

AGENDA
Orange Unified Transportation Board
May 20, 2015
7:00 p.m.

You can bring your laptops/tablets if you would like to use them.

Conference Room 004 (Lower Floor) Orange County West Campus
131 West Margaret Lane, Hillsborough

Time Item Title

- 7:00 1. **Call to Order and Roll Call**
2. **Approval of Minutes from March 18, 2015 and April 15, 2015**
3. **Consideration of Additions to the Agenda**
4. **Transportation Services, Orange Public Transportation (OPT)**
- 7:05 4.a. Transportation Related Technologies - Review of new transportation related technologies for promoting public transportation commuting alternatives. (Peter Murphy)
- OUTBoard Action: Receive and review information, provide comments.
5. **Regular Agenda (Action Items)**
- 7:25 5.a. Orange County Transportation Project Priority List – The Board of County Commissioners (BOCC) transportation projects for the Burlington-Graham Metropolitan Planning Organization (BGMPO), Durham-Chapel Hill-Carrboro (DCHC) MPO, and the Triangle Rural Planning Organization (TARPO), to be submitted for consideration of inclusion in the 2018-2027 Statewide Transportation Improvement Program (STIP). (Bret Martin)
- OUTBoard Action: Staff recommends that the Board consider and recommend to the BOCC the list of priority transportation projects for each MPO/RPO to be submitted for consideration of inclusion in the 2018-2027 Statewide Transportation Improvement Program (STIP).
- 7:50 5.b Bicycle Safety – Continuation of the Board's April 15 discussion regarding the plan to address the Board of County Commissioners' petition related to bicycle safety (Attachment 1). The Draft Bicycle Plan is provided as Attachment 2. (Heidi Perov, Abigaile Pittman)
- OUTBoard Action: Receive and review information, provide comments, and forward to the Board of County Commissioners (BOCC) with, or without a recommendation of endorsement.

- 8:45 6. **Staff Updates**
- a. Mountains-to-Sea North Carolina State Trail Draft Master Plan
<http://www.ncmountainstosea.org/>
 - b. Eno Mountain Road Relocation Feasibility Study
- 8:55 7. **Board Comments**
- 9:00 8. **Adjournment** - The OUTBoard will not meet in June.

Charge of the OUTBoard (from Section I, Part C of the adopted Rules and Procedures)

1. *The OUT Board is charged with advising the Board of County Commissioners on the planning and programming of transportation infrastructure improvements and other County transportation planning initiatives, as directed by the Board.*
2. *From time to time the OUT Board may be directed to provide input on regulations on which the Planning Board has primary statutory and local ordinance advisory duties. In such instances, the OUT Board shall serve in an advisory capacity to the Planning Board.*

Meetings (from Section IV, Part C of the adopted Rules and Procedures)

C. Date, Time, and Location of Regular Meetings

3. *Regular meetings of the OUT Board shall be held as needed to address items that require Board action consistent with its Charge and Duties identified herein. Meetings are held on the third Wednesday of the month. The start time and location of the meeting shall be included on the agenda and shall typically be 7:00 p.m. at the Orange County West Campus Office Building located at 131 West Margaret Lane, Hillsborough. The OUT Board Chair, in consultation with staff, shall have the authority to change the start time and location of a regular meeting to meet any special circumstances, provided the information is included on the distributed agenda.*

DRAFT

MINUTES
ORANGE UNIFIED TRANSPORTATION BOARD
MARCH 18, 2015

MEMBERS PRESENT: Paul Guthrie, Chapel Hill Township Member; Alex Castro, Bingham Township Member; Brantley Wells, Hillsborough Township Member; Heidi Perry, Bicycle At-large Member; Ted Triebel, Little River Township Member; Art Menius, Economic Development At-large Member; Tom Magnuson, Pedestrian Access & Safety At-large Member; Amy Cole, Transit At-large Member.

MEMBERS ABSENT: Ed Vaughn, Cedar Grove Township Member; Gary Saunders, Environmental At-large Member; Cheeks Township Member - Vacant; Planning At-large Member – Vacant; Eno Township Member – Vacant.

STAFF PRESENT: Craig Benedict, Planning Director; Janice Tyler, Department on Aging Director; Nancy Coston, Social Services Director; Janet Sparks, Child Support Enforcement Director; Peter Murphy, Transportation Administrator; Malcum Massenburg, Assistant Transportation Administrator; Tom Altieri, Comprehensive Planning Supervisor; Bret Martin, Transportation Planner; Abigaile Pittman, Transportation/Land Use Planner; Eileen Nilson, Mobility Manager; Donna King, Health Dept; Tina Love, Administrative Assistant III

OTHERS PRESENT: Jeff Charles, John Rees

AGENDA ITEM I: CALL TO ORDER AND ROLL CALL

AGENDA ITEM II: INTRODUCTIONS

Craig Benedict: Later in the agenda, we will talk about the new formation of the OUTBoard with some additional representatives that have to do with the County's Human Services agencies. Also, the National Association of Counties has declared April County Government month and this year's theme is transportation. We have met with internal departments and want to unfold this quickly and ask for help as we move into the next month to talk about two events. One is a County Expo on April 10 and the second event that will include a bus tour including the Commissioners on April 24. This is an afternoon event that will take the BOCC and a few select people on a tour of one of our new routes to get an idea of individuals that will use this service.

Heidi Perry: What are the hours.

Craig Benedict: We are estimating it would be from 10:00 a.m. to 2:00 p.m.

AGENDA ITEM III: APPROVAL OF MINUTES FOR DECEMBER 17, 2014

MOTION made by Art Menius to approve December 17, 2014 Minutes. Seconded by Alex Castro. Minutes were unanimously approved.

Art Menius: There was a couple of housekeeping items in the Minutes that don't seem to be on the agenda. One was a list of roads scheduled for maintenance and the other was Heidi asked Abigaile to create a history of how projects got on the STIP.

OUTLINE

MINUTES ORANGE UNIFIED TRANSPORTATION BOARD APRIL 15, 2015

MEMBERS PRESENT: Paul Guthrie, Chair and Chapel Hill Township Representative; Alex Castro, Vice-Chair and Bingham Township Representative; Brantley Wells, Hillsborough Township Representative; Heidi Perry, At-Large Representative; Ted Triebel, Little River Township Representative; Art Menius, At-Large Representative; Tom Magnuson, At-Large Representative; Ed Vaughn, Cedar Grove Township Representative; Gary Saunders, At-Large Representative; David Laudicina, At-Large Representative; John Rubin, At-Large Representative

MEMBERS ABSENT: Amy Cole, At-Large Representative; Eno Township Representative - Vacant;

STAFF PRESENT: Abigaile Pittman, Transportation/Land Use Planner

OTHERS PRESENT: Jeff Charles, John Rees

AGENDA ITEM I: CALL TO ORDER AND ROLL CALL; INTRODUCTIONS

AGENDA ITEM II: APPROVAL OF MINUTES FOR MARCH 18, 2015 – THE MINUTES FOR THE MARCH 18 MEETING WILL BE REVIEWED AND VOTED ON AT THE MAY 20 MEETING WHEN THE TRANSPORTATION SERVICES ADVISORY GROUP MEETS AGAIN.

AGENDA ITEM III: CONSIDERATION OF ADDITIONS OF THE AGENDA

No additions to the Agenda were made.

AGENDA ITEM IV: REGULAR AGENDA

A. BICYCLE SAFETY - At the OUTBoard's March 18 meeting there was a discussion regarding the plan to address the Board of County Commissioners' petition related to bicycle safety (Attachment 1). The Chair gave direction for representatives of the two groups that will be participating in discussions on recommendations for bicycle safety policies and procedures at the April 15 and May 20 meetings. A letter was written to each representative from the Chair providing guidance (Attachment 2).

Paul Guthrie: I would like to remind the OUTBoard members and the public that in this meeting you must seek recognition and have me recognize you before you address this advisory board or another member of the Board or staff. Our purpose tonight is to seek and consider good advice, information and practices for bike and auto safety on the streets and roads of Orange County. This dialogue tonight and next month will need to recognize a couple of essential realities which are: (a) County government in North Carolina by and large does not govern the public roads of the state, design, building maintenance or passage of the laws of governance, and for that matter (by and large) their policing. (b) Counties to not issue driver's licenses or test bike riders. This Board's sole function is to respond to the BOCC, with advice on issues based upon the best information it can gather based its members understanding of issues and facts, and predictable outcomes.

Abigaile Pittman: Reviewed plan.

OUTLINE

- 53 Alex Castro: We have a group of expert bicyclists which include Heidi, Jeff, John, Cliff, Tom, myself and another
54 lady. We have worked on putting together a plan of action with regard to making recommendations on what can
55 be done to improve bicycle safety. We have chosen not to get into the law because there is an active House Bill
56 that would task the Department of Transportation to look at the existing bicycle laws and report to the Joint
57 Transportation Committee by the end of the year.
- 58
- 59 Abigaile Pittman: Are you able to fill in some of the details?
- 60
- 61 Alex Castro: I don't feel I am the voice for this group. Heidi?
- 62
- 63 Heidi Perry: We are not quite ready to discuss it. We only have had one meeting. The task objectives came
64 from the BOCC. We have talked about several things and made a lot of progress. Education needs to be first
65 and foremost - how do we get it out it a more efficient way.
- 66
- 67 Paul Guthrie: Do you have a timeline? Are there any problems we can help with as far as framing?
- 68
- 69 Heidi Perry: Making sure it is comprehensive and specific. We need to have the Sheriff's Department
- 70
- 71 Tom Magnuson: I don't have much experience with this board. What are the mechanisms to get the county to
72 cooperate in generating material? Targeting PSAs may be the best vehicle we have.
- 73
- 74 Jeff Charles: I am impressed with this new working group. Education is a key. Because of the new legislation
75 whatever we do could be out of date in six months. We need the Orange County Highway Patrol rather than
76 Sheriff's Department to get involved; and maybe the Orange County attorneys that would be prosecuting the
77 cases.
- 78
- 79 Paul Guthrie: These need to be serious conversations between the professionals.
- 80
- 81 Alex Castro: We have had Chris Knox, Highway Patrol involved in our discussions. I would recommend that he
82 be invited to the next OUTBoard meeting and he could comment on the law enforcement issues.
- 83
- 84 Jeff Charles: We need to address road rage incidents. We need to develop a process for the motorists and
85 cyclists to deal with this.
- 86
- 87 Art Menius: It is clear there is a problem due to the tragedies that have happened. Isn't there a compromise to
88 be made? There is an issue of education and enforcement.
- 89
- 90 Heidi Perry: I agree but when there is an incident it is never addressed and gives the appearance that it goes
91 away. How do we get the incidents recorded so they don't disappear?
- 92
- 93 John Rubin: I am a motorist and a cyclist. Jeff Newman, Prosecutors Office is a good guy who may be willing to
94 put in some extra hours.
- 95
- 96 Alex Castro: We want to adapt Best Practices law enforcement for cyclists. One big problem is ignorance.
97 Maybe use maps like ones from Chapel Hill and Durham, that need to be posted in the field and give safety
98 greater prominence.
- 99
- 100 Paul Guthrie: Regarding Carrboro, what types of things have you promoted in the education sector in Carrboro?
- 101
- 102 Heidi Perry: We work closely with the Carrboro Police Department, we do bike light giveaways, bike rodeos for
103 the kids, etc. When we give a light to someone we actually install them and give them bike laws; we have night
104 rides.
- 105

OUTLINE

- 106 Paul Guthrie: Are the county schools involved?
107
108 Heidi Perry: Let's Go NC is the curriculum they use.
109
110 Paul Guthrie: Has anyone had any education with motorists?
111
112 John Rees: In a perfect world, we would spend more time with driver's education.
113
114 Jeff Charles: The real target here is not the young driver but the 18-plus aged drivers. Why don't we get auto
115 dealers involved to hand out pamphlets when they sell cars?
116
117 Abigaile Pittman: What about DMV?
118
119 Jeff Charles: Certainly DMV but this is a state problem. The bigger issue is about pelotons. We still need to
120 target the older drivers first.
121
122 Heidi Perry: We do traffic skills classes for riders. Two courses of action, one is for transportation planners and
123 the other is geared towards law enforcement officers. The dealer suggestion is great.
124
125 Art Menius: The kids in driver's education today can be reached in class because they learn to drive with bikers
126 today, which is common.
127
128 David Laudicina: Aren't most car dealers in Orange County?
129
130 Heidi Perry: Car rental places?
131
132 Jeff Charles: Many cyclists do 4,000 miles per year but there is not enough documentation of the incidents.
133
134 Paul Guthrie: We need broad based education. We may want to think about ways and vehicles we can build
135 the outreach for the people we have been talking about. Send them to Abigaile to share with all of us.
136
137 Alex Castro: We're on that path.
138
139 Paul Guthrie: How do we handle the unfocused problem for the BOCC that often our roads are inadequate?
140
141 John Rees: Actually the roads in Orange County are very adequate. Maybe it would be better to say cyclist and
142 motorist coexistence is inadequate. We need better recording of incidents.
143
144 Tom Magnuson: What about crowd sourcing?
145
146 John Rees: The new thing is a GPS type of documentation.
147
148 Jeff Charles: Wiki Maps for commenting and recording of incidents, heat map and self-reporting of areas.
149
150 Alex Castro: Technology: what are the experts doing? What technology is adaptable? We can use that to
151 educate the riders.
152
153 John Rees: Don't focus the Wiki maps on just cyclists. Use if for a broader range of people.
154
155 Tom Magnuson: They are called hazard maps.
156
157 Art Menius: Or co-existence maps.
158

OUTLINE

- 159 Paul Guthrie: Signage for slow moving equipment, etc. Maybe signage would be helpful.
160
161 Jeff Charles: Like a broader purpose for the maps but being able to differentiate between motorist, cyclist and
162 pedestrian comments.
163
164 Paul Guthrie: How much coordination can we expect between municipalities and the county when we try to build
165 a county wide system?
166
167 Alex Castro: I don't see a problem with getting the municipalities and counties to cooperate.
168
169 Jeff Charles: Carrboro and Chapel Hill are ahead of the county in bicycle planning. I am on the transportation
170 and connectivity board of Chapel Hill to get them to consider routes in Orange County.
171
172 Paul Guthrie: How much cycling commuter traffic do we have now?
173
174 Heidi Perry: No one knows.
175
176 Tom Magnuson: Does DOT have the ability to measure that?
177
178 Heidi Perry: There are bike counters for the road. We have two of those in the County.
179
180 Paul Guthrie: Do traffic lights have the ability to count the number of bikes?
181
182 John Rees: I don't think so.
183
184 Alex Castro: On Martin Luther King South of Estes, they installed new lighting for cyclists at the crosswalk.
185 Chapel Hill is investing \$16.4 Million to improve intersections and roads.
186
187 Tom Magnuson: One of our messages to BOCC is to acquire technology.
188
189 Gary Saunders: They replaced a standard flashing light at the crosswalk with a yellow strobe light.
190
191 Ted Triebel: Technical things and mechanical things cost money and education is relatively cheap. The thing
192 that is missing is more the intangible like respect, patience, etc.
193
194 Paul Guthrie: Abigaile, have you or anyone reached out to the County Attorney or Institute of Government?
195
196 Heidi Perry: Bill in House now – HB 232, Session 2015 is in the Senate now to have NCDOT form a committee
197 to study the laws that pertain to bicyclists.
198
199 Alex Castro: Verla Insko, State Representative NC House District 56 Representing Orange County Chapel
200 Hill/Carrboro, is a supporter. The Bill passed with a vote of 116-0.
201
202 Paul Guthrie: It seems if the bill recommends the establishment of a committee to do this, this should have
203 meaning for the BOCC.
204
205 Heidi Perry: We are waiting to see.
206
207 Jeff Charles: The purpose of BOCC petition was the people in the county were asking for a restriction of bicycle
208 riding in the county. We are talking more positive about bicycle riders.
209
210 Abigaile Pittman: The last BOCC meeting is June 16. You have to back up from that several weeks to get the
211 information on their calendar. Will the group be ready at the next meeting in May?

OUTLINE

212

213 Paul Guthrie: I was under the impression the BOCC wanted a skeleton to them in June. I think we need to do
214 as much as we can by the May meeting and if there are loose ends, we say there are and say it may take us
215 longer.

216

217 Alex Castro: We should provide a report to Abigaile by May 13.

218

219 Abigaile Pittman: That would work for our internal deadline.

220

221 Paul Guthrie: If appropriate, notify the BOCC that we plan to have a report to them at their June meeting.

222

223 Heidi Perry: We could have a plan in place with lots of specific details.

224

225 Alex Castro: We have parts that are basically finished.

226

227 Paul Guthrie: Is there any disagreement with what I have suggested? (no replies).

228

229 Abigaile Pittman: Will your report include recommendations?

230

231 Heidi Perry: I would think so. We will have an action plan and who will carry that will be a matter of whose
232 department it belongs to.

233

234 Jeff Charles: We are only talking about modifying the education to be the most current with the latest law.

235

236

237 **OUTBoard Action:** Discussed issues related to bicycle safety and committee work
238 on the issue, and continued to May 20 meeting. (Note: no motion made; not
239 necessary at this time.)

240

241 **B. NCDOT / Orange County Resurfacing Schedule/Program 2016** – NCDOT has
242 recently provided Planning staff with a list of roads on the 2016 Resurfacing
243 Schedule/Program, and which they are currently preparing for contract (Attachment
244 3). They are requesting comments by April 20, 2015.

245

246 Abigaile Pittman: Abigaile Pittman provided a handout entitled 'Roadway Segments Recommended in
247 Adopted Plans and explained the Planning staff has reviewed the reviewed the
248 resurfacing program and provided a summary of pertinent improvements found in
249 adopted plans, for the OUTBoard's information. She explained that should the
250 OUTBoard have any comments, planning staff will transmit them to NCDOT along
251 with the summary.

252

253 Tom Magnuson: Can we make a recommendation to DOT or legislature when they pave a road to push the
254 driveway paving at least four feet off the road?

255

256 Ed Vaughn: Those that are paved are off a little bit.

257

258 Abigaile Pittman: That is the sort of issue that would be at our discussion here with a DOT representative, or at
259 the county/DOT quarterly luncheon.

260

261 Abigaile Pittman: Reviewed the handout.

262

263 Alex Castro: They have been putting rumble strips on the shoulders, how does that fit into the bicyclist issue?
264 Has any thought been put into where these are placed?

OUTLINE

265
266 Abigaile Pittman: That is another question that could be put on the list for discussion with DOT.
267
268 Heidi Perry: Is it standard or can we specify that they be placed two feet from the outside of the white line
269 instead of the inside?
270
271 Abigaile Pittman: I don't know.
272
273 Heidi Perry: Do we rank the comments/projects?
274
275 Paul Guthrie: Do you want to rank them?
276
277 David Laudicina: What about Dobbins Road? It seems like that would be a good place to avoid 15-501. That is
278 number 14 on list.
279
280 Brantley Wells: You could ask but if you add up the numbers, you would take a full road width through there.
281 You will also need to look at the utilities down the road.
282
283 Paul Guthrie: Most of the utilities are beyond the ditch.
284
285 Heidi Perry: If I were going to rank them it would be almost the opposite from what is on the sheet. Provided
286 suggested ranking of list.
287
288 Paul Guthrie: Anyone want to make a motion?
289
290 **OUTBoard Action:** Reviewed and endorsed comments for forwarding to NCDOT.
291
292 **MOTION** made by Heidi Perry to endorse Planning staff's comments subject to the below prioritization order,
293 and requested that staff transmit its recommendation to NCDOT:
294 1. Old NC 86 from just south of Farm House Drive to North Radius of New Hope Church Road
295 2. Arthur Minnis Road from Old NC 86 to Rocky Ridge Road
296 3. New Hope Church Road from Old NC 86 to NC 86
297 4. Lake Orange Road from NC 86 to End of Maintenance
298 5. Walker Road from NC 57 to New Sharon Church Road
299 Seconded by Alex Castro.
300 **VOTE:** Unanimous
301
302 Heidi Perry discussed adding additional comments to the motion: 1) that the additional pavement for the
303 recommended road widenings is extended into driveways; and 2) that rumble strips be used that provide breaks
304 for bicyclists to cross.
305
306 **MOTION** to add the additional comments to the original motion made by Heidi Perry
307 Seconded by Tom Magnuson.
308
309 **VOTE:** Unanimous
310
311 **AGENDA ITEM V:** **STAFF UPDATES**
312 **Board of County Commissioners revisions to Advisory Board Policy and the**
313 **OUTBoard Rules of Procedure – Update on the revisions by Abigaile Pittman**
314
315 Abigaile Pittman: Explained recent Board of County Commissioners (BOCC) revisions to the General Advisory
316 Board Policy and the OUTBoard Rules of Procedure, and provided handouts. Abigaile also explained the

OUTLINE

317 charge of the OUTBoard as an advisory board vs. the charge of the OUTBoard in its role as the Transportation
318 Services Advisory Group.
319
320 Heidi Perry: By this board, we are actually on two boards.
321
322 Alex Castro: The State Transportation Improvement Program is out. They had a public hearing about a month
323 ago. Another one that came out was the rail program. Both are really the first implementation of the new
324 priorities given by the State Government transportation issues. Discussed map.
325
326 **OUTBoard Action:** Received updates
327
328 **AGENDA ITEM VII: BOARD COMMENTS**
329 **OUTBoard Action:** Received comments.
330
331 **AGENDA ITEM VIII: ADJOURNMENT**
332
333 **MOTION** was made by Heidi Perry, seconded by Ed Vaughn to adjourn.
334
335 **VOTE:** Unanimous

DRAFT

54 Abigaile Pittman: We have a presentation later on the STIP and we can discuss that.

55

56 Bret Martin: There is a maintenance schedule by DOT every year in the summer that programs where they will
57 repave. I have that from this past summer I can share. They won't release it until the summer.

58

59 Paul Guthrie: Let's put that on hold.

60

61 Heidi Perry: The schedule from last year, does it have things on it that have not been done?

62

63 Bret Martin: I look at it once a year to see if there are any opportunities for bikeway opportunities and there are
64 hardly ever any.

65

66 Heidi Perry: That was the reason we wanted to see it to see what roads were coming up.

67

68 Craig Benedict: They try to get it done before the winter. I will check into that.

69

70 Bret Martin: If you would like it to be normal practice, we could bring that every year.

71

72 Paul Guthrie: That would be a great idea.

73

74

75 **AGENDA ITEM IV: CONSIDERATIONS OF ADDITIONS TO THE AGENDA**

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78 **AGENDA ITEM V: REGULAR AGENDA**

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80 **A.) Transportation Services, Orange County Public Transportation (OPT)**

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Abigaile Pittman: Introduction of members. We will have a meeting with these members quarterly. The next meeting would be February, May, September and November.

Peter Murphy: Review of importance of transportation services function of the OUTBoard.

Paul Guthrie: How do you visualize these quarterly meetings, open forums or documented topics, etc.

Peter Murphy: They have to be open to the general public in the hearing format.

DRAFT

108 Craig Benedict: About the expansion of the OPT system, in the past 10 years, there has not been anything new but now we
109 have new funding sources from a few different locations. Another funding source is 5311, which is a rural community
110 transpiration system. There are also 5307 funds for urban areas.

111
112 Paul Guthrie: The theme of your April meeting is the kickoff of a large expansion in service.

113
114 Craig Benedict: We want to rebrand OPT having it work well with all the other transit providers. As an interim measure we
115 will order generic bus signs with an Orange County symbol until we brand them with their own symbol.

116
117 Bret Martin: Review of Endorsement of BOCC Action: OPT Americans with Disabilities Act (ADA) Plan.

118
119 Janice Tyler: For seniors our social work staff could approve folks for Chapel Hill Easy Rider; would ya'll consider that here,
120 that our team could certify someone without seeing a medical provider?

121
122 Bret Martin: I can't answer that. Continued review.

123
124 Tom Magnuson: Can we make changes at this late date?

125
126 Bret Martin: If it is something that is definitely governed by the plan adopted by the BOCC, then the answer is no but
127 something that would result in an administrative decision, then yes.

128
129 Tom Magnuson: I took issue with the appeal process. From the user standpoint, that will be uncomfortable. The people
130 who rejected me are going to evaluate the rejection.

131
132 Bret Martin: We run into issues of decisions being made by people who do not meet often enough.

133
134 Paul Guthrie: Is there a hearing officer independent of the operating departments?

135
136 Craig Benedict: If someone disagrees with my decision, it will go to the Board of Adjustment. I would keep a record of
137 comments.

138
139 Ted Triebel: Regarding the expanded service into Alamance County, was there cooperation between the two counties, and
140 is there a funding source from Alamance County to OPT?

141
142 Bret Martin: The answer to your second question is no. The answer to your first question is yes.

143
144 **MOTION** made by Heidi Perry to endorse the resolution as modified by the BOCC and that we revisit the issues
145 of fares and complaints procedures three months after the beginning of the system and at three month intervals.
146 Seconded by _____

147
148 Alex Castro: You said revisit, I think the subject of further study is those issues you mentioned. We need to
149 spend time looking at provision and coming up with more definitive words.

150
151 Paul Guthrie: Would you accept the idea the OUTBoard would continue to look at these issues for procedural
152 and administrative changes?

153
154 **MOTION** made by Heidi Perry to endorse the resolution as modified by the BOCC and that we revisit the issues
155 of fares and complaints procedures for procedural and administrative changes three months after the beginning
156 of the system and at three month intervals. Seconded by _____

157 **VOTE:** Unanimous

158
159 Bret Martin: Review of Endorsement of BOCC Action: OPT Title VI of the Civil Rights Act Plan. Title VI prohibits
160 discrimination on the basis of race, color, and national origin in programs and activities receiving federal financial
161 assistance. Introduction to the Title VI Plan to be provided at the meeting.

162
163 Heidi Perry: When someone completes this form, where does it go?

164

DRAFT

165 Bret Martin: They can send the complaint to the OPT Administrator or file a complaint with the Federal Transit
166 Administrators Office of Civil Rights.

167
168 Ted Triebel: You said something about the make-up of the OUTBoard because we make important decisions
169 about transpiration but as far as I know, we don't make decisions. This is not a decision making board.

170
171 Bret Martin: The NCDOT State Management Plan they developed to tell the FDA how they are governing their
172 sub-recipients who are using federal funding for rural transportation regarding who we are serving, and how we
173 are serving them requires and relies on the input and decisions of this board. The business decisions are in the
174 hands of the Board of County Commissioners. Malcum, can you concur?

175
176 Malcum Massenburg: At the DOT level, one of the first questions before sending anything to the BOCC, is
177 whether their transportation services advisory board has reviewed and approved that document.

178
179 Paul Gutherie: We are getting this after the fact instead of before the fact.

180
181 Craig Benedict: This is not a final deciding board.

182
183 Bret Martin: The preference would have been for these items to come before the OUTBoard first.

184
185 Heidi Perry: I am reading the charge and we do not have the final say.

186
187 Bret Martin: That is true, the BOCC has the final say, but that is not true with the State Management Plan.

188
189 Paul Gutherie: This function we have just discussed is a new function for this board and we can sort that out.
190 We should adopt and endorse what the BOCC did, and I would even welcome a second motion to ask staff to
191 look carefully into what needs to be done to amend the overall guidance with regards to the responsibility of this
192 board to encompass the powers that have been assigned to us.

193
194 **MOTION** made Art Menius to endorse the action of the BOCC adopting the resolution adopting the Orange
195 Public Transportation Title VI Plan Program. Seconded by Alex Castro

196 **VOTE:** Unanimous

197
198 **MOTION** made by Paul Gutherie for the committee of this board to draft revisions to the statement of
199 responsibility of this board to fit its new roles in managing of the Title VI Plan and the Americans with Disabilities
200 Act Plan. Seconded by Alex Castro

201 **VOTE:** Unanimous

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203

204 Bret Martin: Draft Statewide Transportation Improvement Plan (STIP) – Review Planning staff's comments on
205 the Draft STIP.

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207

208 **AGENDA ITEM VI:** **STAFF UPDATES**
209 **Bicycle Safety** – Update on the BOCC petition for planning staff to work with the
210 OUTBoard to discuss bicycle safety.
211 **OUTBoard Action:** Receive updates

212
213

214 Abigaile Pittman: Review Bicycle Safety.

215
216

216 Alex Castro: This is a draft bill introduced in the General Assembly on March 12, House Bill 232.

217

DRAFT

218

219 Abigaile Pittman: Alex, would you give us an overview of the bill?

220

221

222 Jeff Charles: A lot of concerns raised by your group in Orange County were the fact that there was large groups
223 of bicyclists impeding traffic. There was wording in laws in bicyclist states was that cyclists couldn't ride more
224 than two abreast nor impede traffic. That simple statement seems to do away with motorist concerns. I would
225 hope the legislature would look to what is going on in these states as we try to improve the health of our young
226 children and adults.

227

228 Alex Castro: Continued overview of bill.

229

230 Jeff Charles: One thing I am concerned about is motorist delays and mentioning about how bicyclists are
231 impeding emergency vehicles. It is fine to understand we may delay motorist sometimes. We have had four
232 incidents of road rage since June. We have had two deaths in the last six months. I am trying to understand the
233 weight being given to motorists. It is also important to protect bicyclists.

234

235 Alex Castro: My wife is a triathlete and sometimes I am dragged with her as a trainer. One of the positive things
236 was to ask for increased law enforcement presence. I got the law enforcement community involved. I think it is
237 important to form a work group with members of this community and the cyclists and put something together that
238 is useful to improve the safety of the road.

239

240 Tom Magnuson: I am the newest member of the OUTBoard and don't understand our role in this discussion. I
241 experience the same thing as a pedestrian.

242

243 Paul Gutherie: This committee generated through staff an Orange County Bicycle Route Map as one of its
244 activities. I think we can be influential in that. Jeff, you are right on target but this is an issue that is bigger than
245 one or two. Number one, we have very lousy drivers in this county and surrounding areas. Second, I think
246 some folks are unclear on the rule of the road pertaining to bicyclists. Third, many of our highways are totally
247 unsafe for bicyclists and finally, we can take a hard look at the routes we promote for bicyclist use.

248

249 Heidi Perry: I ride recreationally and I do ride my bike to work daily. Roads are there for transportation and I
250 don't think they should be closed to everyone and not just bikes. I think education is huge. When we talk about
251 motorcyclists and cyclists, let's just talk about people because we are all people.

252

253 Abigaile Pittman: This is an update. I imagine Bonnie Hauser will be here next month to address the discussion
254 of bicycle safety.

255

256 Alex Castro: Bonnie is not the primary person on this. I have taken this because of my role on the OUTBoard.
257 With regard to your comment regarding the suggesting routing for bicyclists on the county map, there are some
258 areas that are unsafe for cyclists.

259

260 Tom Magnuson: Looking into ways of trying to change the way people see the road. Don't get close enough
261 they can't fall. The place we may want to focus on is driver's education.

262

263 Abigaile Pittman: I need clarification. The plan for addressing bicycle safety issues, that went to the BOCC is
264 coming back to the OUTBoard in April and May, and then the group will report back to the BOCC in June. There
265 seems to be a different suggestion by Alex of taking it outside the OUTBoard and then reporting back.

266

267 Alex Castro: The point is, who will do the work? Is staff taking this on? I am suggesting a group including
268 members of the OUTBoard and others can come up with suggestions and come back to the meeting.

269

270 Jeff Charles: What type of meetings would these be?

DRAFT

271

272 Paul Guthrie: As long as this body receives a recommendation from the OUTBoard, and that it is fully
273 discussed in a public way, which would be the cleanest way.

274

275 Abigail Pittman: It is an efficient use of time to have separate people that are reviewing the issues, as long as
276 we are using the same plan that went before the BOCC.

277

278 Tom Altieri: The plan that is in your packet is a plan that has been reviewed by the County Manager and
279 reviewed and this plan was laid out to reflect a process in which would be supported by staff resources. This is
280 the plan, and staff will support the OUTBoard.

281

282 Alex Castro: The outreach meeting isn't attended very well.

283

284 Paul Guthrie: I think that is a presentation made to this board when we have a major agenda item to present to
285 the BOCC. We have it on the agenda the next two meetings. The most important thing is to pull together a list
286 of recommendations.

287

288 Jeff Charles: Unfortunately, we are talking about an emotional issue and cyclists will want to show up and that is
289 why I came up with a number of about 10.

290

291 Paul Guthrie: I will not support limiting access to this committee by any individual that wants to come but I am
292 advising you to come in with a consensus from your constituents.

293

294

295

296

297 **MOTION** made by Seconded by

298 **VOTE:** Unanimous

299

300 **AGENDA ITEM VII:** **BOARD COMMENTS**
301 **OUTBoard Action:** Receive comments.

302

303

304

305 **AGENDA ITEM VIII:** **ADJOURNMENT**

306

307 The meeting was adjourned by consensus.

Item 4.a.

**ORANGE COUNTY
ORANGE UNIFIED TRANSPORTATION BOARD (OUTBoard)
ACTION AGENDA ITEM ABSTRACT
Meeting Date: May 20, 2015**

**Action Agenda
Item No. 4.a.**

SUBJECT: Transportation Related Technologies

DEPARTMENT: Planning and Inspections

PUBLIC HEARING: (Y/N)

ATTACHMENT(S):

INFORMATION CONTACT:

Peter Murphy, Transportation Manager,
OPT, 245-2002

PURPOSE: To review transportation related technologies promoting public transportation commuting and provide feedback for further review.

BACKGROUND: OPT currently uses limited technologies in its operations of transporting passengers. This includes the use of CTS public transportation software and Seon bus surveillance video system.

CTS software is utilized to maintain OPT's client data base for scheduling, billing and reporting. Current use provides the bus driver and office staff with daily printed schedules for work flow and data capturing. After route completion, passenger information including times, miles, passenger counts, etc. are manually entered into the CTS system. Monthly invoicing and reports are generated for a variety of uses.

Seon surveillance system is installed in all of OPT's vehicles and provides recorded views from the front of the vehicle outward and several views inside the vehicle with a primary focus on the vehicle entry points. The system records during all times of vehicle operation and twenty minutes after shutdown. Noted events are automatically downloaded at the base terminal each evening and stored for review. The system also captures GPS locations, mapping data, vehicle speeds and g-force measurements.

Both of these systems are utilized internally at OPT and help enhance the service for the riding public.

Additional technologies are available and the usage of upgraded technology could allow OPT to: 1) Utilize real-time information to contact, route and reroute drivers in the event of passenger cancelations or road closure; 2) Capture operational information electronically; and/or 3) Provide additional operational information to the riders and general public.

OPT staff is currently researching technologies to assist them in providing a better and more cost effective service to its passengers. These technologies include but are not limited to:

- a. Passenger callback systems which can call passengers at the end of the business day to confirm they are scheduled for service and the time of their scheduled pick-up.

Item 4.a.

This system also has the ability to call passengers in the event of inclement weather and notify them of changes to service. The cost of the system would vary based on design but rough cost estimates are: A one-time design cost of up to \$10,000 and \$980 for a 7000 block of minutes for six months. The design cost would vary based on the specifications provided to the contractor.

- b. Mobile Data Terminals (MTD's) with Automatic Vehicle Locator system (AVLs). The MTD system tablets would be mounted in each vehicle and provide the dispatcher the ability to communicate in real-time with the transit vehicle. This system will interact with our current dispatch software and allow passengers to be added to or deleted virtually. Drivers would be able to instantaneously see the change and react accordingly. Cost: The cost of the AVL system includes roughly \$400 per tablet, per vehicle; this would be a one-time cost. The initial retrofitting of each vehicle to accept the tablets would be approximately \$200 per vehicle; this would be a one-time cost. The licensing and software cost for each unit purchased would be an annual fee and would be determined by the type of system purchased.
- c. Automated Passenger Counters (APC's): The Automated Passenger Counter system automatically counts the number of people boarding and debarking vehicles on a daily basis. This information would allow OPT to change service requirements based on passenger ridership. The cost for this service would average a one-time \$6600 cost of the equipment per unit, with an annual maintenance cost of roughly \$600.
- d. AVL and Route Prediction Software: Utilizes sensors mounted in the vehicles and provides vehicle tracking through internet and mobile devices for real time bus arrival predictions. Available for the public to observe locations of bus routes and projected arrival times by location or route. Costs associated with this software are still being reviewed; additional information will be presented at the meeting.

RECOMMENDATIONS: The Staff recommends the OUTBoard and any additional County staff representatives:

1. Receive the information
2. Provide feedback, suggestions for consideration and recommend a priority order for further review.

**ORANGE COUNTY
ORANGE UNIFIED TRANSPORTATION BOARD (OUTBoard)**

ACTION AGENDA ITEM ABSTRACT

Meeting Date: May 20, 2015

**Action Agenda
Item No.** 5.a.

SUBJECT: Orange County MPO and RPO Transportation Project Priority Lists

DEPARTMENT: Planning and Inspections

PUBLIC HEARING: (Y/N)

No

ATTACHMENT(S):

1. BGMPO Priority Project Descriptions and SPOT 3.0 Scores
 2. BGMPO Project List Map
 3. TARPO Priority Project Descriptions and SPOT 3.0 Scores
 4. TARPO Project List Map
 5. DCHC MPO Priority Project Descriptions and SPOT 3.0 Scores
 6. DCHC MPO Project List Map
-

INFORMATION CONTACT:

Bret Martin, Transportation Planner, 245-2582
Tom Altieri, Comprehensive Planning Supervisor, 245-2579
Abigaile Pittman, Transportation/Land Use Planner, 245-2567

PURPOSE: To consider and recommend to the Board of County Commissioners (BOCC) transportation projects for the Burlington-Graham Metropolitan Planning Organization (BGMPO), Durham-Chapel Hill-Carrboro (DCHC) MPO, and the Triangle Rural Planning Organization (TARPO) to be submitted for consideration of inclusion in the 2018-2027 Statewide Transportation Improvement Program (STIP).

BACKGROUND: Biennially, the North Carolina Board of Transportation (BOT) adopts a multi-year Statewide Transportation Improvement Program (STIP) containing funding and scheduling information for transportation projects throughout the state including those for highways, aviation facilities, public transportation, ferry travel, freight rail, and bicycle and pedestrian facilities. The STIP is the major tool the State uses for the implementation of locally and regionally adopted transportation plans from which projects are conceived for programming consideration. In 2013 and 2014, the State, in conjunction with the metropolitan planning organizations (MPOs) and rural planning organizations (RPOs) throughout the state, completed the prioritization process for the 2016-2025 STIP, which is scheduled to be finalized and adopted by the North Carolina Board of Transportation in July 2015.

The State is once again beginning the process of developing the 2018-2027 STIP, which is scheduled to be finalized and adopted in July 2017, and will be requesting local input for transportation project priorities to be submitted through each local government's respective MPO or RPO. Implicit in this process is the application of the Strategic Mobility Formula (SMF) developed as part of the Strategic Transportation Investments (STI) legislation adopted in 2013 as well as an updated scoring methodology that institutes some changes to the inputs and weights used to rank projects for consideration and inclusion in the STIP that differ from the inputs and weights used for the development of the 2016-2025 STIP. Although the development of this slightly modified methodology

has not yet been finalized by the North Carolina Department of Transportation (NCDOT), it is important to note that these changes may have some implications for many of the projects Orange County has previously submitted and will likely be submitting in this next iteration of priorities. Further information on the SMF is accessible using the following weblink:

http://www.ncdot.gov/download/strategictransportationinvestments/Strategic_Mobility_Formula_Fact_Sheet.pdf

Further information on the BOT-recommended scoring/ranking methodology for the last iteration of STIP development (SPOT 3.0) is accessible using the following weblink:

<http://www.ncdot.gov/download/strategictransportationinvestments/Prioritization.pdf>

In preparation for the State's new ranking and programming process, Orange County will be asked to submit a priority list of projects to the BGMPO, DCHC MPO and TARPO for proposed projects contained within each organization's respective planning area. Based on the State's timeline for the adoption of its final 2018-2027 STIP, any new projects, project deletions from the existing database, or changes to project descriptions are to be entered into the new database in October for scoring by the State. As such, the Orange Unified Transportation Board (OUTBoard) is scheduled to consider and recommend to the BOCC project lists for BGMPO, TARPO and DCHC MPO at its May 20th meeting to be forwarded to the BOCC for consideration at its June 2nd meeting.

Attachments

Attachments 1, 3 and 5 are the lists of projects to be submitted for each of BGMPO's, TARPO's and DCHC MPO's planning areas, respectively, to be scored by the State and considered for inclusion in the 2018-2027 STIP. Attachments 2, 4 and 6 are maps depicting the locations of the projects on each list for BGMPO, TARPO and DCHC MPO, respectively. Descriptions for each project and explanations of their need are also provided in Attachments 1, 3 and 5.

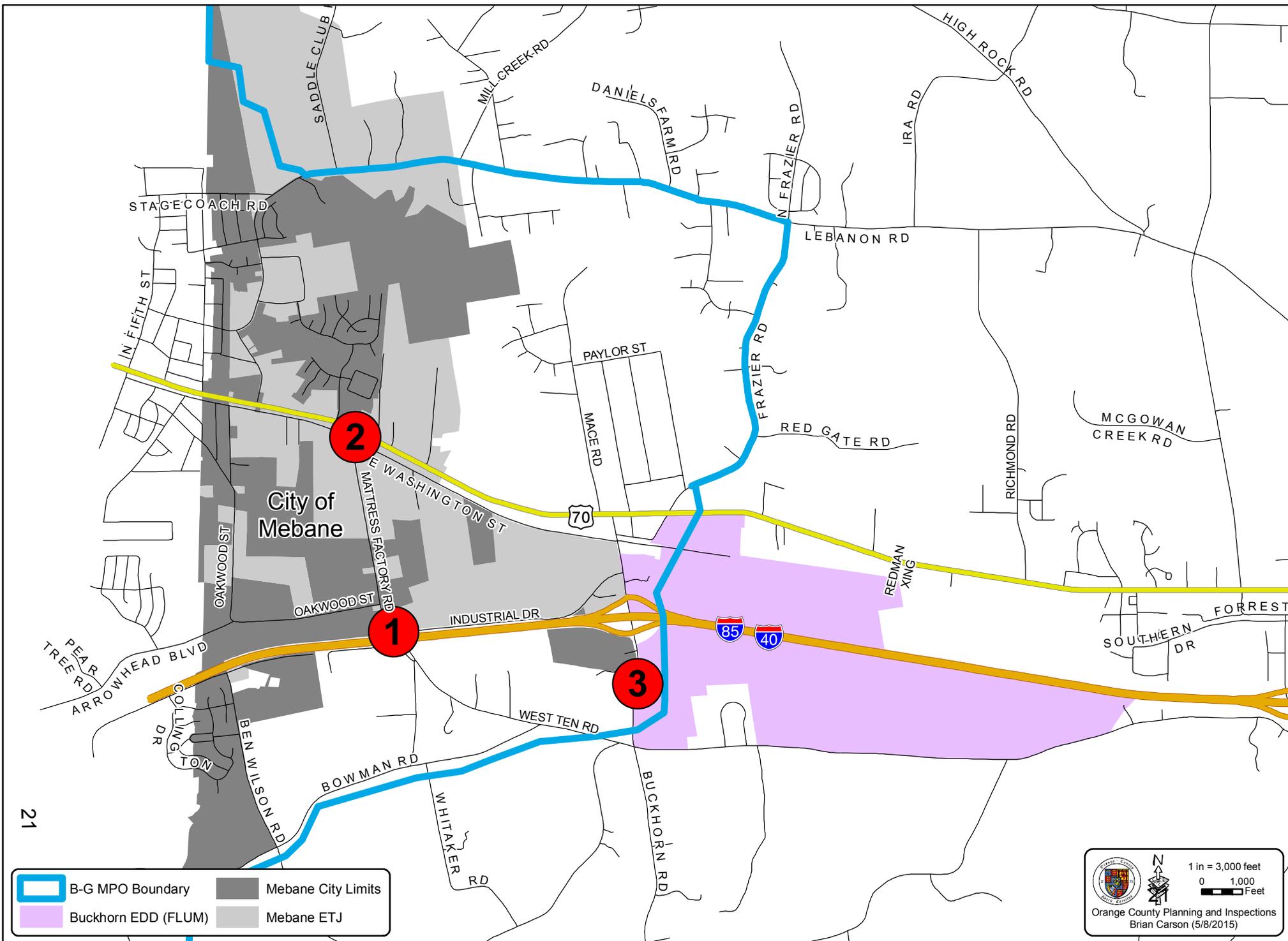
RECOMMENDATION(S): Staff recommends that the Board consider and recommend to the BOCC the list of priority transportation projects for each MPO/RPO to be submitted for consideration of inclusion in the 2018-2027 Statewide Transportation Improvement Program (STIP)

Item 5.a. Attachment 1: Draft Burlington-Graham Metropolitan Planning Organization (BGMPO) Project List

Map ID #*	Project	Project Description	SPOT 3.0 Score
1	Mattress Factory Road Interchange	<p>Construct new interchange at existing grade-separated crossing of Mattress Factory Road and I-40/I-85 to relieve existing and/or future expected congestion on projected under-capacity existing interchanges at I-40/I-85 and Mebane Oaks Road and I-40/I-85 and Buckhorn Road and to serve existing and future growth in the specific area around the proposed interchange. The proposed interchange would address both traffic capacity deficiencies and reduce crashes related to congestion on parallel thoroughfares. The new interchange would also be an opportunity to provide pedestrian and biking facilities across I-40/I-85 that do not currently exist in the Mebane area.</p> <p>Specific improvements associated with the interchange include:</p> <ul style="list-style-type: none"> • Modified diamond interchange with a loop ramp in the southeast quadrant for I-40 eastbound exiting vehicles; • Five (5)-lane roadway section on Mattress Factory Road at the proposed interchange; • One bridge structure with a five (5)-lane section and bike/ped accommodations; • Traffic signals installed on Mattress Factory Road at the ramp intersection and Oakwood Street with coordinated signals; and • Industrial Drive realignment to intersect Mattress factory Road either across from Oakwood Street or further north. 	6.06 Division
2	Mattress Factory Road extension to U.S. 70	<p>Extend Mattress Factory Road northward a distance of approximately 240 feet across East Washington Street and the NCRR/Norfolk Southern railroad right-of-way to intersect U.S. 70 at a 90 degree angle. The project would also call for the closure of the existing railroad crossover road connecting East Washington Street and U.S. 70 approximately 240 feet to the east that currently provides access across the railroad right-of-way to U.S. 70. The project would decrease travel time from points along Mattress Factory Road to access U.S. 70, would provide more direct north-south access across the existing railroad right-of-way, and eliminate inconvenient turning movements for motorists and trucks serving existing and future industrial uses south of U.S. 70 and along Mattress Factory Road.</p>	1.64 Division
3	Buckhorn Road (SR 1114) Widening	<p>Widen Buckhorn Road from U.S. 70 to West Ten Road (SR 1144) to multi-lanes with bicycle and pedestrian facilities. This segment of roadway is over 95% within the BGMPO planning area and borders the western boundary of the I-40/I-85-Buckhorn Road EDD. This area is the focus of a growing problem of traffic backing up on the northbound exit ramps of I-40/I-85 onto southbound Buckhorn Road and at a left turn into a nonconforming business use just south of the interchange. Orange County has extended water and sewer to this area to serve public facilities and to increase the attractiveness of the EDD for development. The project was previously submitted through the DCHC MPO as a bike project requesting four (4)-foot paved bike lanes when Buckhorn Road was located within that MPO's planning area.</p>	11.38 Division

*Map ID Number corresponds to the general location of each project on **Attachment 2: BGMPO Project List Map**.

Item 5a Attachment 2: Burlington-Graham MPO Project List Map



Item 5a Attachment 3: Draft Triangle Area Regional Planning Organization (TARPO) Project List

Rank/ Map ID #*	Project	Project Description/Need	SPOT 3.0 Score
HIGHWAY PROJECTS			
1	NC 54 Widening or Alternative Operational Improvements (Orange Grove Road to Old Fayetteville Road)	<p><u>Description:</u> Widen NC 54 from Orange Grove Road (SR 1006) to Old Fayetteville Road (SR 1937/1107) from a two (2)-lane, 24-foot undivided thoroughfare to a four (4)-lane divided boulevard type thoroughfare with a travel-prohibitive median to improve mobility and provide better access control. This project is recommended in the Orange County Comprehensive Transportation Plan (OCCTP). This project is partially located within the DCHC MPO planning area. As an alternative to this project, in response to opposition by Town of Carrboro planning staff, Orange County transportation planning staff is investigating the feasibility of submitting a project for the same project limits involving operational improvements to the corridor (additional storage on dedicated left and right turn lanes, signalization, or other treatments) that would mitigate some of the existing operational and congestion deficiencies that currently exist.</p> <p><u>Need:</u> NCDOT projections reveal that traffic on NC 54 from Orange Grove Road to Fayetteville Road will substantially exceed the existing roadway capacity by 2035, warranting an increase in capacity through widening. NCDOT traffic figures already indicate that traffic along the segment of NC 54 from Butler Road/Dodsons Cross Road to Neville Road is at capacity and will only continue to substantially exceed capacity in future years. Given these figures, it is also likely that traffic along the segment of NC 54 from Neville Road to Old Fayetteville Road is also at or over capacity. Among all projects recommended in the OCCTP, this project would likely score the highest relative to other projects given the improvements the project would provide for both congestion and benefit-cost factors. This project is also eligible for funding at both the regional and divisional tiers, providing it a greater opportunity to be funded than projects that are only eligible for funding at the division tier.</p> <p>This project will also be submitted as part of the DCHC MPO project list because it overlaps the MPO's planning area boundary.</p>	23.45 Regional 17.37 Division
2	NC 54 Widening or Alternative Operational Improvements (Dodsons Crossroads/Butler Road to Old Fayetteville Road)	<p><u>Description:</u> Widen NC 54 from Dodsons Crossroads/Butler Road (SR 1102/1951) to Old Fayetteville Road (SR 1937/1107) from a two (2)-lane, 24-foot undivided thoroughfare to a four (4)-lane divided boulevard type thoroughfare with a travel-prohibitive median to improve mobility and provide better access control. This project is recommended in the Orange County Comprehensive Transportation Plan (OCCTP). This project is partially located within the DCHC MPO planning area. As an alternative to this project, in response to opposition by Town of Carrboro planning staff, Orange County transportation planning staff is investigating the feasibility of submitting a project for the same project limits involving operational improvements to the corridor (additional storage on dedicated left and right turn lanes, signalization, or other treatments) that would mitigate some of the existing operational and congestion deficiencies that currently exist.</p> <p><u>Need:</u> NCDOT projections reveal that traffic on NC 54 from Orange Grove Road to Fayetteville Road will substantially exceed the existing roadway capacity by 2035, warranting an increase in capacity through widening. NCDOT traffic figures already indicate that traffic along the segment of NC 54 from Butler Road/Dodsons Cross Road to Neville Road is at capacity and will only continue to substantially exceed capacity in future years. Given these figures, it is also likely that traffic along the segment of NC 54 from Neville Road to Old Fayetteville Road is also at or over capacity. Among all projects recommended in the OCCTP, this project would likely score the highest relative to other projects given the improvements the project would provide for both congestion and benefit-cost factors. This project is also eligible for funding at both the regional and divisional tiers, providing it a greater opportunity to be funded than projects that are only eligible for funding at the division tier.</p> <p>This project will also be submitted as part of the DCHC MPO project list because it overlaps the MPO's planning area boundary.</p>	N/A (New Project)
3	Buckhorn Road (SR 1114) Widening	<p><u>Description:</u> Widen Buckhorn Road from U.S. 70 to West Ten Road (SR 1144) to multi-lanes with bicycle and pedestrian facilities. This segment of roadway is over 95% within the BGMPO planning area and borders the western boundary of the I-40/I-85-Buckhorn Road EDD.</p> <p><u>Need:</u> This general vicinity of this proposed project is the focus of a growing problem of traffic backing up on the northbound exit ramps of I-40/I-85 onto southbound Buckhorn Road and at a left turn into a nonconforming business use just south of the interchange. Orange County has extended water and sewer to this area to serve public facilities and to increase the attractiveness of the EDD for development. The project was previously submitted through the DCHC MPO as a bike project requesting four (4)-foot paved bike lanes when Buckhorn Road was located within that MPO's planning area.</p>	11.37 Division
4	Old Greensboro Road Paved Shoulders	<p><u>Description:</u> Widen Old Greensboro Road (SR 1005) from Carrboro's extra-territorial jurisdiction (ETJ) to the Orange/Alamance County line to include four (4)-foot paved shoulders. This project would be a segment of the North Carolina Mountains to Sea Bicycle Route (designated as North Carolina Bike Route 2). Part of this project is located within the DCHC MPO planning area. This project is recommended as a bikeway improvement in the OCCTP.</p> <p><u>Need:</u> This project would provide a continuous paved bikeway segment from Carrboro through the southwestern portion of Orange County to connect with other bikeway segments that comprise the state's Mountain to Sea bicycle route. The project is not likely to score very high using either the State's highway or</p>	8.44 Division

Item 5a Attachment 3: Draft Triangle Area Regional Planning Organization (TARPO) Project List

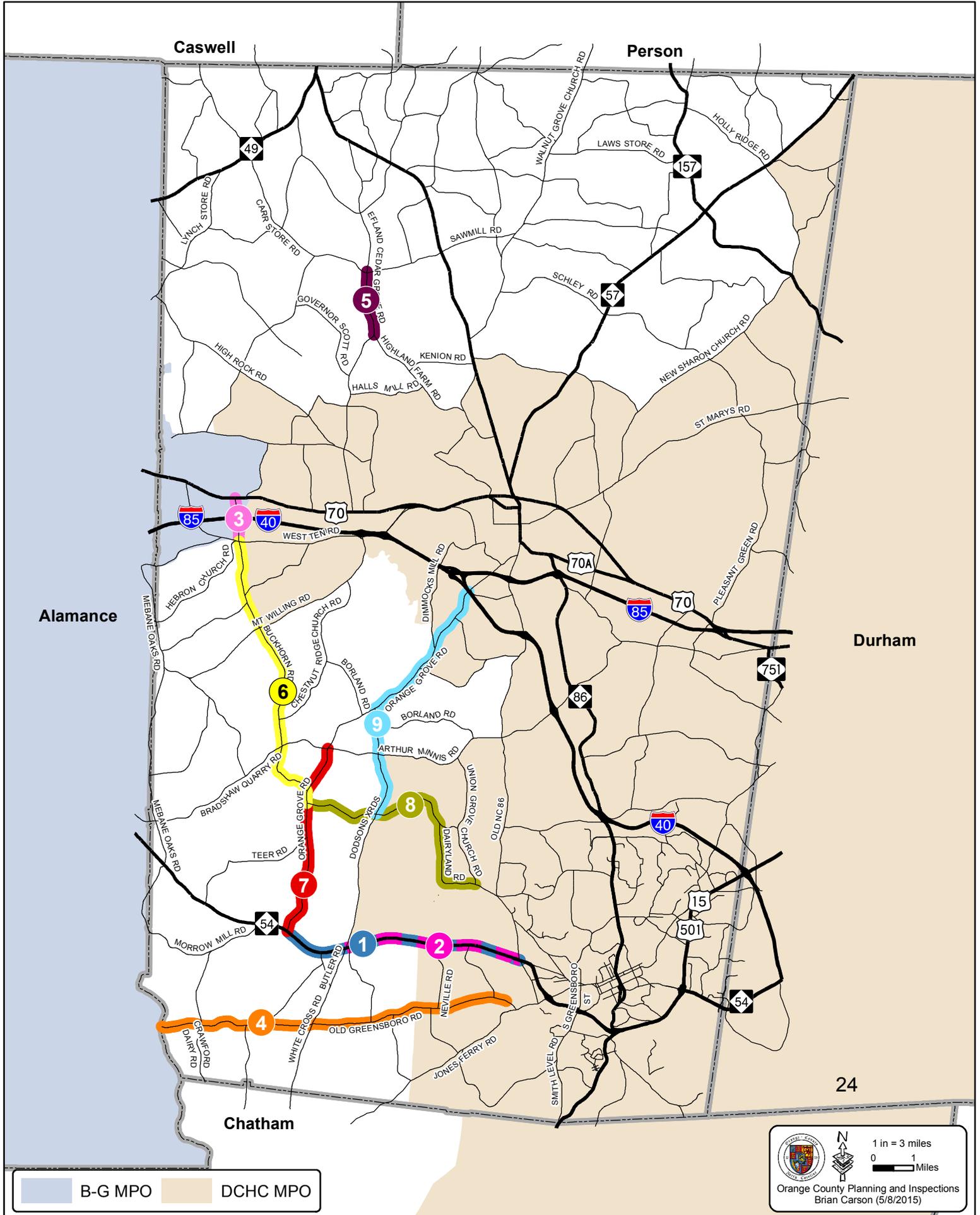
Rank/ Map ID #*	Project	Project Description/Need	SPOT 3.0 Score
		bike/pedestrian scoring factors because of its rural context and is only eligible for funding at the division tier.	
5	Efland-Cedar Grove Road (SR 1004) Improvements	<p><u>Description:</u> Widen Efland-Cedar Grove Road (SR 1004) from Highland Farm Road (SR 1332) to the northern property line of the U.S. Post Office north of Carr Store Road SR 1352) from a two (2)-lane, 20-foot cross section to a 24-foot cross section with straightening of the roadway where needed, improvements to turn lanes, and the incorporation of bicycle facilities. This project is recommended in the OCCTP.</p> <p>This project proposal overlaps with STIP project W-5143 to improve the horizontal alignment of the curve on Efland-Cedar Grove Road north of its intersection with Highland Farm Road. This project is scheduled for construction completion in 2016.</p> <p><u>Need:</u> The project would improve travel time with an increase in design speed and would improve safety with travel lane straightening and an increase in pavement width. This segment of Efland-Cedar Grove Road is a travel alternative to NC 86 for traffic from northwestern Orange County to access I-40/85, and as such, traffic is projected to continue to increase in future years. This project is not likely to score very high using the State's congestion scoring factor and is only eligible for funding at the division tier. However, the project may score well against the State's safety scoring factor.</p>	7.49 Division
6	Orange Grove Road/Buckhorn Road Paved Shoulders	<p><u>Description:</u> Widen Orange Grove Road (SR 1006) from Dairyland Road (SR 1177) to Buckhorn Road (SR 1114) and Buckhorn Road (SR 1114) from Orange Grove Road (SR 1006) to West Ten Road (SR 1144) to include four (4)-foot paved shoulders. This project is recommended as a set of bikeway improvements in the OCCTP.</p> <p><u>Need:</u> This project would provide one segment of a bikeway connection through western Orange County from Carrboro to the Buckhorn Road and Mebane area and improve the safety of the subject thoroughfare for both bicyclists and motorized vehicular travel. The project is not likely to score very high using the State's bike/pedestrian scoring factors because of its rural context and is only eligible for funding at the division tier.</p>	6.43 Division
BIKEWAY PROJECTS**			
7	Orange Grove Road Paved Shoulders (From NC 54 to Arthur Minnis Road)***	<p><u>Description:</u> Widen Orange Grove Road (SR 1006) from NC 54 to Arthur Minnis Road to include four (4)-foot paved shoulders. This project is recommended as a set of bikeway projects in the OCCTP.</p> <p><u>Need:</u> This project would provide one segment of a bikeway connection through western Orange County from Carrboro to the Buckhorn Road and Mebane area and improve the safety of the subject thoroughfare for both bicyclists and motorized vehicular travel. The project is not likely to score very high using the State's bike/pedestrian scoring factors because of its rural context and is only eligible for funding in the division tier.</p>	17.57 Division
8	Dairyland Road Paved Shoulders	<p><u>Description:</u> Widen Dairyland Road (SR 1004/1113/1177) from Union Grove Church Road (SR 1111) to Orange Grove Road (SR 1006) to include four (4)-foot paved shoulders. Part of this project is located within the DCHC MPO planning area. The portion of this project within the DCHC MPO planning area is being recommended for inclusion in that project list. This project is scheduled in the STIP for a feasibility study (STIP # EB-5108). The project is recommended as a bikeway improvement in the OCCTP.</p> <p><u>Need:</u> This project would provide one segment of a bikeway connection through western Orange County from Carrboro to the Buckhorn Road and Mebane area and improve the safety of the subject thoroughfare for motorized vehicular travel. The project is not likely to score very high using the State's bike/pedestrian scoring factors because of its rural context and is only eligible for funding at the division tier.</p>	17.40 Division
9	Orange Grove Road/Dodsons Crossroads Paved Shoulders	<p><u>Description:</u> Widen Orange Grove Road (SR 1006) from I-40 to Dodsons Crossroads (SR 1102) and Dodsons Crossroads (SR 1102) from Orange Grove Road (SR 1006) to Dairyland Road (SR 1177) to include four (4)-foot paved shoulders. This project is recommended as a set of bikeway improvements in the OCCTP.</p> <p><u>Need:</u> This project would provide bicycle facilities to the Grady Brown Elementary School and Cedar Ridge High School from the area south of the schools and connect to a proposed bikeway facility on Orange Grove Road northward into Hillsborough. The project would also improve safety for motorized vehicular travel on this segment of Orange Grove Road. The project is not likely to score very high using the State's bike/pedestrian scoring factors because of its rural context and is only eligible for funding in the division tier.</p>	15.09 Division

*Map ID Number corresponds to the general location of each project on **Attachment 4: TARPO Project List Map**.

** Bike projects require a 20% local match and must be locally administered. Right-of-way acquisition is also not a permissible cost to be funded by NCDOT for these projects.

*** Project is in the existing STIP; the project is being resubmitted in its STIP form.

Item 5a Attachment 4: TARPO Project List Map



Item 5a Attachment 5: Draft Durham-Chapel Hill-Carrboro (DCHC) MPO Project List

Map ID #*	Project	Project Description/Need	SPOT 3.0 Score
HIGHWAY PROJECTS			
1	South Churton Street (Old NC 86) Improvements	<p><u>Description:</u> Develop congestion management, limited access, bicycle and pedestrian improvements, and aesthetic and capacity improvements along South Churton Street (Old NC 86/SR 1009) from I-40 to U.S. 70 Business. More specifically, the project would widen South Churton Street along this segment to multiple lanes with a landscaped median and would widen the railroad bridge. This project is recommended in the DCHC MPO Metropolitan Transportation Plan (MTP). The feasibility study completed by NCDOT in February 2002 recommends a four (4)-lane divided curb and gutter cross section with a 16-foot median for the entire segment. Orange County will stress the need to study improvements within the current right-of-way (ROW) for the segment north of I-85 because of the significant built constraints along the corridor and its proximity to the Town of Hillsborough's historic district. Orange County will request that, where conditions do not prevent the addition of frontage roads, the feasibility study include the addition of frontage roads with limited access from the corridor.</p> <p><u>Need:</u> Traffic counts along South Churton Street (Old NC 86) indicate that the corridor is near capacity for average annual daily counts and over capacity for peak periods. Capacity improvements would ease congestion and improve travel time along this primary north-south corridor connecting the Town of Hillsborough and northern Orange County to I-40 and I-85.</p> <p>This was the second highest scoring project on Orange County's list in the last iteration of STIP development. The project is included in the draft 2016-2025 STIP but is not considered committed because the right-of-way, utilities and construction phases of the project are scheduled in the last five years. Consequently, it must be resubmitted for consideration.</p>	22.36 Division
2	I-40 Widening from I-40/I-85 interchange to U.S. 15-501	<p><u>Description:</u> Widen I-40 from four (4) lanes to six (6) lanes from the I-40/I-85 interchange to the Durham County line (U.S. 15-501). The project is recommended in the DCHC MPO MTP.</p> <p><u>Need:</u> According to data from NCDOT, traffic along this corridor is near capacity and is expected to exceed capacity in future years. The project would reduce congestion and travel time and will likely score relatively well when compared to other projects submitted because of the added emphasis on congestion and benefit-cost. This project is eligible for funding at the statewide, regional and divisional tiers.</p> <p>This project is included in the draft 2016-2025 STIP but is not considered committed because the right-of-way and construction phases of the project are scheduled in the last five years. Consequently, it must be resubmitted for consideration.</p>	41.96 Statewide 30.18 Regional 23.59 Division
3	I-40 Widening from Old NC 86 to U.S. 15-501	<p><u>Description:</u> Widen I-40 from four (4) lanes to six (6) lanes from Old NC 86 to the Durham County line (U.S. 15-501). This is a subset of the full I-40 widening project recommended in the DCHC MPO MTP.</p> <p><u>Need:</u> According to data from NCDOT, traffic along this corridor is near capacity and is expected to exceed capacity in future years. The project would reduce congestion and travel time and will likely score relatively well when compared to other projects submitted because of the added emphasis on congestion and benefit-cost. This project is eligible for funding at the statewide, regional and divisional tiers.</p> <p>The full I-40 widening project is included in the draft 2016-2025 STIP but is not considered committed because the right-of-way and construction phases of the project are scheduled in the last five years. Consequently, it must be resubmitted for consideration. This subset of the full project is being recommended for submission because it is a lower cost project concentrated along a shorter segment of the corridor where congestion is the most profound, and consequently, the project has a greater chance of being funded and included in the STIP in earlier years than in the existing draft 2016-2025 STIP.</p>	41.96 Statewide 30.18 Regional 23.59 Division
4	I-40 Widening from NC 86 to U.S. 15-501	<p><u>Description:</u> Widen I-40 from four (4) lanes to six (6) lanes from NC 86 to the Durham County line (U.S. 15-501). This is a subset of the full I-40 widening project recommended in the DCHC MPO MTP.</p> <p><u>Need:</u> According to data from NCDOT, traffic along this corridor is near capacity and is expected to exceed capacity in future years. The project would reduce congestion and travel time and will likely score relatively well when compared to other projects submitted because of the added emphasis on congestion and benefit-cost. This project is eligible for funding at the statewide, regional and divisional tiers.</p> <p>The full I-40 widening project is included in the draft 2016-2025 STIP but is not considered committed because the right-of-way and construction phases of the project are scheduled in the last five years. Consequently, it must be resubmitted for consideration. This subset of the full project is being recommended for submission because it is a lower cost project concentrated along a shorter segment of the</p>	41.96 Statewide 30.18 Regional 23.59 Division

Item 5a Attachment 5: Draft Durham-Chapel Hill-Carrboro (DCHC) MPO Project List

Map ID #*	Project	Project Description/Need	SPOT 3.0 Score
		corridor where congestion is the most profound, and consequently, the project has a greater chance of being funded and included in the STIP in earlier years than in the existing draft 2016-2025 STIP.	
5	I-85/Old NC 86 Interchange Improvements	<u>Description and Need:</u> Reconstruct interchange at I-85 and Old NC 86 to relieve existing and/or future expected congestion on the under-capacity existing interchange, to accommodate future capacity improvements to both Churton Street and I-85, and to increase operational efficiency at the on-ramp/off-ramp intersections with Churton Street. The new interchange would also be an opportunity to provide pedestrian and biking facilities across I-85 that do not currently exist along the corridor.	N/A (New Project)
6	I-85/NC 86 Interchange Improvements	<u>Description and Need:</u> Reconstruct interchange at I-85 and NC 86 to relieve existing and/or future expected congestion on the under-capacity existing interchange, to accommodate future capacity improvements to I-85, and to increase operational efficiency at the on-ramp/off-ramp intersections with NC 86. The new interchange would also be an opportunity to provide pedestrian and biking facilities across I-85 that do not currently exist along the corridor.	N/A (New Project)
7	NC 86 Improvements north of Hillsborough	<u>Description:</u> Widen NC 86 from U.S. 70 bypass to north of NC 57 to four (4) lanes with intersection improvements at U.S. 70 bypass and NC 57. Improvements at the NC 86/U.S. 70 intersection should include extending the queuing lane for traffic turning east onto U.S. 70 bypass from northbound Churton Street/NC 86. Improvements at the NC 86/NC 57 intersection should include a crosswalk and provide a safe crossing for pedestrians with a sidewalk connecting the intersection of NC 86 and NC 57 to Rencher Street. This project is not currently listed or recommended in the DCHC MPO MTP but is recommended in the DCHC MPO CTP. <u>Need:</u> The segment of NC 86 between NC 57 and U.S. 70 is highly congested. Traffic counts indicate that this segment of NC 86 is over capacity for average annual daily counts. Capacity improvements would ease congestion and improve travel time along this primary north-south corridor connecting the Town of Hillsborough to NC 57 and northern Orange County.	24.16 Regional 19.46 Division
8	Eno Mountain Road and Mayo Street at Orange Grove Road intersection realignment and safety improvements	<u>Description:</u> Realign the intersection of Eno Mountain Road and Mayo Street with Orange Grove Road and make safety improvements. This project is not provided/recommended in the DCHC MPO MTP but is recommended in the DCHC MPO CTP. <u>Need:</u> The project would improve safety, reduce travel time, and improve traffic flow between residential and commercial areas in the Town of Hillsborough.	5.10 Division
9	U.S. 70 East/I-85 Connector	<u>Description:</u> Modify the I-85 Connector interchange at U.S. 70 to provide access from all directions. The existing Connector just east of Efland is not accessible to traffic on eastbound U.S. 70 and there is no access to westbound U.S. 70 from the Connector. This project is recommended in the DCHC MPO MTP. <u>Need:</u> The project would enable traffic from northwestern Orange County to access I-85 more easily without risking the many points of traffic conflict through Efland. Traffic has increased on Efland-Cedar Grove Road as an alternative to NC 86. Much of that traffic currently "dog-legs" through Efland via Forrest Avenue to Mt. Willing Road to access I-85/I-40. Traffic counts reveal that traffic has increased approximately 40% over the past 10 years on Mt. Willing Road just south of Forrest Avenue, while traffic on U.S. 70 east of Efland-Cedar Grove Road has increased only 2%. The project would dramatically improve travel time for traffic from northwestern Orange County to I-85/I-40 and would dramatically ease congestion during peak periods in Efland.	7.34 Regional 4.90 Division
10	Homestead Road bike lane and sidewalk installation	<u>Description:</u> Improve Homestead Road from Old NC 86 (SR 1009) to NC 86 to include bicycle lanes and sidewalks in sections of the corridor where those facilities do not exist. This project is provided/recommended in the DCHC MPO MTP. <u>Need:</u> There are three (3) schools in the vicinity of Homestead Road: Chapel Hill High School, Smith Middle School, and Seawell Elementary School. Many students live within walking and biking distance of Chapel Hill High School and must walk or cycle along or across Homestead Road on a daily basis. Provision of bikeway and pedestrian facilities is necessary to give students a comfortable and safe place to travel separate from that of motorized vehicular traffic. Homestead Road is also a commuting route for adult utilitarian bicyclists connecting residential areas to other arteries serving employment centers.	10.37 Division
11	Eubanks Road bike lane installation	<u>Description:</u> Construct bicycle lanes on Eubanks Road from Old NC 86 (SR 1009) to NC 86. This project is provided/recommended in the DCHC MPO MTP. <u>Need:</u> This project would provide a separate facility for both recreational and commuter bicyclists to reduce/eliminate the bike/automobile modal conflict along this corridor. The project would also provide access to the Morris Grove Elementary School on Eubanks Road.	11.75 Division

Item 5a Attachment 5: Draft Durham-Chapel Hill-Carrboro (DCHC) MPO Project List

Map ID #*	Project	Project Description/Need	SPOT 3.0 Score
BIKE/PED PROJECTS**			
12	Mt. Carmel Church Road Bike/Pedestrian Improvements	<p><u>Description:</u> Construct bike lanes and sidewalks from US 15/501 to Bennett Road and bike lanes from Bennett Road to the Chatham County line. This project is provided/recommended in the DCHC MPO MTP.</p> <p><u>Need:</u> This project would provide a continuous paved bikeway facility from Chapel Hill through southeastern Orange County into Chatham County. The project connects to another project submitted by Chatham County to construct bike lanes along Mt. Carmel Church Road from the Orange County line to Old Farrington Point Road. This segment is listed as a Statewide bicycle facility in the DCHC MPO MTP and is a continuation of the state's Mountain to Sea bicycle route through Orange County.</p>	<p>23.06 Division (U.S. 15-501 to Bennett Road)</p> <p>18.57 Division (Bennett Road to Chatham County line)</p>
13	Orange High School Road/Harold Latta Road Sidewalk Improvements	<p><u>Description:</u></p> <ul style="list-style-type: none"> a) Construct sidewalk along west side of Orange High School Road from Harold Latta Road to U.S. 70; b) Construct sidewalk along south side of Harold Latta Road from Cloverfield Drive to Orange Grove Road; c) Install high-visibility crosswalks and in-road signage at school entrances and exits on Orange Grove Road; and d) Construct sidewalk along entrance roads to CW Stanford Middle School. <p><u>Need:</u> Orange Grove Road serves two schools north of U.S. 70, Orange High School and CW Stanford Middle School. There are currently no dedicated pedestrian facilities along Orange High School Road to accommodate students accessing the schools from residential areas to the north and east. The project would provide safe and comfortable pedestrian connections from these areas to the schools. The Orange County Safe Routes to School Action Plan identifies these sidewalk and crosswalk improvements as central elements in the plan for both Orange High School and CW Stanford Middle School.</p>	18.06 Division
14	Orange Grove Road/I-40 Pedestrian Bridge and Supporting Sidewalk Improvements	<p><u>Description:</u></p> <ul style="list-style-type: none"> a) Construct a pedestrian bridge over I-40 alongside Orange Grove Road and construct a sidewalk along the north side of Orange Grove Road from the bridge to Timbers Drive; b) Construct sidewalks along both sides of New Grady Brown School Road with midblock crossing; and c) Construct sidewalk along one side of Oakdale Drive from Cheshire Drive to Orange Grove Road. <p><u>Need:</u> I-40 separates two schools, Grady Brown Elementary and Cedar Ridge High School, from residential areas north of I-40. The schools are within walking distance of residential areas, but bicyclists and pedestrians must share the roadway with motor vehicles crossing the existing narrow two (2)-lane bridge that carries Orange Grove Road over I-40. The bridge is too narrow to accommodate a pedestrian walkway. Lack of an adequate pedestrian crossing presents an unsafe environment for students to walk to the schools. The Orange County Safe Routes to School Action Plan identifies the pedestrian bridge and supporting sidewalk improvements as central elements in the plan for Grady Brown Elementary School.</p>	17.44 Division
15	Dairyland Road paved shoulders	<p><u>Description:</u> Widen Dairyland Road from Union Grove Church Road to Orange Grove Road to include four (4)-foot paved shoulders. Part of this project is located within the TARPO planning area. The portion of this project within the TARPO planning area is being recommended for inclusion in that project list. This project is scheduled in the STIP for a feasibility study (STIP # EB-5108). This project is provided/recommended in the DCHC MPO MTP.</p> <p><u>Need:</u> This project would provide one segment of a bikeway connection through western Orange County from Carrboro to the Buckhorn Road and Mebane area and improve the safety of the subject thoroughfare for both bicyclists and motorized vehicular travel. The project is not likely to score very high using the State's congestion and benefit-cost scoring factors and is only eligible for funding at the division tier.</p>	17.40 Division
16	Trail Connection from English Hill Lane to Buttonwood Drive	<p><u>Description:</u> Construct a multi-use path connecting English Hill Lane to Buttonwood Drive to provide pedestrian connectivity from residential areas east of English Hill Lane to both Orange High School and CW Stanford Middle School.</p> <p><u>Need:</u> Project is recommended as an improvement in the Orange County Safe Routes to School Action Plan. An existing barrier to pedestrians toward Orange High School and CW Stanford Middle School exists between residential areas along and east of Buttonwood Drive and residential areas along and west of English Hill Lane. The improvement would provide a direct pedestrian connection from highly populated residential areas further west from the schools and make walking distances safer and more manageable.</p>	23.05 Division

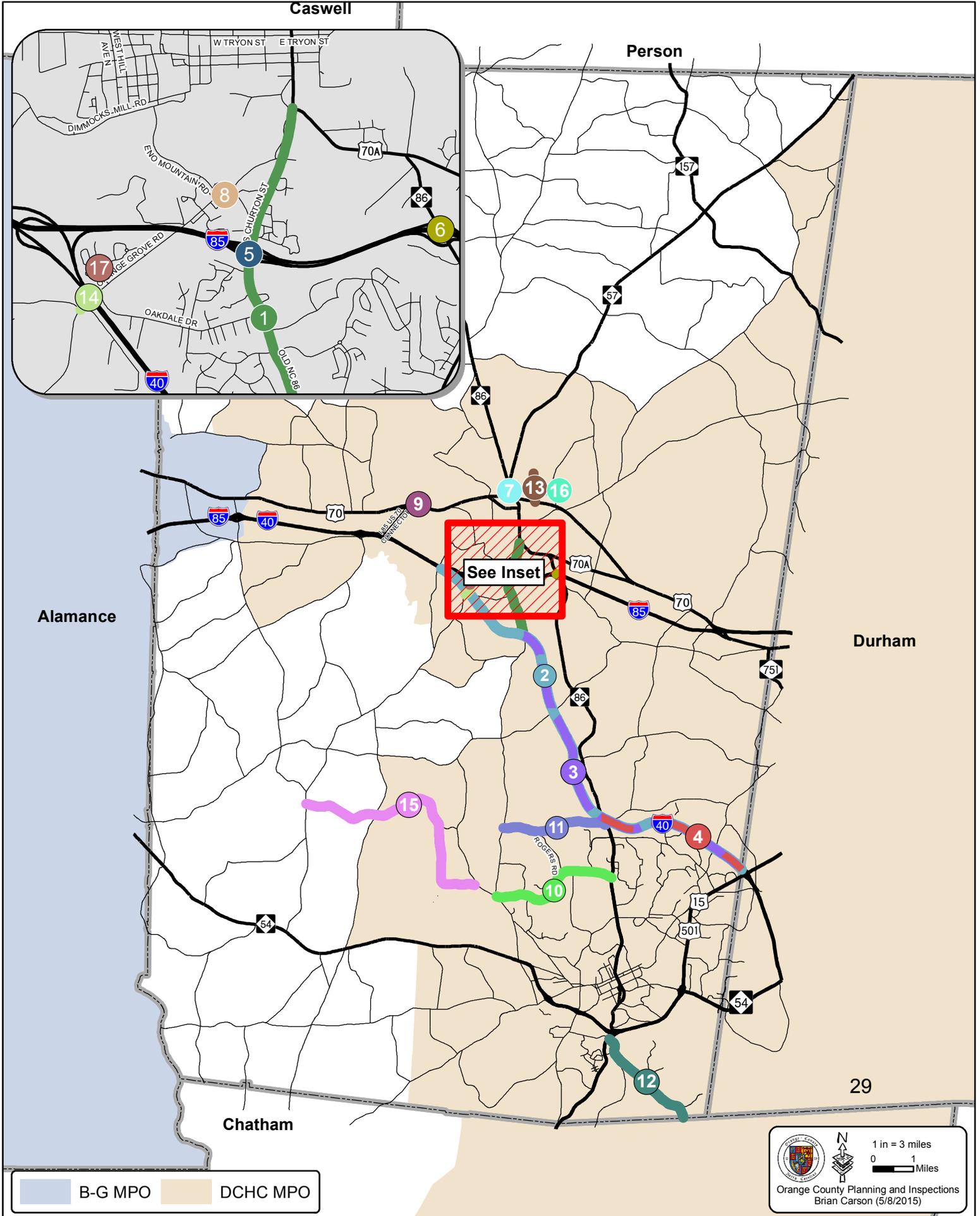
Item 5a Attachment 5: Draft Durham-Chapel Hill-Carrboro (DCHC) MPO Project List

Map ID #*	Project	Project Description/Need	SPOT 3.0 Score
17	Trail Connection from Patriots Pointe to Timbers Drive	<p><u>Description:</u> Construct a multi-use path connecting the southwest corner of Patriots Pointe to Timbers Drive to shorten walking distances for pedestrians.</p> <p><u>Need:</u> Project is recommended as an improvement in the Orange County Safe Routes to School Action Plan. An existing barrier to pedestrians exists between Patriots Point Apartments and Timbers Drive such that long walking distances are required for pedestrians from Patriots Pointe to access the New Grady Brown Elementary School and Cedar Ridge High School along Orange Grove Road with no designated pedestrian facilities. The improvement would provide a direct pedestrian connection from Patriots Point to Timbers Drive and Orange Grove Road in the direction of the schools that make walking distances more manageable.</p>	20.57 Division

*Map ID Number corresponds to the general location of each project on **Attachment 6: DCHC MPO Project List Map**.

**Bike/Pedestrian projects require a 20% local match and must be locally administered. Right-of-way acquisition is also not a permissible cost to be funded by NCDOT for these projects.

Item 5a Attachment 6: DCHC MPO Project List Map



Item 5.b. – Attachment 1

EXCERPT FROM PLAN TO ADDRESS BOCC PETITION REGARDING OUTBOARD BICYCLE SAFETY

- **Task Objectives:**
 - Review County authority and State law
 - Provide copy of County-endorsed bicycle routes (map)
 - Get updated on topic and recent activities
 - Define current problem statement
 - Create broad categories for addressing problem (education; law enforcement; NCDOT; etc.)
 - Suggest/recommend policies, procedures, etc. for addressing problem
 - Identify agencies, County departments, etc. for addressing problem

- **Calendar:** Will attempt to resolve task over the course of three (3) OUTBoard meetings, and wrapped up by the end of May, 2015: Mtg. 1 – Intro, County authority and State law, update and recent activities; Mtg. 2 – Problem statement, categories for addressing problem, recommended policies and procedures, and identify agencies/departments for addressing problem; Mtg. 3 – Review recommendations/plan developed by staff, comment, and staff finalization and forwarding to BOCC.

- **BOCC Next Steps:** Staff will report back to the BOCC in June with recommendations and seek direction for next steps or closure.

Item 5.b. Attachment 2

INTRODUCTORY STATEMENT

At the Mar. 18 meeting of the OUTBoard, the Staff (Abigaile Pittman) presented the Staff's plan to address the Board of County Commissioner's Petition of November 12, 2014, instructing Staff to address Bicycle and Pedestrian Safety in Orange County. The Petition outlined the following objectives:

- Review County authority and State law
- Provide copy of County-endorsed bicycle routes (map)
- Get updated on topic and recent activities
- Define current problem statement
- Create broad categories for addressing problems (education; law enforcement; NCDOT; etc.)
- Suggest/recommend policies, procedures, etc. for addressing problem
- Identify agencies, County departments, etc. for addressing problem

The OUTBoard was charged with preparing a report to the Board of County Commissioners, deliverable at the BOCC's first meeting in June 2015.

In order to come up with a report that could be discussed, revised, and approved by the OUTBoard at its May 20 meeting, a subcommittee of the OUTBoard and interested citizens was formed. The subcommittee included OUTBoard members Alex Castro, Heidi Perry, Tom Magnuson, and citizens John Rees, Jeff Charles, Gail Alberti, and Cliff Leath. The report attached is the final draft for the May OUTBoard meeting.

Orange United Transportation Board Report to the Orange County Board of County Commissioners on Bicycle and Pedestrian Safety in Orange County

Charge 1. Review County Authority and State Law.

In view of **NC House Bill 232** (“*An act to direct the Department of Transportation to study the bicycle safety laws in this state and make recommendations as to how the laws may be revised to better ensure the safety of bicyclists and motorists on the roadways.*”), which was passed by the House and is currently going through the state Senate, the OUTBoard recommends waiting to hear the outcome of that bill before putting a lot of time into reviewing the State laws. (NOTE: Because much of our report pertains to rural parts of the county, the focus is mainly on cycling, though through education efforts, the importance of walking on the correct side of the road and visibility at night can be done through posters and more.)

However, regardless of the outcome of HB 232, people who drive or who cycle in Orange County could be better educated on the current laws, and methods of doing that should be put into place now. (See Charge 5, no 1)

Charge 2. Provide copy of County-endorsed bicycle routes (map).

Many if not most rural recreational cyclists find riding routes via online services such as Map My Ride,¹ or through cue sheets provided by clubs such as the Carolina Tarwheels. Even NC DOT is currently in the process of making the statewide bicycling maps available electronically at WalkBikeNC.² The website is currently under development, but will be an interactive site where cyclists will be able to find, create, or comment on routes around our state.

1. It would be useful to have an online map available for Orange County that pointed out potentially hazardous spots or areas of high traffic to cyclists. This information could be included in the print version of the Orange County cycling map when it is updated. The state laws for cyclists should be included both on an online map website and on the updated print map.
2. We recommend the county also look into providing an app version of the map (in addition to an online version of the map) for the use of cyclists who do not have easy access to a printed map and who are accessing routes through small mobile devices.

Charge 3. Give update on topic and recent activities.

The most recent and possibly most affecting recent activity is state House Bill 232 which was passed by the House in early April and described above. The Senate has referred the bill to the committee on rules and regulations. The OUTBoard would recommend waiting until the outcome of this bill is known before creating too many printed materials with the state laws on them. If the bill is passed by the Senate, the committee that will be formed will be asked to provide recommended legislation to the Senate and House by the end of 2015.

In a recent related activity, the OUTBoard was presented with a list of resurfacing projects at its April meeting, and it endorsed the DCHC MPO's requests for wide shoulders as a part of the resurfacing on the following roads: Old NC 86 from Farm House Drive to New Hope Church Road, Arthur Minnis Road from Old NC 86 to Rocky Ridge Road, New Hope Church Road from Old NC 86 to NC 86. In addition, the OUTBoard endorsed the Staff's request for wide shoulders on Walker Road from NC 57 to New Sharon Church Road, and on Lake Orange Road from NC 86 to the End of Maintenance on that road.

Charge 4. Current problem statement.

As with most situations, the majority of the cyclists and motorists are respectful of each other on our county roads. There are some in each of these categories, however, who allow feelings of entitlement to the road to overtake their good sense, and it is in those situations that conflicts between the two groups can occur.

The OUTBoard would like to see the county embrace, promote, and fund programs that could help mitigate these conflicts. First and foremost in these efforts would be a series of ways to educate the public on the laws, and to humanize the situations that occur in a way that fosters respect, understanding, and coexistence on the road. See Appendix 1 for examples of these types of efforts being done in other areas.

Charge 5. Addressing the issues.

To improve the safety of bicycling and walking in Orange County, the OUTBoard recommends the following actions be adopted and implemented by the Board of County Commissioners:

1. Have current state laws posted at high-traffic rural spots. (See Appendix 2) Two that were mentioned were Maple View and Honeysuckle Tea House. In addition, locations such as car dealerships, gas stations, schools, churches, and car repair shops should be approached. With permission from the establishment's owners, posters could be posted in several locations. These posters would include state laws for both cyclists and motorists. Include on the posters the importance of respect for all on the road.
2. Become a partner with NCDOT in their "Watch for Me NC" bicycle and pedestrian safety campaign. They provide a large amount of information including posters, bumper stickers, handouts with laws, reflective gear, and even bike lights. Combine this with a enforcement, education, and awareness program for cyclists and motorists.³
3. Provide law enforcement officers with education tools explaining road cycling and the state's laws – such a program has been developed by the statewide advocacy group BikeWalk NC. It could be shown in a classroom setting with or without assistance from local League of American Cyclists certified Cycling instructors.⁴
4. Arrange for a bike ride or another type of "field trip" with Orange County Commissioners, law enforcement, Orange County staff, and local cycling

advocates to allow all to see both the possibilities and the obstacles that exist for cycling on rural county roads.

5. Have a county-wide contest to produce PSA posters or videos as a way to bring in citizen participation. Prepare a series of PSAs to air on local radio and television stations and in the local newspapers, and as posters around Orange County, as have been promoted in other locations: See sample posters in Appendix A. Contact the Journalism school at UNC to see if they would be interested in helping create these spots and helping us determine the correct venues for placing them.
6. Meet with the regional director of Active Routes to School and with school PE instructors to be sure they are aware of the Bike and Pedestrian Safety program available on NCDOT's website. ⁵
7. Support BikeWalk NC in its efforts to produce a statewide online education class⁶ that could be utilized in Driver's Ed classes, for driving offenders that are seeking to reduce points on their insurance, and it even has a component for the younger ages who are mainly pedestrians.
8. Utilize national resources such as the National Highway Traffic Safety Administration,⁷ People for Bikes,⁸ and the Alliance for Biking and Walking⁹ for materials that can be used locally.
9. Create and promote an interactive wiki map that cyclists and motorists can use to identify spots that need attention to improve safety. (The map could be referenced on all of the posters and other PSAs.)
10. Examine bicycling in Orange County as an economic development tool by sending a local staff person (or someone from Orange County Visitors Bureau) to the Bicycle Tourism conference in San Diego, CA, being held Nov. 4–7 in 2015.¹⁰
11. Pursue a tourism (or other) grant to fund bicycling safety and share the road public service announcements on popular local AM/FM radio stations.
12. Include a line item in the budget for county funding to use as grant-matching funding.
13. Improve bicycle infrastructure in the community. Instruct staff to review with the OUTBoard roads that are scheduled for resurfacing and recommend 4-foot shoulders on roads identified as rural bikeways.
14. Explore lowering speed limits on some rural county roads to 40 mph. Begin with a pilot on Dairyland Road. This reduction in speed was recently approved by NCDOT for a small section of Old 86 (from Calvander to the Carrboro Town Limit).
15. Discuss with the NC DOT (District Seven Engineer) the implementation of roadways safety shoulders (costing \$500,000 or less) at blind hills and curves on highly used bike routes. One of the following locations could be used as a pilot for this safety measure:
 - Sugar Ridge area of Orange Grove Road

- “S” curve on Dairyland Road between Bethel Hickory Grove and Union Grove Church Roads
- Dairyland Road segment between Green Rise Road and new gas line
- Old Greensboro Highway segment between Niche Gardens and Collins Creek Roads
- Old Greensboro Highway segment between Phil’s Creek and Jones Ferry Roads

16. Enhance the use of our bikeways by:

- a. Supplement the existing Orange County Bicycle Map with online-accessible “Cue Sheets” for specific preferred bicycling road. Assistance in the development of these sheets should be sought from the local bicycle organizations like the Carolina Tarwheels
- b. Add MUTCD-approved signage at “choke points” identified by area cyclists alerting drivers to the likelihood of cyclists, such as “watch for cyclist” or “bikes may use full lane”
- c. Include multi-use paths in the vicinity of and within County Parks and along Cane Creek reservoir perimeter.

17. Hold a Community Event. To provide a safe cycling experience for novice to expert riders, a different selected segment of a rural road would be closed to all but local motorist traffic and converted to a dedicated bikeway on a weekend day once a month from April to October for a period of about two to four hours. To hold this event:

- a. a one-weekend day pilot would be organized to prove and refine the concept.
- b. Coordination between existing local bicycle clubs, rural residents, the State Department of Transportation, Sheriff's Department and Orange County government would develop the specific parameters of the proposed bikeway. Cue Cards for the ride would be developed and made available on-line and as handouts. The event would need to be widely publicized, and local churches along the dedicated route could chose to stage events to introduce riders to their fund raising events offering items such as baked goods, refreshments etc. Significant historic sites could be signed and other points of interest highlighted. Experienced riders wishing to stage a race or time trial event would go first, and thereafter the segment would be open to all cyclists. Volunteers could be positioned along the route to coordinate assistance as needed.

18. Add links on the county’s website to resources for cyclists from BikeWalkNC.org and from NCDOT’s bike program. Include links to laws and to safety videos.¹¹¹²

Charge 6. Suggest/recommend policies, procedures for advancing bike and pedestrian safety in the county.

1. Create a Task Force to put together an action plan for implementing the list of actions suggested in Charge 5, and have the action plan reviewed by the OUTBoard and presented to the BOCC. Have one member of the BOCC serve as a member of the Task Force.
2. Charge the Task Force with providing a list of roadways or areas in Orange County that need improvements for the OUTBoard to review, and send to the BOCC or to staff for approval.
3. Have staff create a list of goals for improving the roadways identified by the Task Force, including desired timelines and approximate costs.
4. Instruct staff to review with the OUTBoard roads that are scheduled for resurfacing and recommend wide shoulders or other appropriate improvements on roads identified as rural bikeways.
5. Ask NCDOT to adhere to their Complete Streets manual and to their written policies concerning rumble strips when installing them on rural roads (see Appendix 3)
6. Receive semi-annual updates and annual written reports from staff regarding progress of the above noted action items and goals for the past and the upcoming year.

Charge 7. Identify agencies, departments, groups that might work to move this forward.

All of the following, in addition to every Orange County resident are stakeholders who should work together to make our roads safer.

1. Law enforcement agencies (Sheriff's Department, Highway Patrol)
2. School representatives
3. Orange County Visitor's Bureau
4. NCDOT staff
5. County and regional planning staff
6. Elected representatives
7. County businesses
8. Bicycle advocacy groups
9. Those who work with driver's education classes and traffic offenders

¹ Map My Ride: (<http://www.mapmyride.com>)

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- ² WalkBikeNC statewide map program:
(<https://apps.ncdot.gov/newsreleases/Image.ashx?id=2992&orig=1>).
- ³ Watch For Me NC program: <https://apps.ncdot.gov/newsreleases/details.aspx?r=11035>
- ⁴ The powerpoint for the presentation can be seen here:
<http://www.bikewalknc.org/learn/education-resources-for-police/>.
- ⁵ The program guide for Let's Go NC is here:
<http://www.ncdot.gov/bikeped/safetyeducation/letsگونc/>
- ⁶ A similar model for a statewide online education class created for Illinois can be seen here: <http://www.bikesafetyquiz.com/>)
- ⁷ National Highway Traffic Study: <http://www.nhtsa.gov/Bicycles>
- ⁸ People for Bikes: <http://www.peopleforbikes.org/>
- ⁹ Alliance for Biking and Walking: <http://www.bikewalkalliance.org/>
- ¹⁰ National Bicycle Tourism Conference: <http://www.bicycletournetwork.org/>
- ¹¹ Bike Laws: <http://www.bikewalknc.org/important-nc-traffic-laws-applicable-to-bicyclists/>, and <http://www.ncdot.gov/BIKEPED/>
- ¹² Sample safety videos (from other states):
<https://www.youtube.com/watch?v=A3QN5U567jE>
<https://www.youtube.com/watch?v=iXC2UFRJ5Y4>

Appendix A: Possible ideas for PSA posters



Sample video PSAs can be found here:

<http://bikepgh.org/care/>

<http://georgiabikes.org/index.php/resources/35-georgia-resources/180-psa>

Appendix B: NCDOT Documents pertaining to rumble strips and bicycle traffic

R-44

- The beginning of a rumble strip/stripe pattern should be delineated in accordance with MUTCD criteria (Section 9C.06) on any facility that bicycles are legally allowed to operate.
- The NCDOT Division of Bicycle and Pedestrian Transportation will be provided an opportunity to comment on any project implementing rumble strips/stripes on facilities subject to this practice.
- Turn bay rumbles may continue to the beginning of the full width lane, if the paved shoulder width remains the same as the through-lane shoulder width.
- NCDOT recognizes and is sensitive to the fact that noise may be an issue. However, if there is a documented safety problem where no other reasonable cost effective solution is available then rumble strips should be installed. This approach has been supported through other Departmental actions.

CONSIDERATIONS FOR BICYCLE TRAFFIC

The following should be considered for all facilities where bicycles are legally allowed to operate:

- It is desirable to provide a nominal width of four (4) feet of useable shoulder between the outside edge of the shoulder rumble strip/stripe to the edge of pavement. However, even though a four foot nominal width is desired, it will not preclude the installation of a proven safety countermeasure where there is the presence of treatable lane departure events. Also, the condition of the shoulder itself should be considered in determining whether or not to provide the four foot nominal riding width for bicycle traffic.
- The width of shoulder rumble strips/stripes may vary between 8 and 16 inches. The engineer should determine design and placement.
- Gaps in milled patterns, varying between 6 and 12 feet, may be provided to allow bicyclists to move between the through lane and the right shoulder to avoid vehicles, debris, etc., but the pattern should be a minimum of a 5:1 rumble-to-gap ratio. The Engineer should determine design and placement.
- No gaps should be provided on the left (median) side of divided highways. Gaps should not be provided on interstate or freeway facilities.
- Consideration should be given to the alignment of the roadway in the direction of travel from the perspective of bicyclists.
- Consideration should be given to the grade and speed at which bicyclists may be traveling.

become sunken below the pavement surface, utility covers should be installed flush with the adjacent street surface and/or adjusted when streets are reconstructed or resurfaced.

Shoulder Rumble Strips

A shoulder rumble strip is a safety feature for motorists installed on a paved shoulder near the outside edge of the travel lane. It is made of a series of milled or raised elements intended to alert inattentive drivers (through vibration and sound) that their vehicles have left the travel lane. Rumble strips are placed as a countermeasure for driver error, rather than street deficiencies, and are typically used on high speed facilities in rural areas. They are less applicable on urban and suburban street types. Where they are used, rumble strips on shoulders should be designed to lessen impacts on other users (specifically bicyclists). Shoulder rumble strips with a narrow offset of 9 inches or less from the edge of the pavement marking (travel lane) have been shown to be the most effective, because the driver is alerted sooner and it provides a slightly larger recovery area after being alerted.

Characteristics of and concerns about rumble strips that limit their usefulness or application include low traffic speeds, noise for adjacent residences, limited pavement width, presence of curb and gutter, significant turning movements, and other conflicts for motorists, pedestrians and bicyclists.

Bicyclists are affected by rumble strips. As legal street and road users, bicyclists may be in the travel lane, but where paved shoulders are available and clear, bicyclists will often use them to avoid conflicts with faster moving vehicles in the travel lane. As described in Chapters 3 and 4, paved shoulders, if wide enough, can be an appropriate facility type for bicyclists on some higher speed roadways, such as parkways or rural roads. There are a number of measures that should be considered to accommodate bicyclists when installing rumble strips:

- Wide outside paved shoulders improve safety for all highway and road users. Where existing cross-section exists or is available, allow

at least four feet beyond the rumble strips to the edge of the paved shoulder. Where guardrail, curb or other continuous obstructions exist, additional width (2 feet extra width) may be needed to provide adequate clearance for bicyclists.

- Bicycle gaps (recurring short gaps) should be designed in the continuous rumble strip pattern to allow for ease of movement of bicyclists from one side of the rumble to the other. A typical pattern is gaps of 10 to 12 feet between groups of the milled-in elements at 60 feet intervals.
- Decreased width of rumble strip and/or decreased offset width to the edge line (travel lane) may provide additional space usable to bicyclists.

Rumble strips have typically been used in rural areas where run-off-road crash problems exist, and their use on urban freeways and possibly urban parkways should be determined on the merit of the street cross-section and context. Rumble strips are generally not necessary on other complete street types. Installation will be considered on rural roads where posted speed limits and/or statutory speeds are at 55 miles per hour and above. Installation will be considered along specific rural roads where significant numbers of run-off-road-crashes that include any form of motorist inattention has been identified.



MOUNTAINS-to-SEA

North Carolina State Trail

Draft MASTER PLAN

Update Item 6a

41





North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

Donald R. van der Vaart
Secretary

May 1, 2015

Dear Trail Partners:

The N.C. Division of Parks and Recreation is pleased to announce the draft release of the Mountains to Sea State Trail (MST) Master Plan. The state parks system hired Planning Communities, LLC to prepare a detailed master plan to aid in the completion of the trail. The plan was funded by a grant from the N.C. Parks and Recreation Trust Fund.

The MST is a unit of the state parks system. The 1,000-mile trail corridor will ultimately link Clingman's Dome in the Great Smoky Mountains to Jockey's Ridge State Park on the coast. Nearly two thirds of the cross-state route has been completed as a continuous, off-road trail experience, providing many opportunities for hiking, biking and horseback riding through some of North Carolina's most scenic landscapes. Where the trail has not yet been completed, detours along secondary roads allow ambitious hikers to complete the 1,000-mile trek across North Carolina.

The draft master plan describes new trail sections to be officially designated and set priorities for the completion of sub-sections of the trail. The master plan also unifies regional planning efforts, identifies potential new partners and funding strategies, and establishes guidelines for signage and publicity.

The Mountains-to-Sea State Trail is envisioned as the backbone of a network of regional hiking, paddling and multi-use trails across the state, which can be easily connected to local trails and greenways. Eventually, the trail will link 33 of North Carolina's 100 counties and offer local access to 40 percent of the state's population. The state parks system, other state agencies, federal agencies, local governments and volunteers organized by Friends of the Mountains-to-Sea Trail have constructed sections of the trail, representing a partnership that includes hundreds of citizens and every level of government.

Public input is imperative to the success of the plan and to the implementation of the remaining planned sections. To that end, we have scheduled four regional meetings and we have created a website to display information and capture public comments.

Please help us in our unified goal of completing the MST by reviewing the draft plan and providing comments.

Sincerely,

Michael A. Murphy, Director
NCDENR, Parks and Recreation

Table of Contents

Introduction	2
Background and Plan Purpose.....	2
Overview and History of the MST	3
Geography of the MST	8
Overview of Segment Types	8
Segment Descriptions	8
Planning Segment Prioritization	36
Geography of the MST Recommendations.....	42
Trail Planning Toolbox.....	49
The Roles of Trail Partners.....	50
Funding Strategies and Sources	52
Design Standards and Costs.....	54
Designing Safe Trails	55
Personal Safety on the MST.....	56
Trail Signage.....	58
Marketing and Publicity	62
Conservation and Lease Agreement Templates	66
Trail Planning Toolbox Recommendations	67
Conclusions	68



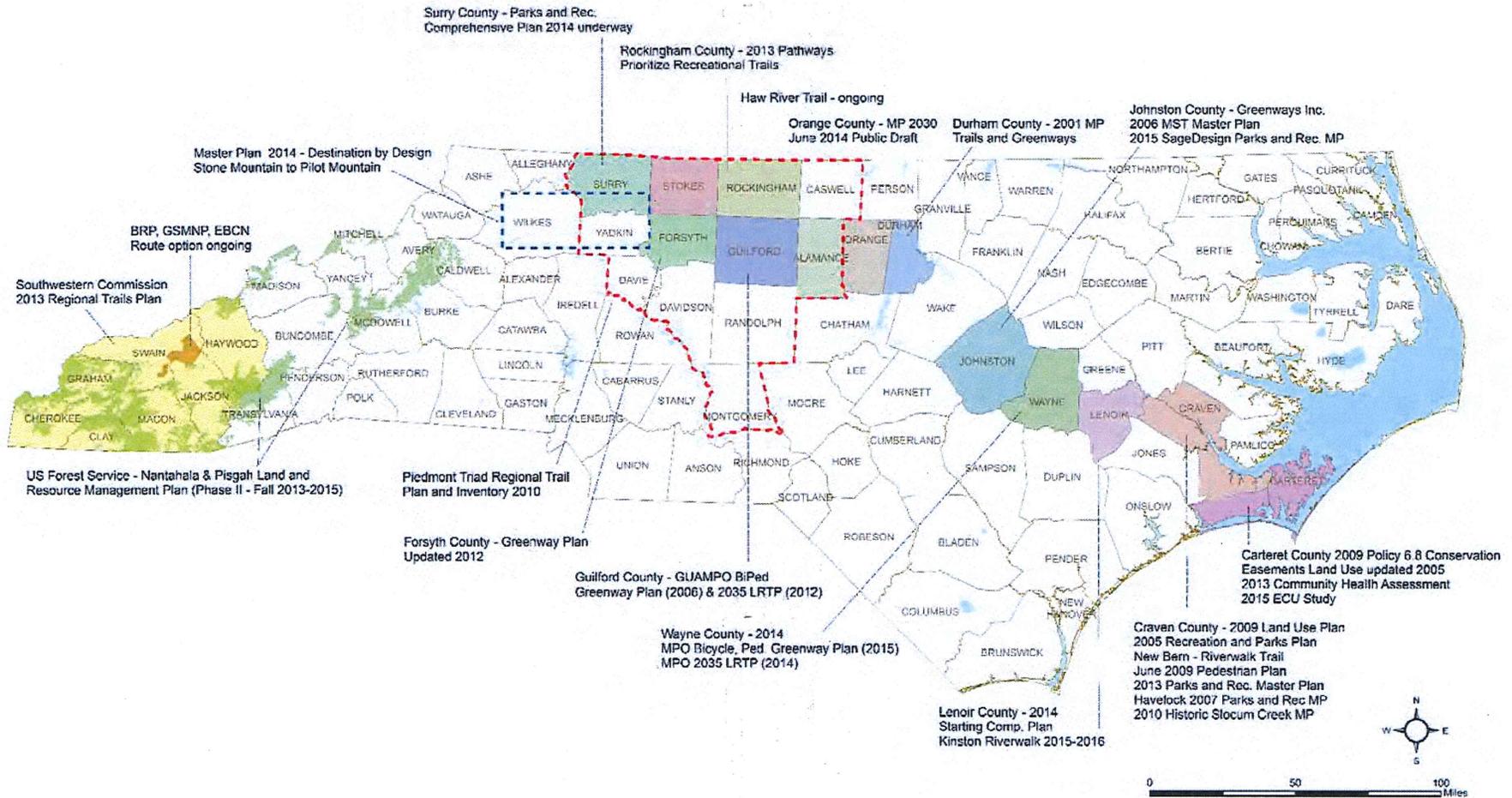


Figure 1. Recent trail and recreation planning efforts along the MST planning corridor

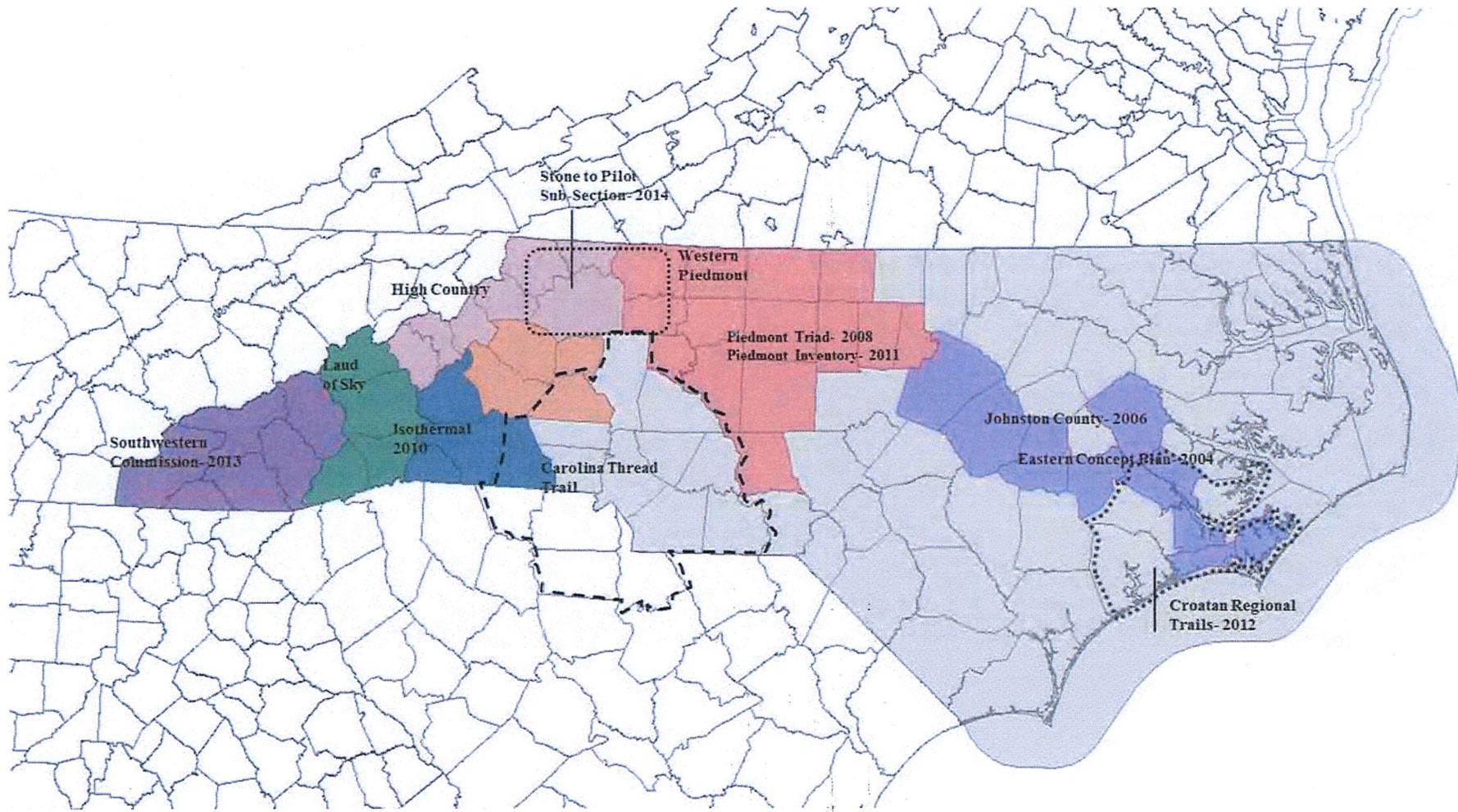


Figure 2. Completed regional trail planning efforts with councils of government



Geography of the MST

As the MST links North Carolina's mountains, piedmont region, and coastal plain, its path can be viewed through a focused lens by considering segments at a similar stage in development and within a similar planning context. The geography of the MST is explored in this section – including recommended segments, descriptions of each segment, and priorities for further planning and implementation.

Overview of Segment Types

Two types of segments are considered in this master plan – Designated and Planning. A statewide map of these segments is provided in Figure 3.

Designated Segments

The Designated Segments of the MST are constructed sections that have been designated by the DPR. Currently, there are over 600 designated miles of the MST, with the majority of those miles lying within the western part of the state. The following Designated Segments are identified in this master plan:

- | | |
|------------------------|--|
| A. Southern Blue Ridge | E. Pilot Mountain to Hanging Rock State Park |
| B. Asheville Area | F. Greensboro Watershed Trails |
| C. Central Blue Ridge | G. Falls Lake/Neuse River |
| D. Northern Blue Ridge | H. Outer Banks |

Planning Segments

The Planning Segments of the MST are in some stage of development prior to official designation. Criteria used to define geographic boundaries of Planning Segments include route length (preferably 20-30 miles), jurisdictional boundaries, and natural features. The following Planning Segments are identified:

- | | |
|---------------------------------------|-----------------------------|
| 1. Cherokee to Balsam Gap | 10. Haw River Trail |
| 2. Northeast Wilkes County | 11. Southwest Orange County |
| 3. Yadkin River (Surry/Yadkin County) | 12. Eno River |
| 4. Stokes County | 13. Johnston County |
| 5. Atlantic and Yadkin (A&Y) Greenway | 14. Wayne County |
| 6. Northwest Forsyth County | 15. Lenoir County |
| 7. Winston-Salem | 16. Northern Craven County |
| 8. Piedmont Greenway | 17. Southern Craven County |
| 9. Upper Haw River | 18. Carteret/Ocracoke |

Segment Descriptions

The master plan is intended to consolidate and provide consistent information about the MST, develop a tool to assist with prioritization of future planning for the MST, and inform the development of the DPR MST website. On the following pages, descriptions of the Designated and Planning segments are provided. Each description includes a map, current or potential segment managers, and resources for additional information. For the Planning Segments, challenges to and opportunities for advancing planning, construction, and designation of each Planning Segment are also included.

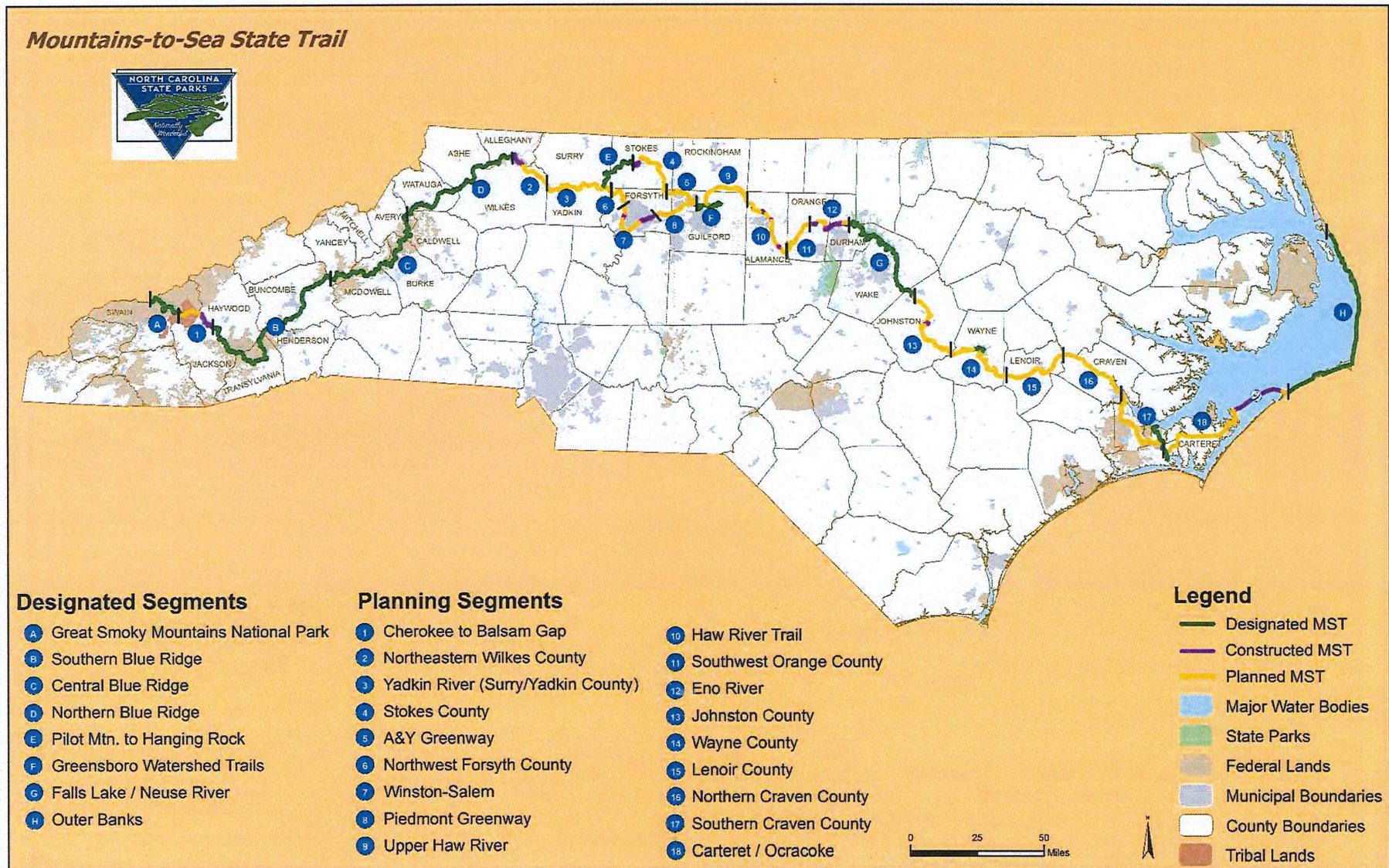
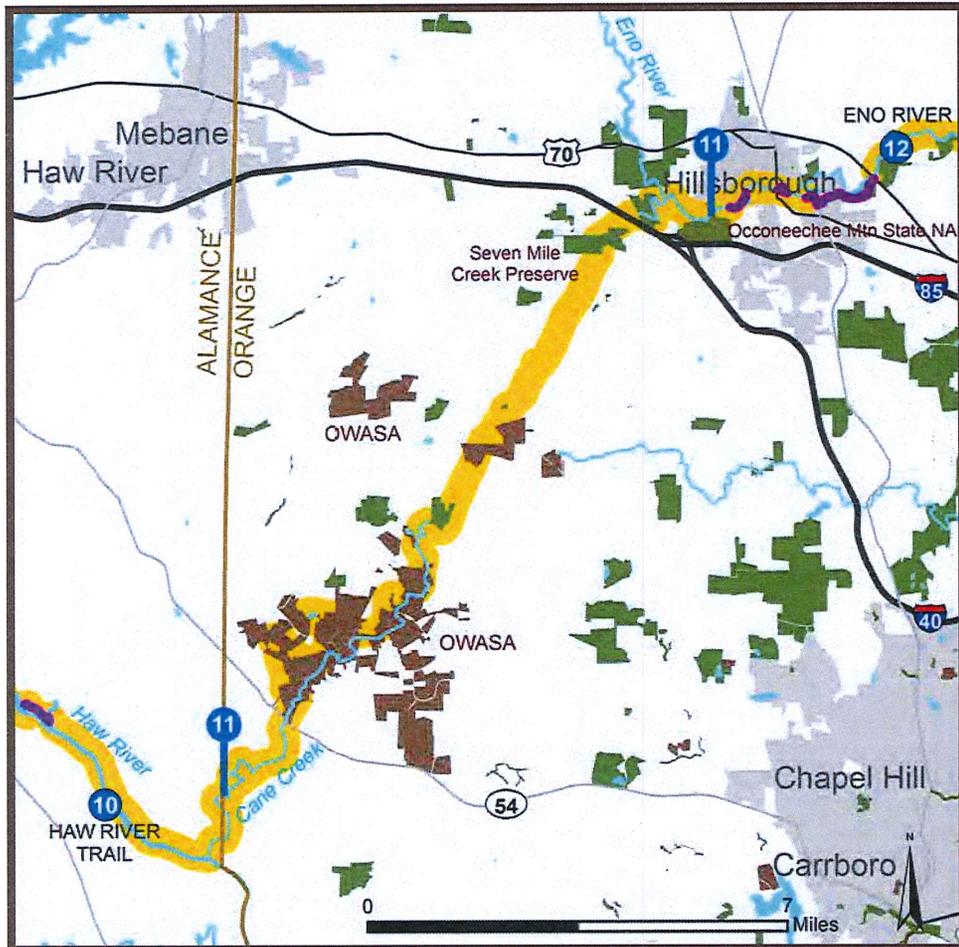


Figure 3. North Carolina Statewide Map of the Designated and Planning Segments for the MST

SEGMENT 11: Southwest Orange County

Planning Priority

Near-Term Mid-Term Long-Term



Description

From: Alamance County line

To: Hillsborough (I-40/I-85 south of Occoneechee Mountain State Natural Area)

This segment runs from the Haw River Trail at the Alamance/Orange County line to the Occoneechee Mountain State Natural Area just near Hillsborough. The trail is undeveloped with a considerable amount of public land available at the Orange Water and Sewer Authority (OWASA) and the Seven Mile Creek Preserve.

Planning Strategies

The Orange County Parks and Recreation Master Plan (2013) addresses the current status of the MST and the need for detailed alignment planning in Orange County. Current planning in Orange County is focused on completing gaps between Hillsborough and Durham County. Planning for the trail on OWASA property will occur in the future.

Opportunities

OWASA landholdings and streams in the corridor offer future route opportunities.

Large Landholdings	x	Stream/River Corridors	x	Staff Resources
x	Public Land	Sidewalk/Bicycle Network		Federal Property
	Local Planning	Floodplain/Wetlands		Abandoned RR ROW

Challenges

Local planning is needed to identify the alignment between OWASA property and the Seven Mile Creek Preserve. How to best cross I-85/I-40 is another planning consideration.

	Stream/River Crossings	x	Coordinating Easements	x	Local Planning
x	Detailed Alignment		Urbanized Corridor		Federal Property
x	Major Roadway Crossing		Floodplain/Wetlands		

Legend

MST Status

Constructed

Designated

Planned Route (1/4 mi. buffer)

Adjacent Segment

Segment Start and End Points

County Boundary

State Park

Open Space

Institutional

Municipal Boundary

State Boundary

Interstate

NC Route

US Route

Major Hydrography

Proposed Trail

Other Trail

Segment Details

Constructed Trails: None

Route Alignment: Cane Creek/
OWASA

Key Properties: OWASA

Approximate Length: 19 miles

Designated Segments within Planning Segment: None

Potential Segment Manager(s):
Orange County, Orange Water and Sewer Authority (OWASA)

Additional Planning Stakeholders:
Triangle Area RPO, Durham-Chapel Hill-Carrboro MPO

SEGMENT 12: Eno River

Planning Priority

Near-Term Mid-Term Long-Term

Description

From: Occoneechee Mountain State Natural Area (Hillsborough)

To: Falls Lake/Neuse River

This segment follows the Eno River from the Occoneechee Mountain State Natural Area in Hillsborough through Hillsborough, Occoneechee Speedway and sections of the Eno River State Park to join the MST at Falls Lake.

Planning Strategies

Durham is working to complete minor trail gaps. Hillsborough is moving forward with later phases of their River Walk. Orange County's priority is completing the trail between Hillsborough and Durham County.

Opportunities

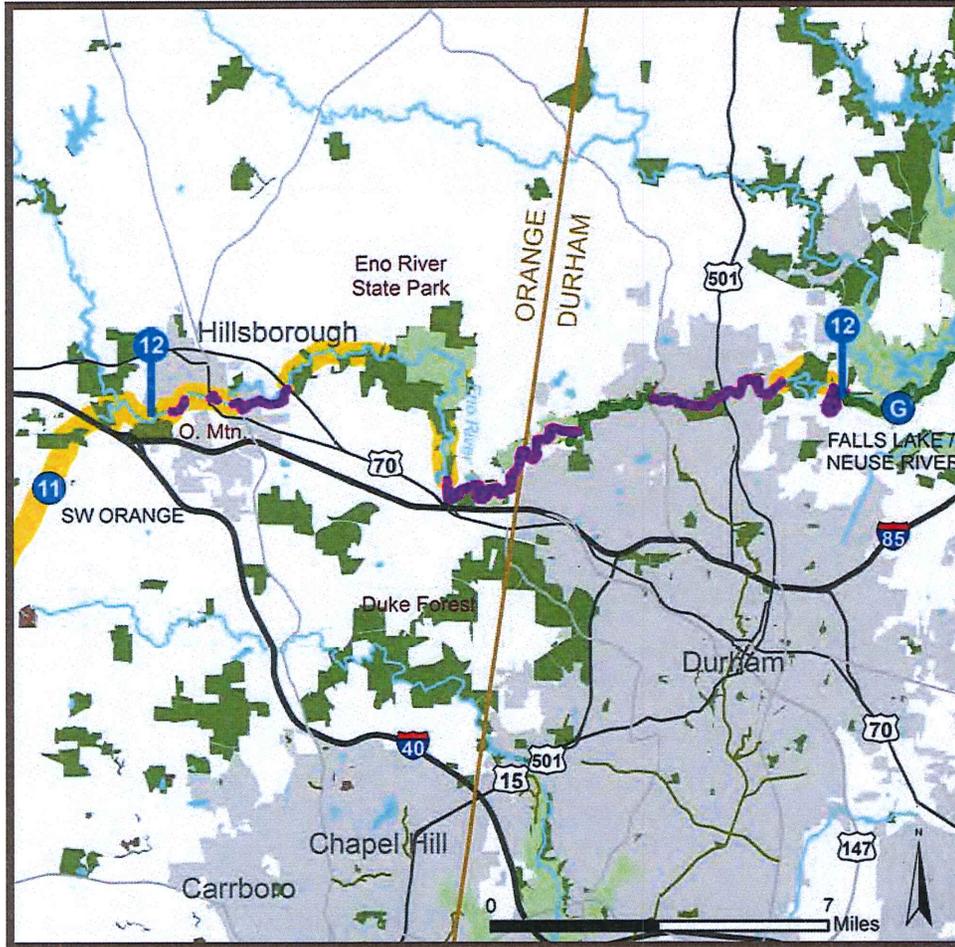
Much of the remaining trail to be completed in Orange County can be accommodated within Eno River State Park. Trail partners are actively coordinating to complete this priority segment.

x	Large Landholdings	x	Stream/River Corridors	x	Staff Resources
x	Public Land		Sidewalk/Bicycle Network		Federal Property
x	Local Planning		Floodplain/Wetlands		Abandoned RR ROW

Challenges

Eno River crossings may be needed and crossing US 70 is an identified obstacle.

x	Stream/River Crossings	x	Coordinating Easements		Local Planning
	Detailed Alignment	x	Urbanized Corridor		Federal Property
x	Major Roadway Crossing		Floodplain/Wetlands		



Legend

- | | | |
|--------------------------------|--------------------|-------------------|
| MST Status | County Boundary | Interstate |
| Constructed | State Park | NC Route |
| Designated | Open Space | US Route |
| Planned Route (1/4 mi. buffer) | Institutional | Major Hydrography |
| # Adjacent Segment | Municipal Boundary | Proposed Trail |
| # Segment Start and End Points | State Boundary | Other Trail |

Segment Details

Constructed Trails: [Occoneechee Mtn. State Natural Area](#), [Occoneechee Speedway Trail](#), [Hillsborough River Walk](#), [West Point on the Eno](#), [Horseshoe Park](#)

Area, Occoneechee Speedway

Approximate Length: 26 miles

Potential Segment Manager(s): [Durham City/County](#), [Hillsborough](#), [Orange County](#), [Eno River State Park](#)

Route Alignment: Eno River

Key Properties: Eno River State Park, Occoneechee State Natural

Additional Planning Stakeholders: [Eno River Association](#), [Durham-Chapel Hill-Carrboro MPO](#)

Designated Segments within Planning Segment: Portions of trail within [Eno River State Park](#) in Durham County

Table 2. Prioritized Planning Segments

Planning Segment Name	Approximate Length	From	To
Near-Term Planning Priorities			
1 - Cherokee to Balsam Gap	24 mi	Great Smoky Mountains National Park	Eastern Band of Cherokee Nation Lands
5 - Atlantic & Yadkin Greenway	13 mi	Belews Lake	Greensboro Watershed Trails
7 - Winston-Salem	30 mi	Northwest Forsyth County near Bethania	Future Piedmont Greenway near Kernersville border
8 - Piedmont Greenway	19 mi	Winston-Salem City Limits	Greensboro Watershed Trails
10 - Haw River Trail	35 mi	Alamance County northwest border	Orange County
12 - Eno River	26 mi	Hillsborough (Occonechee Mtn)	Falls Lake/Neuse River
14 - Wayne County	39 mi	Johnston County	Lenoir County
Mid-Term Planning Priorities			
2 - Northeast Wilkes	25 mi	Stone Mountain State Park	Surry County
13 - Johnston County	52 mi	Neuse River Greenway terminus in Clayton	Wayne County
15 - Lenoir County	39 mi	Wayne County	Craven County
16 - Northern Craven County	31 mi	Lenoir County	Bridge Creek (South of New Bern)
17 - Southern Craven County	36 mi	Bridge Creek (South of New Bern)	Carteret County

Planning Segment Name	Approximate Length	From	To
18 - Carteret/Ocracoke	81 mi	Craven County	Cedar Island Ferry to the Outer Banks
Long-term Planning Priorities			
3 - Yadkin River (Yadkin/Surry)	34 mi	Wilkes County	Pilot Mountain State Park
4 - Stokes County	32 mi	Hanging Rock State Park	Belews Lake
6 - Northwest Forsyth County	14 mi	Pilot Mountain State Park	Winston-Salem City Limits
9 - Upper Haw River	27 mi	Greensboro Watershed Trails	Alamance County Haw River Trail
11 - Southwest Orange County	19 mi	Alamance County	Hillsborough

Segment 10: Haw River Trail

- Provide assistance and information on getting the Haw River Trail, currently under construction, designated as an MST segment upon completion.
- Determine tools and options to assist with road crossings and stream crossings.
- Leverage the current success and popularity of trail use and blueway use in the area to keep momentum strong for completion of MST segments.

Segment 11: Southwest Orange County

- Determine tools and resources needed to implement the MST goals found in the 2014 Orange County Parks and Recreation Master Plan.
- Work with OWASA to finalize the alignment of the route to Hillsborough and establish a timeline for construction.
- Work with the community to address concerns regarding trails near their neighborhoods.
- Determine tools and resources to deal with road crossings for this segment of the trail.
- Support coordination between Orange County and Hillsborough staff to maximize limited resources for planning, implementation, and maintenance of this segment.
- Once the priority of finishing the MST segment between Occonechee Mountain and the Eno River State Park is complete, leverage success from that project to work on completing remaining gaps that would complete this segment.



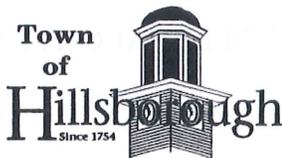
A section of the trail as it passes under a roadway

Segment 12: Eno River

- Provide assistance and information on coordinating MST designation of all newly-constructed trail miles.
- Provide assistance and information on getting constructed, but not yet designated, trail miles designated as official MST segments.
- Coordinate with local staff and NCDOT on the US 70 bridge replacement project to ensure that design can accommodate the trail.

Segment 13: Johnston County

- Provide assistance and information on coordinating MST designation of existing trails in this segment.
- Determine tools and resources needed to move construction of trails forward for this segment.
- Determine how to move the trail segment from a priority among local staff, tourism boards and users, to development.
- Determine tools and options to deal with lack of public land available for the trail.
- Work through implementation challenges like how to work within the Neuse River buffer requirements, how to increase political support (link trail development to economic development and quality of life), and how to navigate working through wetland requirements for the trail.
- Leverage the current demand and popularity of trail use, and local support for trails and recreation facilities as part of the public survey for the parks and recreation master plan, to move development of the trail forward.



Purpose and Need

Eno Mountain Road is an important connector between southern and western Hillsborough and currently carries approximately 3,400 vehicles per day. The current Eno Mountain Road intersection with Orange Grove Road is approximately 530 feet west of the intersection of Mayo Street and Orange Grove Road, which provides access to Churton Street, which provides connectivity to I-85, I-40, and downtown Hillsborough. The offset of these intersections increases travel time and congestion and decreases safety, particularly for vehicles travelling to/from Churton Street and Eno Mountain Road. The realignment of this intersection is included in the Durham-Chapel Hill-Carboro Metropolitan Planning Organization *2035 Long Range Transportation Plan* and the *North Carolina Department of Transportation State Transportation Improvement Plan*.

The primary purpose of this project is to improve safety, operations, and efficiency for all modes of transportation at the Eno Mountain Road/Orange Grove Road and Mayo Street/Orange Grove Road intersections by reducing conflict points and turning movements.

Capacity Analysis

Improving operations and efficiency at the two subject intersections has been identified as a priority by the Town of Hillsborough and Orange County. Capacity analysis was performed for the 2013 existing and projected 2016 years. Capacity analysis results are reported using Level of Service (LOS) which is a term used to represent different traffic conditions, and is defined as a “qualitative measure describing operational conditions within a traffic stream, and their perception by motorist/or passengers.” The table below generally quantifies level of services with A being optimum and F being less desirable.

Level of Service	Description	Unsignalized
A	Little or no delay	<= 10 sec.
B	Short traffic delay	10-15 sec.
C	Average traffic delay	15-25 sec.
D	Long traffic delay	25-35 sec.
E	Very long traffic delay	35-50 sec.
F	Extremely long traffic delay	> 50 sec.

The following table illustrates that the two existing study areas are currently experiencing congestion and delays and will only get worse if improvements are not made.

	2013 Existing	2016 Projected
Orange Grove Road / Mayo Street	LOS C	LOS E
Orange Grove Road / Eno Mountain Road	LOS D	LOS F
Orange Grove Road / Eno Mountain Road Relocation	N/A	LOS B



Corridor Alternatives

Option 1 realigns Eno Mountain Road to the east to connect with Mayo Street. This proposed alternative will realign on new location approximately 1,700 feet north of Orange Grove Road and extend south of the mining limits of the current Resco Products mine and south of Duke Energy transmission line tower before intersecting at Mayo Street.

Option 2 realigns Eno Mountain Road to the east to connect with Mayo Street. This proposed alternative will realign on new location approximately 1,100 feet north of Orange Grove Road and extend on new location approximately equidistant between the mining limits and existing Eno Mountain Road before intersection at Mayo Street.

Option 3 realigns Mayo Street to the west to connect with Orange Grove Road. This proposed alternative will realign through two existing parcels which are located south of Orange Grove Road between Eno Mountain Road and Mayo Street.

Option 4 realigns Mayo Street to the west to connect with Orange Grove Road. This proposed alternative is similar to Option 3 except it aligns further south and north of an existing stream. The study corridor alternatives are illustrated on the attached Potential Corridors Map.

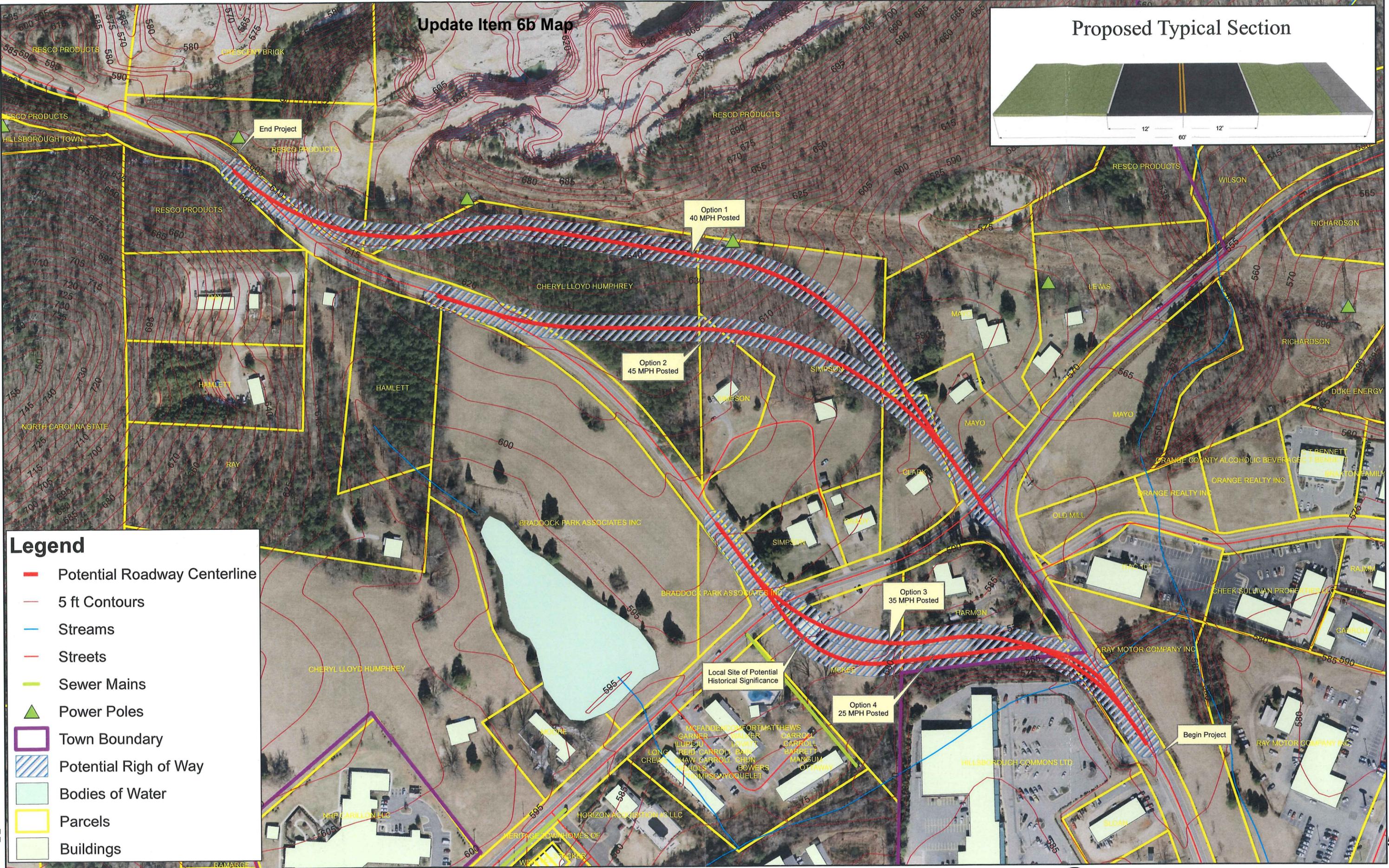
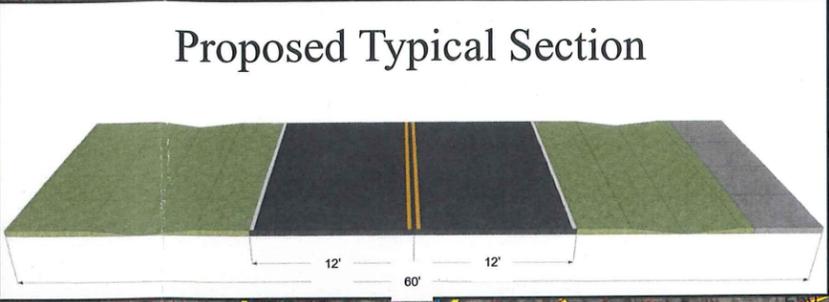
Comparative Matrix

CORRIDOR OPTIONS	1	2	3	4
Length of Corridor (miles)	0.53	0.53	0.52	0.52
New Location Corridor Length (miles)	0.36	0.25	0.17	0.17
Proposed Right-of-Way Width (feet)	60	60	60	60
Proposed Design Speed (mph)	45	50	40	30
Proposed Posted Speed (mph)	40	45	35	25
Number of Properties with Right-of-Way Impacts	7	6	3	3
Number of Properties with Structures Impacts	0	0	1	1
Streams Crossed/Stream Buffer Encroachment	0	0	1	1
Wetlands Impacted	0	0	0	0
NRHP or Local Site of Potentially Historical Significance Impacted	0	0	1	1
Archaeological Sites Impacted	0	0	0	0
State-Owned Property Impacted	0	0	0	0
Total Preliminary Project Cost Estimate	\$2,742,000	\$2,267,000	\$2,770,000	\$3,026,000

Next Steps

- Obtain input from Town and County staff and property owners.
- Recommend a preferred alternative.
- Prepare conceptual designs and option of probable cost for preferred alternative.
- Complete Eno Mountain Road Relocation Feasibility Report

Update Item 6b Map



Legend

- Potential Roadway Centerline
- 5 ft Contours
- Streams
- Streets
- Sewer Mains
- ▲ Power Poles
- Town Boundary
- Potential Right of Way
- Bodies of Water
- Parcels
- Buildings

Local Site of Potential Historical Significance

Begin Project

