

Member Governments

Town of Carrboro
Town of Chapel Hill
County of Chatham
City of Durham
County of Durham
County of Orange
NC Department of
Transportation
Town of Hillsborough

**DURHAM – CHAPEL HILL-CARRBORO
METROPOLITAN PLANNING ORGANIZATION
TECHNICAL COORDINATING COMMITTEE (TCC)**

AGENDA

**June 27, 2007
9:00 a.m.**

**City Council Committee Room
2nd floor Durham City Hall**

- 1. Preliminaries**
- 2. Adjustments to the Agenda**
- 3. Public Comments**

ACTION ITEMS

**4. Approval of May 23, 2007 TCC Meeting Minutes
(Attachment 4)**

A copy of the May 23, 2007 minutes is enclosed as Attachment 4.

TCC Action: Approve minutes of the May 23, 2007 TCC meeting.

**5. Metropolitan Area Boundary Expansion
(Attachment 5, 5A)
Ellen Beckmann, LPA Staff**

The TAC requested that LPA staff investigate the possibility of expanding the MPO's Metropolitan Area Boundary (MAB) early in the development of the 2035 Long Range Transportation Plan. LPA staff sent a letter to Butner, Stem, Granville County, Roxboro, Person County, and Pittsboro in July 2006 soliciting their interest in becoming members of the MPO. All of the jurisdictions were interested in receiving more information about the MPO and three presentations to the aforementioned jurisdictions were given in September 2006. MAB expansion into Orange County and Chatham County are also being considered by the MPO.

MAB expansion would require a revised Memorandum of Understanding (MOU). The DCHC MPO MOU needs to be revised to comply with recent state and federal legislation. These changes will occur simultaneous with the possible MPO expansion. If the MPO does not choose to expand, the MOU will still need to be revised to reflect these legislative changes.

The TCC administrative subcommittee met on May 31, 2007 to discuss expansion. A memo on expansion including the subcommittee's recommendation is included as Attachment 5. The TCC

should consider the recommendation and make a recommendation to the TAC for their August meeting. Attachment 5A is a map displaying the possible expansion areas.

TCC Action: Receive the recommendation of the TCC Administrative Subcommittee. Make a recommendation to the TAC for expansion of the DCHC MPO MAB.

6. Triangle Region Model

(Attachment 6, 6A)

Felix Nwoko, LPA Staff

Chao Wang, LPA Staff

Joe Huegy, TRM Service Bureau

A test version of TRM model, TRM TCv3-2007- β , was released at the end of May 2007 by TRM Service Bureau (TRMSB). This model is being reviewed by stakeholders. TRMSB will try to address the comments from stakeholders and deliver TRM TCv3-2007 for adoption in August 2007. Once adopted, this version of model will be used for the Transit Infrastructure Blueprint, the Chapel Hill Long Range Transit Plan, and the Deficiency and Needs Analysis for the 2035 Long Range Transportation Plans.

TRMSB will deliver TRM TCv4-2007 in December 2007 with some improvements based on TCv3-2007. TRM TCv4-2007 will be used for the Alternatives Analysis and Air Quality Conformity Analysis for the 2035 LRTP.

The modeling subcommittee met on June 15, 2007 to review TRM TCv3-2007- β . The model will be further reviewed by all DCHC partners and LPA staff will collect comments and forward them to TRMSB before July 15, 2007.

Attachment 6 is a memo from the modeling subcommittee meeting. Attachment 6A is a part of the summary report of TRM TCv3-2007- β . Joe Huegy from TRMSB will provide a brief presentation on the performance of TRM TCv3-2007- β in the TCC meeting.

TCC Action: Receive update on Triangle Regional Model

7. DCHC MPO Federal Certification Review

(Attachment 7)

Felix Nwoko, LPA Staff

The MPO Certification Review was held on March 19-21, 2007. The Certification Review is an opportunity for the MPO to review its own operations and to review FHWA, FTA, and NCDOT. Attachment 7 is the draft report prepared by FHWA and FTA on the DCHC MPO Certification Review.

TCC Action: Receive the draft report on the DCHC MPO Federal Certification Review.

8. Regional Intelligent Transportation System (ITS) Strategic Deployment Plan (SDP) Update

(Attachment 8)

Felix Nwoko, LPA Staff

The DCHC MPO, CAMPO and NCDOT are in the process of updating the regional ITS Deployment Plan as required by federal regulation. A scope of work has been developed for the SDP update and is enclosed as Attachment 8. The TAC approved the allocation of \$56,000 for the projects. Based on the latest estimates, the DCHC allocation will be \$90,000, leaving a shortfall of \$34,000.

TCC Action: Receive information discuss and take action as necessary

9. 2009-2015 Transportation Improvement Program (TIP) Regional Priority List (Attachment 9, 9A, 9B, 9C)

Ellen Beckmann, LPA Staff

The TAC approved the 2009-2015 TIP Regional Ranking Methodology at the TAC meeting on June 13, 2007. The TAC made a few changes to the methodology. These changes are reflected in Attachment 9.

The LPA is requesting that local jurisdictions provide the MPO with their local priority lists by June 30, 2007. When submitting the priority lists, local jurisdictions are asked to complete project forms for each listed project. These project forms are included as Attachments 9A, 9B, and 9C.

TCC Action: Schedule a TCC TIP Subcommittee meeting after June 30 to review the submitted projects and apply the ranking methodology.

10. UPWP Grant Invoice/Reimbursement Deadlines

Felix Nwoko, LPA Staff

The City of Durham is required to submit **quarterly** invoices to NCDOT on or before 30 days after the end of each quarter. The City of Durham has implemented new accounting and auditing systems which automatically track compliance of grant requirements and agreements. In order to comply with grant agreements, the deadline for closing the End-of-Year books is July 13, 2007. This means that the Lead Planning Agency must submit final (4th quarterly) UPWP invoices to NCDOT before July 13. It is important therefore, that sub-recipients submit their final UPWP invoices to the LPA by July 3.

TCC Action: Receive information and discuss.

REPORTS FROM STAFF:**11. Reports from Staff**

(Attachment 11)

Felix Nwoko, LPA Staff

TCC Action: Receive Report from staff

12. Report from the Chair

Mark Ahrendsen, TCC Chair

TCC Action: Receive Report from TCC Chair

13. NCDOT Report

(Attachment 13)

Wally Bowman, Division 5 – NCDOT

Mike Mills, Division 7 – NCDOT

INFORMATIONAL ITEMS

14. Recent News Articles

(Attachment 14)

PENDING ITEMS

Adjourn

Next meeting: July 25, 2007

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TECHNICAL COORDINATING COMMITTEE

May 23, 2007

MINUTES OF MEETING

- *Mark Ahrendsen City of Durham/Transportation (TCC Chair)
- *Anna Biton Town of Chapel Hill
- *David Bonk Town of Chapel Hill (TCC Vice-Chair)
- *Mike Cowan NCDOT – Division 7 Engineer
- *Fleming El-Amin Triangle Transit Authority
- *Andy Henry City of Durham/Transportation
- *John Hodges Copple Triangle J COG
- *Joey Hopkins NCDOT – Division 5 Engineer
- *Denese Lavender NCDOT – PTD
- *Karen Lincoln Orange County Planning
- *Adena Messinger Town of Carrboro
- *Felix Nwoko City of Durham/Transportation
- *Pierre Osei Owusu City of Durham/Transportation
- Ellen Beckmann City of Durham/Transportation
- Jeff Dayton HNTB
- SzeYu Leung City of Durham/Transportation
- Dale McKeel City of Durham/Transportation
- Jill Stark FHWA
- John Tallmadge Triangle Transit Authority
- Chao Wang City of Durham/Transportation
- *Voting Member

Mark Ahrendsen, TCC Chair, called the meeting to order at 9:03 a.m.

PRELIMINARIES:

Felix Nwoko introduced SzeYu Leung who is an intern working with the City of Durham Transportation Division.

Adjustments to the Agenda

There were no adjustments to the agenda.

Public Comments

There were no public comments.

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ACTION ITEMS:**Approval of April 25, 2007 TCC Meeting Minutes (Attachment 4)**

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A motion was made by John Hodges Copple and seconded by Pierre Osei-Owusu to

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approve the April 25, 2007 TCC Meeting Minutes. The motion carried unanimously.

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2007 Job Access Reverse Commute and New Freedom Call for Projects (Attachment 5 and 5A)

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Mark Ahrendsen provided an introduction for the 2007 Job Access Reverse Commute

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and New Freedom Call for Projects, along with the attachments.

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Ellen Beckmann stated there are funds available from 2007-2008 JARC and New

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Freedom. They received four applications; plus an application for the administration from

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DATA. DATA requested 8% of the JARC and New Freedom for the administration which is

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below the maximum available. Ellen provided an overview of the applications; stating that all

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but one met the requirements. *2UTransit* did not meet the minimum requirements; as the

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financial information was not specific enough for us to determine if there were matching funds

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available. In the future, we need to ask for a certified financial statement.

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Ellen stated the recommendation from the subcommittee is to fund the DATA, Chapel

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Hill Transit, and TTA application for New Freedom Funds and DATA and Chapel Hill Transit

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application for JARC funds, as well as, the administration application for DATA. These

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applications do not expend all the available funding, thus there are still funds available.

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David Bonk stated there was significant information missing from the DATA application.

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The subcommittee asked that it be revised and submitted as part of the TCC action.

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Unfortunately, all that was received in the package is only a summary of each application, rather

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than the full application. David can't support approving the DATA application because he has

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not seen the full application, and neither has the subcommittee. Ellen Beckmann stated the

61 agenda said if anyone wanted to see the full application for each applicant to contact Ellen.
62 Given the large size of the applications, the complete DATA and other applications are available
63 but were not included in the package.

64 David Bonk stated that we need to make it clear that this process should include a
65 thorough evaluation of what we expect the results to be from the service we are funding and that
66 will be used as a benchmark against which we evaluate the success of service at the end of each
67 year service period.

68 A motion was made by Felix Nwoko and seconded by Andy Henry to recommend that
69 the TAC approve the DATA, Chapel Hill Transit, and TTA application for New Freedom Funds
70 and DATA and Chapel Hill Transit application for JARC funds, as well as, the administration
71 application for DATA.

72 John Hodges-Copple asked if there has been a follow-up with *2UTransit* to ask if they
73 have a certified audit. Ellen Beckmann stated she spoke with *2UTransit* this morning and they
74 stated they could not attend the meeting. Mark Ahrendsen stated staff will follow-up with
75 *2UTransit* to make sure they are aware of the recommendations. Mark also wants to make sure
76 we create opportunities for private companies and private non-profit organizations to compete
77 for the funds.

78 John Tallmadge stated one of the recommendations of the subcommittee was to maintain
79 the working group on the JARC and New Freedom activities. There was a suggestion to have an
80 annual summit that includes a larger group to get feedbacks for changes to the process. TTA is
81 willing to continue to facilitate the process of quarterly meetings of the working group and the
82 annual summit to check on the process to feed back to the subcommittee through the TCC.

83 Mark Ahrendsen recommended that we take TTA up on their offer to keep this working
84 together to follow-up with some of the issues addressed earlier.

85 David Bonk requested that quarterly reports be received from all grantees in terms of
86 what they have been doing and what the status of the results are to-date for the services. The
87 subcommittee also entertained the idea of mid-year applications. They would like to consider an
88 application prior to January that would allow for a January start date.

89 Mark Ahrendsen would like to see the schedule laid out for the next year as well so that
90 we know the deadlines to allow ample time.

91 Mark Ahrendsen restated the motion made by Felix Nwoko and seconded by Andy
92 Henry. The motion was to recommend that the TAC approve the DATA, Chapel Hill Transit,
93 and TTA application for New Freedom Funds and DATA and Chapel Hill Transit application for
94 JARC funds, as well as, the administration application for DATA; incorporating some quarterly
95 process reports; taking TTA up on their offer to maintain the working group with quarterly and
96 annual meetings; referring back to the subcommittee the directive to work with the working
97 group to lay out a schedule for the next process to possibly include a midyear application. The
98 motion carried unanimously.

99 **2009-2015 Transportation Improvement Program Ranking Methodology (Attachment 6,**
100 **6A, and 6B)**

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102 Mark Ahrendsen provided an introduction for the 2009-2015 Transportation
103 Improvement Program Ranking Methodology, along with the attachments.

104 Ellen Beckmann provided an overview of the subcommittee meeting including the
105 recommendation of the subcommittee. The subcommittee has met three times to discuss this
106 item. There is a schedule for the development; it will be brought to the TCC this month and to
107 the TAC next month; the local jurisdictions should submit their local priorities by June 15, 2007.

108 The subcommittee will begin reviewing those over the summer and the priority list will be
109 presented in late summer/early fall. The ranking methodology consists of three separate
110 methods; one for highway, one for bicycle/pedestrians, and one for transit. Local priorities will
111 be used to break ties. Mark Ahrendsen reminded the members that the TAC has the prerogative
112 to change the rankings without using the point-based priority system.

113 David Bonk stated that the transit operators provide priorities to the NCDOT Public
114 Transit Division (PTD), and thus the general TIP process is a bit different for transit projects.
115 John Hodges-Copple noted that the transit facilities do not fare well in the priority method.

116 A motion was made by David Bonk and seconded by John Hodges-Copple to recommend
117 this methodology to the TAC for approval with caveats about the transit projects. The motion
118 carried unanimously.

119 **STP-DA Allocation (Attachment 7, 7A, 7B, and 7C)**

120 Mark Ahrendsen provided an introduction for the STP-DA Allocation, along with the
121 attachments.

122 David Bonk stated the spreadsheet is now consistent with the way it was originally.
123 Mark Ahrendsen stated his understanding is that the entire Weaver Dairy project may be
124 reflected in the STIP as all STP-funded. If that is the case, these STP-DA funds may not be
125 needed. This has yet to be clarified by the NCDOT. John Hodges Copple stated that when it
126 gets clarified the amount will come out and be reallocated.

127 John Hodges-Copple stated there are four types of actions that have been taken over the
128 years. (1) Highway enhancements such as the brick noise walls on I-85 (2) sub-allocation of
129 general funds, such as the sidewalk program (3) new requests for the uncommitted balance, for
130 which we need a defined schedule with a call for projects (4) programming based on NCDOT

131 allocations in the final STIP, with which John does not agree. Our policy needs a process to
132 address the allocation of these four project types. We should not program either Chapel Hill or
133 Durham requests. John also noted there are projects in the future that will likely need funding
134 such as air quality work beyond 2008, TDM projects and the TRM Service Bureau might need
135 more funding.

136 David Bonk stated they can not wait until 2009 TIP cycle. We have balances available
137 and they have needs now. We should move forward with the process to allocate what we can
138 now. We should refer this to the TIP subcommittee to organize a call for projects that would
139 allow us to make allocations some time this fall. John Hodges Copple stated we have \$800,000
140 uncommitted balance in 2009.

141 A motion was made by Andy Henry and seconded by Pierre Osei-Owusu that the
142 subcommittee should develop a process and timetable and implement that process and timetable,
143 which would include a call for projects.

144 Dale McKeel stated the call for projects should be for both unallocated funds and
145 bicycle/pedestrian allocation and we need to check with all jurisdictions to see if there are any
146 unallocated funds.

147 The motion carried unanimously.

148 **2035 Long Range Transportation Plan Update (Attachment 8 and 8A)**

149 Andy Henry provided an update on the 2035 Long Range Transportation Plan Update,
150 along with the attachments.

151 Chao Wang stated the Beta version is to be released this week. Felix Nwoko stated the
152 subcommittee should review the Beta version before June.

153 John Hodges Copple stated between the summer and the end of 2007, the model team
154 will be continuing to look at small improvements.

155 Andy Henry stated we would like to send this item forward to the TAC in June and ask
156 them to release the Goals, Objectives, and Targets from the 2030 LRTP so we can schedule
157 public comment workshops in July. Make the necessary changes based on the comments and
158 bring back a draft version to the TAC in August.

159 John Hodges Copple stated we should strike the reference to the year on the heading of
160 the Long Range Transportation Plan Targets.

161 John Tallmadge asked if we should add the TDM plan and CO₂ target in the Greenhouse
162 Gas Plan. Ellen Beckmann stated this is considered in the VMT, but we could make it more
163 explicit. John Hodges Copple stated we need to bring these ideas to the public comment
164 workshops and let the TAC know we are thinking of including these related studies and projects.
165 We need to redo the detailed schedule.

166 A motion was made by David Bonk and seconded by Fleming El-Amin to provide the
167 TAC a table with changes as recommended for release for public comment. The motion carried
168 unanimously.

169 **REPORTS FROM STAFF:**

170 **Reports from Staff (Attachment 9)**

171 David Bonk announced that Anna Biton will be leaving Chapel Hill and returning to
172 Boston to continue her career. David also introduced Adena Messenger, she is the new Town of
173 Carrboro Transportation Planner.

174 Felix Nwoko spoke regarding the South Columbia Street project. It must be consistent
175 with the MTIP.

176 Felix Nwoko stated that the LPA has a contract with Cambridge Systematics for the Non-
177 motorized trip model and completed a conference call with the consultant that included the ITRE
178 Service Bureau. A few members asked to be kept informed of this project. Felix will send the
179 conference call notes to members.

180 Felix Nwoko stated that Parsons-Brinckerhoff was selected for the GIS-Transportation
181 project but a contract has not yet been signed. In the selection process, all the consultants stated
182 that they could not complete the scope for the \$200,000 budget, but provided information on
183 what part they could complete for the budget. Felix will provide the scope to the TCC in June,
184 and will ask if the TCC wants to add funding to this project.

185 Mark Ahrendsen stated we need to bring back the MPO Expansion to the TCC next
186 month, so we can provide the TAC with an update at the August meeting. John Hodges Copple
187 stated that we need to be careful to include the impacts on the LRTP process that an MPO
188 boundary change might have.

189 A meeting was set for the TCC Modeling Subcommittee for May 31, 2007 at 8:30 a.m.
190 and the LRTP subcommittee at 9:30 a.m. to discuss the issues above.

191 The TIP subcommittee will meet in late June and the Transit subcommittee will meet
192 soon.

193 **Report from the Chair**

194 There was noting additional to report.

195 **NCDOT Report (Attachment 11)**

196 Joey Hopkins, Division 5 Engineer provided an update on the projects. Joey hasn't had
197 the opportunity to check on the sidewalks on NC-55. This past weekend was the first lane
198 closure for the weekend work on I-40. Joey stated the NCDOT thought the lane closure went

199 well. Joey stated there was a statewide call for E-4411 – roadway improvements for bicycle
200 safety. NCDOT only received a four-day notice allowing no time to contact the MPO.
201 However, we were able to get five projects from Dale McKeel, and Karen Lincoln provided
202 projects to Division 7. David Bonk state a concern that Chapel Hill was not notified and
203 therefore not able to provide input.

204 Mike Cowan, Division 7 Engineer offered to answer any questions regarding the report.
205 However, there were no questions for Division 7.

206 **INFORMATIONAL ITEMS**

207 **Recent News Articles and Updates (Attachment 12)**

208 The recent news articles and updates are attached for review.

209 **Letter from TTA to NC Turnpike Authority re Triangle Parkway (Attachment 13)**

210 The letter from TTA to NC Turnpike Authority re Triangle Parkway is attached.

211 **FTA Notice re Alternatives Analysis Discretionary Program (Attachment 14)**

212 The FTA notice re Alternatives Analysis Discretionary Program is attached.

213 **Adjournment**

214 There being no further business before the Technical Coordinating Committee, the
215 meeting was adjourned at 11:11 a.m.

MEMORANDUM

TO: Technical Coordinating Committee (TCC) Administrative Subcommittee
DCHC MPO

FROM: Lead Planning Agency

DATE: June 27, 2007

RE: Metropolitan Area Boundary Expansion

Background

In 2004, the LPA staff looked into the possibility of expanding the Metropolitan Area Boundary (MAB) of the DCHC MPO. Outreach to neighboring jurisdictions was initiated. However, the TAC decided not to expand because the development of the 2030 Long Range Transportation Plan (LRTP) was well underway. The TAC requested that the LPA staff investigate the possibility of expanding the MAB early in the development of the 2035 LRTP.

In July 2006, LPA staff sent letters to Butner, Stem, Granville County, Roxboro, Person County, and Pittsboro to solicit their interest in MAB expansion. All of the jurisdictions requested that a presentation be made to them on this issue. LPA staff presented to the Town of Pittsboro at a Town Board meeting on September 11, 2006. Pat Strong of the Triangle Area RPO also attended and presented on the RPO at this meeting. LPA staff presented to a group of Roxboro and Person County staff and elected officials on September 13, 2006, and to a group of Butner, Stem, and Granville County staff and elected officials on September 19, 2006. Shelby Powell, planner for the Kerr-Tar RPO, attended both of these meetings.

All of the jurisdictions were asked to consider if MPO or RPO membership would best suit the needs of their community and send a letter of interest to the MPO. All of the jurisdictions were told that the DCHC MPO TAC has not taken the position to formally invite new members at this time. Rather the TAC instructed the LPA staff to simply provide information and solicit interest. The TAC will ultimately decide if expansion is desired.

Letters of interest have been received from Person County and Granville County. In addition, the City of Roxboro and Town of Butner have told LPA staff that they are interested. The Town of Pittsboro and the Town of Stem have told LPA staff that they are not interested in joining the MPO at this time. The Town of Stem is immediately northeast of Butner.

In addition, a small section of the Town of Cary is in the DCHC MPO's current MAB in northeast Chatham County. LPA staff are currently conferring with CAMPO and Cary staff to determine how to best address this issue.

New Member Candidate Jurisdictions

| Jurisdiction | Expressed Desire to Join DCHC MPO? | Notes |
|-------------------|------------------------------------|--|
| Granville County | Yes | |
| Town of Butner | Yes | Not currently incorporated. Could not join without Granville County. |
| Town of Stem | No | Could not join without Granville County. |
| Person County | Yes | |
| City of Roxboro | Yes | Could not join without Person County. |
| Town of Pittsboro | No | Could not join without an expansion in Chatham County |

Existing Members with Possible New Boundary

Chatham County

Orange County

Metropolitan Area Boundary Requirements

Federal legislation requires that an MPO's metropolitan area boundary (MAB) contain, at a minimum, the entire Urbanized Area (UZA), as defined by the U.S. Census (see map). The legislation also states that the MAB should contain the area beyond the UZA that is expected to be urbanized within the next twenty years or that is affected by urban policies and influence. The DCHC MPO's UZA has not changed recently, but may be expanded by future censuses. Inclusion of the area that is expected to be urbanized within the next twenty years or that is influenced by urban policies is up to the MPO and the local governments' discretion.

Financial Implications

Federal funding for the MPO is based on the population of the UZA. As a result, if the DCHC MPO decides to expand at this time, the MPO would not receive any additional funding. Currently, the MPO does not charge member jurisdictions fees. All of the new member candidate jurisdictions are part of the Triangle area ozone non-attainment area so the MPO would receive more CMAQ funds if it expands.

In 2004, the NCAMPO considered recommending a change to the allocation formula for MPO planning funds. The proposed change was to base the allocation on the population within the MAB boundary instead of the UZA. Ultimately, this proposal was not endorsed by NCAMPO. However, if this idea were to be endorsed, there would be financial benefits for MAB expansion.

Air Quality Implications

All of the new member candidate jurisdictions are part of the Triangle area ozone non-attainment area. Thus, the jurisdictions and the MPO are already tied together in terms of air quality planning and budgets. Currently, plan or budget lapses in the DCHC MPO or

CAMPO affect transportation funding in the other MPO when federal approval is sought on a new TIP or LRTP. If Granville County joins the DCHC MPO, plan or budget lapses in either DCHC MPO or CAMPO would immediately affect transportation funding for the other MPO because the two MPOs would share a member county government.

Requirements if New Members Are Added:

1. Approval of new MAB
2. New MOU – definition of quorum, weighted voting
3. Update TAC and TCC Bylaws

Requirements for Boundary Expansion with No New Members:

1. Approval of new MAB

Expansion Timeline for DCHC MAB

| | Action | Start Date | End Date |
|---|--|-------------------|-----------------|
| 1 | Letter to candidate jurisdictions | July 2006 | July 2006 |
| 2 | Meetings with jurisdiction staff/officials | Aug 2006 | Sep 2006 |
| 3 | Jurisdiction letter requesting membership | Oct 2006 | Jan 2007 |
| 4 | TCC and TAC consider MAB expansion | Jan 2007 | Aug 2007 |
| 5 | LPA negotiates new MAB, MOU, by-laws | Aug 2007 | Sept 2007 |
| 6 | TCC Recommends new MOU etc. | Sept 2007 | |
| 7 | TAC Adopts new MOU etc. | Oct 2007 | Nov 2007 |
| 8 | Jurisdictions Sign new MOU etc. | Nov 2007 | Dec 2007 |

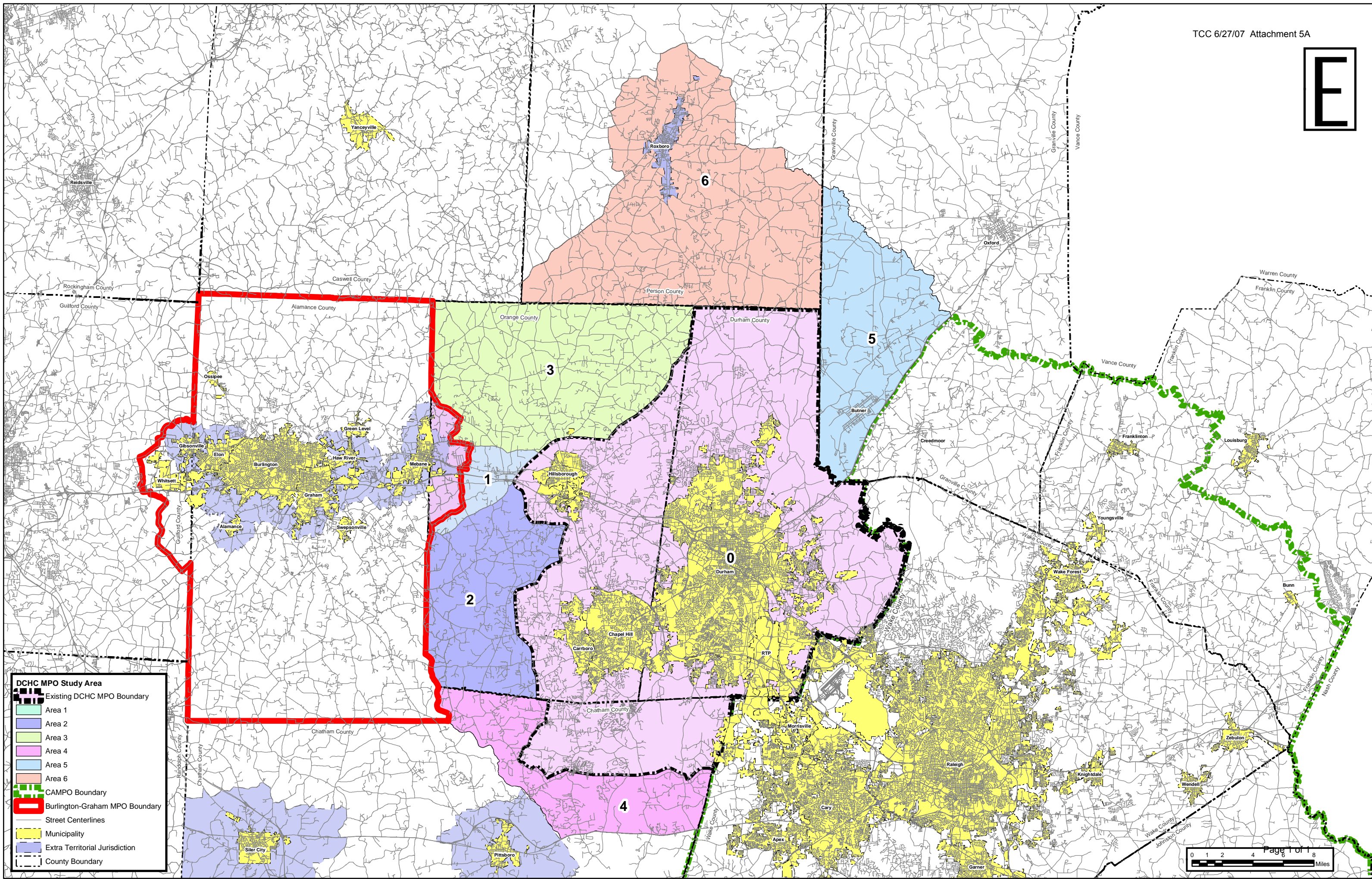
TCC Administrative Subcommittee Recommendation

The TCC Administrative Subcommittee met on May 31, 2007 to discuss expansion. The subcommittee recommended that the DCHC MPO expand to include all of the areas highlighted and labeled on the map (Attachment 5A) including, southwest Granville County (including Butner and Stem), southern Person County (including Roxboro), all of Orange County outside of the BGMPO, and northeast Chatham County. The subcommittee also recommended encouraging Pittsboro to reconsider joining the MPO. Pittsboro received a presentation in 2006 and communicated to LPA staff that they were not interested in joining.














The TCC subcommittee also recommended that the effective date of expansion be after the adoption of the 2035 LRTP in early 2009. Expansion before adoption of the LRTP would require additional data collection and analysis for the expansion areas, and the subcommittee does not want to delay the LRTP. The subcommittee recommended making a decision on expansion at this time instead of waiting until after the LRTP. The LPA initiated the expansion process in July of 2006. The candidate jurisdictions are eager to receive a response from the MPO. An adopted MOU would need to include a date that the expansion would be effective.

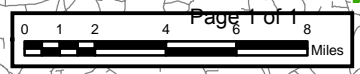
The following table describes some of the pros and cons of expansion that the subcommittee considered.

| MAP # | Expansion Area | Pros | Cons |
|--------------|--|---|---|
| 1 | I-85/I-40 Corridor in Orange County | Orange County's industrial Corridor; Better regional planning (AQ, commuters); Additional CMAQ funds | Severs the Triangle RPO; No additional planning funds to serve a greater geographic area |
| 2 | Southern Orange County | Better regional planning (AQ, commuters); Additional CMAQ funds | No additional planning funds to serve a greater geographic area |
| 3 | Northern Orange County | Better regional planning (AQ, commuters); Additional CMAQ funds | No additional planning funds to serve a greater geographic area |
| 4 | Northeast Chatham County outside of Pittsboro ETJ | Some common interests (commuters to Chapel Hill, RTP); Better regional planning (AQ, commuters); Additional CMAQ funds | Little area between current MAB and Pittsboro ETJ; No additional planning funds to serve a greater geographic area |
| 5 | Southwest Granville County including Butner and Stem | Some common interests (Northern Durham Parkway, EEC); Employment growth in Butner; Better regional planning (AQ, commuters); Additional CMAQ funds; Included in the TRM | AQ implications for expanding into Granville County; Butner is not currently incorporated; Stem does not want to join the DCHC MPO; No additional planning funds to serve a greater geographic area. |
| 6 | Southern Person County including Roxboro | Some common interests (Northern Durham Parkway, EEC); Better regional planning (AQ, commuters); Additional CMAQ funds | Not included in the TRM; No additional planning funds to serve a greater geographic area. |
| | Town of Pittsboro | Some common interests (commuters to Chapel Hill, RTP, transit service); Better regional planning (AQ, commuters); Additional CMAQ funds | Pittsboro does not want to join the DCHC MPO; No additional planning funds to serve a greater geographic area |



DCHC MPO Study Area

-  Existing DCHC MPO Boundary
-  Area 1
-  Area 2
-  Area 3
-  Area 4
-  Area 5
-  Area 6
-  CAMPO Boundary
-  Burlington-Graham MPO Boundary
-  Street Centerlines
-  Municipality
-  Extra Territorial Jurisdiction
-  County Boundary



MEMORANDUM

TO: Transportation Coordinating Committee (TCC)
DCHC MPO

FROM: Lead Planning Agency (LPA)

DATE: June 27, 2007

RE: Status of TRM model development

Background

In fall of 2006, TTA New Start Model was converted to the TransCAD platform with a 2002 base year and was delivered to Triangle Regional Model Service Bureau (TRMSB hereafter) by the contractor. This model is called TRM TCv1-2006. TRM TCv2-2006 was developed by revising and calibrating/validating TCv1-2006 to 2005 base year, and was delivered in December 2006 by TRMSB. A test version, TRM TCv3-2007- β , was released at the end of May, 2007. This version of the model builds on TCv2-2006 and addresses a number of issues that have been identified with earlier versions of the TRM. Issues include but are not limited to a corrected trip generation model and re-calibrated mode choice model using 2006 Household Travel Survey and 2006 Transit On-Board Survey.

Timeline of TRM Model Development

TRM TCv3-2007- β is being reviewed by stakeholders. TRMSB will try to address the comments from stakeholders and deliver TRM TCv3-2007 for adoption in August 2007. Once adopted, this version of model will be used for the Transit Infrastructure Blueprint, the Chapel Hill Long Range Transit Plan, the Orange County Greenhouse Gas project, and the Deficiency and Needs Analysis for the 2035 Long Range Transportation Plans.

TRMSB will continue to improve the model after the delivery of TCv3-2007. The improvements may include Toll Analysis function developed by MAB, fully functional HOV analysis and improved non-motorized trip model from Phase I of Non-motorized Trip Model Project in DCHC MPO. This version is called TRM TCv4-2007 and will be delivered in December 2007. TRM TCv4-2007 will be used for the Alternatives Analysis and Air Quality Conformity Analysis for the 2035 Long Range Transportation Plans.

Comments on TRM TCv3-2007- β

The modeling subcommittee met on June 15, 2007 to review TRM TCv3-2007- β . The model will be further reviewed by all DCHC partners and LPA staff will collect comments and forward them to TRMSB before July 15, 2007.

In the modeling subcommittee meeting, subcommittee members provided the following comments.

- DCHC MPO provided new social-economic data on June 14, 2007. Please use new SE data in TRM TCv3-2007.
- The highway assignment results look good overall. However, DCHC MPO will check highway assignment at some locations in more detail to provide more comments, such as links near important future projects, and centroid connectors that load the traffic from some important TAZs to the network. DCHC MPO will also check the link attributes to make sure the important future projects are coded correctly in the model.
- The transit assignment performance needs more improvements. In TRM TCv3-2007-β, the modeled ridership for DATA is only about half of the observed ridership; and the observed ridership for CHT used in the model is quite different from the number provided by CHT. Please study the reason of different observed ridership for CHT, address the low ridership issue in DATA and DUKE, and improve the transit part of the model to better model district to district transit trips.
- What is the observed trip length in the 2035 validation report? The trip length in year 2035 is not observable.
- Did the Team perform transit sensitivity analysis that could be helpful in assessing the predict power of transit modeling and mode choice? Here are some examples of transit sensitivity analysis:
 - Is transit ridership more sensitive (or less sensitive) to changes in travel time compared to changes in fare?
 - How sensitive is transit ridership to travel time (OVTT and IVTT)?
 - Is transit ridership more sensitive to changes in out-of-vehicle time than to in-vehicle time?
 - Are changes in the highway cost or travel time having a greater impact on the choice of mode than do changes in the transit cost or travel time?
 - Are mode shares sensitive to changes in parking cost?

**Triangle Regional Model
Version TRM TC V3-2007 [β]
Summary**

Triangle Regional Model Service Bureau

May 30, 2007

Prepared for the Stakeholder Agencies:
Durham, Chapel Hill Carrboro MPO
Capital Area MPO
North Carolina Department of Transportation
Triangle Transit Authority

6. Highway Assignment

This section documents highway assignment validation results for the base year 2005, and highway assignment results for the future year 2035.

6.1. Validation

Most tables in this section have two parts: 1) 2005 validation; and 2) 2035 data vs. 2005 data.

Validation tests for the highway assignment were made at the following levels: 1) system (i.e., region) wide, and 2) link specific. System wide validation was made on year 2005 average weekday daily volumes provided by NCDOT. These checks include vehicle miles of travel (VMT) and screenline and cutline analysis.

A comparison of model estimated volumes versus observed traffic volume in the highway network were checked. This comparison was done at several levels: screenlines, cutlines, facility type (using federal functional class), and volume groups.

Additional comparisons include regional model estimated traffic volumes versus observed traffic counts and the calculation of the percent root mean square error (RMSE) by facility type and volume group. The RMSE is a measure of dispersion of the forecast from the original data. The percent RMSE is calculated using the formula provided below (the lower the value the better).

$$\% RMSE = \frac{(\sum_j (M_j - C_j)^2 / (N - 1))^{0.5} * 100}{(\sum_j C_j / N)}$$

Where:

- C = traffic count
- M = model estimated volume
- N = number of counts

6.2. Vehicle Miles of Travel (VMT)

Table 19 displays 2005 and 2035 regional VMT, VMT per capita and VMT per household. Year 2005 observed VMT were not available for validation use, instead, 2002 observed VMT were used as reference.

Table 19 Regional Vehicle Miles of Travel (VMT)

| Measure | 2005 Validation | | | | 2035 vs. 2005 | | |
|-----------|-----------------|-------------------|--------|-------------|-------------------|------------------|------------------------|
| | Observed 2002 | Modeled 2005 | Target | % Deviation | Modeled 2035 | Change 2035-2005 | % Change 2035 vs. 2005 |
| Total VMT | 32,399,032 | 39,004,264 | +/- 5% | 20% | 74,510,537 | 35,506,273 | 91% |

Table 20 displays VMT by Federal Functional Class, counting the links with traffic count only.

Table 20 Vehicle Miles Traveled (VMT) by Federal Functional Class (links w/ count only)

| Federal Functional Class | 2005 Validation | | | | 2035 vs. 2005 | | |
|--------------------------|-------------------|------------------|--------------------|---------------------|-------------------|------------------|------------------------|
| | VMT Observed 2005 | VMT Modeled 2005 | Target % Deviation | Modeled % Deviation | VMT Modeled 2035 | Change 2035-2005 | % Change 2035 vs. 2005 |
| Freeway | 3,862,976 | 3,851,226 | 7% | -0.3% | 5,479,007 | 1,627,781 | 42% |
| Principal | 1,512,005 | 1,601,341 | 10% | 5.9% | 2,655,754 | 1,054,413 | 66% |
| Minor | 1,319,297 | 1,325,364 | 10% | 0.5% | 2,155,229 | 829,865 | 63% |
| Collector | 1,369,487 | 1,394,553 | 15% | 1.8% | 2,571,765 | 1,177,212 | 84% |
| Local | 610,235 | 647,399 | 15% | 6.1% | 1,592,489 | 945,090 | 146% |
| Total | 8,674,001 | 8,819,882 | 5% | 1.7% | 14,454,243 | 5,634,361 | 64% |

6.3. Screenline and Cutline Analysis

Tables 21 and 22 summarize screenline and cutline analysis results, and changes between 2005 and 2035.

Table 21 Screenline Analysis

| Screenline Name | 2005 Validation | | | | 2035 vs. 2005 | | |
|-------------------------|-------------------|---------------------|--------------------|---------------------|---------------------|------------------|------------------------|
| | Daily Counts 2005 | Modeled Volume 2005 | Target % Deviation | Modeled % Deviation | Modeled Volume 2035 | Change 2035-2005 | % Change 2035 vs. 2005 |
| Wake/Durham County Line | 309,840 | 301,636 | 15% | -2.6% | 430,430 | 128,794 | 43% |
| I-40 | 1,016,250 | 1,143,303 | 9% | 12.5% | 1,758,966 | 615,663 | 54% |
| Orange/Durham | 449,290 | 436,026 | 13% | -3.0% | 767,481 | 331,455 | 76% |

Table 22 Cutline Analysis

| Cutline Name | 2005 Validation | | | | 2035 vs. 2005 | | |
|-----------------|-------------------|---------------------|--------------------|---------------------|---------------------|------------------|------------------------|
| | Daily Counts 2005 | Modeled Volume 2005 | Target % Deviation | Modeled % Deviation | Modeled Volume 2035 | Change 2035-2005 | % Change 2035 vs. 2005 |
| SW Durham | 143,280 | 179,441 | 19.80% | 25.20% | 252,606 | 73,165 | 41% |
| Durham | 465,800 | 511,241 | 12.40% | 9.80% | 615,520 | 104,279 | 20% |
| Johnston County | 186,890 | 211,822 | 17.80% | 13.30% | 395,477 | 183,655 | 87% |
| Chatham County | 28,000 | 30,810 | 37.70% | 10.00% | 73,483 | 42,673 | 139% |
| North Raleigh | 458,900 | 498,924 | 12.50% | 8.70% | 610,821 | 111,897 | 22% |
| Eastern Wake | 216,420 | 184,241 | 16.80% | -14.90% | 450,024 | 265,783 | 144% |
| US-1 South | 219,380 | 204,057 | 16.70% | -7.00% | 347,547 | 143,490 | 70% |
| North Wake | 105,600 | 106,457 | 22.30% | 0.80% | 160,560 | 54,103 | 51% |
| US-70 | 155,500 | 136,080 | 19.10% | -12.50% | 273,656 | 137,576 | 101% |

6.4. Traffic Volumes

Tables 23 and 24 summarize the validation results of model estimated volumes by Federal Functional Class and traffic count volume group, respectively; and changes between 2005 and 2035.

Table 23 Model Estimated Daily Traffic Volumes by Federal Functional Class

| Federal Functional Class | 2005 Validation | | | | | 2035 vs. 2005 | | |
|--------------------------|-------------------|-----------------------|-------------------|----------------------|---------------------|---------------------|------------------|------------------------|
| | FHWA Target (+/-) | Triangle Target (+/-) | Daily Counts 2005 | Modeled Volumes 2005 | Modeled % Deviation | Modeled Volume 2035 | Change 2035-2005 | % Change 2035 vs. 2005 |
| Freeway | 7% | 5% | 4,907,800 | 4,876,604 | -1% | 6,669,787 | 1,793,183 | 37% |
| Principal Arterial | 10% | 8% | 4,954,500 | 5,241,014 | 6% | 7,800,853 | 2,559,839 | 49% |
| Minor Arterial | 15% | 10% | 3,896,980 | 3,988,297 | 2% | 6,158,739 | 2,170,442 | 54% |
| Collector | 25% | 15% | 2,172,290 | 2,095,329 | -4% | 3,826,092 | 1,730,763 | 83% |
| Local | 25% | 15% | 1,266,860 | 1,302,479 | 3% | 2,730,042 | 1,427,563 | 110% |

Source FHWA Targets: FHWA, *Calibration and Adjustment of System Planning Models*, 1990

Table 24 Model Estimated Daily Traffic Volumes by Traffic Count Volume Group

| Traffic Count Volume Group | 2005 Validation | | | | 2035 vs. 2005 | | |
|----------------------------|-------------------|----------------------|--------------------|---------------------|---------------------|------------------|------------------------|
| | Daily Counts 2005 | Modeled Volumes 2005 | Target % Deviation | Modeled % Deviation | Modeled Volume 2035 | Change 2035-2005 | % Change 2035 vs. 2005 |
| 1-1,000 | 47,650 | 128,077 | 55% | 169% | 357,631 | 229,554 | 179% |
| 1,001-2,500 | 279,500 | 381,266 | 50% | 36% | 874,069 | 492,803 | 129% |
| 2,501-5,000 | 769,000 | 772,553 | 30% | 0% | 1,819,571 | 1,047,018 | 136% |
| 5,001-10,000 | 2,194,400 | 2,345,126 | 25% | 7% | 4,162,891 | 1,817,765 | 78% |
| 10,001-25,000 | 6,800,700 | 6,935,430 | 20% | 2% | 10,640,300 | 3,704,870 | 53% |
| 25,001-50,000 | 5,089,400 | 5,094,390 | 15% | 0% | 7,118,845 | 2,024,455 | 40% |
| >=50,001 | 2,018,500 | 1,847,835 | 10% | -8% | 2,214,403 | 366,568 | 20% |
| Total | 17,199,150 | 17,504,677 | 5% | 2% | 27,187,710 | 9,683,033 | 55% |

6.5. R-Square

R-Square measures how close system-wise modeled volumes with respect to traffic counts. The closer to value 1, the better the model is. Table 25 shows that the base year 2005 R2 of 0.89 is higher than the target of 0.88.

Table 25 R² for Region-Wide Model Estimated Volumes vs. Traffic Counts

| | Target R ² | # of Counts | Modeled R ² |
|------------|-----------------------|-------------|------------------------|
| Regionwide | 0.88 | 1,306 | 0.89 |

6.6. Root Mean Square Error

Tables 26 and 27 show the RMSE and percent RMSE by Federal Functional Class and traffic count volume group, respectively.

Table 26 Root Mean Square Error of Estimated Volumes by Federal Functional Class

| Federal Functional Class | 2005 Validation [All Road Target=35%] | | | | | 2035 vs. 2005 | | |
|--------------------------|---------------------------------------|------------------------------|-----------------------------|-------------|------------|-----------------------------|------------------|------------------------|
| | # of Daily Count | Observed Average Counts 2005 | Modeled Average Volume 2005 | RMSE | %RMSE | Modeled Average Volume 2035 | Change 2035-2005 | % Change 2035 vs. 2005 |
| Freeway | 138 | 35,564 | 35,338 | 6,388 | 18% | 48,685 | 13,347 | 38% |
| Principal Arterial | 256 | 19,354 | 20,473 | 5,928 | 31% | 30,472 | 9,999 | 49% |
| Minor Arterial | 267 | 14,595 | 14,937 | 4,975 | 34% | 23,066 | 8,129 | 54% |
| Collector | 353 | 6,154 | 5,936 | 3,170 | 52% | 10,870 | 4,934 | 83% |
| Local | 292 | 4,339 | 4,461 | 2,693 | 62% | 9,349 | 4,888 | 110% |
| All Roads | 1306 | 13169 | 13403 | 4539 | 34% | 20848 | 7445 | 56% |

Table 27 Root Mean Square Error of Estimated Volumes by Traffic Count Volume Group

| Traffic Count Volume Group | 2005 Validation | | | | | 2035 vs. 2005 | | |
|----------------------------|------------------|------------------------------|-----------------------------|-------|-------|-----------------------------|------------------|------------------------|
| | # of Daily Count | Observed Average Counts 2005 | Modeled Average Volume 2005 | RMSE | %RMSE | Modeled Average Volume 2035 | Change 2035-2005 | % Change 2035 vs. 2005 |
| 1-1,000 | 69 | 691 | 1,856 | 2,708 | 392% | 5,338 | 3,482 | 188% |
| 1,001-2,500 | 156 | 1,792 | 2,444 | 1,986 | 111% | 5,603 | 3,159 | 129% |
| 2,501-5,000 | 207 | 3,715 | 3,732 | 2,410 | 65% | 8,748 | 5,016 | 134% |
| 5,001-10,000 | 293 | 7,489 | 8,004 | 3,932 | 53% | 14,159 | 6,155 | 77% |
| 10,001-25,000 | 403 | 16,875 | 17,210 | 4,891 | 29% | 26,403 | 9,193 | 53% |
| >=25,001 | 179 | 39,709 | 38,783 | 7,625 | 19% | 52,434 | 13,651 | 35% |

7. Transit Assignment

This section documents transit model related info including transit trip productions and attractions, and transit ridership.

7.1. Transit Trip Validation

Tables 28 and 29 show transit person trip production and attraction validation results, respectively. TRM estimated 2005 transit trip productions and attractions are compared to observed from 2006 Household Travel Survey and 2006 Transit On-Board Survey.

Table 28 Transit Trip Production Validation Result

| District | Transit Prod. Obs | Transit Prod. 2005 | Differ 2005 - Obs. | % Differ 2005 vs. Obs |
|------------------------------------|----------------------|-----------------------|-----------------------|--------------------------|
| 01: Orange Co:North | 67 | - | -67 | -100% |
| 02: Orange Co: Mid | 219 | 446 | 228 | 104% |
| 03: Orange Co: SW | 127 | 219 | 92 | 73% |
| 04: Orange Co:NW of Chapel Hill | 3,085 | 1,597 | -1,488 | -48% |
| 05: Orange Co:NE of Chapel Hill | 12,934 | 11,555 | -1,379 | -11% |
| 06: Orange Co: Chapel Hill | 4,619 | 7,577 | 2,958 | 64% |
| 07: Orange/Chatham:S of Chapel Hil | 5,264 | 2,577 | -2,687 | -51% |
| 08: Chaptham Co: E | 71 | 7 | -64 | -90% |
| 09: Durham Co:N | 68 | - | -68 | -100% |
| 10: Durham Co: N of Durham | 2,798 | 942 | -1,856 | -66% |
| 11: Granville Co: Creedmoor | 43 | - | -43 | -100% |
| 12: E Durham/NW Wake: | 47 | 160 | 113 | 242% |
| 13: Wake Co: W, RDU | 753 | 1,200 | 447 | 59% |
| 14: Durham/Wake: SE of Durham city | 640 | 269 | -371 | -58% |
| 15: Durham Co: S of Durham | 4,821 | 2,801 | -2,019 | -42% |
| 16: Durham City | 16,581 | 11,245 | -5,336 | -32% |
| 17: Durham CBD | 841 | 289 | -551 | -66% |
| 18: NE Chatham/NW Wake | 249 | 161 | -88 | -35% |
| 19: Wake Co: Cary | 2,033 | 3,395 | 1,362 | 67% |
| 20: SW Wake Co: Fuquay Varina | 144 | 150 | 6 | 4% |
| 21: SE Chatham/SW Wake | 6 | 30 | 24 | 389% |
| 22: Wake Co: Garner | 1,588 | 1,239 | -349 | -22% |
| 23: Johnston Co:N/Wake SE | 318 | 5 | -313 | -98% |
| 24: Wake Co: NE: Wendell, Zebulon | 6 | 2 | -4 | -64% |
| 25: Wake Co: Knightdale | 242 | 537 | 295 | 122% |
| 26: Wake Co: Raleigh City | 10,271 | 20,684 | 10,412 | 101% |
| 27: Wake Co: Raleigh CBD | 506 | 889 | 382 | 75% |
| 28: Wake Co: NE of Raleigh | 1,457 | 2,342 | 885 | 61% |
| 29: N Wake/SW Franklin:Wake Forest | 139 | 2 | -136 | -98% |
| 30: N Wake/S Franklin | - | - | 0 | #DIV/0! |
| 31: Hamnett Co: NW | 4 | - | -4 | -100% |
| 32: Johnston Co: NW | 1 | - | -1 | -100% |
| 33: Johnston Co: NE | - | - | 0 | #DIV/0! |
| 34: Franklin Co: SE, Youngsville | 6 | - | -6 | -100% |
| 35: Franklin Co: W | 4 | - | -4 | -100% |
| Region Total | 69,950 | 70,321 | 370 | 1% |

Table 29 Transit Trip Attraction Validation Result

| District | Transit Attr. Obs | Transit Attr. 2005 | Differ 2005 - Obs. | % Differ 2005 vs. Obs |
|------------------------------------|-------------------|--------------------|--------------------|-----------------------|
| 01: Orange Co:North | - | - | 0 | #DIV/0! |
| 02: Orange Co: Mid | 12 | 0 | -11 | -97% |
| 03: Orange Co: SW | - | - | 0 | #DIV/0! |
| 04: Orange Co:NW of Chapel Hill | 138 | 354 | 216 | 156% |
| 05: Orange Co:NE of Chapel Hill | 6,631 | 4,756 | -1,875 | -28% |
| 06: Orange Co: Chapel Hill | 22,412 | 18,492 | -3,920 | -17% |
| 07: Orange/Chatham:S of Chapel Hil | 425 | 197 | -228 | -54% |
| 08: Chaptham Co: E | - | - | 0 | #DIV/0! |
| 09: Durham Co:N | - | - | 0 | #DIV/0! |
| 10: Durham Co: N of Durham | 1,142 | 535 | -607 | -53% |
| 11: Granville Co: Creedmoor | - | - | 0 | #DIV/0! |
| 12: E Durham/NW Wake: | 27 | 9 | -18 | -67% |
| 13: Wake Co: W, RDU | 722 | 917 | 195 | 27% |
| 14: Durham/Wake: SE of Durham city | 255 | 140 | -115 | -45% |
| 15: Durham Co: S of Durham | 2,529 | 2,285 | -244 | -10% |
| 16: Durham City | 18,442 | 12,612 | -5,830 | -32% |
| 17: Durham CBD | 1,556 | 610 | -946 | -61% |
| 18: NE Chatham/NW Wake | 11 | 14 | 3 | 31% |
| 19: Wake Co: Cary | 632 | 1,216 | 584 | 92% |
| 20: SW Wake Co: Fuquay Varina | 166 | - | -166 | -100% |
| 21: SE Chatham/SW Wake | - | - | 0 | #DIV/0! |
| 22: Wake Co: Garner | 383 | 331 | -52 | -14% |
| 23: Johnston Co:N/Wake SE | 245 | - | -245 | -100% |
| 24: Wake Co: NE: Wendell, Zebulon | - | - | 0 | #DIV/0! |
| 25: Wake Co: Knightdale | 189 | 89 | -100 | -53% |
| 26: Wake Co: Raleigh City | 11,612 | 23,163 | 11,550 | 99% |
| 27: Wake Co: Raleigh CBD | 1,272 | 2,376 | 1,104 | 87% |
| 28: Wake Co: NE of Raleigh | 1,138 | 2,225 | 1,087 | 96% |
| 29: N Wake/SW Franklin:Wake Forest | - | 1 | 1 | #DIV/0! |
| 30: N Wake/S Franklin | - | - | 0 | #DIV/0! |
| 31: Harnett Co: NW | - | - | 0 | #DIV/0! |
| 32: Johnston Co: NW | 7 | - | -7 | -100% |
| 33: Johnston Co: NE | - | - | 0 | #DIV/0! |
| 34: Franklin Co: SE, Youngsville | 6 | - | -6 | -100% |
| 35: Franklin Co: W | - | - | 0 | #DIV/0! |
| Region Total | 69,950 | 70,321 | 371 | 1% |

7.2. Transit Trip Change: 2005 and 2035

Tables 30 and 31 show transit trip productions and attractions, respectively, for base year 2005 and 2035 and changes between the two years.

Table 30 Transit Trip Production: 2005 and 2035

| District | Transit Prod. 2005 | Transit Prod. 2035 | Differ 2035 - 2005 | % Differ 2035 vs. 2005 |
|--------------------------------------|-----------------------|-----------------------|-----------------------|---------------------------|
| 01: Orange Co:North | - | 32 | 32 | #DIV/0! |
| 02: Orange Co: Mid | 446 | 3,226 | 2,779 | 623% |
| 03: Orange Co: SW | 219 | 348 | 130 | 59% |
| 04: Orange Co: NW of Chapel Hill | 1,597 | 3,482 | 1,886 | 118% |
| 05: Orange Co: NE of Chapel Hill | 11,555 | 21,225 | 9,671 | 84% |
| 06: Orange Co: Chapel Hill | 7,577 | 12,015 | 4,438 | 59% |
| 07: Orange/Chatham: S of Chapel Hill | 2,577 | 5,526 | 2,949 | 114% |
| 08: Chatham Co: E | 7 | 33 | 26 | 371% |
| 09: Durham Co: N | - | - | 0 | #DIV/0! |
| 10: Durham Co: N of Durham | 942 | 3,343 | 2,400 | 255% |
| 11: Granville Co: Creedmoor | - | - | 0 | #DIV/0! |
| 12: E Durham/NW Wake: | 160 | 350 | 190 | 119% |
| 13: Wake Co: W, RDU | 1,200 | 2,969 | 1,769 | 147% |
| 14: Durham/Wake: SE of Durham city | 269 | 2,224 | 1,954 | 725% |
| 15: Durham Co: S of Durham | 2,801 | 9,054 | 6,252 | 223% |
| 16: Durham City | 11,245 | 18,209 | 6,964 | 62% |
| 17: Durham CBD | 289 | 811 | 522 | 180% |
| 18: NE Chatham/NW Wake | 161 | 1,916 | 1,755 | 1091% |
| 19: Wake Co: Cary | 3,395 | 11,114 | 7,719 | 227% |
| 20: SW Wake Co: Fuquay Varina | 150 | 921 | 770 | 512% |
| 21: SE Chatham/SW Wake | 30 | 602 | 572 | 1925% |
| 22: Wake Co: Garner | 1,239 | 3,666 | 2,427 | 196% |
| 23: Johnston Co: N/Wake SE | 5 | 240 | 235 | 4585% |
| 24: Wake Co: NE: Wendell, Zebulon | 2 | 150 | 148 | 6918% |
| 25: Wake Co: Knightdale | 537 | 2,056 | 1,519 | 283% |
| 26: Wake Co: Raleigh City | 20,684 | 20,782 | 98 | 0% |
| 27: Wake Co: Raleigh CBD | 889 | 2,591 | 1,702 | 192% |
| 28: Wake Co: NE of Raleigh | 2,342 | 7,558 | 5,216 | 223% |
| 29: N Wake/SW Franklin: Wake Forest | 2 | 100 | 98 | 3933% |
| 30: N Wake/S Franklin | - | - | 0 | #DIV/0! |
| 31: Harnett Co: NW | - | - | 0 | #DIV/0! |
| 32: Johnston Co: NW | - | - | 0 | #DIV/0! |
| 33: Johnston Co: NE | - | - | 0 | #DIV/0! |
| 34: Franklin Co: SE, Youngsville | - | - | 0 | #DIV/0! |
| 35: Franklin Co: W | - | - | 0 | #DIV/0! |
| Region Total | 70,321 | 134,543 | 64,223 | 91% |

Table 31 Transit Trip Attraction: 2005 and 2035

| District | Transit Attr. 2005 | Transit Attr. 2035 | Differ 2035 - 2005 | % Differ 2035 vs. 2005 |
|------------------------------------|-----------------------|-----------------------|-----------------------|---------------------------|
| 01: Orange Co:North | - | 4 | 4 | #DIV/0! |
| 02: Orange Co: Mid | 0 | 1,137 | 1,137 | 284210% |
| 03: Orange Co: SW | - | - | 0 | #DIV/0! |
| 04: Orange Co:NW of Chapel Hill | 354 | 1,327 | 973 | 275% |
| 05: Orange Co:NE of Chapel Hill | 4,756 | 12,038 | 7,282 | 153% |
| 06: Orange Co: Chapel Hill | 18,492 | 29,271 | 10,779 | 58% |
| 07: Orange/Chatham:S of Chapel Hil | 197 | 580 | 383 | 195% |
| 08: Chaptham Co: E | - | 4 | 4 | #DIV/0! |
| 09: Durham Co:N | - | 0 | 0 | #DIV/0! |
| 10: Durham Co: N of Durham | 535 | 1,859 | 1,325 | 248% |
| 11: Granville Co: Creedmoor | - | - | 0 | #DIV/0! |
| 12: E Durham/NW Wake: | 9 | 39 | 30 | 331% |
| 13: Wake Co: W, RDU | 917 | 2,873 | 1,956 | 213% |
| 14: Durham/Wake: SE of Durham city | 140 | 1,561 | 1,421 | 1014% |
| 15: Durham Co: S of Durham | 2,285 | 8,887 | 6,602 | 289% |
| 16: Durham City | 12,612 | 24,026 | 11,414 | 91% |
| 17: Durham CBD | 610 | 1,510 | 899 | 147% |
| 18: NE Chatham/NW Wake | 14 | 441 | 427 | 3008% |
| 19: Wake Co: Cary | 1,216 | 10,984 | 9,768 | 803% |
| 20: SW Wake Co: Fuquay Varina | - | 373 | 373 | #DIV/0! |
| 21: SE Chatham/SW Wake | - | - | 0 | #DIV/0! |
| 22: Wake Co: Gamer | 331 | 1,024 | 693 | 209% |
| 23: Johnston Co:N/Wake SE | - | 72 | 72 | #DIV/0! |
| 24: Wake Co: NE: Wendell, Zebulon | - | 80 | 80 | #DIV/0! |
| 25: Wake Co: Knightdale | 89 | 400 | 311 | 351% |
| 26: Wake Co: Raleigh City | 23,163 | 23,495 | 332 | 1% |
| 27: Wake Co: Raleigh CBD | 2,376 | 5,440 | 3,065 | 129% |
| 28: Wake Co: NE of Raleigh | 2,225 | 7,034 | 4,809 | 216% |
| 29: N Wake/SW Franklin:Wake Forest | 1 | 83 | 82 | 8492% |
| 30: N Wake/S Franklin | - | - | 0 | #DIV/0! |
| 31: Hamett Co: NW | - | - | 0 | #DIV/0! |
| 32: Johnston Co: NW | - | - | 0 | #DIV/0! |
| 33: Johnston Co: NE | - | - | 0 | #DIV/0! |
| 34: Franklin Co: SE, Youngsville | - | - | 0 | #DIV/0! |
| 35: Franklin Co: W | - | - | 0 | #DIV/0! |
| Region Total | 70,321 | 134,543 | 64,222 | 91% |

7.3. Transit Ridership Validation

Table 32 compares model estimated daily transit ridership by transit operator to that of observed. The 2005 daily observed ridership data were provided by each of the transit agencies.

Table 32 Daily Transit Ridership Validation: 2005 Model Estimated vs. Observed

| Transit Operator | Ridership Daily Observed 2005 | Ridership Daily Modeled 2005 | Modeled % Deviation 2005 |
|---------------------|-------------------------------|------------------------------|--------------------------|
| TTA | 3,255 | 4,891 | 50.3% |
| CAT | 14,009 | 12,047 | -14.0% |
| CHT | 23,805 | 25,204 | 5.9% |
| DATA | 13,843 | 6,783 | -51.0% |
| NCSU | 11,100 | 21,418 | 93.0% |
| Duke | 11,497 | 9,459 | -17.7% |
| Region Total | 77,509 | 79,802 | 3.0% |

7.4. Transit Ridership Growth: 2005 to 2035

Table 33 displays the model estimated transit ridership growth between years of 2005 and 2035.

Table 33 Transit Ridership Growth: 2005 to 2035

| Transit Operator | Ridership Daily Modeled 2005 | Ridership Daily Modeled 2035 | Daily Ridership Difference 2035 - 2005 | Daily Ridership % Difference 2035 vs. 2005 |
|---------------------|------------------------------|------------------------------|--|--|
| TTA | 4,891 | 26,110 | 21,219 | 434% |
| CAT | 12,047 | 35,819 | 23,772 | 197% |
| CHT | 25,204 | 47,544 | 22,340 | 89% |
| DATA | 6,783 | 19,255 | 12,472 | 184% |
| NCSU | 21,418 | 16,386 | -5,032 | -23% |
| Duke | 9,459 | 17,012 | 7,553 | 80% |
| OPT | | 2,644 | | |
| C-Tran | | 11,481 | | |
| Region Total | 79,802 | 176,251 | 82,324 | 103% |

7.5. Transit District-to-District Flow

Tables 34 and 35 display transit trip district-to-district flow for base year 2005 and future year 2035, respectively.

Table 34 Transit Trip District-to-District Flow: 2005

| Production District | Attraction District | | | | | | | | | | | | | | | | | | Total Production |
|-------------------------------------|---------------------|---------------|--------------|-----------------------------|-----------------------------|-----------------------|------------------------------|-------------|-------------|------------------------|----------------------|-----------------------|--------------------|--------------------------------|------------------------|---------------|-------------|----------------------|------------------|
| | 1: Ora Co North | 2: Ora Co Mid | 3: Ora Co SW | 4: Ora Co NW of Chapel Hill | 5: Ora Co NE of Chapel Hill | 6: Ora Co Chapel Hill | 7: Ora/Chat S of Chapel Hill | 8: Cha Co E | 9: Dur Co N | 10: Dur Co N of Durham | 11: Gra Co Creedmoor | 12: E Durham /NW Wake | 13: Wake Co W, RDU | 14: Dur/Wake SE of Durham city | 15: Dur Co S of Durham | 16: Dur City | 17: Dur CBD | 18: NE Chat/ NW Wake | |
| 01: Orange Co:North | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 02: Orange Co: Mid | - | 0 | - | 6 | 80 | 131 | 1 | - | - | 12 | - | 0 | 1 | 1 | 47 | 149 | 5 | 0 | 446 |
| 03: Orange Co: SW | - | - | - | 11 | 31 | 143 | 4 | - | - | 1 | - | - | 0 | 0 | 8 | 16 | 1 | 0 | 219 |
| 04: Orange Co:NW of Chapel Hill | - | - | - | 95 | 257 | 1,049 | 27 | - | - | 3 | - | 0 | 2 | 1 | 57 | 75 | 3 | 0 | 1,597 |
| 05: Orange Co:NE of Chapel Hill | - | 0 | - | 68 | 2,433 | 8,397 | 31 | - | - | 5 | - | 0 | 9 | 4 | 252 | 222 | 11 | 1 | 11,555 |
| 06: Orange Co: Chapel Hill | - | - | - | 113 | 1,254 | 5,969 | 76 | - | - | 1 | - | 0 | 3 | 1 | 74 | 58 | 3 | 0 | 7,577 |
| 07: Orange/Chatham:S of Chapel Hill | - | - | - | 53 | 339 | 1,943 | 50 | - | - | 2 | - | 0 | 4 | 2 | 71 | 74 | 3 | 0 | 2,577 |
| 08: Chaptham Co: E | - | - | - | 0 | 1 | 5 | 0 | - | - | 0 | - | - | 0 | - | 0 | 0 | 0 | - | 7 |
| 09: Durham Co:N | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 10: Durham Co: N of Durham | - | 0 | - | 0 | 5 | 9 | 0 | - | - | 243 | - | 0 | 2 | 11 | 60 | 524 | 77 | 0 | 942 |
| 11: Granville Co: Creedmoor | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 12: E Durham/NW Wake: | - | - | - | 0 | 5 | 13 | 0 | - | - | 1 | - | 0 | 10 | 3 | 24 | 18 | 1 | 0 | 160 |
| 13: Wake Co: W, RDU | - | - | - | 0 | 12 | 26 | 0 | - | - | 3 | - | 1 | 220 | 8 | 61 | 49 | 4 | 0 | 1,200 |
| 14: Durham/Wake: SE of Durham city | - | - | - | 0 | 6 | 12 | 0 | - | - | 10 | - | 0 | 12 | 20 | 43 | 82 | 13 | 0 | 269 |
| 15: Durham Co: S of Durham | - | 0 | - | 6 | 229 | 430 | 5 | - | - | 34 | - | 0 | 21 | 17 | 838 | 955 | 80 | 4 | 2,802 |
| 16: Durham City | - | 0 | - | 1 | 26 | 47 | 0 | - | - | 195 | - | 0 | 16 | 51 | 484 | 9,976 | 354 | 2 | 11,245 |
| 17: Durham CBD | - | 0 | - | 0 | 1 | 1 | 0 | - | - | 17 | - | - | 0 | 2 | 23 | 197 | 44 | 0 | 289 |
| 18: NE Chatham/NW Wake | - | - | - | 0 | 6 | 17 | 0 | - | - | 0 | - | 0 | 4 | 1 | 30 | 15 | 1 | 1 | 161 |
| 19: Wake Co: Cary | - | - | - | 0 | 50 | 234 | 0 | - | - | 3 | - | 0 | 108 | 7 | 130 | 86 | 6 | 3 | 3,395 |
| 20: SW Wake Co: Fuquay Varina | - | - | - | 0 | 1 | 2 | 0 | - | - | 0 | - | 0 | 6 | 0 | 5 | 6 | 0 | 0 | 150 |
| 21: SE Chatham/SW Wake | - | - | - | 0 | 0 | 1 | 0 | - | - | 0 | - | - | 1 | 0 | 2 | 2 | 0 | 0 | 30 |
| 22: Wake Co: Garner | - | - | - | 0 | 3 | 8 | 0 | - | - | 1 | - | 0 | 24 | 1 | 14 | 18 | 1 | 0 | 1,239 |
| 23: Johnston Co:NW Wake SE | - | - | - | - | - | 0 | - | - | - | - | - | - | 0 | - | 0 | 0 | - | - | 5 |
| 24: Wake Co: NE Wendell, Zebulon | - | - | - | - | - | 0 | - | - | - | - | - | - | 0 | - | - | - | - | - | 2 |
| 25: Wake Co: Knightdale | - | - | - | 0 | 2 | 4 | 0 | - | - | 0 | - | 0 | 19 | 1 | 7 | 11 | 1 | 0 | 537 |
| 26: Wake Co: Raleigh City | - | - | - | 0 | 7 | 32 | 0 | - | - | 1 | - | 1 | 274 | 3 | 26 | 31 | 1 | 0 | 20,684 |
| 27: Wake Co: Raleigh CBD | - | - | - | 0 | 0 | 0 | - | - | - | 0 | - | 0 | 21 | 0 | 1 | 1 | 0 | 0 | 889 |
| 28: Wake Co: NE of Raleigh | - | - | - | 0 | 7 | 17 | 0 | - | - | 3 | - | 5 | 158 | 5 | 27 | 47 | 2 | 0 | 2,342 |
| 29: N Wake/SW Franklin:Wake Forest | - | - | - | - | - | - | - | - | - | - | - | 0 | 0 | - | 0 | 0 | - | - | 2 |
| 30: N Wake/S Franklin | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 31: Harnett Co: NW | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 32: Johnston Co: NW | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 33: Johnston Co: NE | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 34: Franklin Co: SE, Youngsville | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 35: Franklin Co: W | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Attraction | - | 0 | - | 354 | 4,756 | 18,492 | 197 | - | - | 535 | - | 9 | 917 | 140 | 2,285 | 12,612 | 610 | 14 | 70,321 |

| Production District | Attraction District | | | | | | | | | | | | | | | Total Production | | |
|-------------------------------------|---------------------|-------------------------------|----------------------|---------------------|-----------------------|----------------------------------|-------------------------|---------------------------|--------------------------|----------------------------|--------------------------------------|-----------------------|------------------|---------------------|---------------------|------------------|-------------------------------|--------------------|
| | 19: Wake Co Cary | 20: SW Wake Co: Fuquay Varina | 21: SE Chat/ SW Wake | 22: Wake Co: Garner | 23: Joh Co:N /Wake SE | 24: Wake Co: NE Wendell, Zebulon | 25: Wake Co: Knightdale | 26: Wake Co: Raleigh City | 27: Wake Co: Raleigh CBD | 28: Wake Co: NE of Raleigh | 29: N Wake/ SW Franklin: Wake Forest | 30: N Wake/S Franklin | 31: Harnett Co:N | 32: Johnston Co: NW | 33: Johnston Co: NE | | 34: Franklin: SE, Youngsville | 35: Franklin Co: W |
| 01: Orange Co:North | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 02: Orange Co: Mid | 2 | - | - | 0 | - | - | 0 | 8 | 1 | 1 | - | - | - | - | - | - | - | 446 |
| 03: Orange Co: SW | 1 | - | - | 0 | - | - | 0 | 2 | 0 | 0 | - | - | - | - | - | - | - | 219 |
| 04: Orange Co:NW of Chapel Hill | 6 | - | - | 0 | - | - | 0 | 16 | 1 | 2 | - | - | - | - | - | - | - | 1,597 |
| 05: Orange Co:NE of Chapel Hill | 23 | - | - | 0 | - | - | 0 | 89 | 5 | 5 | - | - | - | - | - | - | - | 11,555 |
| 06: Orange Co: Chapel Hill | 9 | - | - | 0 | - | - | 0 | 11 | 2 | 1 | - | - | - | - | - | - | - | 7,577 |
| 07: Orange/Chatham:S of Chapel Hill | 9 | - | - | 0 | - | - | 0 | 21 | 3 | 3 | - | - | - | - | - | - | - | 2,577 |
| 08: Chatham Co: E | 0 | - | - | - | - | - | - | 0 | 0 | 0 | - | - | - | - | - | - | - | 7 |
| 09: Durham Co:N | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 10: Durham Co: N of Durham | 4 | - | - | 0 | - | - | 0 | 5 | 1 | 1 | - | - | - | - | - | - | - | 942 |
| 11: Granville Co: Creedmoor | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 12: E Durham/NW Wake: | 5 | - | - | 0 | - | - | 0 | 31 | 6 | 41 | 0 | - | - | - | - | - | - | 160 |
| 13: Wake Co: W, RDU | 53 | - | - | 6 | - | - | 3 | 491 | 73 | 190 | 0 | - | - | - | - | - | - | 1,200 |
| 14: Durham/Wake: SE of Durham city | 9 | - | - | 1 | - | - | 0 | 43 | 3 | 14 | - | - | - | - | - | - | - | 269 |
| 15: Durham Co: S of Durham | 45 | - | - | 2 | - | - | 0 | 111 | 11 | 14 | - | - | - | - | - | - | - | 2,802 |
| 16: Durham City | 32 | - | - | 1 | - | - | 0 | 43 | 6 | 10 | - | - | - | - | - | - | - | 11,245 |
| 17: Durham CBD | 1 | - | - | 0 | - | - | - | 2 | 0 | 0 | - | - | - | - | - | - | - | 289 |
| 18: NE Chatham/NW Wake | 19 | - | - | 2 | - | - | 0 | 54 | 6 | 4 | - | - | - | - | - | - | - | 161 |
| 19: Wake Co: Cary | 335 | - | - | 36 | - | - | 3 | 2,194 | 110 | 88 | 0 | - | - | - | - | - | - | 3,395 |
| 20: SW Wake Co: Fuquay Varina | 21 | - | - | 6 | - | - | 0 | 82 | 13 | 6 | - | - | - | - | - | - | - | 150 |
| 21: SE Chatham/SW Wake | 6 | - | - | 1 | - | - | 0 | 14 | 2 | 1 | - | - | - | - | - | - | - | 30 |
| 22: Wake Co: Garner | 44 | - | - | 151 | - | - | 8 | 663 | 243 | 59 | 0 | - | - | - | - | - | - | 1,239 |
| 23: Johnston Co:NWake SE | 0 | - | - | 0 | - | - | 0 | 2 | 2 | 0 | - | - | - | - | - | - | - | 5 |
| 24: Wake Co: NE: Wendell, Zebulon | 0 | - | - | 0 | - | - | 0 | 1 | 1 | 0 | - | - | - | - | - | - | - | 2 |
| 25: Wake Co: Knightdale | 15 | - | - | 11 | - | - | 26 | 232 | 86 | 123 | 0 | - | - | - | - | - | - | 537 |
| 26: Wake Co: Raleigh City | 534 | - | - | 88 | - | - | 30 | 17,948 | 1,268 | 438 | 0 | - | - | - | - | - | - | 20,684 |
| 27: Wake Co: Raleigh CBD | 7 | - | - | 15 | - | - | 2 | 440 | 360 | 41 | - | - | - | - | - | - | - | 889 |
| 28: Wake Co: NE of Raleigh | 36 | - | - | 8 | - | - | 15 | 658 | 174 | 1,178 | 1 | - | - | - | - | - | - | 2,342 |
| 29: N Wake/SW Franklin:Wake Forest | 0 | - | - | - | - | - | 0 | 0 | 0 | 2 | - | - | - | - | - | - | - | 2 |
| 30: N Wake/S Franklin | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 31: Harnett Co: NW | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 32: Johnston Co: NW | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 33: Johnston Co: NE | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 34: Franklin Co: SE, Youngsville | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 35: Franklin Co: W | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Attraction | 1,216 | - | - | 331 | - | - | 89 | 23,163 | 2,376 | 2,225 | 1 | - | - | - | - | - | - | 70,321 |

Table 35 Transit Trip District-to-District Flow: 2035

| Production District | Attraction District | | | | | | | | | | | | | | | | | | Total Production |
|-------------------------------------|---------------------|---------------|--------------|-----------------------------|-----------------------------|-----------------------|------------------------------|-------------|-------------|------------------------|----------------------|-----------------------|--------------------|--------------------------------|------------------------|---------------|--------------|----------------------|------------------|
| | 1: Ora Co North | 2: Ora Co Mid | 3: Ora Co SW | 4: Ora Co NW of Chapel Hill | 5: Ora Co NE of Chapel Hill | 6: Ora Co Chapel Hill | 7: Ora/Chat S of Chapel Hill | 8: Ora Co E | 9: Dur Co N | 10: Dur Co N of Durham | 11: Gra Co Creedmoor | 12: E Durham /NW Wake | 13: Wake Co W, RDU | 14: Dur/Wake SE of Durham city | 15: Dur Co S of Durham | 16: Dur City | 17: Dur CBD | 18: NE Chat/ NW Wake | |
| 01: Orange Co:North | 0 | 11 | - | 1 | 4 | 4 | 0 | - | - | 1 | - | - | 0 | 0 | 2 | 9 | 1 | 0 | 32 |
| 02: Orange Co: Mid | 2 | 634 | - | 101 | 512 | 382 | 12 | 0 | 0 | 80 | - | 0 | 6 | 19 | 268 | 947 | 53 | 3 | 3,011 |
| 03: Orange Co: SW | - | 3 | - | 18 | 65 | 166 | 6 | 0 | - | 2 | - | - | 1 | 1 | 21 | 26 | 1 | 0 | 314 |
| 04: Orange Co:NW of Chapel Hill | 0 | 64 | - | 292 | 1,030 | 1,632 | 51 | 0 | - | 18 | - | 0 | 6 | 10 | 191 | 209 | 10 | 4 | 3,549 |
| 05: Orange Co:NE of Chapel Hill | 0 | 148 | - | 480 | 5,187 | 12,624 | 135 | 1 | - | 41 | - | 1 | 31 | 46 | 1,229 | 652 | 32 | 24 | 20,753 |
| 06: Orange Co: Chapel Hill | 0 | 41 | - | 265 | 2,869 | 8,011 | 152 | 1 | - | 9 | - | 0 | 11 | 16 | 390 | 138 | 8 | 10 | 11,963 |
| 07: Orange/Chatham:S of Chapel Hill | 0 | 19 | - | 80 | 924 | 4,333 | 151 | 1 | - | 12 | - | 0 | 9 | 15 | 330 | 211 | 9 | 6 | 6,149 |
| 08: Chaptham Co: E | - | 0 | - | 1 | 7 | 20 | 2 | 0 | - | 0 | - | - | 0 | 0 | 4 | 3 | 0 | 0 | 38 |
| 09: Durham Co:N | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 10: Durham Co: N of Durham | 0 | 27 | - | 6 | 64 | 82 | 2 | 0 | 0 | 788 | - | 0 | 15 | 79 | 234 | 1,726 | 183 | 3 | 3,103 |
| 11: Granville Co: Creedmoor | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 12: E Durham/NW Wake | - | 1 | - | 2 | 22 | 37 | 1 | - | - | 11 | - | 1 | 33 | 33 | 80 | 80 | 9 | 3 | 497 |
| 13: Wake Co: W, RDU | 0 | 4 | - | 4 | 46 | 71 | 3 | 0 | - | 22 | - | 3 | 646 | 102 | 229 | 234 | 22 | 12 | 3,012 |
| 14: Durham/Wake: SE of Durham city | 0 | 13 | - | 7 | 70 | 99 | 3 | 0 | 0 | 85 | - | 1 | 79 | 369 | 408 | 699 | 80 | 10 | 2,133 |
| 15: Durham Co: S of Durham | 0 | 83 | - | 60 | 930 | 1,202 | 45 | 0 | 0 | 126 | - | 1 | 90 | 191 | 2,802 | 2,653 | 181 | 68 | 8,699 |
| 16: Durham City | 0 | 54 | - | 17 | 173 | 205 | 8 | 0 | 0 | 512 | - | 1 | 59 | 273 | 1,159 | 14,706 | 709 | 28 | 17,481 |
| 17: Durham CBD | - | 3 | - | 1 | 7 | 8 | 0 | - | - | 44 | - | 0 | 3 | 14 | 63 | 560 | 98 | 1 | 720 |
| 18: NE Chatham/NW Wake | 0 | 8 | - | 8 | 94 | 136 | 6 | 0 | - | 19 | - | 0 | 52 | 49 | 441 | 239 | 26 | 97 | 1,806 |
| 19: Wake Co: Cary | 0 | 10 | - | 6 | 87 | 163 | 5 | 0 | - | 28 | - | 1 | 341 | 110 | 521 | 392 | 39 | 108 | 10,876 |
| 20: SW Wake Co: Fuquay Varina | - | 1 | - | 0 | 6 | 11 | 0 | 0 | - | 3 | - | 0 | 17 | 6 | 43 | 37 | 4 | 13 | 928 |
| 21: SE Chatham/SW Wake | - | 1 | - | 1 | 8 | 19 | 1 | 0 | - | 4 | - | 0 | 20 | 11 | 58 | 51 | 5 | 14 | 649 |
| 22: Wake Co: Garner | - | 2 | - | 1 | 18 | 35 | 1 | 0 | - | 9 | - | 1 | 117 | 23 | 103 | 116 | 10 | 6 | 4,138 |
| 23: Johnston Co:NW Wake SE | - | 0 | - | 0 | 1 | 1 | 0 | - | - | 0 | - | 0 | 7 | 1 | 5 | 5 | 1 | 0 | 292 |
| 24: Wake Co: NE Wendell, Zebulon | - | 0 | - | 0 | 0 | 0 | 0 | - | - | 0 | - | 0 | 3 | 1 | 2 | 2 | 0 | 0 | 156 |
| 25: Wake Co: Knightdale | - | 2 | - | 2 | 19 | 32 | 1 | 0 | - | 16 | - | 3 | 201 | 47 | 126 | 148 | 14 | 6 | 4,253 |
| 26: Wake Co: Raleigh City | - | 3 | - | 1 | 19 | 40 | 1 | 0 | - | 10 | - | 4 | 526 | 53 | 165 | 138 | 13 | 16 | 20,711 |
| 27: Wake Co: Raleigh CBD | - | 0 | - | 0 | 2 | 3 | 0 | - | - | 1 | - | 0 | 57 | 5 | 18 | 13 | 1 | 2 | 2,572 |
| 28: Wake Co: NE of Raleigh | 0 | 4 | - | 3 | 32 | 50 | 2 | 0 | - | 29 | - | 23 | 623 | 104 | 189 | 206 | 20 | 10 | 7,666 |
| 29: N Wake/SW Franklin:Wake Forest | - | 0 | - | 0 | 0 | 0 | - | - | - | 0 | - | 0 | 3 | 1 | 2 | 4 | 0 | 0 | 113 |
| 30: N Wake/S Franklin | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 31: Harnett Co: NW | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 32: Johnston Co: NW | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 33: Johnston Co: NE | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 34: Franklin Co: SE, Youngsville | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 35: Franklin Co: W | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Attraction | 3 | 1,135 | - | 1,355 | 12,196 | 29,364 | 590 | 4 | 0 | 1,870 | - | 40 | 2,956 | 1,578 | 9,086 | 24,205 | 1,529 | 445 | 135,611 |

| Attraction District | | | | | | | | | | | | | | | | | | Total Production |
|-------------------------------------|------------------------|---|----------------------------|---------------------------|-----------------------------|--|-------------------------------|---------------------------------|--------------------------------|-------------------------------------|--|-----------------------------|---------------------|---------------------------|---------------------------|-------------------------------------|-----------------------|---------------------|
| Production District | 19: Wake Co Cary | 20: SW Wake Co: Fuquay Varina | 21: SE Chat/ SW Wake | 22: Wake Co: Garner | 23: Joh Co:N /Wake SE | 24: Wake Co: NE Wendell, Zebulon | 25: Wake Co: Knightdale | 26: Wake Co: Raleigh City | 27: Wake Co: Raleigh CBD | 28: Wake Co: NE of Raleigh | 29: N Wake/ SW Franklin:Wa ke Forest | 30: N Wake/S Franklin | 31: Harnett Co:N | 32: Johnston Co: NW | 33: Johnston Co: NE | 34: Franklin: SE, Youngsville | 35: Franklin Co: W | |
| 01: Orange Co:North | 0 | - | - | - | - | - | - | 0 | 0 | 0 | - | - | - | - | - | - | - | 32 |
| 02: Orange Co: Mid | 24 | 0 | - | 0 | 0 | - | 0 | 16 | 2 | 4 | 0 | - | - | - | - | - | - | 3,011 |
| 03: Orange Co: SW | 2 | 0 | - | 0 | - | - | 0 | 2 | 0 | 0 | - | - | - | - | - | - | - | 314 |
| 04: Orange Co: NW of Chapel Hill | 27 | 0 | - | 0 | 0 | 0 | 0 | 14 | 1 | 4 | 0 | - | - | - | - | - | - | 3,549 |
| 05: Orange Co: NE of Chapel Hill | 133 | 1 | - | 1 | 0 | 0 | 0 | 25 | 5 | 15 | 0 | - | - | - | - | - | - | 20,753 |
| 06: Orange Co: Chapel Hill | 49 | 0 | - | 0 | 0 | - | 0 | 6 | 1 | 4 | 0 | - | - | - | - | - | - | 11,963 |
| 07: Orange/Chatham S of Chapel Hill | 41 | 0 | - | 0 | 0 | 0 | 0 | 13 | 2 | 6 | 0 | - | - | - | - | - | - | 6,149 |
| 08: Chaptham Co: E | 1 | 0 | - | 0 | - | - | - | 0 | 0 | 0 | - | - | - | - | - | - | - | 38 |
| 09: Durham Co:N | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 10: Durham Co: N of Durham | 39 | 0 | - | 1 | 0 | 0 | 0 | 22 | 3 | 14 | 0 | - | - | - | - | - | - | 3,103 |
| 11: Granville Co: Creedmoor | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 12: E Durham/NW Wake: | 36 | 0 | - | 1 | 0 | 0 | 1 | 64 | 10 | 83 | 1 | - | - | - | - | - | - | 497 |
| 13: Wake Co: W, RDU | 447 | 3 | - | 15 | 0 | 0 | 8 | 610 | 111 | 452 | 1 | - | - | - | - | - | - | 3,012 |
| 14: Durham/Wake: SE of Durham city | 154 | 1 | - | 4 | 0 | 0 | 1 | 69 | 14 | 54 | 1 | - | - | - | - | - | - | 2,133 |
| 15: Durham Co: S of Durham | 332 | 2 | - | 5 | 0 | 0 | 1 | 113 | 19 | 44 | 1 | - | - | - | - | - | - | 8,699 |
| 16: Durham City | 207 | 2 | - | 2 | 0 | 0 | 1 | 51 | 10 | 40 | 1 | - | - | - | - | - | - | 17,481 |
| 17: Durham CBD | 10 | 0 | - | 0 | - | - | 0 | 3 | 1 | 2 | 0 | - | - | - | - | - | - | 720 |
| 18: NE Chatham/NW Wake | 480 | 7 | - | 8 | 0 | 0 | 1 | 201 | 25 | 30 | 0 | - | - | - | - | - | - | 1,806 |
| 19: Wake Co: Cary | 5,158 | 75 | - | 80 | 2 | 1 | 10 | 3,369 | 274 | 241 | 1 | - | - | - | - | - | - | 10,876 |
| 20: SW Wake Co: Fuquay Varina | 347 | 203 | - | 37 | 1 | 0 | 1 | 139 | 58 | 18 | 0 | - | - | - | - | - | - | 928 |
| 21: SE Chatham/SW Wake | 280 | 7 | - | 7 | 0 | 0 | 1 | 145 | 21 | 16 | 0 | - | - | - | - | - | - | 649 |
| 22: Wake Co: Garner | 628 | 31 | - | 454 | 11 | 2 | 43 | 1,498 | 767 | 277 | 1 | - | - | - | - | - | - | 4,138 |
| 23: Johnston Co: NWake SE | 26 | 1 | - | 24 | 47 | 0 | 4 | 89 | 52 | 28 | 0 | - | - | - | - | - | - | 292 |
| 24: Wake Co: NE: Wendell, Zebulon | 6 | 0 | - | 2 | 0 | 67 | 9 | 29 | 16 | 18 | 0 | - | - | - | - | - | - | 156 |
| 25: Wake Co: Knightdale | 370 | 2 | - | 83 | 3 | 8 | 146 | 1,386 | 536 | 1,117 | 6 | - | - | - | - | - | - | 4,253 |
| 26: Wake Co: Raleigh City | 1,933 | 32 | - | 260 | 6 | 3 | 116 | 13,731 | 2,379 | 1,285 | 5 | - | - | - | - | - | - | 20,711 |
| 27: Wake Co: Raleigh CBD | 155 | 3 | - | 73 | 1 | 1 | 18 | 1,107 | 924 | 190 | 0 | - | - | - | - | - | - | 2,572 |
| 28: Wake Co: NE of Raleigh | 502 | 4 | - | 43 | 3 | 3 | 101 | 1,610 | 522 | 3,587 | 27 | - | - | - | - | - | - | 7,666 |
| 29: N Wake/SW Franklin: Wake Forest | 4 | 0 | - | 0 | 0 | 0 | 1 | 11 | 5 | 35 | 47 | - | - | - | - | - | - | 113 |
| 30: N Wake/S Franklin | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 31: Harnett Co: NW | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 32: Johnston Co: NW | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 33: Johnston Co: NE | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 34: Franklin Co: SE, Youngsville | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 35: Franklin Co: W | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Attraction | 11,390 | 375 | - | 1,101 | 75 | 84 | 464 | 24,322 | 5,759 | 7,564 | 93 | - | - | - | - | - | - | 135,611 |

**DURHAM-CHAPEL HILL-CARRBORO
METROPOLITAN PLANNING ORGANIZATION**

CERTIFICATION REVIEW

**Conducted by:
Federal Highway Administration – North Carolina
Federal Transit Administration**

June 4, 2007

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**FHWA/FTA Certification Review
DURHAM - CHAPEL HILL - CARRBORO MPO
TRANSPORTATION PLANNING PROCESS
MARCH 20-21, 2007**

Executive Summary

Every three years, the Federal Highway Administration and the Federal Transit Administration are required to review in full the planning processes of any metropolitan area that contains a population over 200,000. This certification review is for the Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO) and evaluates whether DCHC MPO is in compliance with federal regulations. The first step in this process is to look at past reviews to ensure that recommendations and corrective actions have been administered to. The second step is to hold a public meeting to attain the public's perspective on planning in the DCHC area. The third step is to hold an on-site review, examining every planning aspect, and providing the MPO, the State Department of Transportation (DOT), and Transit Administrators, et al., an opportunity to demonstrate their accomplishments or to answer to any questions that the federal review team may have. This report is the result of those steps. In addition, the attachments will have a copy of the advertisement for the public meeting, as well as the agenda and the sign-in sheets.

Introduction

Pursuant to 23 U.S.C. 134 and 49 U.S.C. 5303, the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) must jointly review and evaluate the metropolitan transportation planning process for each Transportation Management Area (TMA) at least every three (the new requirement has been extended to every four) years. The purpose of the review is to assess the extent of compliance with the planning requirements, to identify noteworthy practices, and to provide guidance and assistance as appropriate. The review consists of a series of discussions on transportation planning issues with State and local transportation officials directly involved in highway and transit planning activities within the Metropolitan Planning Organization (MPO). A list of participants in the review is included in Appendix A. FHWA and FTA (herein referred to as the Federal review team) hosted a public meeting to receive comments regarding the metropolitan transportation planning process. The Federal review team also provided the opportunity for policy board officials to meet with the team to offer comment on the transportation planning process.

The previous certification finding for the Durham - Chapel Hill - Carrboro (DCHC) TMA was issued on June 30, 2003. The previous review resulted in the DCHC MPO **not** being fully certified due to a lapse in maintaining their three-year long range transportation plan (LRTP) cycle and air quality conformity determination. At the time of the review DCHC was in a conformity lapse, but by the completion of the report, United States Department of Transportation had approved (June 30, 2003) the conformity determination on the Long Range Transportation Plan (LRTP).

Current Status of Planning

The area encompassed by the DCHC MPO includes all of Durham County, part of Orange County and part of Chatham County. It also includes the City of Durham, the Town of Chapel Hill, the Town of Carrboro, and the Town of Hillsborough. The planning area straddles the intersection of two Interstate Routes (I-40 & I-85), including the majority of a major regional traffic generator (The Research Triangle Park) and shares a common boundary with The Capital Area Metropolitan Planning Organization (CAMPO) on the eastern side. The DCHC is currently soliciting applications for membership in the MPO from the Town of Pittsboro, the Town of Roxboro, Chatham County, Person County, Granville County, the remaining area of Orange County, and the Incorporated Town of Butner. Concerns have been raised in consideration of the equity of distributed funds if these smaller towns are to be incorporated into the MPO's boundary.

The DCHC MPO finalized their 2030 LRTP on April 13, 2005. They are currently updating the socioeconomic data for the next update cycle of their LRTP and is determining the planning work to be pursued for the fiscal year beginning July 1, 2006. In addition, their TIP was completed September 12, 2005 for inclusion into the STIP

(effective 10/1/2005) and they are currently in the process of adopting a new TIP by 6/30/2007. The lead planning agency for the MPO is the City of Durham Transportation Division. Major planning studies in the area include Southwest Durham Drive, Greenhouse Gas emissions plans and action items, Collector Street Plans, Bicycle/Pedestrian plans, and the consideration to consolidate four major transit systems in the region.

Summary of Corrective Actions:

A Corrective Action is defined as an action that must be completed in order for the State and the MPO to be fully in compliance with Federal rules and regulations. Corrective Actions should be met within two years of the release date for the report. A follow-up meeting will be conducted to check on the status of these actions. The Corrective Actions listed were made at the time of the review and may have been corrected in the time it takes to release the report. If this is the case, then the Corrective Action will be met and the status of the action will be evaluated at the two-year review to ensure that it remains in good standing. The following are Corrective Actions for the 2007 review:

1. **DCHC** shall incorporate Safety as a stand alone element in project prioritization.
2. **DCHC** shall revise the Public Involvement Plan (PIP) to include:
 - a. Public and developers in the process
 - b. Direct public efforts where needed
 - c. Develop and document measures to develop the PIP
 - d. Develop evaluation criteria
 - e. Consider implementing a Citizen's Advisory Committee
 - f. Expand visualization techniques
3. **DCHC** shall formally evaluate the effectiveness of its Public Involvement Program.
4. **NCDOT** shall appoint a full-time MPO Coordinator for DCHC.
5. **NCDOT** shall appoint a full-time Safe Routes to School Coordinator.

Summary of Recommendations:

A Recommendation is defined as an action that must be implemented into the planning process by the following Certification Review. In other words, the following Recommendations should be implemented by March 2011. The following is a summarized list of the Recommendations:

Resource Agencies and Communication

1. **DCHC** and **NCDOT** should consider expanding the TCC to include Resource Agencies. Should DCHC not expand the TCC to include Resource Agencies, they shall develop other methods for involving Resource Agencies into the planning process. NCDOT should increase their Stakeholder involvement, document their participation, and procedures to encourage effective involvement.
2. **DCHC** should incorporate additional measures that may be useful in identifying impacts on projects, both positive and negative.

3. **DCHC** and **NCDOT** should ensure that all policies and procedures are available on the web.
4. **NCDOT** should follow the outlined STIP Public Involvement Process with MPOs.

Financial

5. **DCHC** should be more systematic in performance measures and make sure investments are yielding the expected dividends.
6. **DCHC** and **NCDOT** should collaborate in financial forecasting and document the step-by-step process.
7. **DCHC** and **NCDOT** should use life-cycle costs for the LRTP as part of the decision making process.
8. **NCDOT** should explore ways to make financial planning and forecasting issues (where the money goes) more transparent to MPOs.
9. **NCDOT** should begin dialogue with high level MPO staff regarding the use of STP funds for alternatives or non-highway use for equitable distribution of funds.

Policies

10. **DCHC** should address Safety, systems operations, system preservation, and the State Highway Safety Plan in their LRTP.
11. **DCHC** and **NCDOT** should update plans and processes to reflect SAFETEA-LU.

Planning Process

12. **DCHC** should incorporate the following freight aspects into their planning process:
 - a. DCHC should integrate freight as an integral part of the Plan.
 - b. DCHC should include the freight community into the planning process.
 - c. DCHC should consider freight mobility in the project-ranking criteria.
13. **DCHC** should review the current LOS E standard for all facilities and assess whether the definition is still appropriate.
14. **DCHC** should continue to pursue its implementation of ITS projects.
15. **DCHC** should incorporate the Statewide portion of the STIP into the TIP.
16. **DCHC** should incorporate locally funded projects into the TIP.
17. **DCHC** should assist NCDOT with modeling land use changes associated with project alternatives on an as-needed basis.
18. **DCHC** should articulate how they are assisting in FHWA's environmental streamlining goals and objectives.
19. **DCHC** should continue its path to complete TIP conformity.
20. **DCHC** should incorporate the following elements into its Environmental Justice (EJ) Plan:
 - a. Policy statement
 - b. Goals and objectives
 - c. Demographic profile
 - d. Overlays of demographic information on defined past, future, and planned projects

- e. Measures for identifying burdens and benefits of the MPO's transportation system
 - f. An analysis of identified burdens and benefits
 - g. Public involvement strategies to engage minority and low-income populations (including Advisory Committee information)
21. **DCHC** should submit a draft of their EJ Plan to FHWA for review and comments.
 22. All three of the **transit operators** in the area are encouraged to continue to develop short-range transit operating and financing plans that identify capital needs and the proposed funding sources.
 23. **DCHC** and **NCDOT** should improve security planning, coordination, and training.
 24. **NCDOT** should give bicycle/pedestrian modes equal consideration in terms of funding, maintenance, and liability.
 25. **NCDOT** should involve MPOs early on in the Design phase and be considerate of design and scope of locally-preferred alternatives (articulate CSS NCDOT vision and follow it).
 26. **NCDOT** should develop a Purpose and Need (P/N) statement as an outgrowth of the LRP in cooperation with MPO's high priority projects.
 27. **FHWA** will address CMAQ questions DCHC has.

Summary of Commendations:

A Commendation is defined as an action to acknowledge exemplary practices within the planning process. These examples show efforts that are above and beyond federal and state requirements. The following is a list of Commendations:

1. **DCHC** is commended for their transit efforts, including:
 - a. Regional Call Center
 - b. Cost-sharing
 - c. Best Work Place zone
2. The **Triangle Region** is commended for its outstanding coordination and cooperative process.
3. **DCHC** is commended for their excellent efforts in innovative ways of providing transit opportunities.
4. **Chapel Hill** and **Carrboro** are commended on zoning Transit Oriented Development (TOD) overlays in land use planning.

Overall Finding

The review team found the transportation planning process for the DCHC transportation management area meets the requirements of 23 CFR 450 Subpart C and 49 USC 5303 and is in effect certified, pending that the Corrective Actions have been adequately addressed by the two-year deadline.

Certification Outline

The initial emphasis of the DCHC MPO certification review is to prescribe the corrective actions and recommendations, as well as present commendations from the current review. The following is a list of the Planning Factors and documents that were reviewed:

- Boundaries
- Agreements
- Organization
- Self-Certification
- 3C Process
- UPWP
- LRTP
- STIP/TIP
- PL & STP-DA Funds
- Freight
- CMS
- Operations & Management (ITS)
- Safety
- Environment
- Air Quality
- Transit
- Bicycle/Pedestrian
- Land Use & Economic Development
- Title VI: ADA, EJ, DBE
- Public Involvement
- SAFETEA-LU Implementation

Previous Review Follow-up (2003)

Corrective Actions

Previous Corrective Action:

1. The DCHC MPO needs to adopt an updated air quality conforming long range transportation plan (LRTP).

Findings:

The only corrective action identified during the review was that the DCHC MPO was not currently complying with the planning requirement to update their LRTP every three years. Since the MPO did not have a valid LRTP, the TIP was no longer valid. The impact of not having a valid plan and a TIP is that the area became ineligible for any new authorizations of Federal aid funds for transportation projects. The DCHC MPO updated the air quality conformity LRTP on June 30, 2003 (thus certifying DCHC) and is

currently maintaining its schedule. However, we do recommend that DCHC continue to maintain and stay on schedule.

Recommendations

Previous Recommendation:

1. DCHC should formally evaluate the effectiveness of the public involvement program.

Findings:

It is crucial that DCHC develop formal procedures to evaluate the effectiveness of its public involvement plan. Evaluation should focus on the results of public involvement - how it succeeded in generating information that has had identifiable impacts on all stages of the planning process. Rigorous assessment of techniques and strategies for involvement will also signal the public that their efforts are valued. This recommendation has been a recommendation for the last two certification reviews and has not been resolved. It is now a Corrective Action for this current review.

Previous Recommendation:

2. Both NCDOT and DCHC are encouraged to continue to seek every opportunity to integrate environmental considerations into early systems planning.

Findings:

The transportation planning process involves identifying deficiencies in the transportation system by modeling and forecasting techniques. The analysis results in the development of an overall transportation plan that includes consideration of the physical, natural, social, and economic environment. During the last LRTP update, the DCHC MPO evaluated the environmental and social impacts of various alternative transportation plans by quantifying impacts such as wetlands, historic sites, endangered species, and neighborhood/community displacement and relocation. Also with the new SAFETEA-LU requirements, the MPOs are preparing to integrate environmental elements earlier in the planning process. There are recommendations to continue this process.

Previous Recommendation:

3. DCHC should be able to show some progress toward securing the forecasted revenues identified in the draft LRTP by the next plan update.

Findings:

In the previous review, the DCHC MPO staff expressed their continued concern regarding financial forecasts used to fiscally constrain their LRTP and their desire for the NCDOT to provide more input into these forecasts. This concern is a carry over from previous certification reviews and is now a Corrective Action that both NCDOT and DCHC collaborate on developing financial forecasts and document

the process.

Previous Recommendation:

4. The transit operators in the metropolitan area are encouraged to develop short-range transit operating and financing plans that identify capital needs and proposed funding sources.

Findings:

Developing these short-range transit operating and financing plans will identify capital needs and the proposed funding sources. The operators are encouraged to work closely with the DCHC MPO in the development of these plans and to have them endorsed by their local governing authorities.

Previous Recommendation:

5. The DCHC MPO should continue to consider the use of Surface Transportation Program (STP) funds for purposes other than highway projects.

Findings:

This recommendation continues in the current certification. NCDOT is strongly encouraged to both coordinate with the MPOs in administering STP funds for non-highway projects, but also to document the process and determination of these funds.

Previous Recommendation:

6. It is recommended that the DCHC MPO continue to pursue the implementation of ITS projects.

Findings:

Intelligent Transportation Systems (ITS) are a critical element in reducing congestion and consequentially reducing the impacts on air quality. NCDOT, DCHC, and CAMPO (Capital Area MPO) have developed an ITS regional plan. We encourage NCDOT and DCHC to continue these efforts and acknowledge their good work.

Previous Recommendation:

7. The DCHC MPO should continue to seek opportunities to add additional minority groups to their public involvement mailing list.

Findings:

As demographics change in North Carolina, there is a constant need to update this information to ensure that outreach is provided to all populations. There are recommendations in the current review to document procedures, which will help determine whether the needs of all demographics are being met.

Previous Recommendation:

8. It is recommended that the DCHC MPO consider consolidating the policies and procedures regarding Title VI and Environmental Justice into one document.

Findings:

This Recommendation was not addressed and is now a Corrective Action in the current review. The main concern is the lack of documentation. Without documentation, it is difficult to adjust and build upon the current system. In other words, it is very difficult to improve the current system without documentation to outline the current processes.

FHWA/FTA EMPHASIS AREAS

Boundaries & Agreements

The planning process is being conducted in accordance with a Memorandum of Understanding (MOU) that was updated in 1994. The planning staff of the DCHC MPO plans to update the MOU if there is an expansion of the MPO. However, TTA is not a part of the MOU; they have membership but are not signatories. There is also no formal agreement for 5307 funding (see Transit section). SAFETEA-LU now requires that all significant documents and agreements be made available via the web. Therefore, a recommendation is listed below requesting that these documents be published on the web.

The metropolitan area boundary (MAB) has been smoothed to follow major roads; however it has not been expanded. DCHC is currently considering expanding its MAB to include Person, Granville, and Orange Counties, as well as Roxboro, Butner Incorporated, and Stem.

There is one recommendation. The new SAFETEA-LU regulations have been released and must be implemented before any LRTP or TIP updates can be made. This recommendation is to ensure that all partners (FHWA, MPO, and NCDOT) work together to implement these regulations.

Recommendations:

1. **DCHC** and **NCDOT** should ensure that all policies and procedures are available on the web.
 - SAFETEA-LU requires that all documents are available via the World Wide Web. DCHC has been proactive about ensuring that their website is easily accessible and up-to-date and that documents are available. NCDOT recently updated their web site and should check to ensure that important documents, such as PIPs, agreements, and policies are available in order to be SAFETEA-LU compliant. It was also suggested that DCHC create TCC/TAC by-laws which would ask participation from all members and/or evaluate ways to increase attendance at meetings.

Organization, 3C Process, and Self-Certification

The organizational structure of DCHC comprises of its Technical Coordinating Committee (TCC) members, which refer to the MPO technical staff; the Transportation Advisory Committee (TAC) members, which refer to the decision makers; and partners (NCDOT, FHWA/FTA, Transit Operators, et. al.). Discussion was raised regarding the efficiency of TCC and TAC meetings. Oftentimes, the agenda is not completed, requiring those who are at the end of the agenda to return the following month. Even though this was explained as a unique trait of DCHC, the review team still maintains that both the TCC and TAC meetings should be both more efficient and effective.

The Region should also be commended for its outstanding work, primarily through the efforts of the Triangle J Council of Governments RPO (Triangle J). Because of these cooperative efforts, Regional analysis and partnering has been able to take place. This facilitation by Triangle J has improved coordination and communication between DCHC and CAMPO (Capital Area MPO), improved efforts toward the Regional Transit Administration, air quality efforts, and regional planning in general.

There is one corrective action: the NCDOT Transportation Planning Board Coordinator position for DCHC has been vacant since September 2005. It is difficult for DCHC to effectively do its job without a coordinator. At times the NCDOT has subsequently filled this position, we recommend that NCDOT ensure that this position remains filled.

There are four recommendations. The first complies with new SAFETEA-LU requirements and recommends DCHC develop a consultation plan for the Resource Agencies to ensure that all appropriate parties have an opportunity to participate early in the planning process. The second refers to both NCDOT and DCHC to collaborate on financial forecasting and document the process. This will ensure that methods are up-to-date and have MPO buy-in. The third is a strong recommendation for NCDOT to include DCHC in the design phase of the project. Oftentimes, there has been no communication between the design team and the MPO and the design concept comes back to the MPO with a different scope. For example, if the vision plan from DCHC has public input and the public is looking to have more sidewalks and bicycle/pedestrian facilities, then projects should reflect this. However, NCDOT has a separate methodology that is not taking these needs into account and the project design may or may not reflect the original intent. The final recommendation is for NCDOT to make financial planning and forecasting more transparent and abide more by the 3C Process of partnership and collaboration.

There is one commendation. The Triangle J Council of Governments has done an outstanding job as the regional coordinator for the Triangle Area transportation conformity process. The Triangle Area transportation partners are also to be commended for their communication, responsiveness and timely completion of project tasks. The Triangle Area transportation conformity process is a model for how this

process should work in North Carolina.

Corrective Actions:

1. **NCDOT** shall appoint a full-time MPO Coordinator for DCHC.
 - DCHC has been without a NCDOT MPO Coordinator since September 2005. Although attempts have been made by NCDOT to fill positions, salaries have been considered low and all Planning Coordinators must be Engineers, which significantly reduces the number of eligible applicants. Also, the NCDOT Coordinator for DCHC, or acting Coordinator, shall fully participate in the Federal Certification process as this is a review of the State and MPO's planning processes.

Recommendations:

1. **DCHC** should consider expanding the TCC to include Resource Agencies. Should DCHC not expand the TCC to include Resource Agencies, they should develop other methods for involving Resource Agencies in the planning process. NCDOT shall increase their Stakeholder involvement, document their participation and procedures to encourage effective involvement.
 - New SAFETEA-LU requirements necessitate that Resource Agencies shall be incorporated early into the transportation planning process. This recommendation would help to ensure that DCHC is adequately collaborating with Resource Agencies and would help to ensure that they are SAFETEA-LU compliant.
2. **NCDOT** and **DCHC** should collaborate in financial forecasting and document the step-by-step process.
 - The planning process should be a 3C process, where planning decisions are made collaboratively. However, the current practice has allowed that NCDOT distribute financial forecasts without consulting the MPOs or without adequate explanation.
3. **NCDOT** should involve the MPOs early on in the Design phase and be considerate of design and scope of locally-preferred alternatives (articulate CSS NCDOT vision and follow it).
 - Many of the designs that DCHC has submitted to NCDOT for the design phase have come back outside the original scope and vision of DCHC. This complicates many aspects, including the Public Involvement process, for DCHC is unable to reflect the vision shared and agreed upon that it presented to the public. Therefore, we strongly recommend that NCDOT and DCHC work together collaboratively throughout the Design phase to ensure that each project reflects the original vision submitted by DCHC.
4. **NCDOT** should explore ways to make financial planning and forecasting issues (where the money goes) more transparent to MPOs.

- Financial planning has been somewhat of a mystery to the MPOs in understanding how funding determinations are made. Therefore we recommend that the process be more transparent and abide more by the 3C Process: Continuing, Collaborative, and Cooperative.

Commendations:

1. The **Triangle Region** is commended for its outstanding coordination and cooperative process.
 - The region (including, DCHC, NCDOT, CAMPO, and Triangle J COG, as well as FHWA, FTA, and NCTA shall be commended for its outstanding cooperation and coordination, primarily through the efforts of John Hodges-Copple of Triangle J Council of Governments for developing and monitoring the air quality conformity determination process.

Unified Planning Work Program

Unified Planning Work Programs (UPWPs) are designed to outline and discuss the planning priorities facing the MPO within a one-year planning period, regardless of funding sources. The UPWP should provide sufficient detail indicating who will perform the work, the schedule for completing it, and the end product. A secondary purpose of the Prospectus is to provide sufficient documentation of planning work tasks and the planning organization and procedures so that documentation is minimized in the required annual planning work program. The Prospectus for the DCHC MPO was adopted by the MPO on May 10, 2006. The lead planning agency (City of Durham, Transportation Division) solicits proposed planning tasks from the MPO member participants and either does the task for the member jurisdiction or makes Federal planning funds available to that jurisdiction to accomplish the work task itself. The DCHC MPO planning staff felt that the UPWP is addressing the area's planning priorities.

Long Range Transportation Plan

The LRTP is required to demonstrate the overall long-term goals for an MPO area's plans, forecasting 20-30 years ahead for transportation needs. Other aspects that are required regarding LRTPs are: projects should support the economic vitality of MPO area by enabling competitiveness, productivity, and efficiency; increase safety and security of the transportation system; increase mobility options available for people and the movement of goods and services; protect and enhance the environment and increase the quality of life of transportation users; enhance the integration and connectivity for people and freight; promote efficient system management and operations; and preserve and improve the existing transportation system.

There are several recommendations regarding the LRTP. The first encourages DCHC to address Safety, systems operations, and system preservation as stand-alone sections in the LRTP. Safety is not necessarily an effect of other considerations (more detail in the Safety section). The second recommendation is to have DCHC incorporate

additional measures that may be useful in identifying impacts. The third recommendation is to develop a system that would analyze investments to make sure that they are making the best decisions on project selection.

The fourth recommendation is in regards to life cycle costs. This recommendation is to address the need for fiscal constraint. NCDOT has provided financial forecasts for 15 years, but there needs to be a 20-year forecast for the MPO to be able to implement it correctly. The fifth recommendation refers to the new SAFETEA-LU regulations. SAFETEA-LU which was adopted February 14, 2007 and has an implementation date of July 1, 2007 requires that all LRTPs be SAFETEA-LU compliant before any amendments can be made. The final recommendation is to develop a Purpose and Need statement as an outgrowth of LRP Priority Projects. This should be developed cooperatively with DCHC to ensure that the scope of the project is clearly understood and agreed upon by all parties involved.

Recommendations:

1. **DCHC** should address Safety, systems operations, system preservation, and the State Highway Safety Plan in their LRTP.
 - The purpose is to encourage all of these areas as stand-alone factors that are individually addressed in the LRTP. For each section, discrete projects should be individually identified.
2. **DCHC** should incorporate additional measures that may be useful in identifying impacts, both positive and negative.
 - This recommendation is to encourage DCHC to expand its list of measures that it looks at in order to determine positive and negative impacts of project selection. This should also determine that your TIP is meeting the overall goal of your LRTP.
3. **DCHC** should be more systematic in performance measures and make sure investments are yielding the expected dividends.
 - There doesn't seem to be a tracking mechanism to track investments to ensure that they are successful endeavors. DCHC needs to develop a calibration system that would analyze investments to make sure that they are making the best decisions on project selection.
4. **NCDOT** and **DCHC** should use life-cycle costs for the LRTP as part of the decision making process.
 - DCHC shall estimate and more accurately assess the overall costs for the life of the project. Estimates tend to be low which gives the policy makers and the public a false sense that more projects can be let than is reasonable.
5. **DCHC** and **NCDOT** should update plans and processes to reflect SAFETEA-LU.

- DCHC shall demonstrate what new legislative changes are in effect or will be soon implemented (SAFETEA-LU).
6. **NCDOT** should develop a Purpose and Need (P/N) statement as an outgrowth of the LRP in cooperation with MPO's high priority projects.
- This recommendation stems from the varying and inconsistent Purpose and Needs statements. This recommendation's intent is for the State to build upon the training and workshops that FHWA has given and will give in the near future.

Transportation Improvement Program & Statewide Transportation Improvement Program

The current local 2006-2012 Transportation Improvement Program (TIP) was adopted by the MPO on September 12, 2005. That program was effective for the Federal fiscal year beginning October 1, 2005 for a period of two years. The projects in the local TIP are compatible with the STIP which also became effective on October 1, 2005 for a period of two years. The TIP and the STIP are currently in the process of being updated to be effective for a one-year period beginning October 1, 2007. Work has also begun to update the LRTP, LRP (State LRP), TIP, and STIP to be SAFETEA-LU compliant.

North Carolina State law requires the NCDOT to balance the program in accordance with a statewide equity formula. After this is complete the NCBOT (North Carolina Board of Transportation) releases a draft of the STIP for public review. Each MPO is provided an updated list of project schedules and costs from the previous STIP along with two additional years of projects added onto the end of the program. This information is intended to be used by the MPOs to update their local TIPs and to be used as the basis for negotiation of priorities for funding.

The transit portion of the STIP and TIP is updated through a slightly different process. Transportation Management Areas, like DCHC, receive an apportionment directly from the Federal transit Administration. NCDOT relies on the local area to submit project data proposing the use of these funds for inclusion in the STIP. The rest of an area's transit facility needs are met by application for transit discretionary funds. Because of the uncertainty of receiving discretionary funding, projects proposing the use of these funds are shown in the STIP as unfunded. If an area receives approval of a discretionary grant, the STIP is then revised.

There are two recommendations. The first recommendation is for DCHC to incorporate the statewide element of the STIP into the TIP. This element includes general funds for bicycle/pedestrian, transit, ITS, etc. These are sometimes unfunded projects but when the State has additional funding available, these "minor" projects will have funding available. If the MPO opts not to have this section in their TIP, they lose out on potentially funded projects. The second refers to the current Level of Service (LOS) standard that DCHC uses for all the facilities. While the LOS E DCHC uses may be

appropriate for one roadway facility, it may not be for all roadway facilities.

Recommendations:

1. **DCHC** should incorporate the statewide portion of the STIP into the TIP.
 - This recommendation is based on general funds that the State has for bicycle/pedestrian facilities, etc. If this section exists in the STIP without appearing in the TIP, then MPOs will lose out on this available funding. This source of funding is applies to many projects and only requires a generic line item description.
2. **DCHC** should incorporate locally funded projects into the TIP.
 - This recommendation is to ensure that there is a complete picture of projects occurring in the TIP. Without the inclusion of locally-funded projects, there is an unclear and incomplete vision for the metropolitan area.
3. **NCDOT** should give bicycle/pedestrian modes equal consideration in terms of funding, maintenance, and liability.
 - We recommend that NCDOT give equal priority to bicycle/pedestrian facilities in order to better reflect and represent the needs and visions of the MPOs.

Planning and Surface Transportation Funds

This is a general section that covers financing and Surface Transportation Program-Direct Apportionment (STP-DA), State Planning and Research (SPR) funds, and Planning (PL) funds. STP-DA funds provide flexible funding that may be used by MPOs for projects under 23 USC 303. SPR funds are the 2% of funds apportioned or allocated to a State DOT for activities authorized under 23 USC 505. PL funds are the 1.5% of funds authorized under 23 USC 104(f) to carry out the provisions under 23 USC 134. There is a recommendation related to this section but it is listed under the Transit section.

Freight and Congestion Management Systems

Freight looks to the efficient movement of services and goods. In the past, freight considerations have been lacking but with new SAFETEA-LU requirements, freight concerns and issues are being incorporated into the planning process. The one recommendation for freight is for DCHC to update their planning process to be SAFETEA-LU compliant. The first aspect to incorporate is integrating freight as a stand alone section in the LRTP. The second is to include the freight shippers and freight community into the planning process and include them on the stakeholder's list. The last subpart is to consider freight mobility as a project ranking criteria. This, as should Safety, be an individual ranking criterion, instead of assumed under other areas.

The Congestion Management System is a systematic process for defining what levels of

congestion are acceptable to the community.

There is one recommendation: DCHC should incorporate a freight element into their plan, the freight community into their planning process, and consider a freight ranking criteria for project selection. Freight is one of the fastest growing concerns in transportation planning. The national practice has not evaluated freight as a stand-alone process and we are beginning to feel the impacts that freight creates, yet without an avenue to accurately assess its impacts.

Recommendations:

1. **DCHC** should incorporate the following freight aspects into their planning process:
 - a. DCHC shall integrate freight as an integral part of the Plan.
 1. SAFETEA-LU requires that freight be an integral part of the LRTP. In order to be compliant, DCHC must demonstrate the importance of and efforts toward freight as a stand-alone process.
 - b. DCHC shall include the freight community into the planning process.
 1. As part of the compliance with SAFETEA-LU, DCHC shall include Resource Agencies early into the planning process. However, this recommendation is to ensure that the freight community is included in DCHC's planning process.
 - c. DCHC shall consider freight mobility in the project-ranking criteria.
 1. DCHC shall incorporate freight and its impact on transportation as a stand-alone factor in its project-ranking criteria.

Operations Management and Intelligent Transportation Systems

The DCHC MPO is working jointly with the NCDOT, CAMPO (Capital Area MPO) and private consultants and has developed a framework of ITS initiatives that will help reduce congestion and enhance safety. The initiatives include the installation of a new traffic control system in the area that will allow for regional coordination along interstate and other arterial routes. ITS transit initiatives being considered include automated vehicle locator, automated passenger counters, mobile data terminals, electronic fare collection, signal preemption, and passenger dispatch for paratransit service. Video surveillance of traffic and message boards to alert motorists of conditions in advance of slowdowns are already in place at a number of locations along the I-40 and I-85 corridors. The NCDOT has initiated a Statewide ITS Program consistent with the national ITS architecture. They are working with the MPOs as well as other areas of the State to consider available technologies and to listen to what area needs are.

The Durham County officials have a transportation demand management (TDM) plan aimed at reducing the number of single occupant vehicles (SOV) during rush hour and to encourage car pools, mass transit usage and telecommuting. MPO staff works with the businesses with at least 100 employees. Each company develops its own plan to reduce the number of single occupancy vehicle trips during rush hour and the number of

miles driven to and from work. Options to reduce SOV commuting could include incentives such as special car-pool parking, bus shelters, bicycle racks and showers, transit passes and telecommuting. The TDM measure is voluntary and is currently being considered by other areas in the region.

There is one recommendation that DCHC continue its implementation of ITS projects. ITS is one of the most cost-effective ways of reducing negative impacts brought on in non-Attainment areas. DCHC has already made strong efforts in this area and we urge them to continue in this arena.

Recommendation:

DCHC should continue to pursue the implementation of ITS projects.

- Upgrading Intelligent Transportation Systems (ITS) is one of the most efficient and effective ways of reducing negative impacts from Air Quality particulate matters (PM). We encourage DCHC to continue and build upon the strong efforts already put forth in developing and implementing ITS systems throughout the region.

Safety

In FY 2006 funds, SAEFTEA-LU elevated the Highway Safety Improvement Plan (HSIP) to a stand-alone core Federal-aid highway safety program. This change creates an agenda with a renewed call for data-driven, strategic highway safety programs focusing on results, and provides increased flexibility in State funding for safety. It expands the types of projects that can be defined as a highway safety improvement project by including non-infrastructure related activities such as safety conscious planning and selected public awareness, education, and enforcement activities. As part of the HSIP, State departments of transportation are to develop Strategic Highway Safety Plans (SHSPs) in consultation with other key State and local highway safety stakeholders. An SHSP is to be based on accurate and timely safety information systems, processes to analyze this information to identify highway safety problems and opportunities, and planning and implementation of a comprehensive set of countermeasures.

There is one corrective action. In the past, DCHC has addressed safety in terms of considering that it is part of all areas, rather than looking at it from a stand alone basis. This leads to assumptions that may be false and doesn't focus on whether safety has actually been addressed with project selection. Because of the magnitude and importance of safety, the corrective action is for DCHC to incorporate safety as a stand alone element in project prioritization, which should be weighted as well as routinely assessed to measure its effectiveness.

Corrective Actions:

1. **DCHC** shall incorporate Safety as a stand alone element in project prioritization.
 - The current process shows that DCHC assumes Safety as an abstract element which is automatically incorporated, yet does not have any

performance measures in place to evaluate the effectiveness and impacts on Safety.

Environment

The Environmental process maintains to closely monitor and limit the impacts on the community, the natural environment, and our health and welfare. Each project undergoes the National Environmental Policy Act (NEPA) process to evaluate impacts associated impacts. The Federal Highway Administration (FHWA) has identified three "Vital Few" priority areas to help focus the agency's activities: safety, congestion mitigation, and environmental stewardship & streamlining (ESS).

As a primary funding source for the MPO's transportation projects, it's important to ensure that the MPO is helping FHWA to achieve the ESS goals and objectives (<http://environment.fhwa.dot.gov/strmlng/vfovervw.asp>). The purposes of this recommendation are to: make the MPO aware of FHWA's Vital Few ESS priority area; ensure that the MPO considers the ESS goals and objectives in the decision-making process; and ensure that the MPO documents how their decisions assist FHWA in meeting the ESS goals and objectives.

There is one recommendation for DCHC to document how they are assisting in meeting FHWA's goals and objectives in environmental streamlining. The environmental process, until recently, has been largely separated from the planning process. However, in our efforts to streamline efforts, guidance has been implemented to involve environmental planning early on to save on time and money.

Recommendations:

1. **DCHC** should articulate how they are assisting in FHWA's environmental streamlining goals and objectives.
 - This should be a documented procedure of how DCHC utilizes environmental goals and objectives, improves upon them, and what the measures are that are used to ensure that these procedures are being improved upon.

Air Quality Planning

The DCHC MPO currently has a conforming 2030 LRTP and a 2006-2012 TIP. The USDOT transportation conformity determination was made on the DCHC 2030 LRTP on June 15, 2005 and the 2006-2012 TIP on November 14, 2005. The transportation conformity determination on the DCHC 2030 LRTP amendment and the 2007-2013 TIP is due by June 30, 2007.

The transportation conformity work on the DCHC 2030 LRTP amendment and the 2007-2013 TIP is currently underway. The Triangle Area has had 8 interagency consultation (IC) meetings that focused on the 2030 LRTP amendments, the 2007-2013 TIP, the transportation conformity schedule and tasks to be performed by Triangle Area MPOs

and the IC agency partners. The DCHC TAC is expected to endorse the 2030 LRTP amendments, the 2007-2013 TIP and the associated transportation conformity determination on May 9, 2007.

Work is underway on the DCHC 2035 LRTP update that is due by June 15, 2009. The travel demand model platform is changing from TRANPLAN to TransCAD. It is expected that TransCAD will be used for the 2035 LRTP update. The latest planning assumptions (LPAs) are currently being revised. The household/employment, traffic count, and population will come from 2005 data. The transit ridership counts will come from 2005/2006 data and parking information will come from 2006 data. It is expected that the DCHC MPO TAC will approve the LPAs in August 2007.

There was one recommendation which is to ensure that there will not be a conformity lapse in future updates. The DCHC MPO should continue their efforts on completing the transportation conformity work on the 2030 LRTP amendments and the 2007-2013 TIP by June 30, 2007. The DCHC MPO will also need to focus on the work and task deadlines associated with the 2035 LRTP update along with the transportation conformity process to ensure that the work is completed by June 15, 2009.

The DCHC MPO asked a question about the latest CMAQ rescission and how it will impact the current CMAQ program. For the FY 2007 rescission which totaled approximately 97 million the NCDOT took 20 million dollars from the CMAQ program. It anticipated that this rescission will not impact the currently programmed CMAQ projects.

There are two recommendations. The first is for DCHC to continue its path to complete TIP conformity. In the last review, DCHC had failed to meet the deadline, resulting in a conformity lapse. They have worked to create a better timeline for completing this process. This recommendation is to ensure that these efforts continue. The second recommendation is for FHWA to address the CMAQ questions DCHC has. FHWA will look into the rescissions and analyze how much of the CMAQ funding was eliminated from the NCDOT budget in order to make the overall rescission cuts.

Recommendations:

1. **DCHC** should continue its path to complete TIP conformity.
 - The DCHC MPO should continue their efforts on completing the transportation conformity work on the 2030 LRTP amendments and the 2007-2013 TIP by June 30, 2007. The DCHC MPO will also need to focus on the work and task deadlines associated with the 2035 LRTP update along with the transportation conformity process to ensure that the work is completed by June 15, 2009.
2. **FHWA** will examine CMAQ questions DCHC has.
 - For the FY 07 rescission which totaled approximately 97 million the NCDOT took 20 million dollars from the CMAQ program. It anticipated that

this rescission will not impact the currently programmed CMAQ projects hoop.

Transit

There are three public transit systems providing service in the DCHC area. These include Chapel Hill Transit (CHT), Durham Area Transit Authority (DATA) and the Triangle Transit Authority (TTA). The following provides a summary of each:

CHT

Chapel Hill Transit (CHT) began service in 1974 and serves the cities of Chapel Hill and Carrboro and the University of North Carolina at Chapel Hill (UNC). The system currently has 70 regular buses with 17 fixed routes providing “fare free” service. Following the beginning of the “fare free” feature in 2000, ridership greatly increased and has been growing at an annual rate of about 2-3% from 2005 to 2006. The CHT system reports 26,000 daily boardings and an estimated 6 million annual trips. The system operates fixed route service from 5am to 1am on weekdays with limited night and weekend service. Local and express service from park and ride lots and para-transit services are also provided. Chapel Hill, Carrboro, and UNC support the CHT system financially allowing the fare-free system to function, and also pursue land use and parking plans and policies that support transit oriented development (TOD). CHT also receives Federal 5307 funds. Reported CHT challenges include few choice and non-university riders, limited evening and weekend service, and no regional para-transit service beyond its service area.

DATA

Durham Area Transit Authority (DATA) has operated since 1991 and serves the city of Durham. DATA operates 39 buses and reports 14,000 daily boardings and more than 4 million annual trips with 19 fixed routes offered from 5 AM to 12 AM, 364 days a year. DATA offers free service for children 12 and under, seniors 65 and over, and reduced fares for school kids aged 13 to 17, disabled riders, and persons purchasing monthly passes. DATA also serves Duke University and its regional hospital and provides more than 350 para-transit trips per day and a subsidized taxi service for disabled riders. To improve para-transit service, DATA and TTA are working to start a regional call center to schedule a trip appointment. Plans also include a pro-rata cost sharing for para-transit trips between DATA and TTA (CHT is currently not planning to participate). For example, a disabled person from Chapel Hill trying to go to Duke University Hospital in Durham must change/switch services at the city limits or use TTA para-transit services. DATA has an Ambassador Program to solicit reports, ideas and input from a number of persons selected by application to provide quality assurance input and these individuals receive free passes for up to one year for their work and reports. DATA is supported by the city of Durham, the state, Federal 5307 funds and fare revenues. Reported challenges include ridership growth levels less than half of what was projected in its Transit Development Plan (TDP), local funding issues and levels, lower densities on some peripheral routes, and security issues.

TTA

The Triangle Transit Authority (TTA) was formed in 1989. TTA provides regional express bus service to the Research Triangle Park (RTP), Raleigh Durham Airport (RDU) area and to major employers, universities, and hospitals in the region. Peak hour regional and express service, vanpools, and shuttles are a major emphasis for TTA, and para-transit service is also provided. TTA operates 65 buses on 22 fixed routes (as well as 65 van pools and various shuttle routes) and reported about 1.2 million annual trips (including van pools) in 2006. TTA reports about 6% to 8% annual growth in bus ridership from 2005 to 2006 with van pool ridership growing at an impressive 18% annual increase. TTA is supported by three county governments including Orange, Wake and Durham counties, a rental car tax, vehicle registration fee, Federal 5307 funds, fare box revenues, as well as corporate sponsorships and government/employer agreements. TTA is also presently involved in a regional trip commute reduction program, a regional rideshare program administering a trip reduction ordinance which requires businesses employing 100 or more persons to develop plans and goals for their organization to reduce SOV trips, a methodology to improve regional modeling for transit with a migration to TransCad, a high capacity transit service study with CHT, corridor route reviews, and amenity and vehicle upgrades. TTA is involved in development of a fixed guideway transit (rail) project which is currently undergoing re-evaluation. Challenges for TTA include the future of its rail project, possible use of the car rental tax and vehicle registration fees for regional mobility and bus service, relatively low density service areas, land use patterns, length of the commute, and developing amenities to attract choice riders. Opportunities include leading possible Smart Card technology development and regional mobility choice options, and HOV and high capacity transit/BRT and transit corridor development.

Planning & Public Involvement

All three transit providers report regular involvement in the MPO's TCC meetings, regular and frequent MPO and transit meetings, a written sub-allocation agreement for Federal 5307 funds, public meetings and surveys on routes and service changes, LRTP and TIP formation, and data sharing and participation in a regional trip planner service via the internet at www.gotriangle.org. All three providers are involved in preparing/updating Transit Development Plans (TDP). In addition, all transit services are involved in Coordinated Mobility planning with human service providers, the MPO and the City of Durham as the designated recipient (JARC, New Freedom and United We Ride programs). CHT and TTA are involved with the regional Council of Governments (COG) on a high capacity transit study with a large 35 member stakeholder group. A high level of cooperation among the transit providers and the MPO appears to be evident.

Security

DATA has perhaps the most well developed security plan with local police, private security and on board cameras on buses and some training for drivers and personnel. CHT and TTA did not believe they were currently involved in a security training

program. TTA and CHT also have security plans but do not have cameras on buses.

CMAQ Funding

All three services reported an issue with uncertain CMAQ funding and a lack of follow through by NCDOT in programming CMAQ funds for bus replacement. The transit services reportedly use CMAQ funds for bus replacement. The uncertain status of the CMAQ program was a concern for them.

Non-DA STP Funding for Transportation Alternatives

Chapel Hill MPO representatives indicated they did not intend to accept additional highway projects in their city. As such, they intend to request non-STP funds for transportation alternatives to make up for any roadway funds they may not receive in the future due to their emphasis on alternatives. They indicated a keen interest in high capacity transit and Bus Rapid Transit (BRT) in key road corridors as an alternative to road widening.

There are three recommendations. The first recommendation is for DCHC and NCDOT to improve security planning, coordination, and training of transit facilities. This is due to the new SAFETEA-LU regulations that require increased security systems. This recommendation is for DCHC to assess how secure their transit systems are and to evaluate what areas need increased security measures. The second recommendation is for the transit operators to continue developing short-range transit operating and finance plans. This process helps to streamline transit planning and to lower the risk of determining needs that cannot be financially met. The third recommendation is for NCDOT to meet with high level MPO staff to discuss the possible uses of STP funds. North Carolina has an Equity Formula, which determines the allocated funds for each region. However, this process has not been clearly documented (it is currently undergoing examination from NCDOT), nor has NCDOT involved the MPOs in the decision making process regarding the possible uses of STP funds. This recommendation is to encourage the collaborative process in determining the uses of these funds.

There are also three commendations. The first commendation is to DCHC in its efforts in implementing a regional call center, cost-sharing, and being voted a Best Place Work Zone. TTA is supported by three county governments, a rental car tax, vehicle registration fee, Federal 5307 funds, fare box revenues, as well as corporate sponsorships and government/employer agreements. TTA is also presently involved in a regional trip commute reduction program, a regional rideshare program administering a trip reduction ordinance which requires businesses employing 100 or more persons to develop plans and goals for their organization to reduce SOV trips. Integrating transit options with the support of the Research Triangle Park (RTP) has awarded DCHC a Best Place Work Zone award.

The second commendation is to DCHC in their innovations as to providing transit options. DCHC is currently entertaining such cutting-edge techniques as Smart Card

technology development and regional mobility choice options, HOV and high capacity transit/BRT and transit corridor development. The third commendation is to Chapel Hill and Carrboro for zoning Transit Oriented Development (TOD) overlays in land use planning. The importance in integrating land use plans to promote proactive as opposed to reactive planning is a growing emphasis in transportation planning. Not only will this reduce costs and maintain that the TIP and STIP remain fiscally constrained, but is also helping to ensure that DCHC will maintain the priorities of transportation options for its constituents.

Recommendations:

1. **DCHC** and **NCDOT** should improve security planning, coordination, and training.
 - SAFETEA-LU requires that Security be considered as a separate planning factor in the planning process. Security mainly represents the safety and security be maintained for transit systems. We recommend at this point that DCHC assess its current security system for transit and determine ways to increase the security and safety of its transit systems.
2. All three of the **transit operators** in the area are encouraged to continue to develop short-range transit operating and financing plans that identify capital needs and the proposed funding sources.
 - The operators are encouraged to work closely with the DCHC MPO in the development of these plans and to have them endorsed by their local governing authorities.
3. **NCDOT** shall begin dialogue with high level MPO staff regarding the use of STP funds for alternatives or non-highway use for equitable distribution of funds.
 - This recommendation is based on the lack of communication between DCHC and NCDOT regarding the use of STP funds. In the past it has been unclear what the decision making process has been in determining what these funds are used for. However, we feel it necessary that high-level NCDOT and MPO staff shall meet and determine alternative funding uses of STP funds.

Commendations:

1. **DCHC** is commended for their transit efforts, including:
 - a. Regional Call Center
 - b. Cost-sharing
 - c. Best Work Place zone
2. **DCHC** is commended for their excellent efforts in innovative ways of providing transit opportunities.
 - DCHC provides a number of different options in transit for all of their areas. From CHT to DATA, to the RTP, DCHC is constantly updating and

looking for new ways of incorporating transit options at a low cost to the consumer.

3. **Chapel Hill** and **Carrboro** are commended on zoning Transit Oriented Development (TOD) overlays in land use planning.
 - Chapel Hill and Carrboro are looking at ways to ensure that land use development is based on a holistic vision that incorporates all of the public needs and plans early for the provision of transportation options.

Bicycle/Pedestrian Facilities and Safe Routes to School

The Bicycle/Pedestrian plan specifically outlines projects and goals toward movement of people using bike/ped facilities to increase multimodal opportunities for people. These facilities reflect both recreational as well as supplemental origin-destination paths.

There is one corrective action. This relates to the Safe Routes to School Coordinator position which has been vacant since fall 2006, and even then for only six months. The Safe Routes program is funded by FHWA and requires a full-time Coordinator. Since the site visit, NCDOT has hired a Safe Routes Coordinator but is strongly encouraged that this position remains filled.

Corrective Actions:

1. **NCDOT** shall appoint a full-time Safe Routes to School Coordinator.
 - Safe Routes to School is a fully funded program under FHWA that allocates funds directly to State projects that encourage safety regarding bicycle/pedestrian projects in and around K-8 schools within a two-mile radius. The Coordinator's position was initially vacant for nearly two years with a Coordinator established for a brief six-month period. This position was vacant for nearly a year and finally filled in May 2007. As a result, the program and system for project applications and distribution has not been developed.

Land Use and Economic Development

The only concern expressed during the review dealt with the difficulty of implementing and maintaining local land use plans which is not part of the Memorandum of Understanding (MOU). Therefore the current MOU should serve for the foreseeable future.

There is one recommendation for DCHC to provide updated data and information regarding land use changes. This is to ensure that the MPOs and the State DOT have the most up-to-date information regarding land use planning. This will help us to plan proactively instead of reactively.

Recommendations:

1. **DCHC** should assist NCDOT with modeling land use changes associated with

project alternatives on an as-needed basis.

- DCHC shall work cooperatively with NCDOT to ensure that they have the most up-to-date information and data as it pertains to land use planning and that land use plans correlate.

Title VI of the Civil Rights Act/Environmental Justice (EJ)

The appropriate time to ensure an MPO's compliance with Executive Order 12898 and Title VI is during the planning certification review. The following is a discussion of DCHC's demographic profile as well as its strategies to address Environmental Justice (EJ) in its planning and public involvement processes. It should first be noted that DCHC is in the process of developing its comprehensive Environmental Justice plan, in addition to updating its LRTP.

The existing demographic profile is based on several sources of information. The primary source of information is the Census CTPP (Census Transportation Planning Package) which uses Transportation Analysis Zones (TAZ) as the unit of geography. As part of the EJ plan update, DCHC will no longer use TAZs, but will instead use census block groups. Per DCHC staff, the reason for the switch is that the TAZs were found to be too small. DCHC feels that census block groups will provide for improved analyses. DCHC has also taken advantage of the American Community Survey as another source of information for its demographic profile.

To identify minority communities, DCHC uses a threshold of 50% of the population within a TAZ. DCHC is encouraged to ensure that the 50% threshold does not overlook those communities that are less than 50% minority but still in fact are cohesive, well-established communities. To identify low income communities, DCHC applies the county average as its threshold. Additionally, DCHC uses data on "mobility limitation" to assist with identifying handicapped and elderly populations, which is commendable. As a crosscheck to the data sources used to identify minority and low income populations, DCHC also references social services information and school system information. Additionally, personal knowledge of the MPO planning area is also very important.

DCHC has historically used two measures to assess benefits and burdens of its transportation system. The first is travel time. A ratio of 1:1.1 is used to compare non-minority and non-low income populations to minority and low income (MLI) populations. The second measure is "population within ½ mile of transit stops." As part of its EJ plan development, DCHC is encouraged to be creative and expand the number and types of measures it uses to analyze benefits and burdens of the transportation system.

DCHC has plotted past and current transportation projects against its demographic profile. To aid analysis of benefits and burdens, DCHC has started to create "buffer" areas around each project which denote where impacts of a project are likely to reach. For past and current projects, no significant impacts to MLI communities were found. Future projects (2035) will also be plotted against demographic information upon

completion of the LRTP update.

Regarding DCHC's planning process, Environmental Justice (EJ) will be addressed in several ways. The MPO shall include a policy statement as well as goals and objectives in its EJ plan. The MPO also addresses EJ in the development of its TIP. Ten ranking criteria are used for project selection, one of which takes into account impacts on minority and low income communities. Additionally, in an effort to identify the needs of minority and low income population, the MPO has conducted a travel behavior survey with an income category in the model.

DCHC's efforts at engaging minority and low income citizens in the public involvement process have been met with varied success. DCHC has found project level public involvement to be much more effective than public involvement tied to the planning process in general. While DCHC is careful to hold public meetings at locations and times that are "public" friendly, it was found that DCHC does not conduct regular and routine evaluations of its public involvement efforts.

The MPO maintains a "public involvement" database of citizens and organizations of which EJ is a subset. The MPO has also created a relationship with El Centro – the largest Hispanic group in the area. DCHC also coordinates with "Partners Against Crime." The MPO attends the Partners Against Crime meetings as necessary to share information and attends upon request.

One very noteworthy public involvement effort that the MPO carries out is in the transit area. DATA maintains a transit advisory group that includes transit riders. The transit riders that serve on the group receive a free bus pass for one year as an incentive. DATA uses a selection process to identify those transit riders who will server on the advisory group. DATA has found this practice to be very successful. There is more information about this under the Transit section.

DCHC specifically addresses environmental justice in its planning and public involvement processes. Additionally, DCHC needs to ensure that the environmental justice plan that it is currently developing is comprehensive.

There are two recommendations. The first recommendation is that DCHC explore additional measures for identifying transportation system benefits and burdens. The plan should also contain a documented public involvement evaluation process and incorporate the following elements: a policy statement; goals and objectives; a demographic profile; overlays of demographic information on defined past, future, and planned projects; measures for identifying burdens and benefits of the MPO's transportation system; an analysis of identified burdens and benefits; and public involvement strategies to engage minority and low-income populations (including Advisory Committee information).

The second recommendation is that DCHC should submit a draft of its EJ plan to FHWA

for review and comment. The plan is expected to be completed by the end of the 2007 calendar year. Consequently, DCHC's current demographic profile is somewhat outdated, and will be updated as part of its EJ plan development.

Recommendations:

1. **DCHC** shall incorporate the following elements into its Environmental Justice (EJ) Plan:
 - a. Policy statement
 - b. Goals and objectives
 - c. Demographic profile
 - d. Overlays of demographic information on defined past, future, and planned projects
 - e. Measures for identifying burdens and benefits of the MPO's transportation system
 - f. An analysis of identified burdens and benefits
 - g. Public involvement strategies to engage minority and low-income populations (including Advisory Committee information)

2. **DCHC** shall submit a draft of their EJ Plan to FHWA for review and comments.
 - The previous Certification Review included two Recommendations that continue to this Certification. One was to consolidate policies and procedures regarding Title VI and Environmental Justice into one document, and the other was to add additional minority groups to their public involvement mailing list.

Public Involvement

Public Involvement incorporates outreach and implementation of public comment and interaction. Several aspects need to be considered when evaluating the effectiveness of the Public Involvement Program: a Public Involvement Plan (PIP) which outlines the full public participation process, updating demographic and socioeconomic data, and means for implementing these procedures; and public involvement under Title VI/Environmental Justice. This section will continue into the public meeting because there are several comments made to support the Corrective Action and the Recommendation.

There are two corrective actions for DCHC to add several components to its PIP. This is a carry over from the previous review. The primary concern results from the series of comments we received regarding citizens feeling as though they had little voice in the planning process. However, the criteria listed below will address and ensure that citizens have a substantial role, and most importantly, that the public involvement process will be calibrated to continue to improve on the process. The second corrective action is a continuation from a recommendation made from the previous (2003) Certification Review. This is for DCHC to formally evaluate the effectiveness of its Public Involvement Program.

There are two corrective actions. The first corrective action is for DCHC to revise the PIP to include: the public and developers into the process; direct public efforts where needed; develop and document measures for the PIP; develop evaluation criteria; consider implementing an Advisory's Committee; and expand the list of visualization techniques. The last step (f) is a new SAFETEA-LU implementation, however the revision of the PIP is due to past Certification Reviews' recommendations and the slow progress made in this area. The second corrective action is to develop a formal evaluation process to measure the effectiveness and formally evaluate the public involvement program. Again, this has been a recommendation on past Certification Reviews and has been elevated to a corrective action.

Corrective Actions:

1. **DCHC** shall revise the Public Involvement Plan (PIP) to include:
 - a. Public and developers in the process
 - b. Direct public efforts where needed
 - c. Develop and document measures to develop the PIP
 - d. Develop evaluation criteria
 - e. Consider implementing a Citizen's Advisory Committee
 - f. Expand visualization techniques

2. **DCHC** shall formally evaluate the effectiveness of its Public Involvement Program.
 - The current PIP is lacking in the above mentioned areas and this formal evaluation will be publicly available to ensure that the process continues to improve.

Other Meetings and Conclusion

Public Meeting

The Federal review team scheduled and conducted the public meeting for the DCHC Certification Review on March 19, 2007. DCHC advertised the meeting which was an opportunity for the public to comment on the transportation planning process. The public meeting was conducted by the Federal review team. Two individuals attended and addressed the team, as well as several who emailed their comments.

Several of the comments were based on the East End Connector project, where these citizens felt that the majority opinion of the public was not considered, nor was information made available by the staff. There were also a few comments that said that DCHC did not adhere to Title VI. These concerns were addressed in the Public Involvement and Title VI/Environmental Justice sections of the report.

Technical Advisory Committee One-on-One Interviews

The DCHC MPO policy committee members were afforded the opportunity to meet with the Federal review team. Two members met with the review team and provided their comments. One concern was receiving financial information in a timely manner in order to provide the MPO adequate time for decision making. This issue was also addressed throughout the review. Other comments were also financially based, including expansion of funding use for non-highway projects, an outline of rescissions and what programs will receive what funding cuts, as well as a documented process needed for the Equity Formula. Other comments were bicycle/pedestrian related. One comment was project-related regarding a project that has dropped in priority continually. Another comment was made that ITS was the highest priority in the state and that the Transportation Board was not reflecting the needs of the community.

Follow Up

Joint FHWA/FTA actions on future products of the DCHC MPO's planning process, such as approval of the Unified Planning Work Program (UPWP), review of the LRTP update, TIP conformity determinations, and the planning finding on the STIP, will address the progress made in the corrective action noted above. As stated previously, the DCHC MPO urban transportation planning process is certified.

The following is the schedule for completion of corrective actions and recommendations:

Corrective Actions:

The corrective actions are divided into two sections, those for DCHC and those for NCDOT. The corrective actions appointed to DCHC will take longer to implement, therefore DCHC will be given two years from the Certification Review submittal date (approximately June 30, 2007) to provide documentation demonstrating they have fully addressed the corrective action. The corrective actions appointed to NCDOT will require a status report within six months. As of the Certification submittal date, one of NCDOT's corrective actions has been addressed. However, it remains a part of the report to not only demonstrate the "snapshot in time" of the Certification Review, but to also ensure that the corrective action remains addressed.

Recommendations:

There will be a follow-up two years after the review submittal date (approximate date July 2009) to ensure that DCHC and NCDOT are following-up on the recommendations assigned to them.

List of Acronyms and Concepts

| | |
|-----|--|
| 3C | Continuing, Cooperative, and Coordinative consultation |
| ADA | Americans with Disabilities Act |
| AQ | Air Quality |
| BRT | Bus Rapid Transit |

| | |
|------------|--|
| CAMPO | Capital Area Metropolitan Planning Organization |
| CFR | Code of Federal Regulations |
| CHT | Chapel Hill Transit |
| CMAQ | Congestion Mitigation and Air Quality |
| CMP | Congestion Management Plan |
| CMS | Congestion Mitigation Systems |
| COG | Council of Governments |
| CSS | Context Sensitive Solutions |
| CTPP | Census Transportation Planning Package |
| DATA | Durham Area Transit Authority |
| DBE | Disadvantaged Business Enterprise |
| DCHC | Durham-Chapel Hill-Carrboro |
| EJ | Environmental Justice |
| ESS | Environmental Stewardship and Streamlining |
| FHWA | Federal Highway Administration |
| FTA | Federal Transit Administration |
| GIS | Geographical Information Systems |
| HSIP | Highway Safety Improvement Plan |
| ITS | Intelligent Transportation Systems |
| JARC | Job Access and Reverse Commute |
| K-8 | Kindergarten-Eighth grades |
| LOS | Level of Service |
| LPA | Latest Planning Assumptions |
| LRP | Long Range Plan (Statewide, also known simply as the Plan) |
| LRTP | Long-Range Transportation Plan (local or MPO level) |
| MAB | Metropolitan Area Boundary |
| MLI | Minority and Low-Income |
| MOU | Memorandum of Understanding |
| MPO | Metropolitan Planning Organization |
| NCDOT | North Carolina Department of Transportation |
| NCTA | North Carolina Turnpike Authority |
| NEPA | National Environmental Policy Act |
| PIP | Public Involvement Plan |
| PL | Planning funds |
| Plan | Statewide Long-Range Transportation Plan (also known as LRTP) |
| PM | Particulate Matter |
| P/N | Purpose and Need statement |
| RPO | Rural Planning Organization |
| RTP | Research Triangle Park |
| SAFETEA-LU | Safe, Accountable, Flexible, Efficient Transportation Equity Act, a Legacy for Users |
| SHSP | Strategic Highway Safety Plan |
| SPR | State Planning and Research funds |
| SOV | Single Occupancy Vehicle |
| STIP | Statewide Transportation Improvement Program |

| | |
|------------|---|
| STP | Surface Transportation Program funds |
| STP-DA | Surface Transportation Program-Direct Allocation funds |
| TAC | Transportation Advisory Committee |
| TAZ | Traffic Analysis Zones |
| TCC | Transportation Coordinating Committee |
| TDM | Travel Demand Management |
| TIP | Transportation Improvement Program |
| Title VI | Civil Rights Act of 1964 |
| TMA | Transportation management Area |
| TOD | Transit Oriented Development |
| TransCAD | New GIS software for Transportation planning modeling |
| TRANPLAN | Older version of software used for transportation planning modeling |
| Triangle J | A voluntary organization of counties and municipalities that address needs on a regional basis (looking at both CAMPO and DCHC MPO) |
| TTA | Triangle Transit Authority |
| UNC | University of North Carolina-Chapel Hill |
| UPWP | Unified Planning Work Program |
| USC | United States Code |
| USDOT | United States Department of Transportation |

Intelligent Transportation Systems (ITS) Strategic Deployment Plan Update for the Triangle Region

The North Carolina Department of Transportation (NCDOT), the Capital Area Metropolitan Planning Organization (CAMPO), and the Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO) are embarking on the update of the Triangle Regional ITS Strategic Deployment Plan (SDP) developed in 1999-2000.

SCOPE OF WORK

The primary objective of this project is to update the existing Triangle Regional Intelligent Transportation Systems Report developed in 1999-2000. The update of the Deployment Plan will be a cooperative effort among Triangle ITS Partners – DCHC MPO, CAMPO, NCDOT, FHWA, local government emergency management agencies, etc. The Consultant will work through the Triangle Regional ITS Partnership, a group of technical representatives from cities, counties, MPOs, NCDOT, transit operators, etc. The Consultant will perform all technical and other analyses necessary to complete the scope of work. The Consultant will receive general direction from the Project Team. The Consultant will use the most current versions of the National ITS Architecture, Turbo Architecture and Intelligent Transportation Systems Deployment Analysis System (IDAS) for this project.

Task Descriptions

Task 1 Update the ITS Program's Vision, Goals, and Objectives for the Triangle Region

The Consultant will utilize the original ITS Vision documents prepared by the Triangle Regional ITS Partnership and propose ITS objectives for each of the ten goals in the Vision. The Consultant will discuss each element of the Vision at the Kick-Off meeting and formulate updates to the document according to discussions in the meeting. The proposed objectives will include objectives related to how the ITS program can facilitate the transportation plans as adopted by the MPOs and NCDOT.

Deliverable: The Consultant will submit an updated ITS Vision documents that reflect the discussion in the Kick-Off meeting.

Task 2 Gap Assessment

At the working kick-off Meeting, the Consultant will present a summary of the existing and planned ITS deployments and will prepare a summary of the gaps between where the region currently stands in ITS deployment and where it wants to be. The Consultant will identify the desired objectives and what the minimum requirements are to achieve those objectives. The objectives will be derived from the ITS vision statement, the LRTP, CTP general plans, and other relevant transportation planning documents or studies.

Deliverable: Results of the Gap Assessment will be used as a basis for the architecture

update and will be summarized as a section of the SDP but will not be submitted as a separate deliverable. A draft of this section will be submitted for review and comment before outreach begins.

Task 3: Update Regional ITS Architecture and Develop Project ITS Architectures

The Consultant will use the most current versions of the Turbo Architecture and the National ITS Architecture for this task. The Consultant will evaluate the existing Triangle Regional Architecture created using Turbo Architecture version **1.0**. The Consultant will determine if there are any inaccuracies in the existing Regional Architecture and make necessary corrections, revisions and adjustments. The Consultant will expand the Regional Architecture based on all pertinent tasks outlined in the scope of work for this project.

Expand regional architecture and create project architectures.

Stakeholders – Identify and Input Stakeholders Information for the Regional and Project Architectures.

Inventory – The Consultant will update and develop a Regional Inventory. The Consultant will refine project sequencing for the recommended projects by classifying each project into short, medium and long-term timeframes, and identifying any dependencies that the projects may have on other projects or any “foundation systems” that need to be in place first. A timeline of 25 years (2035 horizon) will be used to be consistent with the DCHC and CAMPO LRTP timeline.

Services – Update the markets packages from the existing Regional ITS Architecture and develop new market packages based on the 85 market packages from the latest version of the National ITS Architecture.

Operational Concepts – Develop Operational Concept for a Regional ITS Architecture and project architectures defining each stakeholders current and future roles and responsibilities in the implementation and operation of the region’s transportation systems.

Requirements – Develop Functional Requirements to support tasks or activities (the “functions”) that are performed by each system in the inventory – documenting the share of the work that each system is required to do to provide the ITS services for a region or project.

Interfaces – Develop interfaces between the transportation system elements in the region or project.

Standards – Identify ITS Standards that will address interfaces between ITS elements in the Regional or Project ITS Architecture as identified in FHWA Rule 940.9(d)7 and FTA National ITS Architecture Policy Section 5.d.7.

Agreements – Identify agreements that need to be developed among different stakeholder agencies and organizations that are required to realize the integration shown in the Regional ITS Architecture or Project Architecture, and to provide project interoperability. This will include discussion of the major components of each agreement.

Deliverable: The Consultant will provide an electronic copy of the updated database containing the Regional and Project Architecture using the most current version of the Turbo Architecture software and expand regional architecture and create project architectures.

Task 4 Cost estimates of ITS Projects

The Consultant will develop cost a database, including capital and operation-maintenance cost. This task includes creating cost estimates of ITS elements or projects using the FHWA ITS cost database and cost information from NCDOT and other local sources, including unit cost and life cycle cost information.

Task 5 – Develop a Process for Maintaining the Regional Architecture

The Consultant will develop a process for maintaining the regional and project architecture using the Regional ITS Architecture Guidance document published by the US DOT National ITS Architecture Team.

Deliverable: The Consultant will provide a process including a timeline for updates and procedures.

Task 6 – Development of IDAS Modeling Tool

The consultant will create an IDAS Modeling Tool for the systematic implementation of IDAS. The consultant will use this tool to develop an IDAS Database for the Triangle Region of North Carolina using the latest version of IDAS and the Triangle Region Travel Demand Model (TRTDM). The consultant will evaluate measures of effectiveness of ITS strategies and projects using IDAS.

Deliverables: The consultant will provide a process for implementing IDAS which includes the necessary TDM output files and IDAS input files. The consultant will provide an electronic copy of the Triangle IDAS database for the chosen base year and selected future years. The consultant will provide a training course for 15-20 participants using exercises and illustrations from the Triangle Region IDAS database.

Task 7 – Mainstreaming / Integrating ITS into the MPO Planning Process

The Consultant will provide a strategy for implementing sections 450.208 -7(f) and 450.306 – 8(f) of the new FHWA Federal Register 23CFR Parts 450 and 500, and FTA 49 CFR Part 613 effective March 16, 2007. The FHWA issued 23 Code of Federal

Regulations (CFR), Parts 655 and 940, which require the development of regional ITS architectures and the application of a systems engineering process for the deployment of ITS.

Deliverable: Strategy for mainstreaming ITS into the LRTP/CTP to be included in the Strategic Deployment Plan will be supplied to the consultant by the TEAM. The consultant will work with the Team to refine this as necessary.

Task 8 Prepare Strategic Deployment Plan

The Consultant will assemble the documentation from the previous tasks and efforts to prepare the Strategic Deployment Plan. This document will include:

- ITS Vision
- Performance criteria/measures and results of MOEs
- Protocol for maintenance and update of Turbo Architecture and IDAS
- Projects grouped in short, medium, and long term timeframes
- Expected measurable benefits
- Systems Engineering for TIP (near term)
- Anticipated program capital costs and operations and maintenance costs
- Regional ITS Architecture
 - Scope of the architecture
 - Stakeholders
 - Inventory of systems
 - Customized market packages
 - Operational Concepts
 - Functional requirements
 - Standards identification

In addition to the document, the Triangle ITS update outputs will include the Turbo Architecture database and IDAS evaluation software. The Consultant will submit a compiled document in draft form and present the results to the project stakeholders for review. Comments will be received and revisions made and incorporated into the Final Triangle Strategic Deployment Plan .

1. Qualifications

Interested firms must meet the following qualifications and possess the expertise enumerated below:

- a. The firm(s) must have experience with development of ITS strategic deployment plans.

- b. The firm(s) must have demonstrated expertise with the latest version of IDAS and travel demand model calibration and validation procedure. Experience and familiarity with the Triangle Regional Model (TRM) will be helpful.
- c. Firm(s) must have direct and relevant experience working in the latest version of Turbo Architecture, particularly in the development and implementation of ITS Deployment Plans in Turbo Architecture.
- d. Firm(s) must have demonstrated expertise in the developing ITS measures of effectiveness, cost-benefit analysis and evaluation of ITS benefits, including air quality benefits of ITS projects.
- e. Firms must have ability to work with and coordinate with multiple agencies; NCDOT, CAMPO, DCHC MPO, etc.

Proposals will be reviewed using the following evaluation criteria (weights in parentheses):

- 1) Extensive experience, knowledge and familiarity in the development ITS Strategic Deployment Plan (10%).
- 2) Extensive and demonstrated experience in developing and implementing IDAS and Turbo Architecture (25%).
- 3) Firm's interest, understanding of all facets of the project scope and clear and concise responses to the scope of work (30%)
- 4) Identification of personnel who would actually work on the proposed ITS Strategic Deployment Plan Update, indicating educational background, experience, availability (including current workload) and ability of staff members in the firm assigned to this project to complete the project on the required schedule. (20%).
- 5) Proposed innovative strategies and schedule/timeline for accomplishing the project (15%).

Also responses should include recommended approach and schedule for accomplishing the tasks identified in the Scope of Work and include the following items:

- 1) *The firm's recent and past experience with similar kinds of projects including relevant project costs and reference contact with address and telephone number experience directly related to the scope of work.*
- 2) *Identification of personnel who would actually work on the ITS Strategic Deployment Plan at the regional level, indicating their education and experience.*

- 3) *Current workload and availability of such personnel in all required fields of expertise.*
- 4) *Workforce Statistics, including percent of minority and women staff members and compliance with Disadvantaged Business Enterprise (DBE).*

2. Documents Available for Review

- a. North Carolina Statewide ITS Strategic Deployment Plan – Triangle Regional Report.
- b. DCHC MPO and CAMPO 2030 LRT.
- c. Updated short-term and long-term regional ITS projects and needs
- d. NCDOT Transportation Plan and 2007-13 TIP
- e. Tables 3 and 6 updated

3. Proposal Format

The proposal shall not exceed 100 single-sided pages excluding cover sheet, table of contents, and index sheets. Resumes included with the proposal shall not exceed two single-sided pages per person listed in the organization chart.

Concise, responsive proposals include the following sections. Proposals shall be in 8 1/2” x 11” format.

3.1. *Transmittal letter* - not to exceed two pages, identifying name, address and telephone number of the principal person representing the firm, signed by a person authorized to execute an agreement with the County and listing all of the attachments to the proposal.

3.2. *Understanding of the Scope of Work* – Provide a detailed discussion of the services to be rendered. Include a discussion of deliverables and expected time of delivery of

each phase. Consultants are encouraged to explain in detail, their understanding of the scope of work and to identify any supplemental tasks deemed necessary to enhance the project or reduce the costs. The proposed Scope of Work should include a detailed work plan with tasks and an accompanying schedule. The Scope of Work may include suggestions for augmenting, streamlining, or clarifying the work effort. Firms are encouraged to be creative in preparing proposals that demonstrate the most effective means of accomplishing the objectives of the project.

3.3. Project Team – Include an organization chart for personnel to be used for the project showing the proposed principal-in-charge, project manger, and key staff. Provide a narrative description of the qualifications and experience of each key person along with their proposed responsibilities. A resume may be included for each person shown on the organization chart. If subconsultants or joint consultants are proposed, include a description of any relevant association with the proposed subconsultants, not to exceed one page each. Provide examples of past projects on which the lead firm has worked with each subconsultant. List the names, addresses, and telephone numbers of any proposed subconsultants or joint consultants. Provide a description of the team’s project management approach, including philosophy and approach to ensure effective communication with personnel from various agencies and entities that will be involved in the project. **The Consultant will notify the Project Manager, in writing, prior to any personnel changes from those specified in the Consultant’s original approved proposal. Any personnel substitutions are subject to review and approval of the Project Manager.**

3.4 Project Schedule – Provide a detailed schedule for the completion of the services required for the project. Provide a timeline chart outlining the days required to complete each task as outlined in the proposal for this project. Show critical path elements of the project and discuss any constraints in meeting the desired deadlines.

3.5. Statement of Qualifications – Provide a description of the firm and its expertise, including identification of the firm's primary services, office locations, ability and capacity to do the work, and professional and support staff members. Include a brief history of the firm as well as descriptions of similar projects completed within past five years. Describe familiarity with the Regional ITS and NCDOT standards. Identify staff, including subconsultants and their responsibilities for example projects if they are proposed for assignment to this project. Provide references including names, addresses, and telephone numbers.

3.6. Contract Requirements – All proposals must contain a statement that the prospective consultant has reviewed the language and provisions contained within the Sample Contract attached hereto (Section 8.03).

3.7. Insurance Requirements – All proposals must contain a statement that liability limits shown in sample professional services contract will be met.

4. Fee Proposal – A fee proposal shall be included in the proposal under separate sealed cover. The fee proposal will be used as basis of negotiation for the Professional Services Contract with the highest ranking firm. If agreement is not reached with that firm, the next highest ranked firm may, at the discretion of the City (based on the recommendation of the Selection Committee), be given an opportunity to negotiate an agreement. The fee proposal shall include a current hourly rate schedule for the firm and any subconsultants to be used during the contract as well as the unit rates to be charged for all miscellaneous project-related services such as reproduction, delivery, etc. Rate schedules must include rates that will be effective through the entire term of the contract, which is anticipated to end in June 2008. Unloaded labor rates shall be shown with overhead and fee markups listed separately. In addition to the current hourly rate schedule, the fee proposal shall include a project estimate describing all costs and employee/subconsultant hours required to complete all tasks outlined under the Scope of Work.

5. Proposal Submittal and Inquiries

Twelve (12) hard copies and twenty (20) electronic or digital copies in CD format of the consultant's proposal shall be submitted by **12:00 noon on Friday, July ____, 2007**. Postmarks will not be accepted. All proposals shall be delivered to:

Felix Nwoko
 Transportation Division/DCHC MPO
 City of Durham
 101 City hall Plaza
 Durham, NC 27701

The proposals shall be sealed and clearly marked with the consultant's name and the description "Proposals for the Triangle Regional Intelligent Transportation System (ITS) Strategic Deployment Plan Update" on the outside of the envelope. The proposal shall be signed by an official authorized to bind the firm, and shall contain a statement to the effect that the proposal is valid for one hundred twenty (120) days. Proposals received incomplete or late, for any reason, will not be accepted. All proposals shall become the property of the City of Durham, NCDOT and the ITS Partners. Any questions or requests for additional information relating to proposals or the selection process must be made in writing to Felix Nwoko via facsimile at (919) 560-4561 or e-mail at felix.nwoko@durhamnc.gov before 5:00 p.m. on July ____, 2007. A non mandatory pre-proposal conference shall be held on July ____, 2007 in Durham City Hall (Transportation Conference Room -4th floor)

6. Conflict of Interest

Prospective consultants warrant and covenant that no official or employee of the City or ITS partners, NCDOT, CAMPO, City of Raleigh or any business entity with an official of the aforementioned agencies has an interest, has been employed or retained to solicit or aid in procuring of any resulting agreement, nor that any such person will be employed in the performance of such agreement without immediate

divulgence of such fact to the County. Each prospective consultant's proposal shall contain a statement to the effect that the consultant is not currently committed to another project that would constitute a conflicting interest with the projects defined in the RFP.

7. Modification or withdrawal of proposal

Any proposal received prior to the date and time specified above for receipt of proposals may be withdrawn or modified by written request of the prospective consultant. To be considered, the modification must be received in writing, and in the same number of copies as the original proposal, prior to the date and time specified above for receipt of proposals.

8. Rejection of Proposals

Prospective consultants interested in being considered must submit proposals in compliance with this RFP. Failure to meet the minimum requirements of this RFP shall be cause for rejection of the proposal. The Selection Committee may reject any proposal if it is conditional, incomplete, contains irregularities, or is deemed to be substandard.

9. Selection Process

Based upon the information provided by each consulting firm, the County will develop a ranked list of consultants. The proposals will be evaluated by the Selection Committee based upon criteria which may include the following:

- Quality of Response
- Relevant and direct experience with similar projects
- Familiarity with ITS Deployment plan design standards
- Record of performance
- Knowledge of regional transportation issues
- Relevant and direct experience of key team members
- Thoroughness, clarity, relevance and quality of the material presented
- Demonstrated ability to rapidly respond to changing conditions
- History of meeting schedules and budgets

9.1. Responsiveness of Proposals

All proposals shall be in writing and fully responsive to this RFP. Non-responsive proposals, or proposals found to be irregular or not in conformance with the requirements and instructions contained herein, will not be considered or evaluated. Other conditions that may lead to the selection committee's decision not to evaluate a proposal include lack of experience, expertise or adequate resources to perform the required work, and/or failure to perform or meet obligations on previous contracts.

9.2. Final selection

Selection of a consultant is typically based upon ranking of proposals. However, the Selection Committee reserves the right to request oral interviews with candidate firms prior to final selection. Once the City selects the top ranked firm, the City will negotiate the cost for services. In the event no agreement is reached on cost, the City may select the next highest ranked firm to negotiate a cost for services. This process may continue with successive candidate firms at the discretion of the City as recommended by the Selection Committee.

10. Contract Award

Response and selection for the project will not necessarily result in a contract with the City. Proposal opening and evaluation or analysis does not constitute awarding of a contract. Award of the contract will be made by the project manager. The contract is not in force until it is awarded and fully executed by the City of Durham.

11. Tentative Schedule

Please consider the following information in preparing your proposal. All dates are tentative except for the proposal submittal deadline.

| Item | Date |
|-------------------------------------|----------------------|
| Proposal Due Date | July _____, 2007 |
| Selection of Consultant | August _____, 2007 |
| Consultant Contract Documentation | September ____, 2007 |
| City Awards Consultant Contract/NTP | September ____, 2007 |
| Consultant Completes Project | June 30, 2008 |

**DURHAM-CHAPEL HILL-CARRBORO MPO
METHODOLOGY FOR RANKING
METROPOLITAN TRANSPORTATION IMPROVEMENT PROGRAM
PRIORITY PROJECT REQUESTS (FY 2009-2015)**

INTRODUCTION

The purpose of the Regional Priority List is to facilitate determination of the region's project priorities to be used in development of a fiscally constrained Transportation Improvement Program (TIP). SAFETEA-LU calls for a TIP development process that documents a methodology for ranking project requests, reflects local and metropolitan goals, and addresses mobility, environmental and air quality goals.

OBJECTIVE

The methodology outlined below is designed to address multi-modal transportation needs and to ensure regional balance through the use of specific technical criteria. The Technical Coordinating Committee (TCC) will use the methodology to develop a draft Regional Priority List. This draft Priority List is to be used as a starting point or a reference base by the Transportation Advisory Committee (TAC) for the approval of a final Regional Priority List.

The TAC may reorder projects at its discretion to promote jurisdictional and geographical balance, or based upon the TAC members' knowledge of the urban area and the policies of their communities.

Therefore, the TCC will make its technical recommendation on a draft Priority List based on the methodology described in this document, and the TAC will then be afforded the opportunity to make any changes it deems appropriate.

METHODOLOGY GOALS

- Produce a program of projects (or project priorities) which satisfies MPO, local and state goals, and addresses SAFETEA-LU policies of system preservation, operational efficiency in the movement of people and goods, multi/inter-modalism, and air quality mandates.
- Be simple enough for project-level analysis without requiring unnecessary data collection.
- Be understandable by the general public.

PROCEDURE FOR RANKING PROJECTS

1. Goal Setting For Regional Priority List

Since the Regional Priority List should be a subset of the DCHC MPO Long Range Transportation Plan (LRTP), the goals for the regional priority list are the same as the DCHC MPO goals and objectives in the 2030 LRTP.

2. Ranking Criteria

The screening criteria for project ranking fall into four broad groups:

- a. Regional Goals - How well does the project meet the adopted regional goals? Is the project an element of the current long-range plan? Does it implement community objectives (for the intrastate system, does it meet NCDOT mobility objectives)? Does the project have a broad base of local support?
- b. Cost Effectiveness - How much benefit does the project offer compared to the estimated cost?
- c. Timing Factor - Is timing a critical element for the project (one-time opportunity)? Will the opportunity to do the project be lost if it is not in the current priority cycle?
- d. Specific Project Merits - How many points does a project receive using scoring criteria?

APPLICATION OF THE METHODOLOGY

1. There are three separate ranking methodologies based on the primary mode of transportation: 1) highway; 2) bicycle and pedestrian; and 3) transit. ITS, TSM, and TDM projects would be included in whichever mode best fits the specific project. The three ranking methodologies are independent of each other. Points for different modes are on different scales and are not comparable.
2. Local jurisdictions may elect to use the ranking methodology to create their local priority lists but are not required to do so. When the local priority lists are submitted to the MPO, local jurisdictions are requested to provide project information and, in some cases, award points in categories. Some point categories can only be applied by the MPO once all projects have been submitted and evaluated.
3. The TCC first examines the consistency in which local jurisdictions have responded to the project criteria. If the criteria are not applied consistently, the TCC can agree to change some criteria responses for consistency among all projects.
4. Project criteria points are weighted and totaled for each project request using the three modal ranking methodologies outlined on pages 7 through 10 of this document.
3. Projects receiving the same number of project criteria points are ordered by the local ranking. If the local ranking is also the same (for example, Orange-1 vs. Chapel Hill-1), then the project with the most additional local rankings will be ranked higher. If the projects also have the same number of additional local rankings, then the project with the highest additional local ranking will be ranked higher.
4. The draft Regional Priority List will consist of three modal priority lists: 1) highway; 2) bicycle and pedestrian; and 3) transit. Projects with the highest number of project criteria points are selected first – taking into consideration local priority rankings, geographical balance, and a mixture of project types.
5. The draft Regional Priority List is then forwarded to the TAC, as the TCC's recommended project priorities for the urban area.
6. The TAC will use the draft Regional Priority List as a starting point for the creation of the final Regional Priority List. The TAC may wish to combine the three modal lists into one comprehensive list. If this is done, it is important to note that the points are not comparable across different modes.

MODAL RANKING METHODOLOGIES IN DETAIL

Highway

All seven point categories are weighted equally. A maximum of four points can be received for each point category. After roadway projects are ranked, the projects will be sorted by estimated cost into two lists so that high cost and low cost projects can be considered separately.

1. *Travel Demand* - This category awards points to projects based on the level of travel demand. For road projects, travel demand is measured by the volume to capacity (V/C) ratio. For new road facilities in which traffic counts are not available, volumes on a parallel existing facility may be used. Projects must have a V/C ratio of at least 0.80 to receive points. All projects with a V/C greater than 0.80 will be divided equally into four quartiles based on V/C ratio. Assigning points by quartile will ensure that points are distributed evenly and that projects are compared relative to each other. Traffic signal systems, Intelligent Transportation Systems (ITS), and Transportation Demand Management (TDM) projects receive four points because these projects reduce congestion system-wide.

Local jurisdictions are asked to provide the V/C ratio for their local priorities. MPO staff will divide the projects into quartiles and award points.

2. *Safety (Accidents/100 Million Vehicle Miles)* - Safety points are awarded to projects with reported accident rates significantly greater than statewide averages for urban road segments – the statewide average is 330 to 370 accidents per 100 million vehicle miles (or, 330-370 ACC/100 MVM). Projects must have an accident rate of at least 300 ACC/100 MVM to receive points. All projects with an accident rate of at least 300 ACC/100 MVM will be divided equally into four quartiles based on accident rate. Assigning points by quartile will ensure that points are distributed evenly and that projects are compared relative to each other. Traffic signal systems, Intelligent Transportation Systems (ITS), and Transportation Demand Management (TDM) projects receive four points because these projects improve safety system-wide.

Local jurisdictions are asked to provide the accident rate for their local priorities. MPO staff will divide the projects into quartiles and award points.

3. *Environmental Impacts – natural environment* - Points are awarded based on the impact on wetlands, streams, wildlife habitat, parks, and air quality.

The MPO will provide local jurisdictions a base map of environmental areas. Local jurisdictions are asked to apply the ranking methodology based on a GIS analysis.

4. *Community Impacts* – Points are awarded based on the impact on neighborhoods and communities.

Local jurisdictions are asked to apply the ranking methodology based on a GIS analysis.

5. *Environmental Justice*- Points are awarded based on the impact on low-income and minority populations. This item is designed to penalize projects that may have negative impacts on low income areas or federally recognized disadvantaged groups.

The MPO will provide local jurisdictions a base map that indicates which Transportation Analysis Zones have a high percentage of minority and low income populations. Local jurisdictions are asked to apply the ranking methodology based on a GIS analysis.

6. *Funding Status in the Transportation Improvement Program (TIP)* - Points are awarded to projects based on the percentage of the total project cost that is funded in the currently adopted Transportation Improvement Program (TIP), or if the project has postyear status in the TIP.

Local jurisdictions are asked to provide funding status and apply the ranking methodology.

7. *Benefits to Other Modes of Transportation* – Points are awarded to projects based on how they benefit other modes of transportation and project categories (carpool, transit, bicycle, pedestrian, ITS, and TDM). For example, a road widening that adds additional travel lanes, bicycle lanes, sidewalks, and bus pullouts would benefit 3 other modes.

Local jurisdictions are asked to describe the benefits and apply the ranking methodology.

Bicycle and Pedestrian

All eight point categories are weighted equally. A maximum of three points can be received for each point category.

1. *Street Classification* - This category awards points to projects based on the type of road the bicycle and pedestrian facility is provided on. Off-road greenways are based on the parallel or alternate roadways. More points are provided for higher classification facilities to reflect the safety hazard for bicyclists and pedestrians on larger busier roadways.

Local jurisdictions are asked to provide the street classification and apply the ranking methodology.

2. *Right-of-Way Availability* – This category awards points to projects based on the right-of-way available for the project. Right-of-way should be estimated based on the local jurisdiction's best knowledge of the area. Extensive research into property deeds is not required.

Local jurisdictions are asked to provide an estimate of right-of-way and apply the ranking methodology.

3. *Travel Demand* – This category awards points to projects based on the proximity to schools, colleges, major retail centers, transit stops, and major employment centers. The bicycle and pedestrian project travel demand worksheet will be used to assign interim points for each project. Projects will be divided equally into four quartiles based on the interim points. Final points will be assigned by quartile to ensure that points are distributed evenly and that projects are compared relative to each other.

The interim points are assigned using two different tables for bicycle/multi-use paths and pedestrian projects to reflect the different travel times and accessibility of the two modes. The numbers of land uses or amenities within the specified distance for the project are recorded on the worksheet. The worksheet multiplies the number of land uses by the appropriate points and total points are calculated by the worksheet. The land uses considered are schools (public or private elementary, middle, or high schools), colleges and universities, major retail centers (major as defined by the local jurisdiction), major employment centers (major as defined by the local jurisdiction), and transit stops (the number of posted transit stop signs, if a stop serves multiple bus routes the stop is NOT multiplied by the number of routes served).

Local jurisdictions are asked to provide the number of land uses served by the project in the travel demand worksheet. Local jurisdictions should list the schools, colleges, major retail centers, and major employment centers on the worksheet. MPO staff will divide the projects into quartiles and award final points.

4. *Environmental Impacts – natural environment* - Points are awarded based on the impact on wetlands, streams, wildlife habitat, parks, and air quality.

The MPO will provide local jurisdictions a base map of environmental areas. Local jurisdictions are asked to apply the ranking methodology based on a GIS analysis.

5. *Community Impacts* – Points are awarded based on the impact on neighborhoods and communities.

Local jurisdictions are asked to apply the ranking methodology based on a GIS analysis.

6. *Environmental Justice* - Points are awarded based on the impact on low-income and minority populations. This item is designed to reward projects that may have positive impacts on low income areas or federally recognized disadvantaged groups. Most bicycle and pedestrian projects directly benefit neighborhoods by increasing accessibility and safety. If negative impacts are expected, the project will not receive points.

The MPO will provide local jurisdictions a base map that indicates which Transportation Analysis Zones have a high percentage of minority and low income populations. Local jurisdictions are asked to apply the ranking methodology based on a GIS analysis.

7. *Connectivity to Existing Bicycle and Pedestrian Facilities* - Points are awarded based on if projects connect to existing bicycle and pedestrian facilities. This will reward projects that extend the existing bicycle and pedestrian network.

Local jurisdictions are asked to provide a list of facilities that the project will connect to and apply the ranking methodology.

8. *Funding Status in the Transportation Improvement Program (TIP)* - Points are awarded to projects based on the percentage of the total project cost that is funded in the currently adopted Transportation Improvement Program (TIP), or if the project has postyear status in the TIP.

Local jurisdictions are asked to provide funding status and apply the ranking methodology.

Transit

Transit projects are awarded points based on seven categories. A maximum of four points can be received for each point category. Essential services is weighted double the other point categories. Most projects will not receive points in every category because transit projects often have specific purposes. After transit projects are ranked, the projects will be sorted into two lists for short- and long-term needs. These lists should correspond to what is shown as funded (short-term) and unfunded (long-term) in the TIP.

1. *Expansion of Existing Routes* - Projects that expand existing routes are awarded points based on travel demand on the existing route as is measured by the vehicle crowding or load factor. The

load factor is the average number of riders per vehicle capacity. Projects will be divided equally into four quartiles based on the load factor. Final points will be assigned by quartile to ensure that points are distributed evenly and that projects are compared relative to each other.

Local jurisdictions are asked to provide the load factor. MPO staff will divide the projects into quartiles and award points.

2. *Regional Connectivity* – Projects receive points based on the number of connections to other transit systems. The transit systems considered are: DATA, Chapel Hill Transit, TTA, Orange Public Transit, Duke University Transit, Chatham Transit Network (must connect in Chatham County), and Capital Area Transit (CAT). These are the fixed route systems in the MPO with the exception of the Chatham Transit Network because Chatham County does not have a fixed route service.

Local jurisdictions are asked to apply the ranking methodology.

3. *Essential Services* – Projects receive points based on if the project provides funds to maintain the current level of transit service. This category will award points for maintenance projects and replacement vehicles. This point category is weighted double to reflect the importance of maintaining the existing system.

Local jurisdictions are asked to apply the ranking methodology.

4. *Enhancement of Existing Service of New Service* – Projects receive points based on the estimated increase in new riders. For new service, this should be based on surveys or other market research. For enhancements of existing service (bus shelters, ITS projects, etc.), this should be based on studies of similar projects. Jurisdictions are expected to document and justify their estimates. Projects will be divided equally into four quartiles based on the number of new riders. Final points will be assigned by quartile to ensure that points are distributed evenly and that projects are compared relative to each other.

Local jurisdictions are asked to provide the number of new riders anticipated. MPO staff will divide the projects into quartiles and award points.

5. *Funding Status in the Transportation Improvement Program (TIP)* - Points are awarded to projects based on the percentage of the total project cost that is funded in the currently adopted Transportation Improvement Program (TIP), or if the project has postyear status in the TIP.

Local jurisdictions are asked to provide funding status and apply the ranking methodology.

6. *Environmental Impacts – natural environment* - Points are awarded based on the impact on wetlands, streams, wildlife habitat, parks, and air quality.

The MPO will provide local jurisdictions a base map of environmental areas. Local jurisdictions are asked to apply the ranking methodology based on a GIS analysis.

7. *Community Impacts* – Points are awarded based on the impact on neighborhoods and communities.

Local jurisdictions are asked to apply the ranking methodology based on a GIS analysis.

OBSERVATIONS

The order of transit priorities could vary significantly from year to year if anticipated funding sources are reduced or eliminated by Congress.

- Mandates (e.g., the American's with Disabilities Act) may take precedence when programming projects from the Regional Priority List in the TIP.
- The fiscal constraints of programming projects in the TIP may result in the programming of less expensive, lower ranked projects.
- Some lower ranking projects may be implemented earlier than a higher ranked, large project due to the time constraints associated with a more complex project (i.e., major investment studies, preparing environmental documents, designing the project, right-of way acquisition, etc.).
- The significance of ranking more than 25 projects is minimal, at best due, to the availability of project funds.

ROADWAY

| | RANKING CRITERIA (MEASURES) | SCORE (points) | Category Weight |
|---|---|-----------------------|------------------------|
| 1 | <i>Travel Demand</i> | | 1 |
| | 2005 volume to capacity ratio (v/c) on existing or parallel roadway | | |
| | Traffic Signal System, TDM, ITS Projects | 4 | |
| | First quartile of ranked projects, v/c >0.80 | 4 | |
| | Second quartile of ranked projects, v/c >0.80 | 3 | |
| | Third quartile of ranked projects, v/c >0.80 | 2 | |
| | Fourth quartile of ranked projects, v/c >0.80 | 1 | |
| | v/c <= 0.80 | 0 | |
| 2 | <i>Safety</i> | | 1 |
| | Accident rate (accidents/100 million VMT) | | |
| | Traffic Signal System, TDM, ITS Projects | 4 | |
| | First quartile of ranked projects, Accident Rate >300 accidents/100 million VMT | 4 | |
| | Second quartile of ranked projects, Accident Rate >300 accidents/100 million VMT | 3 | |
| | Third quartile of ranked projects, Accident Rate >300 accidents/100 million VMT | 2 | |
| | Fourth quartile of ranked projects, Accident Rate >300 accidents/100 million VMT | 1 | |
| | Accident Rate <=300 accidents/100 million VMT | 0 | |
| 3 | <i>Environmental Impacts - natural environment</i> | | 1 |
| | Based air quality impacts and GIS analysis including wetlands, stream crossings, wildlife habitat, parks, etc. | | |
| | No negative or adverse impacts or positive impact | 4 | |
| | Low negative or adverse impacts | 3 | |
| | Medium negative or adverse impacts | 2 | |
| | Medium negative or adverse impacts - with meaningful mitigation | 1 | |
| | High negative or adverse impacts no mitigation | 0 | |
| 4 | <i>Community Impacts</i> | | 1 |
| | Based on GIS analysis including proximity to neighborhoods | | |
| | No negative or adverse impacts or positive impact | 4 | |
| | Low negative or adverse impacts | 3 | |
| | Medium negative or adverse impacts | 2 | |
| | Medium negative or adverse impacts - with meaningful mitigation | 1 | |
| | High negative or adverse impacts no mitigation | 0 | |
| 5 | <i>Environmental Justice</i> | | 1 |
| | Based on GIS analysis of low-income and minority areas (TAZ) | | |
| | Positive impact | 4 | |
| | No negative or adverse impacts | 3 | |
| | Low negative or adverse impacts | 2 | |
| | Medium negative or adverse impacts | 1 | |
| | High negative or adverse impacts | 0 | |
| 6 | <i>Funding Status in TIP</i> | | 1 |
| | Partially funded in current TIP cycle at least 25% of total cost (construction & ROW) | 4 | |
| | Partially funded in current TIP cycle at least 10% of total cost (construction & ROW) | 3 | |
| | Partially funded in current TIP cycle at least 5% of total cost (construction & ROW) | 2 | |
| | Partially funded in post year (construction & ROW) | 1 | |
| | Not programmed in TIP | 0 | |
| 7 | <i>Benefits to Other Modes of Transportation</i> | | 1 |
| | Carpool, transit, bike, pedestrian, ITS, TDM (all six modes) | 4 | |
| | Any 4 modes (Carpool, transit, bike, pedestrian, ITS, TDM) | 3 | |
| | Any 3 modes (Carpool, transit, bike, pedestrian, ITS, TDM) | 2 | |
| | Any 2 modes (Carpool, transit, bike, pedestrian, ITS, TDM) | 1 | |
| | Only one mode | 0 | |

BIKE/PED

| | RANKING CRITERIA (MEASURES) | SCORE (points) | Category Weight |
|---|---|-----------------------|------------------------|
| 1 | <i>Street Classification of Roadway or Parallel Roadway for Off-Road Facilities</i> | | 1 |
| | Arterial | 3 | |
| | Collector | 2 | |
| | Local | 1 | |
| 2 | <i>Right-of-Way Availability</i> | | 1 |
| | Adequate right-of-way available | 3 | |
| | Some right-of-way available | 2 | |
| | Much right-of-way needed | 1 | |
| | Major barriers to right-of-way acquisition | 0 | |
| 3 | <i>Travel Demand</i> | | 1 |
| | Based on proximity to schools, colleges, parks, major retail centers, transit, and major employment centers (see attached worksheet) | | |
| | First quartile of ranked projects | 3 | |
| | Second quartile of ranked projects | 2 | |
| | Third quartile of ranked projects | 1 | |
| | Fourth quartile of ranked projects | 0 | |
| 4 | <i>Environmental Impacts - natural environment</i> | | 1 |
| | Based air quality impacts and GIS analysis including wetlands, stream crossings, wildlife habitat, parks, etc. | | |
| | High positive impact | 3 | |
| | Medium positive impact | 2 | |
| | Low positive impact | 1 | |
| | Negative impact | 0 | |
| 5 | <i>Community Impacts</i> | | 1 |
| | Based on GIS analysis including proximity to neighborhoods | | |
| | High positive impact | 3 | |
| | Medium positive impact | 2 | |
| | Low positive impact | 1 | |
| | Negative impact | 0 | |
| 6 | <i>Environmental Justice</i> | | 1 |
| | Based on GIS analysis of low-income and minority areas (TAZ) | | |
| | High positive impact | 3 | |
| | Medium positive impact | 2 | |
| | Low positive impact | 1 | |
| | Negative impact | 0 | |
| 7 | <i>Connectivity to Existing Bicycle and Pedestrian Facilities</i> | | 1 |
| | Connects to 2 or more facilities | 3 | |
| | Connects to 1 facility | 2 | |
| | Does not connect to any facilities | 0 | |
| 8 | <i>Funding Status in TIP</i> | | 1 |
| | Partially funded in current TIP cycle at least 25% of total cost (construction & ROW) | 3 | |
| | Partially funded in current TIP cycle at least 10% of total cost (construction & ROW) | 2 | |
| | Partially funded in post year (construction & ROW) | 1 | |
| | Not programmed in TIP | 0 | |

BIKE/PED TRAVEL DEMAND WORKSHEET

For Bicycle Projects or Multi-Use Trails

A project will receive points based on its proximity to the following land uses:

| | | Proximity | | | | Total Points |
|--------------|--------------------------|-----------------|----------------|------------------|---------------|--------------|
| | | # within 1 mile | 2 points per # | # within 2 miles | 1 point per # | |
| Land Use | Schools | | 0 | | 0 | |
| | Colleges | | 0 | | 0 | |
| | Parks | | 0 | | 0 | |
| | Major Retail Centers | | 0 | | 0 | |
| | Major Employment Centers | | 0 | | 0 | |
| | Transit Stops | | 0 | | 0 | |
| Total | | | 0 | + | 0 | 0 |

For Pedestrian Projects

A project will receive points based on its proximity to the following land uses:

| | | Proximity | | | | Total Points |
|--------------|--------------------------|-------------------|----------------|-------------------|---------------|--------------|
| | | # within 1/4 mile | 2 points per # | # within 1/2 mile | 1 point per # | |
| Land Use | Schools | | 0 | | 0 | |
| | Colleges | | 0 | | 0 | |
| | Parks | | 0 | | 0 | |
| | Major Retail Centers | | 0 | | 0 | |
| | Major Employment Centers | | 0 | | 0 | |
| | Transit Stops | | 0 | | 0 | |
| Total | | | 0 | + | 0 | 0 |

Example Bicycle Project

| | | Proximity | | | | Total Points |
|--------------|--------------------------|-----------------|----------------|------------------|---------------|--------------|
| | | # within 1 mile | 2 points per # | # within 2 miles | 1 point per # | |
| Land Use | Schools | 2 | 4 | 1 | 1 | |
| | Colleges | 1 | 2 | 0 | 0 | |
| | Parks | 1 | 2 | 2 | 2 | |
| | Major Retail Centers | 0 | 0 | 1 | 1 | |
| | Major Employment Centers | 0 | 0 | 1 | 1 | |
| | Transit Stops | 5 | 10 | 15 | 15 | |
| Total | | | 18 | + | 20 | 38 |

Projects will be ranked by total points and categorized into quartiles.

The final points for this travel demand will be based on the quartile.

| | Points |
|------------------------------------|--------|
| First quartile of ranked projects | 3 |
| Second quartile of ranked projects | 2 |
| Third quartile of ranked projects | 1 |
| Fourth quartile of ranked projects | 0 |

TRANSIT

| | RANKING CRITERIA (MEASURES) | SCORE (points) | Category Weight |
|---|---|-----------------------|------------------------|
| 1 | <i>Expansion of Existing Routes</i> | | 1 |
| | Vehicle crowding (load factor) on a specific route (riders/vehicle capacity) | | |
| | First quartile of ranked projects | 4 | |
| | Second quartile of ranked projects | 3 | |
| | Third quartile of ranked projects | 2 | |
| | Fourth quartile of ranked projects | 1 | |
| 2 | <i>Regional Connectivity</i> | | 1 |
| | Connections to other transit systems | | |
| | Provides a connection between 5 or more transit systems | 4 | |
| | Provides a connection between 4 transit systems | 3 | |
| | Provides a connection between 3 transit systems | 2 | |
| | Provides a connection between 2 transit systems | 1 | |
| | Does not provide a connection | 0 | |
| 3 | <i>Essential Services (maintenance or replacement vehicles)</i> | | 2 |
| | Provides an essential service to maintain the current level of transit service | 4 | |
| | Does not provide an essential service | 0 | |
| 4 | <i>Enhancement of Existing Service or New Service</i> | | 1 |
| | Estimated number of new riders | | |
| | First quartile of ranked projects | 4 | |
| | Second quartile of ranked projects | 3 | |
| | Third quartile of ranked projects | 2 | |
| | Fourth quartile of ranked projects | 1 | |
| 5 | <i>Funding Status in TIP</i> | | 1 |
| | Partially funded in current TIP cycle at least 25% of total cost | 4 | |
| | Partially funded in current TIP cycle at least 10% of total cost | 3 | |
| | Partially funded in current TIP cycle at least 5% of total cost | 2 | |
| | Partially funded in post year | 1 | |
| | Not programmed in TIP | 0 | |
| 6 | <i>Environmental Impacts - natural environment</i> | | 1 |
| | Based air quality impacts and GIS analysis including wetlands, stream crossings, wildlife habitat, parks, etc. | | |
| | High positive impact | 4 | |
| | Medium positive impact | 3 | |
| | Low positive impact | 2 | |
| | Low negative impact | 1 | |
| | High Negative impact | 0 | |
| 7 | <i>Community Impacts</i> | | 1 |
| | Based on GIS analysis including proximity to neighborhoods | | |
| | High positive impact | 4 | |
| | Medium positive impact | 3 | |
| | Low positive impact | 2 | |
| | Low negative impact | 1 | |
| | High Negative impact | 0 | |

HIGHWAY PROJECT SUBMISSION FORM

**Durham-Chapel Hill-Carrboro Metropolitan Planning Organization
2009-2015 Transportation Improvement Program
Project Request Program**

Requesting Agency: _____ **Reg. Priority #:** _____

TIP Number (if applicable): _____ **Division:** _____

PROJECT INFORMATION

Project Title: _____

Project Description (Please include limits):

Project Justification:

Estimated Total Cost: _____
Construction: _____ **ROW Cost:** _____ **Planning/Design Cost:** _____

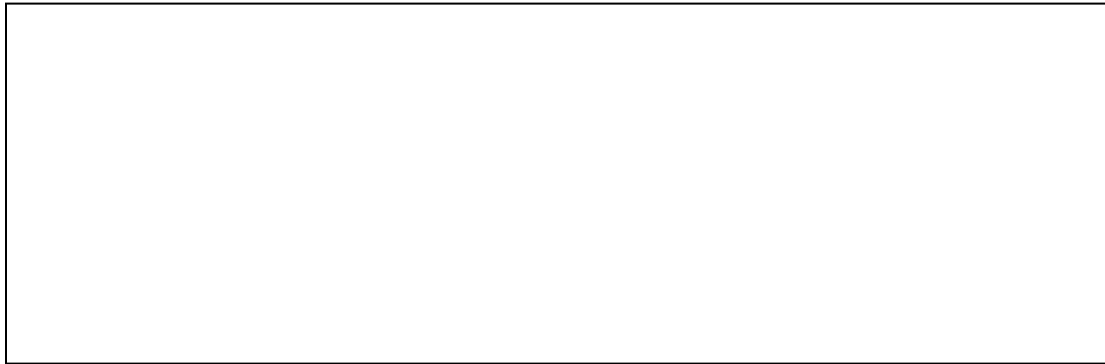
Project Length: _____

Relationship to LRTP or Other Local Plans:

Potential Funding Source(s):

____ NHS ____ STP ____ CMAQ ____ Other
____ STP-DA ____ Earmark ____ State ____ Local

*INSERT **Project Map** BELOW:*



CRITERIA/RANKING

Funding Status:

1. Travel Demand:

2005 volume to capacity ratio (v/c) on existing or parallel roadway

- Traffic Signal System, TDM ITS Projects _____
- First quartile or ranked projects, v/c >0.80 _____
- Second quartile of ranked projects, v/c >0.80 _____
- Third quartile or ranked projects, v/c >0.80 _____
- Fourth quartile or ranked projects, v/c >0.80 _____
- v/c <= 0.80 _____

2. Safety:

Accident rate (accidents/100 million VMT)

- Traffic Signal System, TMD, ITS Projects _____
- First quartile of ranked projects, Accident Rate > 300 accidents/100 million VMT _____
- Second quartile of ranked projects, Accident Rate > 300 accidents/100 million VMT _____
- Third quartile of ranked projects, Accident Rate > 300 accidents/100 million VMT _____
- Fourth quartile of ranked projects, Accident Rate > 300 accidents/100 million VMT _____
- Accident Rate <=300 accidents/ 100 million VMT _____

3. Environmental Impacts:

- No negative or adverse impacts or positive impact _____
- Low negative or adverse impacts _____
- Medium negative or adverse impacts _____
- Medium negative or adverse impacts-with meaningful mitigation _____
- High negative or adverse impacts no mitigation _____

4. Community Impacts:

- No negative or adverse impacts or positive impact _____
- Low negative or adverse impacts _____
- Medium negative or adverse impacts _____
- Medium negative or adverse impacts-with meaningful mitigation _____
- High negative or adverse impacts no mitigation _____

5. Environmental Justice Impacts:

Based on GIS analysis of low-income and minority areas (TAZ)

- Positive impact _____
- No negative or adverse impacts _____
- Low negative or adverse impacts _____
- Medium negative or adverse impacts _____
- High negative or adverse impacts _____

6. Benefits to Other Modes of Transportation:

- Carpool, transit, bike, pedestrian, ITS, TDM (all six modes) _____
- Any 4 modes _____
- Any 3 modes _____
- Any 2 modes _____
- Only 1 mode _____

7. Funding Status:

- Unfunded _____
- Partially funded:
 - _____ At least 25%
 - _____ At least 10%

Describe Mitigation (If applicable):

BICYCLE AND PEDESTRIAN PROJECT SUBMISSION FORM

**Durham-Chapel Hill-Carrboro Metropolitan Planning Organization
2009-2015 Transportation Improvement Program
Project Request Program**

Requesting Agency: _____ **Reg. Priority #:** _____

TIP Number (if applicable): _____ **Division:** _____

PROJECT INFORMATION

Project Title: _____

Project Description (Please include limits):

Project Justification:

Estimated Total Cost: _____
Construction: _____ **ROW Cost:** _____ **Planning/Design Cost:** _____

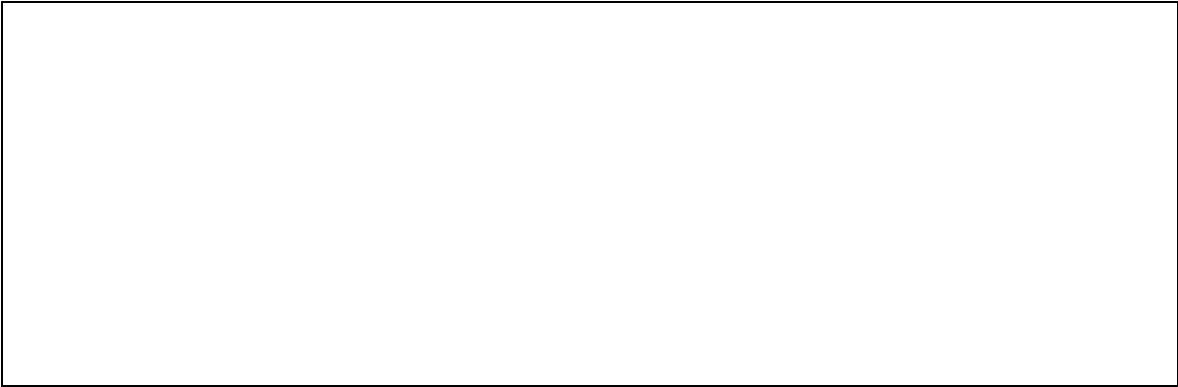
Project Length: _____

Relationship to LRTP or Other Local Plans:

Potential Funding Source(s):

_____ **STP** _____ **CMAQ** _____ **Other**
_____ **STP-DA** _____ **Earmark** _____ **State** _____ **Enhancement**

INSERT Project Map BELOW:



CRITERIA/RANKING

1. Street Classification of Roadway or Parallel Roadway for Off-Road Facilities:

Arterial _____
Collector _____
Local _____

2. Right-of-Way Availability:

Adequate right-of-way available _____
Some right-of-way available _____
Much right-of-way needed _____
Major barriers to right-of-way acquisition _____

3. Travel Demand:

Based on proximity to schools, colleges, parks, major retail centers, transit, and major employment center (See attached worksheet)
First quartile or ranked projects _____
Second quartile of ranked projects _____
Third quartile of ranked projects _____
Fourth quartile of ranked projects _____

4. Environmental Impacts:

High positive impacts _____
Medium positive impacts _____
Low positive impacts _____
Negative impacts _____

5. Community Impacts:

High positive impact _____
Medium positive impact _____
Low positive impact _____
Negative impact _____

6. Environmental Justice Impacts:

High positive impact _____
Medium positive impact _____
Low positive impact _____
Negative impact _____

7. Connectivity to Existing Bicycle and Pedestrian Facilities:

Connects to 2 or more facilities _____
Connects to 1 facility _____
Does not connect to any facilities _____

8. Funding Status:

Unfunded _____

Partially funded:
_____ At least 25%
_____ At least 10%

Travel Demand Points:
(See attached worksheet)

Describe Mitigation (If applicable):

BIKE/PED TRAVEL DEMAND WORKSHEET

For Bicycle Projects or Multi-Use Trails

A project will receive points based on its proximity to the following land uses:

| | | Proximity | | | | Total Points |
|--------------|--------------------------|-----------------|----------------|------------------|---------------|--------------|
| | | # within 1 mile | 2 points per # | # within 2 miles | 1 point per # | |
| Land Use | Schools | | 0 | | 0 | |
| | Colleges | | 0 | | 0 | |
| | Parks | | 0 | | 0 | |
| | Major Retail Centers | | 0 | | 0 | |
| | Major Employment Centers | | 0 | | 0 | |
| | Transit Stops | | 0 | | 0 | |
| Total | | | 0 | + | 0 | 0 |

For Pedestrian Projects

A project will receive points based on its proximity to the following land uses:

| | | Proximity | | | | Total Points |
|--------------|--------------------------|-------------------|----------------|-------------------|---------------|--------------|
| | | # within 1/4 mile | 2 points per # | # within 1/2 mile | 1 point per # | |
| Land Use | Schools | | 0 | | 0 | |
| | Colleges | | 0 | | 0 | |
| | Parks | | 0 | | 0 | |
| | Major Retail Centers | | 0 | | 0 | |
| | Major Employment Centers | | 0 | | 0 | |
| | Transit Stops | | 0 | | 0 | |
| Total | | | 0 | + | 0 | 0 |

Example Bicycle Project

| | | Proximity | | | | Total Points |
|--------------|--------------------------|-----------------|----------------|------------------|---------------|--------------|
| | | # within 1 mile | 2 points per # | # within 2 miles | 1 point per # | |
| Land Use | Schools | 2 | 4 | 1 | 1 | |
| | Colleges | 1 | 2 | 0 | 0 | |
| | Parks | 1 | 2 | 2 | 2 | |
| | Major Retail Centers | 0 | 0 | 1 | 1 | |
| | Major Employment Centers | 0 | 0 | 1 | 1 | |
| | Transit Stops | 5 | 10 | 15 | 15 | |
| Total | | | 18 | + | 20 | 38 |

Projects will be ranked by total points and categorized into quartiles.

The final points for this travel demand will be based on the quartile.

| | Points |
|------------------------------------|--------|
| First quartile of ranked projects | 3 |
| Second quartile of ranked projects | 2 |
| Third quartile of ranked projects | 1 |
| Fourth quartile of ranked projects | 0 |

TRANSIT PROJECT SUBMISSION FORM

**Durham-Chapel Hill-Carrboro Metropolitan Planning Organization
2009-2015 Transportation Improvement Program
Project Request Program**

Requesting Agency: _____ **Reg. Priority #:** _____

TIP Number (if applicable): _____ **Division:** _____

PROJECT INFORMATION

Project Title: _____

Project Description (Please include limits):

Project Justification:

Estimated Total Cost: _____ **Construction:** _____ **ROW Cost:** _____
Planning/Design Cost: _____

Project Length: _____

Relationship to LRTP or Other Local Plans:

Potential Funding Source(s):

_____ STP _____ CMAQ _____ Other
_____ Section 5309 _____ Section 5307 _____ State _____ Section 5340
_____ STP-DA

*INSERT **Project Map** BELOW:*

CRITERIA/RANKING

Load Factor:

Connectivity (How many transit systems will the service connect?):

| | |
|--|--|
| | |
| | |
| | |
| | |

Number of New Riders Anticipated:

Essential Service (Is this an essential service to maintain the current system?):

1. Funding Status:

| | |
|----------------|-------------------------|
| Unfunded _____ | Partially funded: _____ |
| | _____ At least 25% |
| | _____ At least 10% |

2. Environmental Impacts:

High positive impact _____
Medium positive impact _____
Low positive impact _____
Low negative impact _____
High negative impact _____

3. Community Impacts:

High positive impact _____
Medium positive impact _____
Low positive impact _____
Low negative impact _____
High negative impact _____

Describe Mitigation (If applicable):

MEMORANDUM

To: Transportation Advisory Committee (TAC)
DCHC MPO

From: DCHC MPO Lead Planning Agency

Date: June 13, 2007

Subject: **Lead Planning Agency (LPA) Staff Report**

This memorandum provides a summary status of tasks for projects in the FY 2006-2007 Unified Planning Work Program.

- ✓ Indicates that task is complete.
- Indicates that task is ongoing or not complete.

2006-07 Unified Planning Work Program (UPWP) Emphasis Projects

Long Range Transportation Plan (LRTP) / Comprehensive Transportation Plan (CTP) Update

- ✓ Draft schedule – August 2006
- ✓ Release SE Data for public comment – January 2007

There are two principal elements of the socio-economic data (SE Data) that is input into the Triangle Regional Model (TRM). The 2005 Base Year data collection of population and employment data has been completed. The 2035 Forecast for population and employment data has been drafted and the detailed process of checking the data has begun. TAC received a preliminary review of the SE Data at their November 8, 2006 meeting. The TAC received the draft SE Data at their January 10, 2007 meeting and released that information for a 42-day public comment period. A public hearing was held at the March 14, 2007 TAC meeting.

The efforts to reexamine the role of transit in the Triangle will affect the 2035 LRTP task to develop goals and objectives. The Transit Blueprint, the advisory committee and the public involvement effort to develop a transit vision are tasks that will need to be coordinated with the 2035 LRTP goals and objectives.

Transit On-Board Survey

- ✓ Consultant has been selected for the survey.

- ✓ Scoping and contract negotiations have been completed.
- ✓ Kick-off meeting August 8, 2006
- ✓ Survey completed
- ✓ Preliminary results reviewed by stakeholders
- ✓ Draft report released – comments provided to consultant
- Final report – completed

Travel Time Survey/Speed Study

- ✓ Consultant has been selected for the survey.
- ✓ Scoping and contract negotiations completed.
- ✓ Field reconnaissance and data collection – in progress.
- Survey in progress

GIS/Data Integration and Automation

- ✓ Issue RFQ – September 11, 2006
- ✓ Non-mandatory pre-proposal conference – September 25, 2006
- ✓ Receive written proposals – October 15, 2006
- ✓ Consultant short list by October 23-27, 2006
- ✓ Consultant short list interviews/references check and city issues Notice of Intent to Award a Contract by October 30-November 13, 2006
- Contract negotiation and scoping in progress
- Council approves contract – May 18, 2007
- City issues contract – June 2, 2007
- Notice to proceed – June 9, 2007

Land-use Model development

- ✓ Issue RFQ – August 7, 2006
- ✓ Pre-proposal conference – August 29, 2006
- ✓ Receive written proposals – September 8, 2006
- ✓ Consultant short list – September 13-22, 2006
- ✓ Consultant short list interviews/references check and City issues notice of intent to award a contract – September 25-29, 2006
- ✓ Contract negotiation and scoping completed
- ✓ Council approves contract March 5, 2007
- ✓ City issues contract – March 25, 2007
- ✓ Notice to proceed – March 25, 2007
- Study underway –completion December 2008

Non-Motorized Model development

- ✓ Issue RFQ – August 21, 2006
- ✓ Non-mandatory pre-proposal conference – September 6, 2006
- ✓ Receive written proposals – September 21, 2006
- ✓ Consultant short list – September 25-29, 2006
- ✓ Consultant short list interviews/references check and City issues notice of intent to award a contract – October 2-6, 2006
- ✓ Contract negotiation and scoping completed

- ✓ Council approves contract – March 5, 2007
- ✓ City issues contract – March 25, 2007
- ✓ Notice to proceed – March 25, 2007
- Study underway –completion December 2008

ITS Deployment Plan

- Two Triangle regional stakeholder coordination meetings held.
- ✓ Update of ITS short range strategies for the 2007-2013 TIP.
- Update of 2007-2010 ITS project – December 2006
- Update of the deployment plan including development of measures of effectiveness, IDAS, Turbo Architecture.

Farrington Road/Stagecoach Road Corridor Study

- This study would involve the following tasks:
 1. Data collection and analysis
 2. Traffic circulation plan (including a collector street system plan)
 3. Sub-area modeling analysis and forecast of future demand
 4. Alternative evaluation
 5. Recommendation

MPO Collector Street Plan

7-Year Transportation Demand Management Program

- ✓ Contract awarded to UrbanTrans Consultants – September 2006
- ✓ Kick-off meeting – October 23, 2006
- ✓ Stakeholder Involvement – November 30, 2006
- ✓ TDM Program Analysis – November 30, 2006
- ✓ Assessment of Local Growth Management Strategies – November 30, 2006
- ✓ Market Analysis – January 3, 2007
- ✓ TDM Investment Scenario Development and Analysis – February 2, 2007
- ✓ Draft Recommendations – February 28, 2007
- ✓ Final Report – April 30, 2007

Regional Transit Infrastructure Blueprint

- ✓ Establish and convene sponsors and partners teams, agree on detailed task list, responsibilities, products, begin infrastructure and corridor descriptions; begin investment principles - summer 2006
- ✓ Finish corridor and infrastructure descriptions; finalize principles fall 2006
- ✓ Begin land use, travel and cost analysis - winter 2006
- Finish land use, travel, cost analysis - spring 2007
- Conclude work, issue Blueprint, implement tracking mechanism - summer 2007

Chapel Hill/Carrboro/UNC Long Range Transit Plan

Coordinated Human Services Transportation Plan (JARC/New Freedom)

- ✓ Convene Project Planning Team – Completed by September 15
- ✓ Inventory of available human services transportation and public transportation - Completed by October 15
- ✓ Assess the transportation needs for individuals with disabilities, older adults, persons with limited incomes, and “reverse-commuters.” Identify what the current systems do well and what we need to do better. – First stakeholder meeting to be held November 1, Draft assessment to be completed by December 1
- ✓ Prioritize the gaps in service and the areas of redundant services. Identify key performance criteria for evaluating actions/strategies to address the priorities. - Stakeholder meeting to be held December 14
- ✓ Prepare a draft plan document. - Draft plan to be presented to TCC Transit/TDM Subcommittee and the TCC meetings in January
- ✓ Report on the stakeholder workshops and identified needs – January TCC/February TAC
- ✓ Final plan approved - February TCC/March TAC meeting

2005-06 Unified Planning Work Program (UPWP) Emphasis Projects – In Progress

Greenhouse Gas (GHG) Emission Inventory and Action Plan

- ✓ Execute contract and give consultant Notice-to-Proceed – March 2006 (delayed due to contract issues)
- ✓ Formation of Technical Committee finalized in February 2006.
- ✓ Formation of stakeholder committee (Advisory Committee) finalized in February 2006.
- ✓ Kick off meeting for the study held March 23, 2006
- ✓ Establish Project Team List serve in February 2006
- ✓ Base Year data Collection and Information Gathering to be completed in March-August 2006 (Durham – complete; Orange – in progress).
- ✓ Data Analysis and Projection likely to be completed in (Durham - August 2006; Orange - ?).
- ✓ Determine and quantify historic and existing measures likely to be completed in July-August 2006.
- ✓ Identify new measures to be completed in August 2006.
- ✓ Criteria Air Pollutant (CAP) Analysis anticipated to be completed in September 2006.
- ✓ Identify GHG target and model reduction targets anticipated to be completed in February-March 2006.
- ✓ Formulate Action Plan anticipated to be completed in March 2007.
- ✓ Recommend reduction targets, strategies and action plan anticipated to be done by March 2007.
- ✓ Draft Report March 2007.

- Final Plan anticipated to be finalized in June 2007.
- Durham Public Forum - June 21, 2007
- Plan Adoption (Durham City, Durham County, and TAC) anticipated occurring during the months of June 2006 and July 2007.
- The Orange County plan has been delayed several months beyond the Durham County plan.

Congestion Management System (CMS)/Mobility Report Card

- ✓ Consultants selected for the study.
- ✓ Data collection for the Mobility Report Card underway
- ✓ Data Collection for the Durham study about 60% complete.
- Data Collection and field inventory to be completed by spring 2007.
- Level of Service analysis anticipated to be completed by spring 2007.
- Development of CMS performance measures and guidelines likely to be completed in January 2007.
- Evaluation of congestion management strategies and development of cost-effective mitigation measures expected to be done by spring 2007.
- Draft CMS State of System Report likely to be done in summer 2007.
- Public Comment and local review in summer 2007.
- Adoption anticipated in summer/fall 2007.

Travel Demand Model Update – Model Revision to Incorporate FTA New Start enhancement

- ✓ Consultant has been selected to assist the Triangle Regional Model (TRM) Service Bureau at ITRE in the model update.
- ✓ Data collection is complete.
- ✓ Migration of model from Tranplan to TransCad has been completed.
- ✓ Phase 1 (TTA new start model revision) completed in October 2005.
- ✓ Phase II TTA New Start model conversion to TransCad to be completed in August 2006.
- Calibration of 2002 model in TransCad anticipated to be completed in December 2006.
- Validation of 2002 model against 2005 count data anticipated to be completed in November/December 2006

Unified Planning Work Program (UPWP) – Routine and Other Special Projects

MPO Environmental Justice (EJ) and Limited English Proficiency (LEP) Plan Integration

- Mandated by federal regulations
- Draft plan to be prepared in 2007.

Update of the MPO Public Involvement Policy

- ✓ Draft to be ready for August 2006 TAC meeting.

- ✓ Adopted – October 2006 TAC meeting

MPO Expansion for the next LRTP Update

- ✓ Initiated dialogue with Person County, Granville County, Butner, Roxboro and Pittsboro – July 2006
- ✓ Met with governing bodies of these jurisdictions – September 2006
- MPO expansion and revision of MOU expected to be completed as part of the 2035 LRTP update.

Public Outreach for the East End Connector Planning and Environmental Study

- ✓ LPA working on the Public Involvement and Outreach Program for the East End Connector Planning and Environmental Study (NEPA).
- ✓ Development of mailing list database complete.
- ✓ Received project schedule and time line from NCDOT.
- ✓ Newsletter distributed May 2006
- ✓ Speakers Bureau presentations June 2006 – ongoing
- ✓ First public meeting September 26, 2006
- ✓ Second public meeting – January 30, 2007

NCDOT PROJECTS UNDER CONSTRUCTION IN DURHAM COUNTY - 6/1/2007

| County | TIP # | Route | Location Description | Contract Amount | Length | Contractor Name | Resident Engineer | RE Ph. # | Contract Completion | Scheduled Progress | Actual Progress | Estimated Completion |
|---------------|-------------------|-----------------------------|---|------------------|--------------|------------------------------|-----------------------------|----------------|---------------------|--------------------|-----------------|----------------------|
| Durham, Wake | R-2906A/C | NC-55 | WIDENING OF NC-55 FROM NORTH OF US-64 IN WAKE COUNTY TO CORNWALLIS RD. | \$ 34,668,947.33 | 11.634 miles | Blythe Development Co | Phillip R. Johnson, PE, PLS | (919) 678-0444 | 06/01/2006 | 100% | 94.7% | 7/1/2007 |
| Durham | I-306C | I-85 | WIDENING OF I-85 FROM EAST OF COLE MILL RD TO WEST OF BROAD STREET. | \$ 66,628,382.65 | 3.416 km | Granite Construction Company | Aaron V. Earwood, PE | (919) 560-6857 | 12/31/2006 | 100% | 99.8% | 6/15/2007 |
| Durham | I-306DB | I-85 | WIDENING OF I-85 FROM WEST OF BROAD STREET TO WEST OF CAMDEN AVE. | \$ 73,297,064.77 | 4.093 km | Granite Construction Company | Aaron V. Earwood, PE | (919) 560-6857 | 12/31/2004 | 100% | 100% | 6/15/2007 |
| Durham, Wake | R-2000AB/AC | I-540 | CONSTRUCTION OF I-540 FROM RESEARCH TRIANGLE PARK EAST LIMITS TO I-40. | \$ 68,368,301.43 | 5.346 km | The Lane Construction Corp. | Phillip R. Johnson, PE, PLS | (919) 733-9499 | 08/01/2007 | 96.0% | 94.7% | 8/1/2007 |
| Durham | U-2055C/H/I | GARRETT ROAD | WIDENING GARRETT RD AT INTERSECTIONS OF TROTTER RIDGE, COLORADO, SWARTHMORE | \$ 743,997.00 | | Triangle Grading and Paving | Aaron V. Earwood, PE | (919) 560-6857 | 6/30/2007 | 40.0% | 20.0% | 6/30/2007 |
| DURHAM | I-3306BB | I-40 | I-40 FROM ORANGE COUNTY LINE TO NC-147, MILL AND FILL DESIGN BUILD | \$ 21,749,430.00 | 10.401 miles | The Lane Construction Corp. | Phillip R. Johnson, PE, PLS | (919) 733-9499 | 5/10/2008 | 14.0% | 12.4% | 5/10/2008 |
| DURHAM / WAKE | U-4026A/B 2904 | R DAVIS DRIVE / NC-54 | WIDENING OF DAVIS DRIVE FROM MORRISVILLE-CARPENTER ROAD TO NC 54, WIDENING OF NC-54 FROM DAVIS DRIVE TO MIAMI BLVD | \$ 35,467,891.08 | 6.363 miles | C C Mangum Company LLC | Phillip R. Johnson, PE, PLS | (919) 733-9499 | 11/1/2009 | 8.1% | 9.1% | 11/1/2009 |
| DURHAM | RESURFACING | PRIMARY | NC-54 FROM FALCONBRIDGE ROAD TO DRESDEN DRIVE | \$ 318,281.20 | 1.45 miles | Barnhill Contracting | Aaron V. Earwood, PE | (919) 560-6857 | | | | |
| DURHAM | RESURFACING | SECONDARY | 21 SECTIONS OF SECONDARY ROADS | \$ 2,795,584.75 | 18.9 miles | Barnhill Contracting | Bob Shultes | (919) 840-0914 | | | | |
| DURHAM | RESURFACING | PRIMARY | 5 SECTIONS OF US-15/501, 1 SECTION OF US-15/501 BYPASS, AND 1 SECTION OF NC-55 SB | \$ 920,361.66 | 5.16 miles | REA CONTRACTING LLC | Bob Shultes | (919) 840-0914 | | | | |
| DURHAM | U-4010 | NC 98 | WIDENING OF NC 98 (HOLLOWAY ST) FROM EAST OF US 70 TO EAST OF JUNCTION ROAD | \$ 3,288,207.30 | 0.369 miles | Triangle Grading and Paving | Bob Shultes | (919) 840-0914 | 6/15/2008 | | | |

NCDOT PROJECTS FOR LET NEXT 12 MONTHS IN DURHAM COUNTY - 6/1/2007

| County | TIP # | Route | Location Description | Contract Estimate | Length | Contact Engineer | Phone # | Contract Let Date |
|--------|-----------------------------|----------------|---|-------------------|-------------|----------------------|----------------|-------------------|
| DURHAM | U-4410DB | HOPSON ROAD | NEW ALIGNMENT OF HOPSON ROAD FROM NC-55 TO LOUIS STEPHENS DRIVE | \$ 3,800,000.00 | 0.587 miles | C. HAIRE | (919) 250-4016 | 7/17/2007 |
| DURHAM | B-3450 / U-4009 / U-4012 | GARRETT ROAD | TWO BRIDGES ON GARRETT RD; SERVICE ROAD NEAR US 15-501 AND GARRETT RD INTERSECTION; US 15-501 FROM NORTH MT. MORIAH RD SOUTH OF GARRETT RD | \$ 18,500,000.00 | 1.708 miles | C. HOUSER / J. MOORE | (919) 250-4016 | 7/17/2007 |
| DURHAM | B-3169 | RIVERMONT ROAD | BRIDGE 158 ON RIVERMONT ROAD | \$ 550,000.00 | 0.067 miles | J. MOORE | (919) 250-4016 | 1/15/2008 |
| DURHAM | B-4109 | PICKETT ROAD | BRIDGE OVER MUD CREEK | \$ 850,000.00 | 0.078 miles | D. TAYLOR | (919) 250-4016 | 5/20/2008 |

12 MONTH TENTATIVE LET LIST MAY BE FOUND ONLINE AT: <http://www.ncdot.org/planning/development/ProjectMgmt/12month/>

PROGRESS REPORTS MAY BE FOUND ONLINE AT: <https://apps.dot.state.nc.us/traffictravel/progloc/>

ACTIVE NCDOT PROJECTS LOCATED IN ORANGE COUNTY - DCHC WFO Attachment 13

| | | | | | |
|---------------|-------------------------|---|--|------------------|--|
| Orange | 31393 | NC 86 @ Cameron St. | Upgrade signal heads, replace existing pedestrian signal heads with countdown heads and install mast arms REVISION: Use existing poles in lieu of mast arms | 100,000.00 | Revised compl. 6/30/07 |
| Orange | US-3925 31914 | NC 86 @ Rosemary St. | Upgrade signal heads, install a protected/permitted left turn phase for NC 86 and install 2 metal strain poles REVISION: Mast arm to be used in lieu of metal strain poles | 85,000.00 | Rev. Compl. 10/31/07; foundation installation underway |
| Orange | U-4008 35009.3.2 | US 15-501 & SR1734 (Erwin Rd.) | Grading, drainage, paving and intersection improvements (Super Street) | 4,989,838.30 | Const. underway for completion 10/31/07 |
| Orange | 36945 | SR 1010 (Franklin St.) @ Mallette St. | Upgrade traffic signal and install pedestrian signal heads REVISION: Install mast arm | 110,000.00 | Rev. compl. 12/31/07 |
| Orange | 37708 | SR 1733 (Weaver Dairy Rd.) @ Sedgfield Dr. | Construct left turn lane | 150,000.00 | FA Construction by 7/31/07 |
| Orange | 40553 | SR 1777 (Homestead Rd.) | Widening for sidewalks and bikeways from SR 1834 (High School Road) to SR 1729 (Rogers Road) and a turn lane at SR 1834 | 650,000.00 | Barrett, Irvin & Jordan const. underway for completion by 8/17/07 |
| Orange | SS-4907A 40715.3 | NC 86 @ Cameron St. | Install pedestrian signal heads across the east side of Cameron St.; upgrade vehicular signal heads to 12" | 24,000.00 | UNC-CH has upgraded vehicular signal heads; phasing plan pending to compl. ped heads by 7/07 |
| Orange | SS-4907E 41026.3 | NC 54 @ SR 1952 (White Cross Road) | Construct a left turn lane | 173,000.00 | FA construction by 10/5/07 |
| Orange | 41059 | SR 1727 (Eubanks Rd.) @ SR 1725 (Millhouse Rd.) | Install a traffic signal | 30,000.00 | MA w/ Town of Chapel Hill; signal operational |
| Orange | 41096 | NC 54 @ SR 2016 (Southern Drive) | Construct a left turn lane on NC 54 westbound | 140,000.00 | Survey underway ; FA construction by 4/5/08 |
| Orange | 41290 | I-85 NBL | Extend the existing guardrail over SR 1713 (Mt. Herman Ch. Rd.) approximately 800 feet southward | 20,000.00 | Construction by 7/17/07 |
| Orange | 41291 | SR 1772 (Greensboro Street) and SR 1780 (Estes Drive) | Relocate pedestrian signals and push buttons | 20,000.00 | 100% complete |
| Orange | 41488 | US 15-501 @ SR 1900 (Old Mason Farm Road) | Extend the left turn lane on northbound US 15-501, revise the signal and add a right turn lane at SR 1900 | \$147,500 | FA const. by 10/08 |
| Orange | 41593 | Union Street | Construct 750 feet of sidewalk and a crosswalk to connect Hillsborough Elementary School to SR 1156 (Nash St.) | \$32,000 | B.O.T. approval 6/7/04 |

ACTIVE NCDOT PROJECTS LOCATED IN ORANGE COUNTY - DCHC WFO TC 01/07 Attachment 13

| | | | | | |
|--|-------------------|--|---|--------------|---|
| Orange | 41594 | SR 1010 (W. Main St.) @ NC 54 | Install pedestrian signal heads and crosswalk markings | \$40,000 | B.O.T. approval 6/7/04 |
| Orange | 7CR.10681.5 | Varied | Resurface 3 sections of US 15-501; 7 sections of NC 54; 1 section of NC 751 and 8 sections of secondary roads | | ST Wooten Corp. construction underway for compl. by 10/1/07 |
| Orange | SI-4807 40249.3.1 | SR 1548 (Schley Rd.) @ SR 1538 (New Sharon Church Rd.) | Install center islands with stop signs on SR 1538 | 60,000.00 | Plan revisions for FA const. -rev. compl. 10/07 |
| Orange/Chatham | R-0942CA | US 15-501 | Widen to multi-lane roadway from North of Co. line to South of SR 1994 (Culbreth Rd.) | 95,000.00 | Signal installed @ Dogwood Acres Dr.-waiting for power |
| NCDOT PROJECTS CURRENTLY IN 12 MONTH LETTING LIST | | | | | |
| County | TIP # | Route | Location Description | TIP Est. | Est. Let Date |
| Orange | I-4716 | I-40 | Grind and reseal joints on I-40 from I-85 to Durham Co. | 1,500,000.00 | Jan. 15, 2008 |
| Orange | SF-4907A 40740.1 | SR 1567 (Pleasant Green Rd.) @ SR 1569 (Cole Mill Rd.) | Improve sight distance | 25,000.00 | Project scope to be reviewed |
| | | | | | |
| | | | | | |

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Land costs threaten Triangle Expressway

Bruce Siceloff, Staff Writer

Hold the bubbly, turnpike lovers.

Research Triangle Park commuters might not win the dubious honor, after all, of becoming the first Tar Heels to pay for the privilege of driving to work.

The N.C. Turnpike Authority wants to start building its 18-mile Triangle Expressway in RTP and western Wake County this winter and to start collecting tolls by 2011. But this timetable depends on a lot of things going right.

So far, from the turnpike perspective, a big thing is going wrong.

The General Assembly is not warming to a request for \$18 million per year to cover the gap between Triangle Expressway project costs and the tolls drivers are likely to pay. There's no gap money in budget legislation that must be enacted before the new fiscal year starts in July.

Wall Street will lend us money to build a toll road, but only if it is sure the loan will be repaid in the next 35 years or so. If the legislature adjourns without pledging the gap money, the Triangle Expressway will be on hold until new financing can be worked out, says David W. Joyner, the turnpike authority director.

Maybe this delay would spark a champagne party among turnpike non-lovers. But it wouldn't help Triangle traffic problems.

Who'd be next in line for turnpike treatment? The 21-mile Monroe Connector/Bypass in Union and Mecklenburg counties, with construction to start in late 2009. There might not be a gap problem there; the state Department of Transportation previously set money aside when part of the Monroe project was planned as a toll-free road.

Joyner blames soaring land costs for the local turnpike gap. The cost of buying right-of-way for the Triangle Expressway, originally planned as a toll-free part of Raleigh's Outer Loop, was pegged at \$52 million in 2002 and at \$135 million in 2006, he said.

This year, after he saw the rising prices school officials were paying for western Wake real estate, Joyner asked appraisers and surveyors to update his right-of-way budget for the Triangle Expressway.

The new numbers arrived in his Glenwood Avenue office Friday: \$233 million, a \$98 million increase in the past year, to buy 732 acres not yet purchased by DOT or pledged by RTP's landlord, the Research Triangle Foundation.

The estimate works out to about \$225,000 an acre in average land values -- with 40 percent added for likely condemnation settlement, court and other costs.

Joyner did the math on his adding machine and gasped: In all, he would have to budget more than \$300,000 an acre. He doubted the results, called his chief financial officer to his desk, punched the numbers again and finally accepted the answer.

"God knows, that's stunning -- \$300,000 an acre in Apex, North Carolina," Joyner said. "We're trying to keep costs down, but it's an exploding area. Growth out there is tremendous, and that's one of the problems we've had with ever getting this project built in the first place."

The official Triangle Expressway cost, yet to be updated from a recent \$850 million estimate, includes about \$14 million a year for toll operations, maintenance and repaving in the coming decades. That's almost as much as the requested gap payment.

In 35 years or so, after toll collections ended and the expressway became a free DOT road, taxpayers would stop paying the gap money. They would start paying maintenance and repaving costs.

Joyner hasn't given up on the General Assembly.

Gap money probably would have to come from new revenues. The legislature will be hearing proposals this summer for bond issues and new local and state taxes to pay for more roads and other infrastructure needs. (A coalition called the Partnership for North Carolina's Future makes a pitch for these proposals online at www.ncfuturenow.org.)

One idea would boost the state's 3 percent highway use tax, collected on new car sales, to pay for more road needs -- including the turnpike funding gap.

Enlighten the Road Worrier with comments, questions or tips: bruce.siceloff@newsobserver.com or 829-4527. Please include name, address and daytime phone num

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Officials counter opposition to I-540 extension

By Ray Gronberg, The Herald-Sun
May 9, 2007 11:54 pm

Durham and Orange County officials joined forces Wednesday to block an attempt by Chapel Hill's mayor to begin the process of striking the planned southward extension of Interstate 540 from the area's long-range road plan.

Mayor Kevin Foy's complaints about the road, nicknamed the "Triangle Turnpike," centered on the possibility that the General Assembly might allocate \$18 million a year in "gap funding" for the project for the next 39 years.

The money -- \$702 million total in current dollars -- would cover the difference between the cost of building and operating a highway stretching from Interstate 40 south to Apex, and what the N.C. Turnpike Authority figures it can raise for the project through the years by charging motorists tolls to drive it.

Wake County legislators are pushing two bills in the General Assembly that would commit the state to supplying the money. But Foy said if the state is going to pony up that kind of cash, it should use it on projects like a transit line between the downtowns of Raleigh and Durham.

"I don't support this road given that it costs so much," he told fellow members of the Durham-Chapel Hill-Carrboro Transportation Advisory Committee. "The idea was that tolls would support it. I don't care where [the money] comes from. It's not going to be printed. It's going to come from our taxes, and I'd rather that it go elsewhere."

But Durham officials made it clear they thought that Foy was trying to start a fight with Wake County's leaders that would cost Chapel Hill nothing but threaten Durham's interests in a big way.

The potential casualty most on their mind was the East End Connector, Durham's No. 1 road priority and a project that received a \$98.8 million pledge of construction funding recently from the N.C. Department of Transportation only because, they believe, the state is looking at funding the Triangle Turnpike outside normal channels.

The connector allotment required the acquiescence of Wake County leaders, and Durham officials believe an attack on the turnpike would invite retaliation against a local project that's still at least four years and another \$36 million away from getting off the ground.

"All due respects to the people from Carrboro and Chapel Hill, but it's not going to affect your money," Durham County Commissioners Chairwoman Ellen Reckhow said. "It's going to affect [Durham's]. There were complex negotiations. The East End Connector which Durham desperately wants and needs was tied in there, and it is not a good idea to do what we're talking about doing here."

Reckhow's stance drew support from the Transportation Advisory Committee's chairwoman, Orange County Commissioner Alice Gordon. She said following Foy's lead would be "a provocative move, for various reasons," and advised that the group only make it clear that it doesn't want the prospective allocation to the turnpike counted against other road projects in the area.

The rest of the group went along with that idea, over Foy's dissent.

There was little chance of the mayor getting his way Wednesday, as the group's bylaws allow members to call for a population-based "weighted vote" on any matter. The rules for such a vote give a Durham city and county delegation that stays united the power to pass or veto any proposal before the committee.

Durham rarely use the procedure, and didn't on Wednesday, but its members have shown in the past that they'll outmuscle Chapel Hill officials when they deem it necessary. They last invoked the procedure in September of 2005, when they settled the location of a transit corridor near Creekside Elementary School over Chapel Hill's objections.

Recent projections suggest that the Triangle Turnpike's up-front construction cost will be about \$905 million. Tolls are supposed to cover only about three-quarters of that, so the state has to come up with more than \$200 million in cash or promise annual debt and maintenance payments to cover the gap.

URL for this article: <http://www.heraldsun.com/durham/4-846581.cfm>

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Apex council pulls away from toll road

Some see fee as 'another tax'

Toby Coleman, Staff Writer

APEX - Opposition rose Tuesday to construction of a toll road between Raleigh's western suburbs and Research Triangle Park.

Amid applause from toll-wary drivers, Apex Town Council members announced they could not back plans to turn the future Western Wake Expressway section of Interstate 540 into a toll road.

The move was a blow to the effort to make Raleigh's western suburbs home to North Carolina's first modern toll road. The effort faces another pivotal vote today, when Apex Mayor Keith Weatherly and other Raleigh-area leaders decide whether the Capital Area Metropolitan Planning Organization will support proposals to make the 12-mile Western Wake Expressway a turnpike.

In Apex, at least, the idea of introducing toll roads to Raleigh's western suburbs struck some as foul, like the suggestion of an unfair tax. The problem: Other sections of I-540 across Wake County were built by the state as free roads.

The suggestion left some particularly bitter because state lawmakers have used money from road-construction accounts to pay for other programs.

"I find myself very much in favor of the road, but very much opposed to the toll," said council member Bryan Gossage. "We're in this mess because of the absolute failure and the absolute ineffectiveness of our government's Department of Transportation to exercise some financial discipline, prioritize and, frankly, I resent the fact that the buck has been passed down to us."

If the Western Wake Expressway is not built as a toll road, it may not be built for another decade or more.

Business groups say that's too long to wait. As Raleigh's western suburbs continue to grow, they say the Western Wake Expressway will be needed to prevent crushing congestion on roads like N.C. 55.

A toll road "is probably the lesser of the two evils when you come down to it," said Clare Owens of Apex, who lives near the proposed route of the expressway.

Ultimately, though, expedience is not a good enough reason for the government to dig even deeper into drivers' pockets, said council member Mike Jones. The toll would be charged on top of gas taxes that also are used to pay for road construction.

Jones even won a smattering of applause by declaring that the toll "is another tax."

Plus, if the toll booths go up, they may never go away, said council member Gene Schulze. That is too much for a highway, he said, especially since "we deserve it anyway."

Staff writer Toby Coleman can be reached at 829-8937 or toby.coleman@newobserver.com.

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Wake leaders approve toll road

Leg of I-540 to link RTP, Holly Springs

Bruce Siceloff, Staff Writer

A Wake area planning board gave its final blessing Wednesday to a planned 18.6-mile toll road from Research Triangle Park to Holly Springs, which could start serving commuters and other paying customers by 2011.

The Capital Area Metropolitan Planning Organization also began planning to widen a four-mile Interstate 40 bottleneck in West Raleigh, also by 2011.

Apex Mayor Keith Weatherly cast the only vote against an N.C. Turnpike Authority plan to build the state's first modern toll road through western Wake and RTP. He said the CAMPO board should not approve the proposal until financial details are ironed out.

Citing a negative vote Tuesday by the Apex Town Council, he said it was unfair for the state to collect tolls on part of the I-540 Outer Loop in western Wake after building its northern section toll-free.

"I consider the Outer Loop one project," Weatherly said. "It's a flawed concept to toll only a portion of a project. But I'm not against tolls -- I think the concept of user fees is a good one."

Raleigh Mayor Charles Meeker said Wake County has been shortchanged in state spending priorities. Raleigh spends \$10 million in city property taxes each year on road improvements that should be state-funded, he said.

But Meeker and other CAMPO board members said residents cannot hope to see the western Wake road built in the next 25 years unless tolls are used. All drivers in the area stand to benefit, because the toll road will ease congestion on existing roads, he said.

"They can ride the toll road and pay tolls if they want to, or else they can ride N.C. 55 and have less traffic than they would otherwise have," Meeker said.

The turnpike authority voted Wednesday to call the new 18.6-mile road the Triangle Expressway. It combines an old plan to extend N.C. 147 south through the center of RTP with a section of the Outer Loop from RTP south to Holly Springs.

The two are linked by a short section of I-540, now under construction, to be opened for toll-free traffic by late June. When the rest of the Triangle Expressway is built and starts operation in 2010 and 2011, the state also will start collecting tolls on the I-540 segment that opens next month.

Turnpike officials said that, without CAMPO's approval, they would have been forced by federal regulations to delay plans for the Triangle Expressway by at least two years. If the General Assembly approves a request for \$18 million per year to cover an expected gap between toll revenue and overall costs, the expressway project could start construction in early 2008.

David Joyner, the turnpike authority director, said the state agency would work with CAMPO and local boards in other parts of the state to help ease public concerns about toll roads.

"It's not easy for the locals to understand why they have to be the first ones, they have to pay tolls and others do not," Joyner told turnpike board members. "But it's part of our job. It's part of the pain we have to get through."

Also Wednesday, the CAMPO board proposed to start work in late 2008 on a \$36 million plan to widen I-40 from four to six lanes on a four-mile stretch between Wade Avenue and Cary. Wake officials are hopeful that the I-40 upgrade will be ratified late this year when the state Board of Transportation updates its plans.

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Public concerned about safety at Smith Level Road

BY CARA MCDONOUGH, The Herald-Sun
May 20, 2007 10:59 pm

CARRBORO -- Residents had a chance to voice their concerns about the future of Smith Level Road during a public information session Sunday afternoon.

Their comments centered on making the road -- which connects the town's central business district with U.S. 15-501 near the Chatham County line -- safer for pedestrians and bicyclists, especially with Carrboro High School, being built just off Smith Level, slated to open in August.

About 14 people attended the meeting, organized by the Smith Level Road Task Force, a group organized by the Carr-boro Board of Aldermen in October in response to resident petitions.

The task force was charged with exploring ways to make Smith Level Road safer for pedestrians, drivers and bicyclists, particularly in regard to pressures brought on by increasing development in Orange and Chatham counties.

Their findings may impact future improvements to the road. Town staff members recently met Department of Transportation representatives to discuss those changes, which could include widening portions of Smith Level Road to four lanes, adding sidewalks and bike lanes, and building greenways. Improvements are scheduled to begin in 2011.

The residents who spoke Sunday were hopeful their input would weigh heavily on any future plans.

Lynne Bresler, who lives in the Dogwood Acres neighborhood, told the task force that one immediate improvement would be changing the traffic signal at the intersection of Culbreth and Smith Level roads. The signal is currently weight sensitive, she said, so bicyclists and pedestrians aren't registered.

Others worried about broader issues like traffic and speeding on the road that will increase with the completion of the high school.

"It's hard to believe, but teenagers do like to go fast," joked Rob Frescoln. He and his wife Kirstin, who also live in Dogwood Acres, said they hoped dangers of speeding would be addressed in the task force's final findings.

Several speakers suggested that by improving biking and walking routes, traffic and speeding would be reduced because it would encourage people to leave their cars at home.

Carrboro resident Austin Brown elicited applause from the crowd when he suggested the town implement a policy restricting students who lived within 1½ miles of the new high school from driving there.

Young residents spoke up too.

"We want to be able to bike to Carrboro High and we don't want to be hit by cars," said Jesse Barro, who will be a student at the new school. "We just want to have a safe trip."

Some worried that changing Smith Level could compromise its rural nature.

Heritage Hills resident Nancy Pekar said she hoped lighting fixtures built on Smith Level Road near her home wouldn't contribute to light pollution.

"I really love being able to see the stars at night," she said.

The Smith Level Road Task Force is scheduled to report its final findings to the Carrboro Board of Aldermen in mid-June.

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Columbia Street changes on track

By Emily Coakley, The Herald-Sun
May 28, 2007 8:44 pm

CHAPEL HILL -- Work to add sidewalks and bike lanes along South Columbia Street is back on track to start sometime in the 2009 budget year.

The final version of the state's Transportation Improvement Program for 2007-2013 had the project's construction scheduled to start in 2010, though the draft TIP had work starting in 2009.

Improvements include turn lanes, bike lanes and sidewalks on South Columbia Street between Purefoy and Manning roads.

A project to upgrade the traffic signal system in Chapel Hill and Carr-boro also was moved in the final TIP to 2011.

Town officials met with DOT officials to discuss their concerns about both projects being moved.

Earlier this month Douglas Gaylon, chairman of the Board of Transportation, sent Mayor Kevin Foy a letter telling him the projects have been returned to 2009.

"I am pleased to inform you that it appears the Department will have adequate cash capacity to allow both projects to be scheduled for let in fiscal year 2009," Gaylon wrote in a letter dated May 7.

Foy called the change "great news."

"I think what it shows is the Department of Transportation is willing to listen and be flexible and take into consideration local needs even in a time when they're having severe constraints on the funding they have," Foy said.

DOT's decision essentially returns the projects to the proposed schedule.

"It's moved back to where it was," said Mike Mills, DOT division engineer for this area.

Foy said commuters and pedestrians aren't the only ones who have been affected by the delays. Property owners along South Columbia Street probably have held back from making improvements for the last two decades because the street work was up in the air, he said.

Mills said the South Columbia Street project wasn't the only one in Division 7 where the construction year changed between the draft and final TIP.

Projects move, or slip, Mills said, because there isn't enough funding available.

The South Columbia Street additions are estimated to cost about \$5.2 million, while the signal project is estimated to cost \$5 million, according to the TIP.

The TIP is being reviewed now at the federal level and will have to be amended when it is finalized.

Amending it now would require public comment periods and could delay its approval, Mills said.

The TIP contains road improvement projects planned statewide.

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