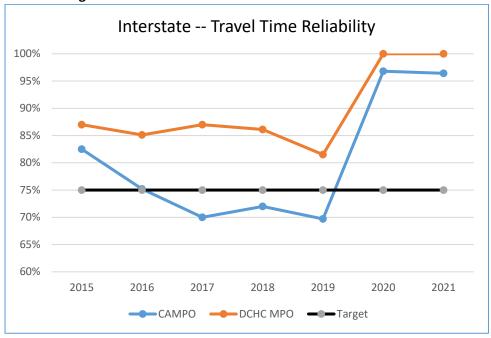
The roadway and truck travel time reliability measures are a federal Transportation Performance Measure (TPM) and thus the MPOs are required to set targets for those measures and include those targets in their long-range transportation plan, i.e., Metropolitan Transportation Plan (MTP). CAMPO and DCHC MPO both resolved to plan and program projects to contribute toward the accomplishment of the following targets: Interstate Level of Travel Time Reliability (LOTTR) -75% or higher; Non-Interstate National Highway System (NHS) LOTTR -70%; and, Interstate Truck Travel Time Reliability Index (TTI) -1.7 or lower.

Level of Travel Time Reliability (LOTTR) measures the percent of person miles traveled that are reliable. As the percent increases, travelers are less likely to experience unexpected delays and less likely to have to leave early for a trip to anticipate unexpected delays and arrive on time. TTR uses actual vehicle travel data, not data from the Triangle Regional Model (TRM), and thus the data cannot be forecasted. As a result, there is not a TTR measure for the year 2050. Nonetheless, the TTR is still an important performance measure to consider in long-range transportation planning to understand the overall health of the major transportation corridors.

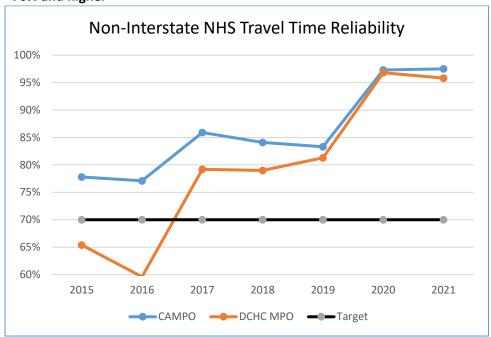
The first graphic on the next page shows the TTR for interstates. CAMPO interstates fail the 75% target for half the target years while the DCHC MPO interstates meet the target for all years. There appears to be a slight trend of decreasing reliability for both MPOs until the year 2020 when the COVID pandemic reduced travel demand and greatly improved travel reliability.

The second graphic on the next page shows the TTR for non-interstate roadways that are part of the National Highway System (NHS). Except for the first two target years when the DCHC MPO failed to meet the 70% target, both MPOs consistently meet the target. The reliability percentage jumped much higher for both MPOs in the years 2020 and 2021 during the COVID pandemic.

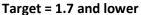
Target = 75% and higher

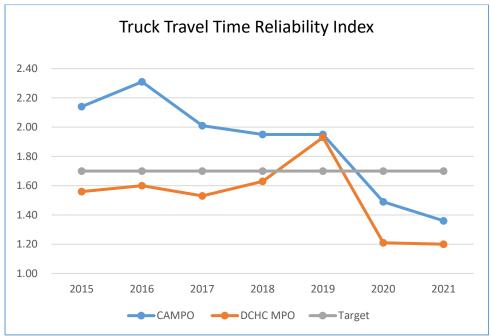


Target = 70% and higher



The <u>Truck Travel Time Reliability Index</u> (TTI) is a similar measure of reliability except a decrease in the value of the measure signifies an improvement in travel reliability for trucks. The graph below indicates that in the initial years CAMPO generally failed to meet the target while the DCHC MPO met the target. However, unreliability of truck travel on interstates in the DCHC MPO increased to the extent that the MPO no longer met the target in 2019. However, the decrease in travel demand since 2020 because of the COVID pandemic has allowed both MPOs to meet the target.





Federal Performance Measures: Transit Assets

The Transit Asset Management – State of Good Repairs (TAM – SGR) measure is a federal Transportation Performance Measure (TPM). Thus, the MPOs are required to support the TAM targets that the relevant transit systems set, and include the targets in their long-range transportation plan, i.e., Metropolitan Transportation (MTP). The transit systems that are federal grantees or subrecipients must develop and implement a transit asset management system. Some transit systems in the MPOs (e.g., Chatham Transit Network, Orange Public Transportation and Durham County Access) have chosen to be part of a group plan organized by the North Carolina Department of Transportation/Integrated Mobility Division (NCDOT/IMD) and therefore are not included in this presentation. TAM includes targets for rolling stock, equipment, and facilities, which are presented in detail on the following two pages.

The tables on the next two pages show the target percentage for the assets that are <u>not</u> in a state of good repair. This data is from the Federal Transit Administration's (FTA) National Transit Database (NTD) for the year 2021. A few notes help to better understand the targets.

- Facilities do not have a Useful Life Benchmark such as "years." The Federal Transit Administration (FTA) Transit Economic Requirements Model (TERM) scale is used instead of years.
- TERM scale example: 5 = excellent, 1 = poor.
- Useful Life Benchmark values are in years.
- N/A: System does not have an asset in this class that requires monitoring.

Transit Systems -- Transit Asset Management and Targets

			2021 Targets	
Asset Category - Performance Measure	Asset Class	GoDurham	Chapel Hill Transit	GoTriangle
REVENUE VEHICLES				
	AO - Automobile	N/A	N/A	N/A
	BU - Bus (61)	18%	0%	26%
Age % of revenue	CU - Cutaway Bus (47)	8%	0%	46%
vehicles within a particular asset class that have met or exceeded their Useful Life Benchmark (ULB)	MB - Mini-bus	N/A	N/A	N/A
	MV - Mini-van (3)	N/A	N/A	N/A
	SV - Sport Utility Vehicle	N/A	N/A	N/A
	VN - Van	14%	N/A	N/A
	Other	N/A	N/A	N/A
EQUIPMENT				
•	Non Revenue/Service Automobile	0%	0%	0%
	Steel Wheel Vehicles	N/A	N/A	N/A
Age % of vehicles that have met or exceeded their Useful Life Benchmark	Trucks and other Rubber Tire Vehicles (6)	0%	0%	0%
(ULB)	Maintenance Equipment	N/A	N/A	N/A
	Computer Software	N/A	N/A	N/A
	Custom 1	N/A	N/A	N/A
FACILITIES				
	Administration	0%	0%	0%
Condition % of facilities	Maintenance	0%	0%	0%
with a condition rating	Parking Structures	0%	N/A	0%
below 3.0 on the FTA Transit Economic	Passenger Facilities	0%	N/A	0%
Requirements Model	Shelter	N/A	N/A	N/A
(TERM) Scale	Storage	N/A	N/A	N/A
· · · · · · ·	Custom 1	N/A	N/A	N/A

Transit Systems -- Transit Asset Management and Targets (continued)

		2021 Targets	
Asset Category - Performance Measure	Asset Class	GoRaleigh	GoCary
REVENUE VEHICLES			
	AO - Automobile	N/A	N/A
	BU - Bus (61)	2%	20%
Age % of revenue vehicles within a particular asset class that have met or exceeded their Useful Life Benchmark (ULB)	CU - Cutaway Bus (47)	N/A	20%
	MB - Mini-bus	N/A	N/A
	MV - Mini-van (3)	N/A	20%
	SV - Sport Utility Vehicle	N/A	20%
	VN - Van	14%	20%
	FB - Ferry Boat	N/A	20%
	SB - School Bus	N/A	20%
	Other	N/A	20%
EQUIPMENT			
	Non Revenue/Service Automobile	13%	20%
	Steel Wheel Vehicles	N/A	N/A
Age % of vehicles that have met or exceeded their Useful Life Benchmark	Trucks and other Rubber Tire Vehicles (6)	0%	20%
(ULB)	Maintenance Equipment	N/A	N/A
	Computer Software	N/A	N/A
	Custom 1	N/A	N/A
FACILITIES			
	Administration	0%	20%
Condition % of facilities	Maintenance	0%	20%
with a condition rating	Parking Structures	0%	20%
below 3.0 on the FTA Transit Economic	Passenger Facilities	0%	20%
Requirements Model	Shelter	N/A	N/A
(TERM) Scale	Storage	N/A	N/A
	Custom 1	N/A	N/A