DCHC

DURHAM-CHAPEL HILL-CARRBORO METROPOLITAN PLANNING ORGANIZATION

DURHAM – CHAPEL HILL-CARRBORO METROPOLITAN PLANNING ORGANIZATION TRANSPORTATION ADVISORY COMMITTEE (TAC)

October 10, 2007 **Committee Room**
7:00 PM **2nd Floor Durham City Hall**

1. **Roll Call**
2. **Adjustments to the Agenda**
3. **Public Comments**
4. **Directives to Staff (Attachment 4)**

ACTION ITEMS

5. September 12, 2007 TAC Meeting Minutes (Attachment 5)

A copy of the September 12, 2007 TAC meeting minutes is enclosed as Attachment 5.

TAC Action: Approve minutes of the September 12, 2007 TAC meeting.

6. 2009-2015 Transportation Improvement Program – Regional Priority List – Public Hearing

(Attachment 6, 6A, 6B, 6C, 6D, 6E)
Ellen Beckmann, LPA Staff

The TAC approved the 2009-2015 Transportation Improvement Program (TIP) Regional Ranking Methodology at the TAC meeting on June 13, 2007 (Attachment 6A). The LPA requested that local jurisdictions provide the MPO with their local priority lists and project information by July 27, 2007. The TCC and LPA staff reviewed the submitted projects, applied the ranking methodology, and prepared a recommended draft Regional Priority List (Attachments 6B, 6C, and 6D). These three tables display the project rankings for the highway, bicycle/pedestrian, and transit projects. Maps are also provided for reference.

The TAC released these three tables as the draft Regional Priority List for a 21-day public comment period on September 12, 2007 and scheduled a public hearing for the October TAC meeting. Public comments from citizens and local jurisdictions have been solicited by the MPO (Attachment 6E). The TAC will hold a public hearing at the October TAC meeting and approval of the final list is expected in November 2007. NCDOT has requested MPO regional priority lists by November 30, 2007 for input into the final 2009-2015 STIP. The draft 2009-2015 STIP is scheduled to be released by NCDOT in early November.

Attachment 6 is a brief memo on the Regional Priority List.

TCC Recommendation: That the TAC hold a public hearing on the draft Regional Priority List (Attachments 6B, 6C, and 6D) and direct staff to prepare a final Regional Priority List for the November TAC meeting.

TAC Action: Hold a public hearing on the draft Regional Priority List (Attachments 6B, 6C, and 6D) and direct staff to prepare a final Regional Priority List for the November TAC meeting.

7. 2007-2008 Unified Planning Work Program (UPWP) Amendment #1 - Special Transit Advisory Commission

(Attachment 7, 7A)
Mark Ahrendsen, TCC Chair

The DCHC MPO and CAMPO established the Special Transit Advisory Commission (STAC) in spring 2007. The STAC has been meeting every three weeks for several months with the goal of bringing a recommendation to the October 31, 2007 Joint TAC meeting. The work of the STAC is being coordinated by the Institute for Transportation Research and Education (ITRE). The Triangle Transit Authority (TTA) has a contract with ITRE for $100,000 through December 31, 2007. At the March 2007 TAC meeting, the DCHC MPO appointed members to the STAC, approved the charge, and agreed to reimburse TTA for 20% of the contract, or $20,000. The TAC did not identify the source of funds at the March 2007 meeting. In order to facilitate payment to TTA for the DCHC MPO's share, the TCC recommends that the TAC approve an amendment to the 2007-2008 UPWP to provide STP-DA funds for this contract ($16,000 federal, $4,000 local match).

The STAC will not be able to complete its work by December 31, 2007. TTA and ITRE have requested increasing the contract to $150,000 and extending it to March 15, 2008. Again the DCHC MPO portion of the contract would be 20%, or an additional $10,000. The TCC recommends that the TAC include approval of STP-DA funds for this additional amount ($8,000 federal, $2,000 local match) in the amendment to the 2007-2008 UPWP. Attachment 7 is a memo on this agenda item. Attachment 7A is Amendment #1 to the 2007-2008 UPWP which would provide STP-DA funds for the original contract plus the contract amendment.

The local match is proposed to be provided by the City of Durham, the Town of Chapel Hill, and Durham County. Attachment 7 provides detailed information regarding the proposed split of funds for the local match.

TCC Recommendation: Recommend that the TAC approve Amendment #1 to the 2007-2008 UPWP providing the use of $30,000 in STP-DA funding ($24,000 federal, $6,000 local match) for the original STAC contract and the STAC contract amendment with ITRE.

TAC Action: Approve Amendment #1 to the 2007-2008 UPWP providing the use of $30,000 in STP-DA funding ($24,000 federal, $6,000 local match) for the original STAC contract and the STAC contract amendment with ITRE.

8. 2035 Long Range Transportation Plan and Comprehensive Transportation Plan – Goals and Objectives

(Attachment 8, 8A, 8B, 8C, 8D)
Andy Henry, LPA Staff

Goals and Objectives
The MPO published a draft set of Goals and Objectives for a public comment period from August 1 through September 12, 2007, and conducted two public workshops and a public hearing during this time. At the TAC public hearing on September 12, 2007, staff presented a summary of the public comments (received by September 5, 2007) from comment forms, an online survey, and the public workshops.

Attachment 8 is the draft Goals and Objectives with proposed changes that reflect the issues highlighted by the public comments, including:

- Strong public support for multi-modal, public transit, bicycle and pedestrian transportation;
- Strong support for the natural environment, community values and the reduction of resource consumption;
- Some sentiment for reducing the number of Goals and Objectives;
- A Resolution from the Town of Chapel Hill;
- Proposed changes submitted by Bob Jentsch at the public hearing; and,
- Federal legislation (SAFETEA-LU -- Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users) that requires planning for Safety and Security and Freight Transportation.

Attachment 8A is an updated summary of the Goals and Objectives comments that were received through September 12, 2007. Attachment 8B is a copy of a Town of Chapel Hill Resolution and a citizen proposal submitted at the Goals and Objectives public hearing.

FHWA Planning Factors
The Federal Highway Administration (FHWA) imposes a set of Planning Factors that must be satisfactorily addressed in order to receive FHWA approval of the MPO's long range transportation plan. Attachment 8C shows the Goals and Objectives that support particular FHWA Planning Factors, and demonstrates a strong relationship between the MPO's Goals and Objectives and the FHWA Planning Factors.

Measures of Effectiveness
Attachment 8D shows how the various transportation measurements used by the DCHC MPO evaluate the extent to which the Goals and Objectives are met.

TCC Recommendation: That the TAC approve the 2035 LRTP and CTP Goals and Objectives (Attachment 8).

TAC Action: Approve the 2035 LRTP and CTP Goals and Objectives (Attachment 8).

9. 2035 Long Range Transportation Plan and Comprehensive Transportation Plan - Targets (Attachment 9, 9A)
Andy Henry, LPA Staff

As a practice, the DCHC MPO has set Targets to help evaluate the extent to which the Long Range Transportation Plan is expected to meet the Goals and Objectives. Attachment 9 shows the proposed Targets for the 2035 LRTP. Attachment 9A provides background and definitions for the Targets. At the TAC meeting tonight, the TAC is asked to provide comments on the Targets and ask the LPA staff and the TCC to present a revised set of Targets based on those comments at the next TAC meeting (November 14, 2007) for approval.

TCC Recommendation: That the TAC review the proposed Targets and direct the LPA staff and TCC to develop final Targets for the November TAC meeting.

TAC Action: Review the proposed Targets and direct the LPA staff and TCC to develop final Targets for the November TAC meeting

10. Greenhouse Gas and Criteria Air Pollutant Emissions Inventory and Local Action Plans (Attachment 10)
Ellen Beckmann, LPA Staff

The DCHC MPO is sponsoring the creation of greenhouse gas emissions plans in Durham and Orange Counties. ICLEI Energy Services is the consultant for both plans. The Durham plan is complete and was adopted by the Durham City Council and Durham Board of County Commissioners on September 19, 2007. The Executive Summary of this plan is included as Attachment 10. The full report can be downloaded from the City of Durham Web site, www.durhamnc.gov/ghg. The Orange County plan is several months behind the Durham plan and is expected to be complete in 2008. The Durham plan will be presented to the TAC for adoption and the TAC will receive an update of the Orange County plan at the October TAC meeting.

TCC Recommendation: That the TAC approve the Durham Greenhouse Gas and Criteria Air Pollutant Emissions Inventory and Local Action Plan for Emission Reductions.

TAC Action: Approve the Durham Greenhouse Gas and Criteria Air Pollutant Emissions Inventory and Local Action Plan for Emission Reductions.

REPORTS FROM STAFF:

11. Report from the TAC Chair
Alice Gordon, TAC Chair

TAC Action: Receive Report from TAC Chair

12. Reports from Staff
(Attachment 12)

Felix Nwoko, LPA Staff

TAC Action: Receive Report from Staff

13. **Report from the TCC Chair**
Mark Ahrendsen, TCC Chair

TAC Action: Receive Report from TCC Chair

14. **NCDOT Report**
(Attachment 14)
Wally Bowman, Division 5 – NCDOT
Mike Mills, Division 7 – NCDOT

TAC Action: Receive report of Division Engineers

INFORMATIONAL ITEMS

15. **Recent News Articles and Updates**
(Attachment 15)

16. **Excerpt from the Proposed Rule for Ozone and Request for Public Comment**
(Attachment 16)

17. **DCHC MPO Member Jurisdictions Transportation-related Development Review Regulations**
(Attachment 17)

Adjourn

Joint TAC meeting: October 31, 2007, RDU Airport Authority, *1:30 pm – 3:30 pm *tentative

Next meeting: November 14, 2007

TAC Directives to Staff

11/06/02 – 12/31/05 (Pending/In Progress/On Going)
01/01/06 – Present (Completed/Pending/In Progress)

Meeting Date	Directive	Status
11/06/02	Letter to NCDOT concerning pedestrian access at Garrett Rd./US15-501 intersection.	Completed/Pending Letter sent to NCDOT in March '03. Staff has met with NCDOT. Under consideration by NCDOT.
06/11/03	(TAC) Letter to Durham City Council and Jon Nance requesting they take some action to address the safety issue for pedestrians at US 15-501/ Garrett Road Service Road relocation project.	Completed/Pending – Letter sent to Council and NCDOT. Staff has met with NCDOT. Under consideration by NCDOT. Plan to include pedestrian improvements in the US 15-501 widening project (U-4012)
12/10/03	Provide summary on how to proceed to address issues pertaining to TTA rail corridor, identification, mapping, protection from development, and revenue sources.	In Progress – Chapel Hill-Durham Transit Corridor – US 15-501 Corridor alignment analysis and report have been prepared and presented to TAC. Letter sent to TTA regarding financing of the corridor. TAC approved Corridor Realignment in SW Durham and endorsed sending the Transit Corridor MOA to affected local governments and agencies. MOA sent Durham City, Durham, County, Chapel Hill and TTA for adoption. Durham and Chapel Hill offered comments on the MOA. Staff is working to address issues raised and incorporate agreed upon changes into a revised MOA.
01/14/04	Project information from NCDOT – Specifically need information on project starts, delays, completions, cause of delay, penalties for delay etc.	Completed/Pending – Report presented to TAC at December 2004 meeting. Follow up report forthcoming. Staff will coordinate with NCDOT regarding periodic updates.
02/11/04	TRM update from Service Bureau (Update of 2002 Tranplan Model, 2002 TransCad model, and major TRM update) – Capability of the model as analysis tool (sub-area requirements)	On Going – Service Bureau and LPA provided model update at the 02/08/06 TAC meeting. Periodic reports to be provided by Triangle Regional Model Service Bureau.

03/10/04	Send letter to NCDOT expressing concern over NC-147 /I-40 interchange and concern over backups occurring on NC-147.	Completed/Pending - Letter sent 03/17/04. Staff has discussed with NCDOT various alternatives under consideration by NCDOT.
05/10/04	Regional Priority Project List methodology and ranking process need to be revisited. Staff to work with subcommittee to do so.	Completed/Pending – Revisions to TIP Priority methodology approved by the TAC in February 2005, for use in development of Priority List for 2007-2013 TIP. Update for next Priority List under development (awaiting the completion of CMS study for performance measures).
08/25/04	Metropolitan Area Boundary	Completed/In Progress – TAC approved MAB for the 2030 LRTP. Staff to bring back proposal for MAB expansion for the next LRTP update.
08/25/04	Further study of Farrington Road/Stagecoach Road corridor to move projects forward for funding.	In Progress – Addressed in August 10 TAC Agenda Staff Report. Corridor study included the 2006-07 Unified Planning Work Program (UPWP). Study to be completed by June 2007.
08/25/04	Further study of Latta Road/Infinity Road/Roxboro Road intersection.	In Progress – To be evaluated as part of the next (2035) LRTP update.
04/13/05	Section 5307 Apportionment. TAC approved FY 2004-2005 apportionment and directed that allocation formula for next year be reexamined to consider percentages by ridership and efficiency.	In Progress – MPO transit operators agreed to maintain current allocation formula and review as new information becomes available.
09/14/05	Staff to check with DATA about the possibility of designating a Park-and-Ride in northern Durham.	In Progress
11/9/05	Refer Old Durham/Chapel Hill Road Feasibility Study to staff for final recommendation on: 1) funding recommended design; 2) resolution of technical issues.	In Progress: Technical issues are resolved and final recommendation made. Funding recommendation is pending. See Attachment 10 of 02/08/06 TAC Agenda.
01/11/06	Draft letter to NCDENR to recommend county-based motor vehicle emission budgets	Completed: Letter sent 1/19/06. See Attachment 18 of 02/08/06 TAC Agenda.

01/11/06	Draft resolution to be sent to the Governor and the DCHC legislative delegation to oppose the diversion of transportation taxes and fees to the General Fund and to oppose a change in the state motor fuels tax formula	Completed: Resolution sent 1/19/06. See Attachment 19 and 19A of 02/08/06 TAC Agenda.
02/08/06	Request that staff report on the funding of the Triangle Regional Model and the status of the model update	Completed: See Attachment 6 of 4/12/2006 TAC Agenda.
02/08/06	Refer Chapel Hill's request for a Long Range Transit Master Plan to the TCC. Examine the possibility of including the whole MPO.	Completed: UPWP adopted at 05/10/06 TAC.
02/08/06	Provide an overview of travel modeling, the assumptions used in the model, and potential applications.	Completed: Presentation given at 4/12/2006 TAC Meeting.
02/08/06	Draft a letter to NCDOT requesting the hiring of the Safe Routes to School Coordinator	Completed: See Attachment 15 of 03/08/06 TAC Agenda
03/08/06	Request that staff update the TAC on the New Freedom allocation.	Completed: See Attachment 7 of 05/10/06 TAC Agenda
03/08/06	Provide an organizational chart to illustrate staff resources and how UPWP funds are allocated.	Completed: See Attachment 8 of 04/12/06 TAC Agenda.
03/08/06	Draft a letter to NCDOT regarding funding the East End Connector and initiating the Northern Durham Parkway Study	Completed: See Attachment 22 of 06/14/06 TAC Agenda
04/12/06	Bring US 15-501 Memorandum of Agreement (MOA) back to TAC for consideration.	Completed: See Attachment 9 of 09/13/06 TAC Agenda
04/12/06	Investigate use of peer review for Triangle Regional Model (TRM)	In Progress: TRM committee has taken up this project
04/12/06	Address cost splits for TRM tasks at next DCHC MPO/CAMPO joint TAC meeting	In Progress:
04/12/06	Make MVEB recommendations to TAC in light of Maintenance redesignation	Completed: See Attachment 9 of 05/10/06 TAC Agenda.
05/10/06	Send a letter to Senator Atwater requesting funds for the Farrington/Farrington Mill/Stagecoach Rd. corridor	Completed: See Attachments 16, 16A of 06/14/06 TAC Agenda.
05/10/06	Provide clarification on the effect of the Collector Street Plan on zoning and site plan approvals, Celeste Circle, George King Rd., and NC 54 Service Rd.	Completed: See Attachment 6 of 06/14/06 TAC Agenda
06/14/06	Refer public comments on the Collector Street Plan to the TCC to develop a revised plan.	Completed: See Attachment 7C of 12/13/06 TAC Agenda. See Attachment 8F of 3/14/07 TAC Agenda.

06/14/06	Work with the Regional Transportation Alliance and the Durham Chamber to craft alternate language for SB 1819/HB 2828.	Completed: See Attachment 20 of 08/09/06 TAC Agenda.
06/14/06	Review and provide input on the design of the Triangle Parkway	Completed: See Attachment 6B of 08/09/06 TAC Agenda.
06/14/06	Provide information on how the federal rescission was applied to other states	Completed: See Attachment 18 of 08/09/06 TAC Agenda.
08/09/06	Follow up with the BPAC and DATA Boards regarding public involvement for MPO activities.	In Progress:
09/13/06	Schedule another public workshop for the Southwest Durham/Southeast Chapel Hill Collector Street Plan	Completed: Workshop held 10/10/06
09/13/06	Send a follow-up letter to NCDOT regarding the retail development on the Chatham-Orange County line.	Completed: See Attachment 19 of 10/11/06 TAC Agenda. Response received. See Attachment 14, 14A of 11/08/06 TAC Agenda.
10/11/06	Revise the 2007-2013 TIP to reflect public comments.	Completed: See Attachment 6A of 11/08/06 TAC Agenda.
10/11/06	Provide information on if a municipality can accelerate resurfacing using local funding.	In Progress
11/08/06	Send a letter to NCDOT Division 7 and 8 requesting coordination when reviewing a driveway permit for the retail development on the Chatham-Orange County line.	Completed: See Attachment 16 of the 12/13/06 TAC Agenda.
01/10/07	Work with the TAC officers to identify candidates for the Joint MPO Special Advisory Commission for Transit. Recommend appointments	Completed: See Attachment 6 of the 02/14/07 TAC Agenda.
01/10/07	Work with NCDOT to resolve the remaining concerns with the design of U-3308 Alston Avenue	In Progress: See Attachment 11A of 02/14/07 TAC Agenda, Attachment 20 of 4/11/07 TAC Agenda, and Attachment 18 of 6/13/07 TAC Agenda
02/14/07	Send a letter to NCDOT and state legislative delegation requesting the NCDOT reconsider its decision not to relocate the Durham Amtrack station	Completed: See Attachment 23 of 4/11/07 TAC Agenda
02/14/07	Send a letter to the Governor, state legislative delegation, and NCDOT on TIP funding issues.	Completed: See Attachment 23 of 3/14/07 TAC Agenda
02/14/07	Develop a long-term and short-term strategy for addressing funding needs working with other MPOs and the Metropolitan Coalition	In Progress:
03/14/07	Review Phil Post's proposed adjustments to the Southwest Durham Southeast Chapel Hill Collector Street Plan/Southwest Durham Drive. Develop a recommended final plan.	Completed: See Attachment 7A of 4/11/07 TAC Agenda

04/11/07	Review Chapel Hill's request for one crossing on I-40 on the Southwest Durham Southeast Chapel Hill Collector Street Plan.	Completed: See Attachment 10 of 5/09/07 TAC Agenda.
04/11/07	Provide information on the effect of the Triangle Parkway on alleviating traffic on I-40.	Completed: See Attachment 16 of 6/13/07 TAC Agenda.
04/11/07	Send a letter to the DCHC MPO state legislative delegation regarding transportation bills introduced in the General Assembly	Completed: See Attachment 20 of 6/13/07 TAC Agenda.
05/09/07	Review the STP-DA allocation procedure including eligible projects and geographic distribution	In Progress: See Attachment 7C of 6/13/07 TAC Agenda.
05/09/07	Send a letter to the DCHC MPO state legislative delegation regarding H1462 (Municipal Street Provisions) and the Land Transfer Tax	Completed: See Attachment 20 of 6/13/07 TAC Agenda.
05/09/07	Send a letter of support for the Durham, Chapel Hill, and NCDOT earmark requests	Completed: See Attachment 15 of 8/8/07 TAC Agenda
08/08/07	Provide a summary of transportation-related development review regulations from member jurisdictions	Completed: See Attachment 17 of 10/10/07 TAC Agenda
08/08/07	Add information on student employment, employment-to-population ratios, and household size to the SE Data	Completed: See Attachment 6 of 9/12/07 TAC Agenda
08/08/07	Provide an update on damage to NC-147 due to the I-40 detour	Completed: NCDOT staff replied via email to TAC members
09/12/07	Develop final goals and objectives for the 2035 LRTP considering public comments and the Chapel Hill resolution	Completed: See Attachment 8 of 10/10/07 TAC Agenda

TRANSPORTATION ADVISORY COMMITTEE

September 12, 2007

MINUTES OF MEETING

The Transportation Advisory Committee met on September 12, 2007, in the Council Committee Room on the second floor of Durham City Hall. The following attended:

**Mayor William V. "Bill" Bell	City of Durham
**Diane Catotti	City of Durham
**Mark Chilton	Town of Carrboro
**Mike Gering	Town of Hillsborough
**Ed Harrison	Town of Chapel Hill
**Becky Heron	Durham County/TAC Vice-Chair
*Ellen Reckhow	Durham County
*Bill Strom	Triangle Transit Authority
*Mike Woodard	City of Durham

**Voting Member
*Alternate or Non-Voting Member

John Ager	Town of Chapel Hill/Citizen
Mark Ahrendsen	City of Durham/Transportation
Ellen Beckmann	City of Durham/Transportation
David Bonk	Town of Chapel Hill
Wally Bowman	NCDOT – Division 5 Engineer
Jeff Dayton	HNTB
Shavonte' Fleming	Durham County Health Department
Andy Henry	City of Durham/Transportation
John Hodges-Copple	Triangle J COG
Bob Jentsch	3906 Springstop Lane
Karen Lincoln	Orange County Planning
Trish McGuire	Town of Carrboro
Dale McKeel	City of Durham/Transportation
Mike Mills	NCDOT – Division 7 Engineer
Felix Nwoko	City of Durham/Transportation
William Schaller	Ultraco, LLC
Chao Wang	City of Durham/Transportation

Becky Heron, TAC Vice-Chair called the meeting to order at 9:16 a.m. and the Roll Call was conducted.

PRELIMINARIES:

Adjustments to the Agenda

There were no adjustments to the agenda.

Public Comments

William Schaller with Ultraco, LLC made a brief presentation on Dual-Mode (DM) Transit to the TAC members and distributed for consideration a Strategic Overview and Prospectus for Dual-Mode (DM) Feasibility/Scoping Studies. Mr. Schaller suggested that Dual-Mode transit could be considered by the Special Transit Advisory Commission as an interim measure that is affordable and could be built quickly.

A motion was made by Mayor Bell and seconded by Diane Catotti for staff to research the feasibility of this study. Mark Ahrendsen made a suggestion that in addition to staff, that the information be referred to the STAC Chairs and Co-Chairs for time purposes. The STAC is working on this now and is nearing completion. The motion carried unanimously.

Directives to Staff (Attachment 4)

There were no comments regarding the Directives to Staff.

ACTION ITEMS:

August 8, 2007 TAC Meeting Minutes (Attachment 5)

A motion was made by Mayor Bill Bell and seconded by Bill Strom to approve the August 8, 2007 TAC Meeting Minutes. The motion carried unanimously.

2035 Long Range Transportation Plan and Comprehensive Transportation Plan – Approve SE Data (Attachment 6)

Andy Henry provided a Power Point Presentation on the 2035 Long Range Transportation Plan and Comprehensive Transportation Plan – Approve SE Data.

Ed Harrison recommended putting the presentation on the website in addition to the others that are already on the website.

Mark Ahrendsen stated that the TCC recommendation is that the TAC approve the SE Data that was presented at the September 12, 2007 meeting for purposes of developing the deficiency analysis for the 2035 LRTP.

A motion was made by Diane Catotti and seconded by Mayor Bell to approve the SE Data for purposes of developing the deficiency analysis for the 2035 LRTP. The motion carried unanimously.

2035 Long Range Transportation Plan and Comprehensive Transportation Plan – Land Use Scenarios (Attachment 7 and 7A)

Andy Henry provided an introduction for the 2035 Long Range Transportation Plan and Comprehensive Transportation Plan – Land Use Scenarios, along with the attachment.

Becky Heron asked how Transportation is working with Planning on these scenarios. Andy Henry stated that Transportation will be working closely with the department. Mark Ahrendsen stated the STAC will also need to be involved. Ed Harrison asked if there are any corridors being considered in Durham. Mark Ahrendsen stated the transit corridors. Diane Catotti asked if there are time constraints on staff and how long will these scenarios take. Andy Henry stated we can do all four scenarios as we started with a longer list. Ed Harrison asked if this will have public comment and Mark Ahrendsen stated there will be public comment feedback as part of the plan update.

Diane Catotti asked how this information will be shared with other departments, such as Planning. Mark Ahrendsen stated one way is during the plan development and the other is that the TAC could bring a recommendation to the local elected bodies that are responsible for action on land use.

Diane Catotti referenced John Hodges-Copple's CORE presentation. It should also be shared with Planning and other land use agencies.

A motion was made by Ed Harrison and seconded by Diane Catotti to review and comment on alternative land use scenarios, and approve for use in 2035 LRTP and CTP development process. The motion carried unanimously.

2035 Long Range Transportation Plan and Comprehensive Transportation Plan – Goals and Objectives – Public Hearing (Attachment 8, 8A, 8B, and 8C)

Andy Henry provided an introduction, as well as, an update for the 2035 Long Range Transportation Plan and Comprehensive Transportation Plan – Goals and Objectives – Public Hearing (Attachments 8, 8A, 8B, and 8C).

The public hearing was opened at 10:04 a.m.

Bob Jentsch, a resident of 3906 Springstop Lane, Durham, NC spoke on the 2035 Long Range Transportation Plan and Comprehensive Transportation Plan - Goals and Objectives. Mr. Jentsch appreciates the effort of the staff and the TAC members. Mr. Jentsch recommends making the following changes to the Goals and Objectives. As part of 1. Overall Transportation System – Goal: add a definition of multi-modal that includes "off-road trails, pedestrian and bicycle systems." As part of 4. Pedestrian and Bicycle System – Change Objective f to read as follows: "Ensure that bicycle and pedestrian facilities are included in the planning, design, and construction of roadways by requiring that all development plan, site plan, and subdivision plans designate a comprehensive pedestrian and bicycle system that not only connects all elements within the development but also connects the development to adjacent and nearby developments, bicycle and pedestrian systems, trails, greenways, open space and transit stops."

The public hearing was closed at 10:17 a.m.

Ellen Reckhow stated the objectives need to be clearer. She wants the targets identified. Mark Ahrendsen stated that staff will bring back targets at the next meeting. Ms. Reckhow stated she wants the targets expanded to include bike and pedestrian targets. Ms. Reckhow asked

if we have reports on how we are doing on the targets. Mark Ahrendsen stated we can show how the 2005 base compares to the targets.

Ed Harrison responded to Bob Jentsch's comments. Mr. Harrison stated it is something that needs to be in the ordinances and it includes Chapel Hill's ordinance. Ellen Reckhow stated she likes the concept but the question is; legally can we do it? Mark Ahrendsen stated if the TAC wants to refer both the comments from Bob Jentsch and the Chapel Hill Resolution to staff before bringing back the final goals and recommendations for the TAC's next meeting.

A motion was made by Ed Harrison and seconded by Mark Chilton for staff to consider the recommendations made by Bob Jentsch and the Chapel Hill Resolution.

Diane Catotti stated she agrees to move forward with the intent of Bob Jentsch's comments but wants to check with the local jurisdictions on the ability to add these requirements. The motion carried unanimously.

2009-2015 Transportation Improvement Program – Regional Priority List (Attachment 9, 9A, 9B, 9C, 9D, and 9E)

Ellen Beckmann introduced the 2009-2015 Transportation Improvement Program – Regional Priority list, along with the attachments.

Becky Heron suggested that the TAC meeting be held at night so that the public hearing can be held as well. It was scheduled for October 10, 2007 at 7:00 p.m.

Ed Harrison stated the transit expansion projects are rated low. Ellen Beckmann stated that the transit ranking methodology favored replacement projects or essential services and that the transit methodology has weaknesses. We will look into fixing it the next time.

Mark Chilton stated there is little variation in connectivity on bicycle/pedestrian. Ellen Beckmann stated that the methodology used quartiles to award points. Mark Chilton stated the

methodology misses the regional importance of the project, e.g. Erwin Road between Chapel Hill and Durham. Mark Ahrendsen stated that is a good point.

Diane Catotti asked if we could have a more accurate funding estimate for the East End Connector in the Durham priority lists. Ellen Beckmann stated yes, we are using $198 million for Alternative 3.

A motion was made by Diane Catotti and seconded by Ed Harrison to release the draft Regional Priority List (Attachments 9B, 9C, and 9D) for a 21-day public comment period and to hold a public hearing on October 10, 2007 at 7:00 p.m. The motion carried unanimously.

Resolution Regarding Transportation Funding Issues (Attachment 10)

Mark Ahrendsen provided an introduction for the Resolution Regarding Transportation Funding Issues.

Ellen Reckhow's concern is that the urgency is not stressed. Ms. Reckhow stated the resolution needs to have stronger language. Ms. Reckhow recommended changing the language under "Now Therefore," to read: "be it resolved that the Durham-Chapel Hill-Carrboro Metropolitan Planning Organization Transportation Advisory Committee recognizes the importance of transportation infrastructure to the state of North Carolina and strongly urges Governor Easley and the North Carolina General Assembly to work together to develop a comprehensive funding plan to address local, regional and statewide multi-modal transportation funding needs."

A motion was made by Diane Catotti and seconded by Mike Gering to approve the resolution with the changes noted above. The motion carried unanimously.

REPORTS:

Report from the TAC Chair

There was no report.

Reports from Staff (Attachment 12)

The reports from staff are attached for review.

Report from the TCC Chair

Mark Ahrendsen stated that the STAC will not be finished by October 31, 2007. They will have preliminary findings; but will probably ask for a couple more months. A Joint TAC meeting is scheduled for October 31, 2007 where the preliminary findings will be provided from the STAC. The meeting will be held at the RDU Airport.

Staff is working closely with NCDOT, the consultants, and a citizens group on the East End Connector Project.

There is a design hearing for the Miami Boulevard widening project. It will be held at the Bethesda Baptist Church on September 24, 2007 from 4 p.m. to 7 p.m.

NCDOT Report (Attachment 14)

Wally Bowman, NCDOT Division 5 Engineer, provided an update on projects. The NC-98 project has started and should be complete by June 2008. The I-40 project is ahead of schedule and should be finished this year.

There is a combination of three projects that were advertised and let as one project at US 15-501 and Garrett Road. The completion date is May of 2009, with the exclusion of the US15-501 project which should be August 2010. Diane Catotti asked where the service road is in the project. Wally will check with the contractor to see where it is on the project.

The Hopson Road project is on hold due to a bid concern with a contractor. They will be meeting next week. It should be awarded late next week.

Ellen Reckhow is impressed with the quantity of resurfacing that has been done in the last several months.

Mike Mills, NCDOT Division 7 Engineer, provided an update on projects. The Homestead Project is complete. The contract for Estes Drive from Sewell School Road to Hillcrest Avenue has been let and the completion date is December 10, 2007. The Superstreet project is underway and should be complete in October 2007. They are working on spot safety projects approved last month.

INFORMATIONAL ITEMS:

Recent News Articles and Updates (Attachment 15)

The recent news articles and updates are attached for review.

Letter from Coalition of Engineers for Transportation (Attachment 16)

The letter from Coalition of Engineers for Transportation is attached.

Transportation Bills that Passed in the 2007 NC General Assembly (Attachment 17)

The Transportation Bills that Passed in the 2007 NC General Assembly are attached.

Adjournment

There being no further business of the Transportation Advisory Committee, the meeting adjourned at 11:21 a.m.

MEMORANDUM

TO: Transportation Advisory Committee (TAC)
DCHC MPO

FROM: Lead Planning Agency

DATE: October 10, 2007

RE: Draft FY 2009-2015 Transportation Improvement Program (TIP) Regional Priority List

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The MPO creates a Regional Priority List to provide input to NCDOT on the Transportation Improvement Program (TIP). As part of the development of this list, the MPO uses a ranking methodology to assign points to projects submitted by member jurisdictions. Attachment 6A is this ranking methodology as approved by the TAC in June 2007. The ranking methodology divides projects up into three lists by mode.

LPA Staff applied the ranking methodology to the projects using information provided by the member jurisdictions. The TAC released the result of the application of the ranking methodology (Attachments 6B, 6C, and 6D) as the draft Regional Priority List on September 12, 2007 for a 21-day public comment period. The TAC also scheduled a public hearing on the draft Regional Priority List for the October 10, 2007 meeting.

One error in the application of the ranking methodology was corrected since the September TAC meeting. The NC 86 Bicycle Route in Orange County is now ranked #31 instead of #35 on the bicycle/pedestrian draft Regional Priority List.

The final Regional Priority List is expected to be approved by the TAC at the November meeting. The draft list (Attachments 6B, 6C, and 6D) should be used as one factor in the creation of the final Regional Priority List. The TAC should create the final Regional Priority List based on all of the following factors or sources of information:

- The results of the ranking methodology (Attachment 6B, 6C, and 6D)
- The submitted local priority lists
- Public input (Comments received as of 10/3/07 is Attachment 6E.)
- Feedback from the member jurisdictions
- Policy initiatives or other non-technical or non-quantifiable factors

At this point, the ranking methodology should not be further revised to remain on schedule. The TAC can provide feedback to the LPA and TCC on ways that the methodology could be improved for the next Regional Priority List (FY 2011-2017). For purposes of the FY 2009-2015 TIP, the TAC is encouraged to reorder projects in the draft

Regional Priority List based on factors that were not included in the ranking methodology such as policy initiatives or other non-technical or non-quantifiable factors.

NCDOT will be releasing a draft State Transportation Improvement Program (STIP) in November 2007. The final Regional Priority List will be used by the MPO to make adjustments to the draft STIP and to create the 2009-2015 Metropolitan Transportation Improvement Program (MTIP). The final STIP is expected to be approved in May or June 2008.

Public Comments

LPA Staff have sent copies of the draft Regional Priority List to public libraries and planning departments of all the DCHC MPO member jurisdictions. In addition, the lists are available on the DCHC MPO website. The public comment period and public hearing has been advertised in the Herald-Sun and an email was sent to the MPO general mailing list and local list servs. As of October 3, 2007, the public comments in Attachment 6E have been received by the MPO.

TCC Recommendation

The TCC recommendation is that the TAC hold a public hearing on the draft Regional Priority List and direct staff to prepare a final Regional Priority List for the November TAC meeting.

DURHAM-CHAPEL HILL-CARRBORO MPO
METHODOLOGY FOR RANKING
METROPOLITAN TRANSPORATION 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 based on the 2035 socio-economic data on the existing plus committed network. 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 or Deployment of New Technology* – Points are awarded to projects based on how they benefit other modes of transportation and deploy new technology (carpool, transit, bicycle, pedestrian, ITS, and TDM). For example, a road widening that adds additional travel lanes, bicycle lanes, and sidewalks on a transit route 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. The street classification should be taken from the Federal Functional Classification maps on the NCDOT website.

   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 routes, 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 routes. If a project includes both bicycle and pedestrian improvements, the travel demand points are added together for a total.

Local jurisdictions are asked to provide the number of land uses served by the project in the travel demand 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. Population density should also be considered for the benefits to the community. The MPO will provide local jurisdictions a map of population density.

   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. Projects will be divided equally into four quartiles based on the number of connections. 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 a list of facilities that the project will connect. MPO staff will divide the projects into quartiles and award final points.

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 used will be the average daily riders divided by the product of the peak vehicle pullout and the average vehicle capacity. The load factor is calculated separately for bus and paratransit vehicles. 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 post year 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	***Travel Demand***		1
	2035 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	***Safety***		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	***Environmental Impacts - natural environment***		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-High negative or adverse impacts	1	
	High negative or adverse impacts no mitigation	0	
4	***Community Impacts***		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-High negative or adverse impacts	1	
	High negative or adverse impacts no mitigation	0	
5	***Environmental Justice***		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	***Funding Status in TIP***		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	***Benefits to Other Modes of Transportation or Deployment of New Technology***		1
	Any 4 or more modes (Carpool, transit, bike, pedestrian, ITS, TDM)	4	
	Any 3 modes (Carpool, transit, bike, pedestrian, ITS, TDM)	3	
	Any 2 modes (Carpool, transit, bike, pedestrian, ITS, TDM)	2	
	Any 1 mode (Carpool, transit, bike, pedestrian, ITS, TDM)	1	
	No other modes	0	

BIKE/PED

	RANKING CRITERIA (MEASURES)	SCORE (points)	Category Weight
1	***Street Classification of Roadway or Parallel Roadway for Off-Road Facilities***		1
	Arterial	3	
	Collector	2	
	Local	1	
2	***Right-of-Way Availability***		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	***Travel Demand***		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	***Environmental Impacts - natural environment***		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	***Community Impacts***		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	***Environmental Justice***		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	***Connectivity to Existing Bicycle and Pedestrian Facilities***		1
	First quartile of ranked projects	3	
	Second quartile of ranked projects	2	
	Third quartile of ranked projects	1	
	Fourth quartile of ranked projects	0	
8	***Funding Status in TIP***		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				
		# within 1 mile	2 points per #	# within 2 miles	1 point per #	
Land Use	Schools		0		0	Total Points
	Colleges		0		0	
	Parks		0		0	
	Major Retail Centers		0		0	
	Major Employment Centers		0		0	
	Transit Routes		0		0	
Total			0	+	0	**0**

For Pedestrian Projects

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

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

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	***Expansion of Existing Routes***		1
	Vehicle crowding (load factor) on a specific route (daily riders/peak 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	***Regional Connectivity***		1
	Connections to other transit systems		
	Provides 4 or more connections	4	
	Provides 3 connections	3	
	Provides 2 connections	2	
	Provides 1 connection	1	
	Does not provide a connection	0	
3	***Essential Services (maintenance or replacement vehicles)***		2
	Provides an essential service to maintain the current level of transit service	4	
	Does not provide an essential service	0	
4	***Enhancement of Existing Service or New Service***		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	***Funding Status in TIP***		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	***Environmental Impacts - natural environment***		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	***Community Impacts***		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	

TRANSIT PROJECTS

			1: Expansion of Existing Routes		2: Regional Connectivity		3: Essential Services		4: Enhancement of Existing Service		5: Funding Status		6: Environmental Impacts		7: Community Impacts		
Rank	Name	Local Priority #	Load Factor	Points	Connections	Points	Yes/No	Points	Number of New Riders/Day	Points	Percent funded	Points	Impact	Points	Impact	Points	Total Points
1	Paratransit Fleet Replacement	1 - TTA	n/a	0	5	4	yes	8	n/a	0	Unfunded	0	MedPos	3	HighPos	4	19
2	Replacement Buses	1 - CH; 1 - C	n/a	0	2	2	yes	8	n/a	0	Unfunded	0	HighPos	4	HighPos	4	18
3	Purchase 31 40-foot Hybrid Buses for Service Replacement	6 - D 6 - DC	n/a	0	2	2	yes	8	n/a	0	Unfunded	0	HighPos	4	HighPos	4	18
4	Replacement Buses	7 - CH; 7 - C	n/a	0	2	2	yes	8	n/a	0	Unfunded	0	HighPos	4	HighPos	4	18
5	Replacement Buses	14 - CH; 14 - C	n/a	0	2	2	yes	8	n/a	0	Unfunded	0	HighPos	4	HighPos	4	18
6	Replacement Buses	16 - CH; 16 - C	n/a	0	2	2	yes	8	n/a	0	Unfunded	0	HighPos	4	HighPos	4	18
7	Replacement Buses	22 - CH; 22 - C	n/a	0	2	2	yes	8	n/a	0	Unfunded	0	HighPos	4	HighPos	4	18
8	Replacement Vans	2 - CH; 2 - C	n/a	0	2	2	yes	8	n/a	0	Unfunded	0	MedPos	3	HighPos	4	17
9 (tie)	Replacement Support Vehicles	3 - CH; 3 - C	n/a	0	2	2	yes	8	n/a	0	Unfunded	0	MedPos	3	HighPos	4	17
9 (tie)	Purchase 18 paratransit vans for svc. Replacement	3 - D 3 - DC	n/a	0	2	2	yes	8	n/a	0	Unfunded	0	MedPos	3	HighPos	4	17
11	Replacement Support Vehicles	4 - CH; 4 - C	n/a	0	2	2	yes	8	n/a	0	Unfunded	0	MedPos	3	HighPos	4	17
12	Replacement Service Trucks	5 - CH; 5 - C	n/a	0	2	2	yes	8	n/a	0	Unfunded	0	MedPos	3	HighPos	4	17
13	Replacement Vans	9 - CH; 9 - C	n/a	0	2	2	yes	8	n/a	0	Unfunded	0	MedPos	3	HighPos	4	17
14	Replacement Support Vehicles	10 - CH; 10 -C	n/a	0	2	2	yes	8	n/a	0	Unfunded	0	MedPos	3	HighPos	4	17
15	Replacement Support Vehicles	13 - CH; 13 - C	n/a	0	2	2	yes	8	n/a	0	Unfunded	0	MedPos	3	HighPos	4	17
16	Replacement Service Trucks	18 - CH; 18 - C	n/a	0	2	2	yes	8	n/a	0	Unfunded	0	MedPos	3	HighPos	4	17
17	Replacement Vans	19 - CH; 19 - C	n/a	0	2	2	yes	8	n/a	0	Unfunded	0	MedPos	3	HighPos	4	17
18	Replacement Support Vehicles	20 - CH; 20 - C	n/a	0	2	2	yes	8	n/a	0	Unfunded	0	MedPos	3	HighPos	4	17
19	Replacement Support Vehicles	21 - CH; 21 - C	n/a	0	2	2	yes	8	n/a	0	Unfunded	0	MedPos	3	HighPos	4	17
20	Purchase 12 Hybrid Buses for Service Expansion	1 - D 1 - DC	9.63	4	2	2	no	0	n/a	0	Unfunded	0	HighPos	4	HighPos	4	14
21	Regional Transit Service Phase 2	7 - D; 7 - DC; 26 - C	1.86	2	4	4	no	0	n/a	0	Unfunded	0	HighPos	4	HighPos	4	14
22	Expansion Buses	8 - CH; 8 - C	4.76	4	2	2	no	0	n/a	0	Unfunded	0	HighPos	4	HighPos	4	14
23	Expansion Buses	11 - CH; 11 - C	4.76	4	2	2	no	0	n/a	0	Unfunded	0	HighPos	4	HighPos	4	14
24	Expansion Buses	15 - CH; 15 - C	4.76	4	2	2	no	0	n/a	0	Unfunded	0	HighPos	4	HighPos	4	14
25	Expansion Buses	17 - CH; 17 - C	4.76	4	2	2	no	0	n/a	0	Unfunded	0	HighPos	4	HighPos	4	14
26	Expansion Buses	23 - CH; 23 - C	4.76	4	2	2	no	0	n/a	0	Unfunded	0	HighPos	4	HighPos	4	14
27	Expansion Buses	24 - CH; 24 - C	4.76	4	2	2	no	0	n/a	0	Unfunded	0	HighPos	4	HighPos	4	14
28	15-501 Bus Route	1 - CC	1.86	2	3	3	no	0	n/a	0	Unfunded	0	HighPos	4	HighPos	4	13

			1: Expansion of Existing Routes		2: Regional Connectivity		3: Essential Services		4: Enhancement of Existing Service		5: Funding Status		6: Environmental Impacts		7: Community Impacts		
Rank	Name	Local Priority #	Load Factor	Points	Connections	Points	Yes/No	Points	Number of New Riders/Day	Points	Percent funded	Points	Impact	Points	Impact	Points	Total Points
29	Paratransit Fleet Expansion	4 - TTA	0.83	1	5	4	no	0	n/a	0	Unfunded	0	HighPos	4	HighPos	4	13
30	Fixed Guideway to Carolina North	25 - C	1.86	2	3	3	no	0	n/a	0	Unfunded	0	HighPos	4	HighPos	4	13
31	Regional Transit Svc. Phase 1	2 - D 2 - DC	1.86	2	2	2	no	0	n/a	0	Unfunded	0	HighPos	4	HighPos	4	12
32	Real Time Passenger Information Project	2 - TTA	n/a	0	2	2	no	0	1090	2	Unfunded	0	HighPos	4	HighPos	4	12
33	Vanpool Fleet Expansion	3 - TTA	0.91	1	5	4	no	0	n/a	0	Unfunded	0	MedPos	3	HighPos	4	12
34	Park and Ride Lot	6 - CH; 6 - C	n/a	0	0	0	no	0	2019	4	Unfunded	0	HighPos	4	HighPos	4	12
35	Park and Ride Lot Expansion - Design and Land Acquisition	12 - CH; 12- C	n/a	0	0	0	no	0	2019	4	Unfunded	0	HighPos	4	HighPos	4	12
36	Purchase 6 Paratransit Vans for Service Expansion	4 - D 4 - DC	2.23	2	2	2	no	0	n/a	0	Unfunded	0	MedPos	3	HighPos	4	11
37	Bus Priority at Traffic Signals along 15-501	5 - TTA	n/a	0	2	2	no	0	646	1	Unfunded	0	HighPos	4	HighPos	4	11
38	Purchase land and construct a 500 space Park and Ride Lot in the Treyburn area	5 - D 5 - DC	n/a	0	0	0	no	0	2000	3	Unfunded	0	MedPos	3	HighPos	4	10

Key:

CH (Chapel Hill)	n/a	0	0	0	no	0	n/a	0	Unfunded	0	HighNeg	0	HighNeg	0	
C (Carrboro)	0.01	1	1	1	yes	8	1	1	Post Year	1	LowNeg	1	LowNeg	1	
OC (Orange Co)	1.86	2	2	2	The points for Essential Services were weighted double the other point categories		1090	2	5	2	LowPos	2	LowPos	2	
D (Durham)	3.495	3	3	3			2000	3	10	3	MedPos	3	MedPos	3	
DC (Durham Co)	4.76	4	4	4			2019	4	25	4	HighPos	4	HighPos	4	
CC (Chatham Co)															
H (Hillsborough)															
TTA															

BIKE/PED PROJECTS

			1: Street Classification		2: Right-of-Way Availability		3: Travel Demand		4: Environmental Impacts		5: Community Impacts		6: Environmental Justice Impacts		7: Connectivity		8: Funding Status		
Rank	Name	Local Priority #	Class	Points	Availability	Points	Travel Demand Points	Points	Impact	Points	Impact	Points	Impact	Points	Number of Connections	Points	Percent funded	Points	Total Points
1	Cornwallis Road (S. Roxboro to Chapel Hill Rd.) Bike and Ped	3 - D 3 - DC	Arterial	3	Sufficient	3	105	2	HighPos	3	HighPos	3	HighPos	3	5	3	25%+	3	23
2	Northeast Chatham County Roadway/Ped/Bike Plan	1 - CC	Arterial	3	Sufficient	3	300	3	HighPos	3	HighPos	3	HighPos	3	100	3	Unfunded	0	21
3	MLK-NC 86 Corridor Bike and Ped	1 - CH	Arterial	3	Sufficient	3	212	3	MedPos	2	HighPos	3	HighPos	3	21	3	Unfunded	0	20
4	Fayetteville Rd (Cornwallis to Nelson) Bike and Ped	13 - D 13 - DC	Arterial	3	Some Needed	2	175	3	HighPos	3	HighPos	3	HighPos	3	13	3	Unfunded	0	20
5	Bolin Creek Greenway	2 - CH	Local	1	Sufficient	3	153	3	HighPos	3	HighPos	3	HighPos	3	4	3	Unfunded	0	19
6	Morreene Road (Erwin to Neal) Bike and Ped	4 - D 4 - DC	Local	1	Sufficient	3	98	2	HighPos	3	HighPos	3	MedPos	2	3	2	25%+	3	19
7	Avondale Drive (Roxboro to Geer) Bike and Ped	6 - D 6 - DC	Arterial	3	Sufficient	3	138	3	MedPos	2	HighPos	3	MedPos	2	6	3	Unfunded	0	19
8	University Drive (Garrett to Hope Valley) Bike and Ped	14 - D 14 - DC	Arterial	3	Sufficient	3	143	3	MedPos	2	HighPos	3	MedPos	2	10	3	Unfunded	0	19
9	15 Chapel Hill Intersection Improvements	4 - CH	Average Points	3.0	Average Points	3.0	311	3	Average Points	1.2	Average Points	3.0	Average Points	1.9	39	3	Average Points	0.0	18.1
10	Estes Extension (S Greensboro to Carrboro Town Limits) Bike and Ped	1 - C	Arterial	3	Some Needed	2	126	3	HighPos	3	HighPos	3	MedPos	2	3	2	Unfunded	0	18
11	Hillandale Road (I-85 to NC 147) Bike and Ped	2 - D 2 - DC	Collector	2	Some Needed	2	146	3	MedPos	2	HighPos	3	LowPos	1	4	3	10%+	2	18
12	Club Boulevard (Ruffin to Geer) Bike and Ped	7 - D 7 - DC	Collector	2	Sufficient	3	135	3	MedPos	2	HighPos	3	MedPos	2	5	3	Unfunded	0	18
13	Erwin Road (Sage to Durham County Line) Bike and Ped	17 - CH	Arterial	3	Sufficient	3	68	1	MedPos	2	HighPos	3	HighPos	3	4	3	Unfunded	0	18
14	Fordham (15-501 South to Ephesus Ch) Bike and Ped	18 - CH	Arterial	3	Sufficient	3	210	3	MedPos	2	HighPos	3	HighPos	3	2	1	Unfunded	0	18
15	Old Fayetteville Road (McDougle School to NC 54) Bike and Ped	2- C	Collector	2	Sufficient	3	60	1	MedPos	2	HighPos	3	HighPos	3	2	1	10%+	2	17
16	Nash Street (Faucette Mill to Dimmocks Mill) Sidewalk	3 - H	Collector	2	Sufficient	3	13	0	MedPos	2	HighPos	3	HighPos	3	1	1	25%+	3	17
17	Dearborn Drive (Club to Old Oxford) Bike and Ped	10 - D 10 - DC	Arterial	3	Sufficient	3	59	1	HighPos	3	HighPos	3	HighPos	3	1	1	Unfunded	0	17
18	Southern Railroad Greenway	10 - CH	Arterial	3	Sufficient	3	110	2	HighPos	3	HighPos	3	MedPos	2	1	1	Unfunded	0	17
19	Cornwallis Rd. (Erwin Rd. to Chapel Hill Rd.) Bike and Ped	11 - D 11 - DC	Arterial	3	Sufficient	3	116	2	MedPos	2	HighPos	3	LowPos	1	4	3	Unfunded	0	17
20	NC 54 Corridor (Fordham to Barbee Chapel) Bike and Ped	19 - CH	Arterial	3	Sufficient	3	122	2	MedPos	2	HighPos	3	LowPos	1	8	3	Unfunded	0	17

			1: Street Classification		2: Right-of-Way Availability		3: Travel Demand		4: Environmental Impacts		5: Community Impacts		6: Environmental Justice Impacts		7: Connectivity		8: Funding Status		
Rank	Name	Local Priority #	Class	Points	Availability	Points	Travel Demand Points	Points	Impact	Points	Impact	Points	Impact	Points	Number of Connections	Points	Percent funded	Points	Total Points
21	Holloway Street (Lynn to Miami) Sidewalk	1 - D 1 - DC	Arterial	3	Some Needed	2	15	0	HighPos	3	MedPos	2	HighPos	3	4	3	Unfunded	0	16
22 (tied)	Estes Drive (Curtis to Franklin) Sidewalk	5 - CH	Arterial	3	Sufficient	3	33	0	MedPos	2	HighPos	3	MedPos	2	4	3	Unfunded	0	16
22 (tied)	Old NC 86 (Hillsborough to Homestead) Bike and Ped	5 - C	Arterial	3	Sufficient	3	38	1	MedPos	2	MedPos	2	MedPos	2	4	3	Unfunded	0	16
24	Pope Road (Old Durham-Chapel Hill Rd. to Ephesus Church Rd.) & Ephesus Church Road Bike and Ped	6 - CH (Pope & Ephesus Church); 19 - DC (Pope only)	Local	1	Sufficient	3	151	3	HighPos	3	HighPos	3	LowPos	1	3	2	Unfunded	0	16
25	Hope Valley Road (S. Roxboro to US 15-501 Bus) Bike and Ped	9 - D 9 - DC	Arterial	3	Sufficient	3	110	2	MedPos	2	MedPos	2	LowPos	1	4	3	Unfunded	0	16
26	Cheek Road (Geer to Hardee) Bike and Ped	12 - D 12 - DC	Arterial	3	Sufficient	3	81	1	MedPos	2	HighPos	3	HighPos	3	1	1	Unfunded	0	16
27	Country Club Road (South Rd to Raleigh St) Sidewalk	13 - CH	Local	1	Sufficient	3	52	1	MedPos	2	HighPos	3	HighPos	3	4	3	Unfunded	0	16
28	Bolin Creek Little Creek Greenway	15 - CH	Arterial	3	Sufficient	3	124	2	MedPos	2	HighPos	3	MedPos	2	2	1	Unfunded	0	16
29	Cook Rd. (Fayetteville St. to Martin Luther King) Bike and Ped	16 - DC	Local	1	Sufficient	3	93	1	HighPos	3	HighPos	3	HighPos	3	3	2	Unfunded	0	16
30	I-40/Orange Grove Road Pedestrian Bridge	1 - OC; 1 - H	Arterial	3	Sufficient	3	17	0	HighPos	3	HighPos	3	HighPos	3	0	0	Unfunded	0	15
31	NC 86 (Whitfield to US 70 Bus) Bike Route	2 - H; 3 - OC	Arterial	3	Sufficient	3	29	0	MedPos	2	HighPos	3	HighPos	3	1	1	Unfunded	0	15
32	Fordham Pedestrian Overpass	3 - CH	Arterial	3	Much Needed	1	111	2	MedPos	2	HighPos	3	HighPos	3	1	1	Unfunded	0	15
33	Barbee Chapel Road (NC 54 to Stagecoach) Bike and Ped	9 - CH (NC 54 to Downing Creek); 17 - DC (NC 54 to Stagecoach)	Collector	2	Sufficient	3	67	1	MedPos	2	HighPos	3	LowPos	1	4	3	Unfunded	0	15
34	Franklin St./Bolin Creek Greenway Bike and Ped Access	11 - CH	Arterial	3	Some Needed	2	113	2	MedPos	2	HighPos	3	MedPos	2	2	1	Unfunded	0	15
35	Fordham (Manning to Carmichael) Sidewalk	14 - CH	Arterial	3	Sufficient	3	17	0	MedPos	2	HighPos	3	HighPos	3	2	1	Unfunded	0	15
36	Fordham (Ephesus Ch to Elliott) Sidewalk	7 - CH	Arterial	3	Sufficient	3	30	0	MedPos	2	HighPos	3	MedPos	2	2	1	Unfunded	0	14
37	Alston Avenue (Carpenter Fletcher to Sedwick) Bike and Ped	8 - D 8 - DC	Collector	2	Sufficient	3	105	2	MedPos	2	HighPos	3	LowPos	1	1	1	Unfunded	0	14

			1: Street Classification		2: Right-of-Way Availability		3: Travel Demand		4: Environmental Impacts		5: Community Impacts		6: Environmental Justice Impacts		7: Connectivity		8: Funding Status		
Rank	Name	Local Priority #	Class	Points	Availability	Points	Travel Demand Points	Points	Impact	Points	Impact	Points	Impact	Points	Number of Connections	Points	Percent funded	Points	Total Points
38	Mt.Carmel Church Rd (US 15-501 to Chatham County Line) Bike and Ped	12 - CH	Arterial	3	Sufficient	3	115	2	MedPos	2	MedPos	2	LowPos	1	2	1	Unfunded	0	14
39	Erwin Rd (Orange County Line to NC 751) Bike and Ped	18 - DC	Arterial	3	Sufficient	3	89	1	MedPos	2	HighPos	3	LowPos	1	1	1	Unfunded	0	14
40	BPW Club Rd/Westbrook Dr. Greenway	4 - C	Local	1	Some Needed	2	69	1	MedPos	2	HighPos	3	HighPos	3	2	1	Unfunded	0	13
41	Culbreth Road (Adam Way to Smith Level) Sidewalk	8 - CH	Local	1	Sufficient	3	14	0	MedPos	2	HighPos	3	HighPos	3	2	1	Unfunded	0	13
42	Old Mason Farm/Finley Golf Course (NC 54 to Fordham) Bike and Ped	16 - CH	Local	1	Sufficient	3	118	2	MedPos	2	MedPos	2	MedPos	2	1	1	Unfunded	0	13
43	S. Greensboro Street (Main to Merritt Mill) Sidewalks	3 - C	Arterial	3	Barriers	0	29	0	MedPos	2	HighPos	3	HighPos	3	2	1	Unfunded	0	12
44	Carpenter Fletcher Road (Woodcroft to Alston) Bike and Ped	5 - D 5 - DC	Local	1	Some Needed	2	68	1	MedPos	2	MedPos	2	LowPos	1	2	1	10%+	2	12
45	Sedwick Rd. (Grandale to Alston) Bike and Ped	15 - D 15 - DC	Local	1	Sufficient	3	78	1	MedPos	2	MedPos	2	LowPos	1	3	2	Unfunded	0	12
46	Old NC 86 (Eubanks to I-40) Bike Lanes	2 - OC	Collector	2	Much Needed	1	16	0	MedPos	2	HighPos	3	HighPos	3	0	0	Unfunded	0	11
47	Old NC 86 (Homestead to Eubanks) Bike and Ped	6 - C	Arterial	3	Sufficient	3	22	0	LowPos	1	MedPos	2	LowPos	1	1	1	Unfunded	0	11
48	Eubanks (Old NC 86 to Rogers) Bike and Ped	7 - C	Local	1	Sufficient	3	20	0	MedPos	2	MedPos	2	MedPos	2	0	0	Unfunded	0	10

Key:																			
	CH (Chapel Hill)	Local	1	Barriers	0	1	0	Negative	0	Negative	0	Negative	0	0	0	Unfunded	0		
	C (Carrboro)	Collector	2	Much Needed	1	36.75	1	LowPos	1	LowPos	1	LowPos	1	1	1	Post Year	1		
	OC (Orange Co)	Arterial	3	Some Needed	2	95.5	2	MedPos	2	MedPos	2	MedPos	2	2.5	2	10%+	2		
	D (Durham)			Sufficient	3	124.5	3	HighPos	3	HighPos	3	HighPos	3	4	3	25%+	3		
	DC (Durham Co)																		
	CC (Chatham Co)																		
	H (Hillsborough)																		
	TTA																		

2009-2015 TIP-Draft Regional Priority List Bike/Ped Projects Project Ranking

Map prepared by City of Durham Transportation GIS
on August 28, 2007 for the TAC meeting to be held
on September 12, 2007.

Information depicted hereon is for reference purposes
only and is compiled from the best available sources.
The City of Durham/Durham County assumes no responsibility for errors arising from the misuse of this map.

15 Chapel Hill Intersection Improvements (Rank 9th)
Bike/Ped Project
Existing Roadway Centerline
NE Chatham Co Roadway/Ped/Bike Plan
MPO Boundary
County Boundary

0 0.5 1 2 3 4 Miles

HIGHWAY PROJECTS

			1: Travel Demand			2: Safety			3: Environmental Impacts		4: Community Impacts		5: Environmental Justice Impacts		6: Funding Status		7: Benefits to Other Modes or Deployment of New Technology		
Rank	Name	Local Priority #	v/c	v/c >0.8?	Points	Accident Rate	Accident Rate>300?	Points	Impact	Points	Impact	Points	Impact	Points	Percent funded	Points	Number of modes	Points	Total Points
1	TDM	12 - D 12 - DC	Other	Other	4	Other	Other	4	Positive	4	Positive	4	Positive	4	Unfunded	0	4	4	24
2	ITS Deployment	11 - D 11 - DC	Other	Other	4	Other	Other	4	Positive	4	Positive	4	Positive	4	Unfunded	0	2	2	22
3	Franklin/Main/Merritt Mill/Brewer Intersection	3 - C	1.04	1.04	2	879.59	879.59	3	Positive	4	Positive	4	Positive	4	Unfunded	0	3	3	20
4	East End Connector	1 - D 1 - DC	1.63	1.63	4	2016.03	2016.03	4	LowNeg	3	MedHNeg	1	MedNeg	1	25%+	4	2	2	19
5	S. Churton St. Improvements	2 - H, 2 - OC	1.3	1.3	4	429	429	2	LowNeg	3	Positive	4	Positive	4	Unfunded	0	2	2	19
6	Orange Grove Rd. Extension	6 - OC	0.93	0.93	1	1253.5	1253.5	4	Positive	4	Positive	4	Positive	4	Unfunded	0	2	2	19
7	Triangle Parkway	3 - D 3 - DC	1.04	1.04	2	351.61	351.61	1	MedHNeg	1	LowNeg	3	Neutral	3	25%+	4	3	3	17
8	Eno Mt./Mayo St. at Orange Grove Rd. Realignment	4 - H, 5 - OC	0.82	0.82	1	2146	2146	4	Positive	4	MedNeg	2	Positive	4	Unfunded	0	2	2	17
9	NC 751 (Phase 1) Widening	9 - D 9 - DC	1.17	1.17	3	913.86	913.86	3	LowNeg	3	MedNeg	2	Neutral	3	Unfunded	0	3	3	17
10	Seawell School Road Improvements	1 - C; 2 - CH	0.3	no	0	409.12	409.12	1	Positive	4	Positive	4	Positive	4	Unfunded	0	3	3	16
11	Elizabeth Brady Rd. Extension	1 - H	1.19	1.19	3	489.26	489.26	2	HighNeg	0	MedHNeg	1	Neutral	3	25%+	4	3	3	16
12	MLK Jr Pwky/Hwy 55 Intersection	2 - D 2 - DC	0.93	0.93	1	3342	3342	4	LowNeg	3	LowNeg	3	LowNeg	2	Unfunded	0	3	3	16
13	Homestead Road Improvements	1 - CH, 1 - OC, 2 - C	0.97	0.97	1	278.67	no	0	Positive	4	Positive	4	Positive	4	Unfunded	0	2	2	15
14	Piney Mountain Road Improvements	4 - CH	0.57	no	0	109.56	no	0	Positive	4	Positive	4	Positive	4	Unfunded	0	3	3	15
15	NC 751 Widening	1 - CC	1.31	1.31	4	151.6	no	0	LowNeg	3	LowNeg	3	Neutral	3	Unfunded	0	1	1	14
16	NC 54 (I-40 east to 55) Widening	5 - D 5 - DC	1.19	1.19	3	664.28	664.28	2	HighNeg	0	LowNeg	3	Neutral	3	Unfunded	0	3	3	14
17	Old Oxford Highway Widening	8 - D 8 - DC	1.2	1.2	3	826.16	826.16	3	LowNeg	3	MedNeg	2	HighNeg	0	Unfunded	0	3	3	14
18	Estes Drive Improvements	3 - CH	1.01	1.01	2	405.15	405.15	1	Positive	4	Positive	4	Positive	4	Unfunded	0	2	2	13
19	Fayetteville Road Widening	4 - D 4 - DC	1.11	1.11	2	700.42	700.42	3	LowNeg	3	MedHNeg	1	MedNeg	1	Unfunded	0	3	3	13
20	Perry Harrison School Turn Lanes	4 - CC	0.16	no	0	1072.1	1072.1	4	LowNeg	3	LowNeg	3	Neutral	3	Unfunded	0	0	0	13
21	US 70 (Lynn Rd. to Wake County Line) Convert to Freeway	6 - D 6 - DC	1.24	1.24	4	297.97	no	0	MedNeg	2	LowNeg	3	Neutral	3	Unfunded	0	1	1	13
22	NC 54 (I-40 to Barbee-Chapel) Widening	10 - D 10 - DC	1.89	1.89	4	256.29	no	0	HighNeg	0	LowNeg	3	Neutral	3	Unfunded	0	3	3	13
23	Northern Durham Parkway	7 - D 7 - DC	1.24	1.24	4	669.05	669.05	2	HighNeg	0	MedHNeg	1	LowNeg	2	Unfunded	0	3	3	12

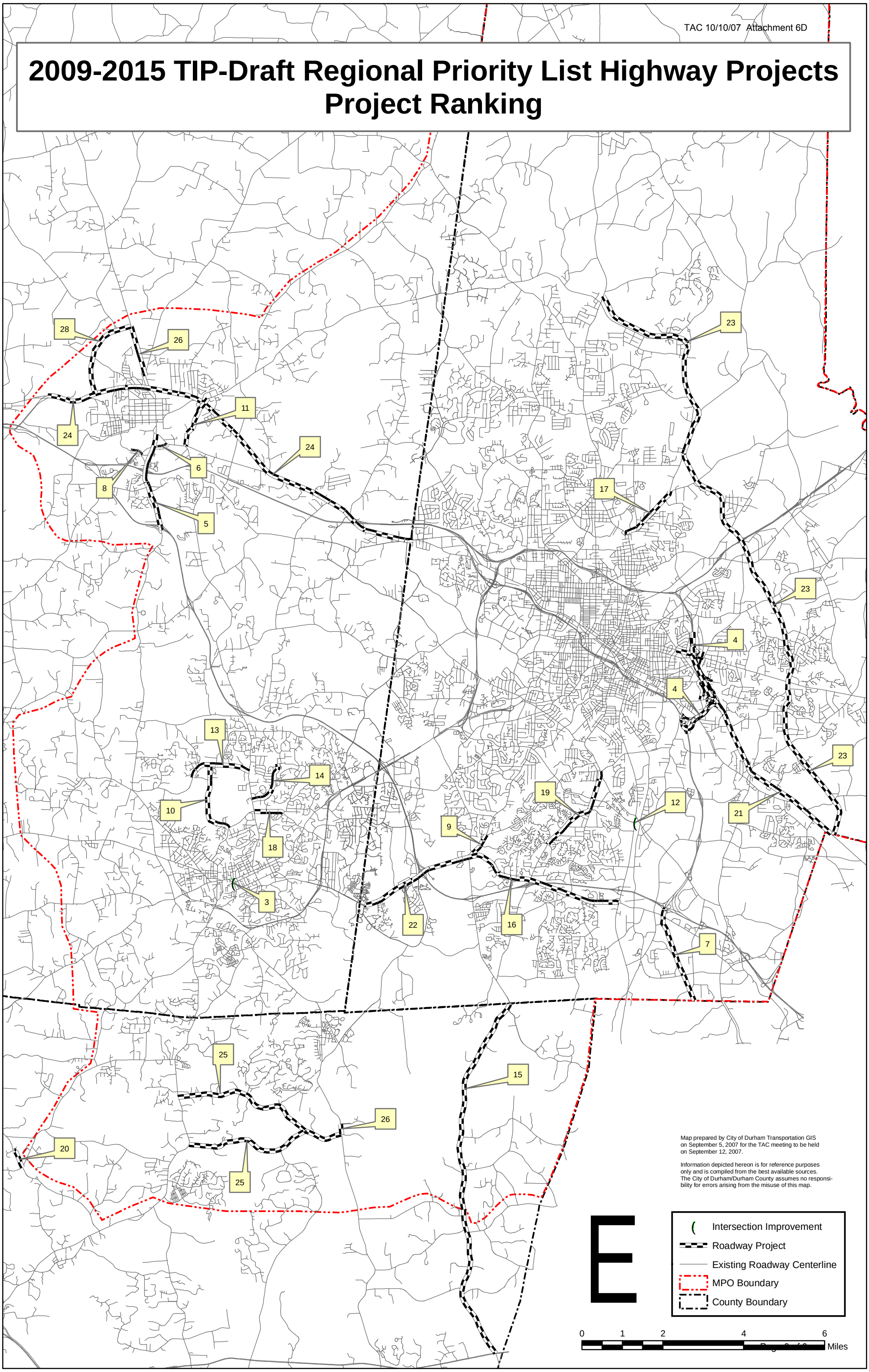
			1: Travel Demand			2: Safety			3: Environmental Impacts		4: Community Impacts		5: Environmental Justice Impacts		6: Funding Status		7: Benefits to Other Modes or Deployment of New Technology		
Rank	Name	Local Priority #	v/c	v/c >0.8?	Points	Accident Rate	Accident Rate>300?	Points	Impact	Points	Impact	Points	Impact	Points	Percent funded	Points	Number of modes	Points	Total Points
24	US 70 Bypass Widening	3 - H, 4 - OC	1.03	1.03	2	310	310	1	MedHNeg	1	LowNeg	3	LowNeg	2	Unfunded	0	2	2	11
25	Jack Bennett/Lystra Rd Safety Improvements	2 - CC	0.54	no	0	n/a	no	0	LowNeg	3	LowNeg	3	LowNeg	2	Unfunded	0	1	1	9
26 (tied)	NC 86 North Widening	3 - OC	0.94	0.94	1	363	363	1	Positive	4	MedHNeg	1	LowNeg	2	Unfunded	0	0	0	9
26 (tied)	N. Chatham School Turn Lanes	3 - CC	0.69	no	0	n/a	no	0	LowNeg	3	LowNeg	3	Neutral	3	Unfunded	0	0	0	9
28	Western Bypass	5 - H	0.62	no	0	804.76	804.76	3	MedHNeg	1	Positive	4	MedNeg	1	Unfunded	0	0	0	9

Key:

CH (Chapel Hill)	v/c<0.80	no	0	Accident Rate<300	no	0	HighNeg	0	HighNeg	0	HighNeg	0	Unfunded	0	0	0	
C (Carrboro)	Fourth Quartile	0.8	1	Fourth Quartile	300	1	MedHNeg	1	MedHNeg	1	MedNeg	1	Post Year	1	1	1	
OC (Orange Co)	Third Quartile	1	2	Third Quartile	414.09	2	MedNeg	2	MedNeg	2	LowNeg	2	5%+	2	2	2	
D (Durham)	Second Quartile	1.14	3	Second Quartile	684.735	3	LowNeg	3	LowNeg	3	Neutral	3	10%+	3	3	3	
DC (Durham Co)	First Quartile	1.24	4	First Quartile	1032.54	4	Positive	4	Positive	4	Positive	4	25%+	4	4	4	
CC (Chatham Co)	Other	Other	4	Other	Other	4											
H (Hillsborough)																	
TTA																	

TAC 10/10/07 Attachment 6D

2009-2015 TIP-Draft Regional Priority List Highway Projects Project Ranking



TAC 10/10/07 Attachment 6E

From: Grossman, Jan [Jan.Grossman@DOWREICHHOLD.COM]
Sent: Wednesday, September 26, 2007 8:12 AM
To: Beckmann, Ellen
Subject: 2009-2015 Bicycle Project Ranking

I use my bicycle for transportation, shopping, recreation etc. and wish to comment on some of the bicycle projects listed in your 2009-2015 plan.

#35 You list NC 86 as a "collector" road and not an "arterial'. I don't understand this designation. Route 86 is a major road between Chapel Hill and Hillsborough and is a direct route for cyclists. Connectivity is listed as a "1" however this road is on the county's list for adding a bike lane and this bike lane would continue the existing one coming from Chapel Hill.

#46 Old NC86 is also a very heavily traveled route for cars and cyclists between Carrboro and Hillsborough. Why is this listed as a "collector" (not arterial) road? This one got a "0" on connectivity and yet it is on OC's list of roads requesting a bike lane. It is the most direct route between Carrboro and Hillsborough and is used extensively by bicycle commutors. How much more "connection" does a road need to get a higher rating?

#47 Same comments as #46 about connectivity. It appears that you recognize the Old 86 is an "arterial" for this section.

#48 To consider Eubanks Rd as a "local" is pretty humorous. This is a major cut through road between Old NC86 and MLK Blvd/ I40. This section is having a new school and soccer park being built and the CH Town Operations Center sends tons of vehicles past here every day. That's not to mention the traffic to the Recycling Center and the County Landfill. Concerning "connectivity", this road is a major route for cyclists to get from Old 86 to roads east of New 86. The cyclists go east on Eubanks and then take the bike lane on Millhouse. They can cross New 86 and continue on Mt Sinai Rd.

Jan Grossman
1222 Blackwood Mountain Road
Chapel Hill, NC 27516

MEMORANDUM

TO: Transportation Advisory Committee (TAC)
DCHC MPO

FROM: Lead Planning Agency

DATE: October 10, 2007

RE: 2007-2008 Unified Planning Work Program (UPWP) Amendment #1 – Special Transit Advisory Committee (STAC)

There are two actions that have been recommended by the TCC.

1. One action is to approve the use of STP-DA funds for a portion of the original contract with Institute for Transportation Research and Education (ITRE) for support services for the Special Transit Advisory Committee (STAC). The TAC reviewed this contract in March 2007 but has not formally identified the source of the funds for the DCHC MPO's share of the contract.
2. The second action is to approve the use of STP-DA funds for an amendment to the contract with ITRE for support services for the STAC. The TAC has not yet reviewed this request which would extend the contract and increase the contract amount.

Both of these actions would require an amendment to the 2007-2008 UPWP. Attachment 7A is a resolution approving Amendment #1 to the 2007-2008 UPWP. There are two tables on the attachment to this amendment. The first table displays the original contract and the second table includes the original contract plus the contract amendment. The TCC recommendation is that the TAC approve the UPWP amendment providing STP-DA funds for both the original contract and the contract amendment (the second table). The first table is provided for reference if the TAC decides to approve only the funds for the original contract and not the contract amendment.

Original STAC Contract

In spring 2007, the DCHC MPO and CAMPO established the Special Transit Advisory Committee (STAC). The STAC has been meeting every three weeks for several months working towards developing transit recommendations for the two MPOs's Long Range Transportation Plans. The Triangle Transit Authority (TTA) has a contract with the Institute for Transportation Research and Education (ITRE) for support services for the STAC for $100,000 through December 31, 2007. At the March TAC meeting, the TAC agreed to provide funds for 20% of this contract, or $20,000. The contract would be split as follows:

CAMPO (LPA, City of Raleigh)	$30,000
DCHC MPO (LPA, City of Durham)	$20,000
TTA	$25,000
NCDOT	$25,000
Total	$100,000

The City of Durham, City of Raleigh, and TTA have entered into an inter-local agreement for reimbursement of the contract.

The TAC has not yet identified the source of funding for its portion of the STAC Contract. The TCC recommends that the TAC use federal STP-DA funds which require a 20% local match. Attachment 7A is Amendment #1 to the 2007-2008 UPWP which will provide $20,000 for the STAC contract, 80% federal ($16,000) and 20% local match ($4,000). The local match is proposed to be provided by the City of Durham, the Town of Chapel Hill, and Durham County. The DCHC MPO share would be split as follows:

STP-DA federal funds (80%)	$16,000
City of Durham (10%)	$2,000
Town of Chapel Hill (6.67%)	$1,333
Durham County (3.33%)	$667
Total	$20,000

STAC Contract Amendment

The TCC recommends that the TAC approve an additional allocation of STP-DA funds to reimburse the TTA for an amendment to the contract between TTA and the ITRE for support services for the STAC. The proposed contract amendment is to extend the period of performance from December 31, 2007 to March 15, 2008 and to increase the contract amount from $100,000 to $150,000. The TTA will be bringing this contract amendment to their Board in October.

The contract scope of work has taken longer than anticipated and the STAC co-chairs are making plans for at least two more STAC meetings beyond the October 31, 2007 presentation to the Joint MPO TAC. This action alone will produce a deficit of at least $16,260 unless additional funds are authorized. TTA and ITRE staffs are requesting an extension to March 15, 2008 and a corresponding increase in contract value of $50,000.

Original Contract Value	$100,000
Increase in contract through December 31, 2007	$16,260
10 additional weeks at the monthly expense rate	$29,065
10% contingency on scope beyond October 31, 2007	$4,532
Total Cost Estimate	$149,857
Suggested Not-to-Exceed Contract Value	**$150,000**

As with the original contract, TTA is requesting that the DCHC MPO contribute 20%, or $10,000 of the additional funds needed. The TCC recommends that this also be provided using STP-DA funds through Amendment #1 to the 2007-2008 UPWP (Attachment 7A). The DCHC MPO share of the contract amendment would be as follows:

STP-DA federal funds (80%)	$8,000
City of Durham (10%)	$1,000
Town of Chapel Hill (6.67%)	$667
Durham County (3.33%)	$333
Total	$10,000

TCC Recommendation

The TCC recommendation is that the TAC approve Amendment #1 to the 2007-2008 UPWP (Attachment 7A) to provide the STP-DA funds for both the original contract and the contract amendment. The total DCHC MPO STP-DA funds needed for the original contract and the contract amendment would be $30,000 ($24,000 federal and $6,000 local match). The DCHC MPO portion of these funds would be split as follows:

STP-DA federal funds (80%)	$24,000
City of Durham (10%)	$3,000
Town of Chapel Hill (6.67%)	$2,000
Durham County (3.33%)	$1,000
Total	$30,000

If the TAC elects not to approve funding for the contract amendment, the TCC recommendation that the TAC approve funding for the original contract should be considered. In this case the DCHC MPO portion would be split as follows:

STP-DA federal funds (80%)	$16,000
City of Durham (10%)	$2,000
Town of Chapel Hill (6.67%)	$1,333
Durham County (3.33%)	$667
Total	$20,000

RESOLUTION

TO APPROVE AMENDMENT #1 TO THE FY 2007-2008 UNIFIED PLANNING WORK PROGRAM OF THE DURHAM-CHAPEL HILL-CARRBORO METROPOLITAN PLANNING ORGANIZATION (DCHC MPO)

October 10, 2007

A motion was made by TAC Member _____ and seconded by TAC Member _____ for the adoption of the following resolution, and upon being put to a vote was duly adopted.

WHEREAS, A comprehensive and continuing transportation planning program must be carried out cooperatively in order to ensure that funds for transportation planning projects are effectively allocated to the DCHC MPO; and

WHEREAS, The Durham-Chapel Hill-Carrboro MPO requests an amendment to the 2007-2008 UPWP as outlined on the attached tables; and

WHEREAS, Members of the Transportation Advisory Committee agree that the Unified Planning Work Program amendment effectively advances transportation planning for 2007-2008

Now, therefore, be it resolved that the Transportation Advisory Committee hereby endorses Amendment #1 of the Durham-Chapel Hill-Carrboro Urban Area Unified Planning Work Program for the FY 2007-2008 as described in the attached sheet.

I, Alice M. Gordon, Transportation Advisory Committee Chair, do hereby certify that the above is a true and correct copy of an excerpt from the minutes of a meeting of the Durham-Chapel Hill-Carrboro Urban Area Transportation Advisory Committee, duly held on the 10th day of October, 2007.

_____
Signature of TAC Chair
Durham-Chapel Hill-Carrboro Metropolitan Planning Organization

STATE OF: North Carolina
COUNTY OF: Durham

I, _____, a Notary Public of _____County, North Carolina do hereby certify that Alice M. Gordon personally appeared before me on ___day of _____, 2007 to affix her signature to the foregoing document.

_____
Notary Public

101 City Hall Plaza
Durham, NC 27701

My commission expires:_____

Durham-Chapel Hill-Carrboro Urban Area
FY 2007-2008 Unified Planning Work Program - Amendment #1 (October 10, 2007 TAC)
Funding Source Tables - Detail Revision Tables

****One of the following tables will be attached to the UPWP Amendment Resolution depending on the TAC's action. The TCC recommendation is that the second table be approved.****

Funding Source Table for the original STAC Contract
City of Durham - The Lead Planning Agency (LPA)

				STP-DA 133(b)(3)(7) Funds					
				Original		*Proposed*			
				2007-08 UPWP April 11, 2007 TAC		*Amendment #1 Oct 10, 2007 TAC*		*Difference (Change)*	
			Task Description	**Local 20%**	**FHWA 80%**	**Local 20%**	**FHWA 80%**	**Local 20%**	**FHWA 80%**
II	**B**		**Long Range Transportation Plan**						
		10	Transit Element of the LRTP	1,625	6,500	*5,625*	*22,500*	**4,000**	**16,000**
			Net Change					**$4,000**	**$16,000**

OR

Funding Source Table for the original STAC Contract + the Contract Amendment
City of Durham - The Lead Planning Agency (LPA)

				STP-DA 133(b)(3)(7) Funds					
				Original		*Proposed*			
				2007-08 UPWP April 11, 2007 TAC		*Amendment #1 Oct 10, 2007 TAC*		*Difference (Change)*	
			Task Description	**Local 20%**	**FHWA 80%**	**Local 20%**	**FHWA 80%**	**Local 20%**	**FHWA 80%**
II	**B**		**Long Range Transportation Plan**						
		10	Transit Element of the LRTP	1,625	6,500	*7,625*	*30,500*	**6,000**	**24,000**
			Net Change					**$6,000**	**$24,000**

Draft: ~~Strikeout~~ = deletion Underline = addition

2035 Long Range Transportation Plan
Goals and Objectives

1. Overall Transportation System

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

Objectives:

a) Establish performance standards that will measure the effectiveness of the urban area's overall transportation system in supporting access to goods, services, activities, and destinations.
b) Select and program transportation projects, which are consistent with community goals and are a cost-effective use of funds.
c) Develop and maintain a multi-modal regional transportation model that reflects travel patterns and incorporates innovative techniques for evaluating the impacts of proposed transportation investments on travel and land use patterns.
d) Promote non-automobile transportation alternatives and create efficient connections between all transportation modes.
e) Conserve natural resources and reduce the rate of energy consumption.
f) Develop cooperative strategies with employers to reduce congestion and increase the efficiency of the transportation system.
g) Use transportation funds based on the priority needs of the urban area, in keeping with community values~~, and explore new funding options~~.
h) Seek additional funding and funding sources to ensure implementation of the long range plan.
i) Monitor the implementation of the Plan and the targets through the biannual TIP process.
j) Ensure that the transportation needs are met for all populations especially for the youth and elderly, the mobility impaired, and the economically disadvantaged are met.
k) Work cooperatively with the North Carolina Department of Transportation, neighboring Metropolitan Planning Organizations and Rural Planning Organizations and other transportation-related organizations to address the transportation issues of the broader region.

2. Multi-Modal Street and Highway

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

Objectives:

a) Establish performance standards and report on the condition and effectiveness of the multi-modal street and highway system.
b) Create multi-modal street patterns that: encourage safe pedestrian, bicycle, and vehicular travel; provide access to public transportation; and ensure connectivity.
c) Develop and implement level of service (LOS) standards for the urban area that are based on a cooperative agreement between state and local agencies.
d) Preserve and enhance the traffic carrying capacity of arterial street systems, while minimizing traffic intrusion in residential neighborhoods.
e) Identify and recommend design standards that: establish safe speeds; increase pedestrian and bicycle usage of streets; and enhance the attractiveness and appeal of the street and highway system.

3. Public Transportation System

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

Objectives:

a) Establish performance standards and report on the condition and effectiveness of the public transportation system.
b) Increase public transit ridership by enlarging the service area and increasing the frequency of service ~~to~~ within the urban area.
c) Coordinate transit service within the urban area by promoting high quality, seamless, integrated, and customer-friendly service.
d) Expand ridesharing, carpool, and vanpool services and opportunities.
e) Develop and implement alternatives to the use of single occupant vehicles, including high occupancy vehicle (HOV) facilities and regional rail services.
f) Develop and implement the Regional Transit Plan.
g) Develop a regional park and ride system for cars and bicycles to support transit services and encourage ridesharing.
~~h)Ensure that the transportation needs of the youth and elderly, the mobility impaired, and the economically disadvantaged are met.~~
~~i)Identify and recommend land use patterns, parking requirements, and development regulations, which create compact, mixed use, transit-friendly, walkable development.~~
~~j)Identify and recommend ways that the state and the urban area should work together to maintain and enhance the quality of public transportation service throughout the urban area.~~

4. Pedestrian and Bicycle System

Goal: A pedestrian and bicycle system that: provides ~~an~~ a safe alternative means of transportation; allows greater access to public transit; ~~and~~ supports recreational opportunities; includes off-road trails~~.~~

Objectives:

a) Establish performance standards and report on the condition and effectiveness of the pedestrian and bicycle system.
b) Maintain and ~~Develop and~~ implement a Regional Pedestrian Plan and a Regional Bicycle Plan.
~~c) Update and maintain the Regional Bicycle Plan.~~
~~d)~~c) Identify and recommend ways that local governments may provide adequate staff and resources to meet the goals of their pedestrian and bicycle programs.
~~e)~~d) Develop a regional bicycle and pedestrian policy that establishes linkages between activity centers and provides for access to public transit.
~~f)~~e) Ensure that bicycle and pedestrian facilities are included in the planning, design, and construction of every roadway~~s~~ and development project~~, where applicable~~ including the connection to external transportation facilities, in accordance with bicycle and pedestrian plans and local ordinances.
~~g)~~f) Increase education about the benefits of pedestrian and bicycle alternatives.
~~h)~~g) Support the enforcement of pedestrian and bicycle regulations.
~~i)~~h) Pursue strong funding commitment for building both pedestrian and bicycle facilities.
~~j)~~i) Provide greater safety for pedestrians and bicyclists of all levels of ability, and safer interaction with users of other modes of transportation.
~~k)~~j) Encourage the efforts and activities of citizen advocacy groups for pedestrian and bicycling by providing information and support for their programs.
~~l) Promote the construction of bicycle and pedestrian facilities that will encourage greater use of these modes by the public.~~

5. Integration of Land Use and Transportation

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

Objectives:

a) Establish performance standards and report on the integration and consistency of the Transportation Plan with local land use plans and development policies.
b) Create transportation systems that enhance the livability of all communities.
~~c) Identify and recommend land use patterns that improve and support transportation efficiency.~~
~~d)~~c) Identify the impacts of different land use patterns and site designs on travel behavior.
~~e)~~d) Evaluate the changes in land use brought about by the expansion of existing transportation facilities and the construction of new facilities.

~~f~~)e) Identify and recommend land use patterns, parking requirements and development policies that increase overall mobility and that improve and support transportation efficiency, and compact, mixed-use, transit-friendly, and walkable development.

6. Protection of Natural Environment and Social Systems

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

Objectives:

a) Establish performance standards and report on transportation impacts on the public health, natural environment, cultural resources, and social systems.
b) Protect and preserve archaeological, historic, and culturally valuable areas.
c) Identify and protect environmentally sensitive areas early in the planning process.
d) Develop and implement modifications to the transportation system that reduce the rate of growth in vehicle miles traveled (VMT).
e) Modify the transportation system to reduce the pollutants in highway runoff and the vehicle emissions, in accordance with federal, state and local Clean Air and Water legislation.
f) Minimize the noise and dust generated by transportation facilities in neighborhoods and the urban area.
~~g) Preserve culturally diverse areas of the region.~~
~~h~~)g) Ensure that transportation facilities do not negatively ~~effect~~ affect disadvantaged populations disproportionately.
h) Develop and implement a transportation system that supports the reduction of greenhouse gases and carbon production and is coordinated with local greenhouse gas and carbon reduction plans.

7. Public Involvement

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

Objective:

a) Establish performance standards and report on the effectiveness of the public involvement element of the Transportation Plan.
~~b)~~Encourage a broad cross section of citizens to take a proactive role in the public policy and transportation planning process. ~~development of the Transportation Plan.~~
~~c~~)b) ~~Bring a broad cross-section of members of the public into the public policy and transportation planning decision-making process.~~

~~d)~~c) Educate the public and elected officials, in order to increase public understanding of both the options and the constraints of transportation alternatives.

~~e)~~d) Determine the public's knowledge of the metropolitan transportation system, and public values, ~~and~~ attitudes and concerns regarding ~~concerning~~ transportation.

~~f) Determine public concerns and/or perceived impacts of elements of the Transportation Plan.~~

~~g)~~e) Determine which elements of the Transportation Plan would support or diminish the public's desired lifestyle.

8. Safety and Security

Goal: Continue to improve transportation safety and ensure the security of the transportation system.

Objective:

a) Reduce fatality, injury, and crash/incident rates on all modes.
b) Reduce vulnerability of transportation facilities/users to terrorists, natural disasters and risks by implementing and monitoring an evaluation plan, and working with the regional emergency management team.
c) Reduce economic losses due to transportation crashes and incidents.
d) Improve the ability to identify high accident locations, and evaluate their impacts in TIP project prioritization.
e) Provide a safe environment for transportation users through the "3 Es" (Engineering, Enforcement and Education).
f) Increase transit safety and security for riders and employees.

9. Freight Transportation and Urban Goods Movement

Goal: Improve mobility and accessibility of freight and urban goods movement.

Objective:

a) Relieve congestion on heavily-traveled truck routes.
b) Improve mobility and access to intermodal operations and facilities.
c) Establish and designate truck routes consistent with federal, state and local regulations.

Durham-Chapel Hill Carrboro Metropolitan Planning Organization (DCHC MPO)

Goals and Objectives Summary (as of September 12, 2007)

Background

The MPO has published a draft set of Goals and Objectives for a public comment period that runs from August 1 through September 12, 2007. The Goals and Objectives will guide the overall development of the 2035 Long Range Transportation Plan (2035 LRTP) and the specific tasks such as the selection of transportation projects and policies. The MPO staff has received feedback from several sources, including:

- A Web-based online survey;
- Completed comment forms that were mailed to citizens and also distributed at two public workshops; and,
- Documents in which citizens edited copies of the Goals and Objectives.

The remainder of this document provides a summary of the feedback from the comment forms and the survey.

Full Documentation Available

A compilation of all the completed comment forms and a summary of the online survey are available for review on the MPO's Web site – www.dchcmpo.org.

Summary of Comment Forms

The MPO received thirty-two comment forms. Overall, the respondents support the existing Goals and Objectives, especially those related to the Bicycle and Pedestrian transportation, Natural Resources and Environment, Public Transportation, and Land Use integration. Some respondents believed the list of Goals and Objectives could be consolidated to reduce redundancy. Several contemporary issues were often identified as the motive for supporting a certain Goal or Objective; these issues include global warming, fossil fuel depletion, sustainability and health and exercise.

The remainder of this section provides an additional summary of the major (i.e., often identified) and minor themes (i.e., identified enough to merit mentioning).

Major Themes

Bicycle and Pedestrian – This transportation mode received the most frequent support among respondents, and some people believed that new development should be required to connect to a planned bicycle and pedestrian system. Others

identified this transportation mode as essential to a multimodal transportation system and a necessary alternative for low-income people.

Public Transportation – This transportation mode received strong support, and was frequently identified as essential to a sustainable and equitable transportation system, and a healthy environment.

Natural Environment and Social Systems – This goal received strong support, and was often identified as a product of a balanced, multimodal transportation system.
Integration of Land Use and Transportation – This goal received strong support, and was often identified as a necessary condition to support public transportation, a multimodal transportation system, the natural environment and other Goals.

Overall Transportation System – A balanced, multimodal transportation system received fairly strong support, and a few respondents identified this Goal as one that would lead to the accomplishment of the other Goals.

Opportunity for Input Appreciated – Many respondents commented that they appreciated the opportunity to provide input to the transportation planning process.

Good Set of Goals – Many respondents believed the set of Goals and Objectives were very comprehensive and specific enough for planning purposes.

Reduce and Clarify – Some respondents believed there were too many Goals and Objectives. They believed that the redundant, "self-evident," and overly generalized Goals and Objectives could be eliminated. A few respondents wanted them to be more specific or attached to a measurement.

Minor Themes

Implementation – Some respondents believed the Goals and Objectives were good but that implementation was lacking.

Money and funding – The need for additional transportation funding was identified several times.

Seniors, Children, Low-Income and Good Health – The need to support non-automobile transportation modes, such as transit, and bicycle and pedestrian transportation, was identified as essential for the seniors, children and low-income population, and for good health.

Summary of Survey

The MPO developed an online survey to capture the public's level of support for the various Goals and Objectives. The survey Web link was distributed to citizens by mail and electronic mail (approximately 1,000 citizens are on the mailing address list), and was often redistributed by a neighborhood or interest group to its members. At this point, there have been 191 survey respondents. This section summarizes the two main survey parts. A copy of the original survey summary, which includes a few additional questions and general socioeconomic data on the respondents, is available on the MPO's Web site – www.dchcmpo.org, and as Attachment 8C in the September 12, 2007 TAC meeting packet. Please note that the survey incorporated two draft Goals based on the requirements of the most recent federal transportation legislation, i.e., SAFETEA-LU. These two draft Goals are Safety and Security, and Freight Transportation.

Support for Goals

The survey asked respondents to award points to Goals based on their level of support. They could award a total of 100 points among the nine Goals, but no more than 20 points to any single Goal. The results in the table below list the Goals in their order of overall support, and provide response data to indicate the relative strength of support. Support appears to be strong for all Goals except Public Involvement, Safety and Security and Freight, shown below the solid black line in the table below.

No.	Goal	Total Points	Mean
1	Public Transportation System	180	15.2
2	Overall Transportation System	176	16.2
3	Pedestrian and Bicycle System	176	16.0
4	Protection of the Natural Environment and Social Systems	175	14.8
5/6	Multimodal Street and Highway	172	16.2
5/6	Integration of Land Use and Transportation	170	12.3
7	Public Involvement	148	8.9
8	Safety and Security	133	9.5
9	Freight Transportation	122	5.4

Support for Objectives

The survey asked respondents to award points to clusters of similar Objectives based on their level of support. They could award a total of 100 points among the twenty groups of Objectives, but no more than 10 points to any single Goal. The results in the table below lists the groups of Objectives in their order of overall support, and provides response data to indicate the relative strength of support. Support appears strongest among non-automobile transportation modes, preservation of the environment and community assets, and reduced resource consumption, shown above the solid black line in the table on the next page.

No.	Group of Objectives	Total Points	Mean
1	Clean air and clean water	181	8.8
2	Bicycle transportation	174	8.3
3	Public transportation	173	8.4
4	Reduce gas and electrical consumption	172	8.1
5	Preserve historic and valued sites, natural areas and plants and animals	170	7.8
6	Land use to support bicycling and walking	169	8.2
7	Pedestrian transportation	167	7.8
8	Agency coordination	162	6.9
9	Educate public on safety and multimodal use	146	5.8
10	Transportation projects that are beautiful and functional	143	6.1
11	Cost efficient transportation projects	136	6.6
12	Low-income and minorities in decision-making process	130	5.2
13	Seek innovative funding mechanisms	128	5.8
14	Reduce congestion on roads	125	5.8
15	Projects should reflect local community values	125	5.2
16	Adopt uniform performance standards	122	5.6
17	Accommodate freight	120	4.9
18	Monitor and communicate progress	119	4.8
19	Make transportation system safer	110	4.6
20	Greater security	97	3.3

A RESOLUTION PROVIDING COMMENTS AND RECOMMENDATIONS TO THE DURHAM-CHAPEL HILL-CARRBORO TRANSPORTATION ADVISORY COMMITTEE ON THE DRAFT 2035 LONG RANGE TRANSPORTATION PLAN GOALS AND OBJECTIVES.

WHEREAS; the Durham-Chapel Hill-Carrboro Urban Area has begun the development of a 2035 Long Range Transportation Plan; and

WHEREAS, the Durham-Chapel Hill-Carrboro Transportation Advisory Committee has released draft 2035 Goals and Objectives intended to guide the development of the 2035 Plan; and

WHEREAS, the Town Council has reviewed the draft 2035 Goals and Objectives.

NOW, THEREFORE, BE IT RESOLVED, by the Council of the Town of Chapel Hill, that the Council endorses the draft 2035 Long Range Transportation Plan with the following modifications:

The following objective should be added to goal 6, Protection of Natural Environment and Social Systems.

- Develop and implement a transportation system that supports the reduction of greenhouse gases and carbon production and is coordinated with local greenhouse gas and carbon reduction plans.

Goal 1, Overall Transportation System should be amended as follows:

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

Goal 4, Pedestrian and Bicycle System should be amended as follows:

- A pedestrian and bicycle system that: provides a <u>safe</u> alternative means of transportation; allows greater access to public transit; and supports recreational opportunities.

This the 10th day of September, 2007

2030 LONG RANGE TRANSPORTATION PLAN

GOALS AND OBJECTIVES

September 12, 2007, (DCHC-MPO) public hearing suggestions by Bob Jentsch, 3906 Springstop Lane, Durham, North Carolina 27705

- As part of 1. Overall Transportation System

  Goal: add a definition of multi-modal that includes "off-road trails, pedestrian and bicycle systems."

- As part of 4. Pedestrian and Bicycle System

  Change Objective f) to read as follows:

"Ensure that bicycle and pedestrian facilities are included in the planning, design, and construction of roadways by requiring that all development plan, site plan, and subdivision plans designate a comprehensive pedestrian and bicycle system that not only connects all elements within the development but also connects the development to adjacent and nearby developments, bicycle and pedestrian systems, trails, greenways, open space and transit stops."

2035 Goals and Objectives
Relationship to FHWA Planning Factors

Goals and Objectives / Planning Factors	**Economic Vitality**: Productivity and Efficiency	**Safety of Transportation**: Motorized and Nonmotorized Users	**Security of Transportation**: Motorized and Nonmotorized Users	**Access and Mobility**: Accessibility for people and freight	**Environment**: Energy, Conservation, Quality of Life, consistency between planned growth and economic development	**Integration and Connectivity**: People and Freight	**Management and Operation**: Efficient system	**System Preservation**
Goal 1: Overall Transportation System								
1a Establish performance standards that will measure the effectiveness of the urban area's overall transportation system in supporting access to goods, services activities, and destinations.							√	
1b Select and program transportation projects, which are consistent with community goals and are a cost-effective use of funds					√			
1c Develop and maintain a multi-modal regional transportation model that reflects travel patterns and incorporates innovative techniques for evaluating the impacts of proposed transportation investments on travel and land use patterns					√			
1d Promote non-automobile transportation alternatives and create efficient connections between all transportation modes				√				
1e Conserve natural resources and reduce the rate of energy consumption					√			
1f Develop cooperative strategies with employers to reduce congestion and increase the efficiency of the transportation system	√			√				
1g Use transportation funds based on the priority needs of the urban area, in keeping with community values.							√	
1h Seek additional funding and funding sources to ensure implementation of the long range plan								
1i Monitor the implementation of the Plan and the targets through the biannual TIP process							√	
1j Ensure that the transportation needs of the youth and elderly, the mobility impaired, and the economically disadvantaged are met.				√				
1k Work cooperatively with the North Carolina Department of Transportation, neighboring Metropolitan Planning Organizations and Rural Planning Organizations and other transportation-related organizations to address the transportation issues of the broader region.								

2035 Goals and Objectives
Relationship to FHWA Planning Factors

Goals and Objectives / Planning Factors	**Economic Vitality**: Productivity and Efficiency	**Safety of Transportation**: Motorized and Nonmotorized Users	**Security of Transportation**: Motorized and Nonmotorized Users	**Access and Mobility**: Accessibility for people and freight	**Environment**: Energy, Conservation, Quality of Life, consistency between planned growth and economic development	**Integration and Connectivity**: People and Freight	**Management and Operation**: Efficient system	**System Preservation**
Goal 2: Multi-Modal Street and Highway								
2a Establish performance standards and report on the condition and effectiveness of the multi-modal street and highway system							√	√
2b Create multi-modal street patterns that; encourage safe pedestrian, bicycle, and vehicular travel; provide access to public transportation; and ensure connectivity		√		√		√		
2c Develop and implement level of service (LOS) standards for the urban area that are based on a cooperative agreement between state and local agencies.				√			√	
2d Preserve and enhance the traffic carrying capacity of arterial street systems, while minimizing traffic intrusion in residential neighborhoods		√			√			
2e Identify and recommend design standards that: establish safe speeds; increase pedestrian and bicycle usage of streets; and enhance the attractiveness and appeal of the street and highway system		√						

2035 Goals and Objectives
Relationship to FHWA Planning Factors

Goals and Objectives / Planning Factors	**Economic Vitality**: Productivity and Efficiency	**Safety of Transportation**: Motorized and Nonmotorized Users	**Security of Transportation**: Motorized and Nonmotorized Users	**Access and Mobility**: Accessibility for people and freight	**Environment**: Energy, Conservation, Quality of Life, consistency between planned growth and economic development	**Integration and Connectivity**: People and Freight	**Management and Operation**: Efficient system	**System Preservation**
Goal 3 - Public Transportation System								
3a Establish performance standards and report on the condition and effectiveness of the public transportation system							√	
3b Increase public transit ridership by enlarging the service area and increasing the frequency of service to the urban area.				√				
3c Coordinate transit service within the urban area by promoting height quality, seamless, integrated, and customer-friendly service						√		
3d Expand ridesharing, carpool, and vanpool services and opportunities				√				
3e Develop and implement alternative to the use of single occupant vehicles, including high occupancy vehicle (HOV) facilities and regional rail services						√		
3f Develop and implement the Regional Transit Plan				√				
3g Develop a regional park and ride system for cars and bicycles to support transit services and encourage ridesharing						√		

2035 Goals and Objectives
Relationship to FHWA Planning Factors

Goals and Objectives / Planning Factors	**Economic Vitality**: Productivity and Efficiency	**Safety of Transportation**: Motorized and Nonmotorized Users	**Security of Transportation**: Motorized and Nonmotorized Users	**Access and Mobility**: Accessibility for people and freight	**Environment**: Energy, Conservation, Quality of Life, consistency between planned growth and economic development	**Integration and Connectivity**: People and Freight	**Management and Operation**: Efficient system	**System Preservation**
Goal 4 - Pedestrian and Bicycle System								
4a Establish performance standards and report on the condition and effectiveness of the pedestrian and bicycle system								
4b Maintain and implement a Regional Pedestrian Plan								
4c Identify and recommend ways that local governments may provide adequate staff and resources to meet the goals of their pedestrian and bicycle programs								
4d Develop a regional bicycle and pedestrian policy that establishes linkages between activity centers and provides for access to public transit				√				
4e Document whether and how bicycle and pedestrian facilities are included in the planning, design, and construction of every roadway project and every development, site and subdivision plan, including the connection to external transportation facilities.						√		
4f Increase education about the benefits of pedestrian and bicycle alternatives								
4g Support the enforcement of pedestrian and bicycle regulations								
4h Pursue strong funding commitment for building both pedestrian and bicycle facilities								
4i Provide greater safety for pedestrians and bicyclists of all levels of ability, and safer interaction with users of other modes of transportation			√					
4j Encourage the efforts and activities of citizen advocacy groups for pedestrian and bicycling by providing information and support for their programs								

2035 Goals and Objectives
Relationship to FHWA Planning Factors

Goals and Objectives / Planning Factors	**Economic Vitality**: Productivity and Efficiency	**Safety of Transportation**: Motorized and Nonmotorized Users	**Security of Transportation**: Motorized and Nonmotorized Users	**Access and Mobility**: Accessibility for people and freight	**Environment**: Energy, Conservation, Quality of Life, consistency between planned growth and economic development	**Integration and Connectivity**: People and Freight	**Management and Operation**: Efficient system	**System Preservation**
Goal 5 - Integration of Land Use and Transportation								
5a Establish performance standards and report on the integration and consistency of the Transportation Plan with local land use plans and development policies					√			
5b Create transportation systems that enhance the livability of all communities					√			
5c Identify the impacts of different land use patterns and site designs on travel behavior					√			
5d Evaluate the changes in land use brought about by the expansion of existing transportation facilities and the construction of new facilities					√			
5e Identify and recommend land use patterns, parking requirements and development policies that increase overall mobility and that improve and support transportation efficiency, and compact, mixed-use, transit-friendly, and walkable development.					√			

2035 Goals and Objectives
Relationship to FHWA Planning Factors

Goals and Objectives / Planning Factors	**Economic Vitality**: Productivity and Efficiency	**Safety of Transportation**: Motorized and Nonmotorized Users	**Security of Transportation**: Motorized and Nonmotorized Users	**Access and Mobility**: Accessibility for people and freight	**Environment**: Energy, Conservation, Quality of Life, consistency between planned growth and economic development	**Integration and Connectivity**: People and Freight	**Management and Operation**: Efficient system	**System Preservation**
Goal 6 - Protection of Natural Environment and Social Systems								
6a Establish performance standards and report on transportation impacts on the public health, natural environment, cultural resources, and social systems					√			
6b Protect and preserve archaeological, historic and culturally valuable areas					√			
6c Identify and protect environmentally sensitive areas early in the planning process					√			
6d Develop and implement modifications to the transportation system that reduce the rate of growth in vehicle miles traveled (VMT)				√				
6e Modify the transportation system to reduce the pollutants in highway runoff and the vehicle emissions, in accordance with federal, state and local Clean Air and Water legislation					√			
6f Minimize the noise and dust generated by transportation facilities in neighborhoods and the urban area					√			
6g Ensure that transportation facilities do not negatively effect disadvantaged populations disproportionately					√			
6h Develop and implement a transportation system that supports the reduction of greenhouse gases and carbon production and is coordinated with local greenhouse gas and carbon reduction plans.					√			

2035 Goals and Objectives
Relationship to FHWA Planning Factors

Goals and Objectives / Planning Factors	**Economic Vitality**: Productivity and Efficiency	**Safety of Transportation**: Motorized and Nonmotorized Users	**Security of Transportation**: Motorized and Nonmotorized Users	**Access and Mobility**: Accessibility for people and freight	**Environment**: Energy, Conservation, Quality of Life, consistency between planned growth and economic development	**Integration and Connectivity**: People and Freight	**Management and Operation**: Efficient system	**System Preservation**
Goal 7 - Public Involvement								
7a Establish performance standards and report on the effectiveness of the public involvement element of Transportation Plan								
7b Encourage a broad cross section of citizens to take a proactive role in the public policy and transportation planning process.								
7c Educate the public and elected officials, in order to increase public understanding of both the options and the constraints of transportation alternatives								
7d Determine the public's knowledge of the metropolitan transportation system, and public values, attitudes and concerns toward transportation.								
7e Determine which elements of the Transportation Plan would support or diminish the public's desired lifestyle					√			

2035 Goals and Objectives
Relationship to FHWA Planning Factors

Goals and Objectives / Planning Factors	**Economic Vitality**: Productivity and Efficiency	**Safety of Transportation**: Motorized and Nonmotorized Users	**Security of Transportation**: Motorized and Nonmotorized Users	**Access and Mobility**: Accessibility for people and freight	**Environment**: Energy, Conservation, Quality of Life, consistency between planned growth and economic development	**Integration and Connectivity**: People and Freight	**Management and Operation**: Efficient system	**System Preservation**
Goal 8 - Safety and Security								
Note: Goal 8 is not in 2030's LRTP. The addition of this goal is proposed to comply with recent federal legislation changes (i.e., SAFETEA-LU)								
8a Reduce fatality, injury, and crash/incident rates on all modes		√						
8b Reduce vulnerability of transportation facilities/users to terrorists, natural disasters and risks by implementing and monitoring an evaluation plan, and working with the regional emergency management team.			√					
8c Reduce economic losses due to transportation crashes and incidents		√						
8d Improve the ability to identify high accident locations, and evaluate their impacts in TIP project prioritization.		√						
8e Provide a safe environment for transportation users through the "3 Es" (Engineering, Enforcement and Education)		√						
8f Increase transit safety and security for riders and employees.		√	√					

2035 Goals and Objectives
Relationship to FHWA Planning Factors

Goals and Objectives / Planning Factors	**Economic Vitality**: Productivity and Efficiency	**Safety of Transportation**: Motorized and Nonmotorized Users	**Security of Transportation**: Motorized and Nonmotorized Users	**Access and Mobility**: Accessibility for people and freight	**Environment**: Energy, Conservation, Quality of Life, consistency between planned growth and economic development	**Integration and Connectivity**: People and Freight	**Management and Operation**: Efficient system	**System Preservation**
Goal 9 - Freight								
Note: Goal 9 is not in 2030's LRTP. The addition of this goal is proposed to comply with recent federal legislation changes (i.e., SAFETEA-LU)								
9a Relieve congestion on heavily traveled truck routes	√					√	√	
9b Improve mobility and access to intermodal operations and facilities.	√					√	√	
9c Establish and designate truck routes consistent with federal, state and local regulations.						√		

2035 LRTP and CTP

Goals and Objectives/Measures of Efficiency

Worksheet

Goal 1 - Overall Transportation System: A safe, sustainable, efficient, attractive, multi-modal transportation system that: supports local land use; accommodates trip-making choices; maintains mobility; protects the environment and neighborhoods; and improves the quality of life for urban area residents.		
	Objectives	**Measures**
1 (a)	Establish performance standards that will measure the effectiveness of the urban area's overall transportation system in supporting access to goods, services activities, and destinations.	Do performance measures exist?
1 (b)	Select and program transportation projects, which are consistent with community goals and are a cost-effective use of funds	Benefit-Cost Ratio Linkage to Targets Cost effectiveness
1 [c]	Develop and maintain a multi-modal regional transportation model that reflects travel patterns and incorporates innovative techniques for evaluating the impacts of proposed transportation investments on travel and land use patterns.	Calibrated/validated multi-modal model that meets performance measures
1 (d)	Promote non-automobile transportation alternatives and create efficient connections between all transportation modes.	Application of weights to TIP Regional Priority List LRTP Targets Number of inter-modal connectivity Existence of Regional Pedestrian and Bicycle Plans
1 (e)	Conserve natural resources and reduce the rate of energy consumption	Meet Greenhouse Gas and emissions reduction targets
1 (f)	Develop cooperative strategies with employers to reduce congestion and increase the efficiency of the transportation system.	Implementation of Transportation Demand Management (TDM) Plan ADT VMT (vehicle miles traveled)
1 (g)	Use transportation funds based on the priority needs of the urban area, in keeping with community values.	Implementation of Public Involvement Plan Relationship between Deficiency Analysis and Needs Assessment, and adopted LRTP
1 (h)	Seek additional funding and funding sources to ensure implementation of the long range plan.	Proportion of transportation funding from non-traditional and local sources Number of feasible non traditional funding sources
1 (i)	Monitor the implementation of the Plan and the targets through the biannual TIP process.	Summary report to TAC members Number of LRTP projects in TIP
1 (j)	Ensure that the transportation needs of the youth and elderly, the mobility impaired, and the economically disadvantaged are met.	Evaluate extent to which Environmental Justice, transit and non-motorized Targets are met Comparison of investment in the different modes
1 (k)	Work cooperatively with the North Carolina Department of Transportation, neighboring Metropolitan Planning Organizations and Rural Planning Organizations and other transportation-related organizations to address the transportation issues of the broader region.	Number of joint projects and programs with partner agencies.

2035 LRTP and CTP

Goals and Objectives/Measures of Efficiency

Worksheet

Goal 2 - Multi-Modal Street and Highway: An attractive multi-modal street and highway system that allows people and goods to be moved safely, conveniently, and efficiently.

	Objectives	Measures
2 (a)	Establish performance standards and report on the condition and effectiveness of the multi-modal street and highway system.	Do performance standards and reports exist?
2 (b)	Create multi-modal street patterns that: encourage safe pedestrian, bicycle, and vehicular travel; provide access to public transportation; and ensure connectivity.	Applications of criteria in the TIP Regional Priority ranking methodology Policy to incorporate bicycle and pedestrian facilities in all highway projects Develop multimodal street cross section for LRTP Number of park and ride facilities
2 [c]	Develop and implement level of service (LOS) standards for the urban area that are based on a cooperative agreement between state and local agencies.	TRM protocol that defines the Level of Service (LOS)
2 (d)	Preserve and enhance the traffic carrying capacity of arterial street systems, while minimizing traffic intrusion in residential neighborhoods.	Number and value of Transportation System Management (TSM) projects in the LRTP Ratio of new-to-existing projects in the LRTP
2 (e)	Identify and recommend design standards that: establish safe speeds; increase pedestrian and bicycle usage of streets; and enhance the attractiveness and appeal of the street and highway system.	Neighborhood Development Guidelines Are local land use plans consistent with TIP and LRTP?

2035 LRTP and CTP

Goals and Objectives/Measures of Efficiency

Worksheet

Goal 3 - **Public Transportation System**: **A convenient, accessible, and affordable public transportation system, provided by public and private operators, that enhances mobility and economic development.**		
	Objectives	**Measures**
3 (a)	Establish performance standards and report on the condition and effectiveness of the public transportation system.	Do standards exist? Bi-annual report on section 15 (National Transit Database)
3 (b)	Increase public transit ridership by enlarging the service area and increasing the frequency of service within the urban area.	Ridership per square mile Percent of population within service area
3 {c}	Coordinate transit service within the urban area by promoting high quality, seamless, integrated, and customer-friendly service.	The number of regional transit coordination committees and extent of their activities The level of coordination with other agencies and governments Level of LRTP implementation with other agencies
3 (d)	Expand ridesharing, carpool, and vanpool services and opportunities.	Level to which LRTP Targets are met
3 (e)	Develop and implement alternatives to the use of single occupant vehicles, including high occupancy vehicle (HOV) facilities and regional rail services.	Level to which mode split Targets are met
3 (f)	Develop and implement the Regional Transit Plan.	TAC approve Transit Element of LRTP? TAC approve Transit Map of CTP?
3 (g)	Develop a regional park and ride system for cars and bicycles to support transit services and encourage ridesharing.	Number of park and ride facilities Utilization of park and ride facilities

2035 LRTP and CTP

Goals and Objectives/Measures of Efficiency

Worksheet

Goal 4 - Pedestrian and Bicycle System: A pedestrian and bicycle system that: provides a safe alternative means of transportation; allows greater access to public transit; and supports recreational opportunities; includes off-road trails.

	Objectives	Measures
4 (a)	Establish performance standards and report on the condition and effectiveness of the pedestrian and bicycle system.	What performance standards exist?
4 (b)	Maintain and implement a Regional Pedestrian Plan and a Regional Bicycle Plan.	Does LRTP produce pedestrian and bicycle elements? Does CTP produce pedestrian and bicycle map?
4 {c}	Identify and recommend ways that local governments may provide adequate staff and resources to meet the goals of their pedestrian and bicycle programs.	Assessing resource needs and availability as part of the Unified Planning Work Program (UPWP)
4 (d)	Develop a regional bicycle and pedestrian policy that establishes linkages between activity centers and provides for access to public transit.	Level to which LRTP produce pedestrian and bicycle elements that are linked Level to which CTP produce pedestrian and bicycle map that is linked
4 (e)	Document whether and how bicycle and pedestrian facilities are included in the planning, design, and construction of every roadway project and every development, site and subdivision plan, including the connection to external transportation facilities.	Number of TIP roadway projects with bike and pedestrian improvements Number of pedestrian and bicycle improvements in resurfacing projects
4 (f)	Increase education about the benefits of pedestrian and bicycle alternatives.	Percent of resources and time dedicated to bicycle and pedestrian education Level of ancillary programs implementing the 3Es (Engineering, Enforcement and Education)
4 (g)	Support the enforcement of pedestrian and bicycle regulations	Level of coordination with law enforcement agencies
4 (h)	Pursue strong funding commitment for building both pedestrian and bicycle facilities.	Level of funding for bicycle and pedestrian facilities
4 (i)	Provide greater safety for pedestrians and bicyclists of all level of ability, and safer interaction with users of other modes of transportation.	Accident rate/crash data Level of safety programs
4 (j)	Encourage the efforts and activities of citizen advocacy groups for pedestrian and bicycling by providing information and support for their programs.	Number of improvements implemented Level of coordination with bike and pedestrian citizen groups

2035 LRTP and CTP

Goals and Objectives/Measures of Efficiency

Worksheet

Goal 5 - **Integration of Land Use and Transportation**: **A Transportation Plan that is integrated with local land use plans and development policies.**		
	Objectives	**Measures**
5 (a)	Establish performance standards and report on the integration and consistency of the Transportation Plan with local land use plans and development policies.	Do performance standards exist? Level of coordination between MPO and Planning agencies Degree of linkages between transportation and land use
5 (b)	Create transportation systems that enhance the livability of all communities.	Level of consistency between LRTP and development patterns
5 (c)	Identify the impacts of different land use patterns and site designs on travel behavior.	Model alternative land use scenarios
5 (d)	Evaluate the changes in land use brought about by the expansion of existing transportation facilities and the construction of new facilities.	Use product from Land Use Model project
5 (e)	Identify and recommend land use patterns and development policies that increase overall mobility and that support compact, mixed-use, transit-friendly, walk able development.	Model alternative land use scenarios

2035 LRTP and CTP

Goals and Objectives/Measures of Efficiency

Worksheet

Goal 6 - Protection of Natural Environment and Social Systems: A multi-modal transportation system which provides access and mobility to all residents, while protecting the public health, natural environment, cultural resources, and social systems.

	Objectives	Measures
6 (a)	Establish performance standards and report on transportation impacts on the public health, natural environment, cultural resources, and social systems.	Do performance standards exist? Do environmental evaluations criteria exist?
6 (b)	Protect and preserve archaeological, historic, and culturally valuable areas.	Use of LRTP and CTP evaluation criteria Weight of criteria in TIP Regional Priority ranking methodology
6 {c}	Identify and protect environmentally sensitive areas early in the planning process.	Use of LRTP and CTP evaluation criteria Weight of criteria in TIP Regional Priority ranking methodology
6 (d)	Develop and implement modifications to the transportation system that reduce the rate of growth in vehicle miles traveled (VMT).	VMT (vehicle miles traveled) reduction VHT (vehicle hours traveled) reduction PMT (person miles traveled) reduction Monitor VMT and VHT Targets
6 (e)	Modify the transportation system to reduce the pollutants in highway runoff and the vehicle emissions, in accordance with federal, state and local Clean Air and Water legislation.	Greenhouse Gas emission reduction targets TAC, state and federal approval of Conformity Determination Report
6 (f)	Minimize the noise and dust generated by transportation facilities in neighborhoods and the urban area.	Use of noise studies in project impact analysis (planning and design phase)
6 (g)	Ensure that transportation facilities do not negatively effect disadvantaged populations disproportionately.	Monitor Environmental Justice Targets
6 (h)	Develop and implement a transportation system that supports the reduction of greenhouse gases and carbon production and is coordinated with local greenhouse gas and carbon reduction plans.	Monitor success of Greenhouse Gas emission reduction plan

2035 LRTP and CTP

Goals and Objectives/Measures of Efficiency

Worksheet

Goal 7 - **Public Involvement**: **An ongoing program to inform and involve citizens throughout all stages of the development, update, and implementation of the Transportation Plan.**		
	Objectives	**Measures**
7 (a)	Establish performance standards and report on the effectiveness of the public involvement element of the Transportation Plan.	Do performance standards exist? Number of Web site hits Use survey instrument
7 (b)	Encourage a broad cross section of citizens to take a proactive role in the public policy and transportation planning process.	Number and type of public involvement activities Survey of results Number of public comments received Number of attendance
7 {c}	Educate the public and elected officials, in order to increase public understanding of both the options and the constraints of transportation alternatives.	Opportunities for elected bodies to provide input Use of survey
7 (d)	Determine the public's knowledge of the metropolitan transportation system, and public values, and concerns toward transportation.	Number of Responses Use of survey
7 (e)	Determine which elements of the Transportation Plan would support or diminish the public's desired lifestyle.	Use of survey

2035 LRTP and CTP

Goals and Objectives/Measures of Efficiency

Worksheet

Goal 8 - Safety and Security: Continue to improve transportation safety and ensure the security of the transportation system.		
	Objectives	**Measures**
8 (a)	Reduce fatality, injury, and crash/incident rates on all modes	Fatality rates Crash rates Rail road crossing crashes Transit crashes Highway crashes Bike/Ped incidents/injuries
8 (b)	Reduce vulnerability of transportation facilities /users to terrorists, natural disasters and risks by implementing an evacuation plan and monitoring the effectiveness of the plan.	Emergency evacuation plan exist?
8 {c}	Reduce economic losses due to transportation crashes and incidents	Cost of crashes per 100 million VMT
8 (d)	Improve the ability to identify high accident locations, and evaluate their impacts in TIP project prioritization.	Weight of criteria in TIP Regional Priority ranking methodology
8 (e)	Provide a safe environment for transportation users through the "3 Es" (Engineering, Enforcement, and Education).	Assess the implementation of the 3Es (Engineering, Enforcement and Education) Accident reduction attributable to education
8 (f)	Increase transist safety and security for riders and employees	Number of transit incidents

Goal 9 - Freight: Improve mobility and accessibility of freight movement		
	Objectives	**Measures**
9 (a)	Relieve congestion on heavily traveled truck routes	Percentage of truck VMT under congested conditions Percentage of truck VMT in off-peak periods
9 (b)	Improve mobility and access to intermodal operations and facilities.	Level of access to intermodal terminal operations
9 {c}	Establish and designate truck routes consistent with federal, state and local regulations.	Designation of truck routes

2035 Long Range Transportation Plan
Targets *(Draft)*

		Guide Data		Targets		
		2005	**2035 Baseline**	**Good**	**Better**	**Best**
1	**Mobility Targets**					
1.1	VMT Per Capita	30.1	30.6	29.7	29.1	27.5
1.2	Total VMT Reduction from 2035 Baseline			3%	5%	10%
1.3	VHT per capita (minutes)	40.6	53.2	50.5	47.9	45.2
1.4	Total VHT Reduction from 2035 Baseline			5%	10%	15%
1.5	Percent of Peak Period VMT at Congestion (V/C > 1)	2.3%	12.9%	10%	7%	5%
1.6	Average Travel Time (work trips) (minutes)	20.9	28.9	27	25	23
1.7	Average Travel Time (all trips) (minutes)	16.9	20.6	19	17	15
1.8	Average Peak Travel Time (all trips) (minutes)	**TBD**	**TBD**	**TBD**	**TBD**	**TBD**
2	**Transit Targets**					
2.1	Transit Mode Share (all trips)	2.1%	1.6%	3%	5%	8%
2.2	Percent Ridership Increase from 2035 Baseline			188%	313%	500%
2.3	Transit Mode Share (work trips)	**TBD**	**TBD**	**TBD**	**TBD**	**TBD**
3	**TDM Targets**					
3.1	Percent SOV Trip Share (all trips)	55.5%	55.3%	50%	47%	44%
3.2	Percent SOV Trip Reduction from 2035 Baseline			90%	85%	80%
3.3	Percent SOV Trip Share (work trips)	**TBD**	**TBD**	**TBD**	**TBD**	**TBD**
3.4	Percent Non-motorized Trip Share	6.8%	6.9%	10%	12%	15%
3.5	Percent Non-motorized trip increase from 2035 Baseline			145%	174%	217%
4	**Air Quality Targets** (emissions reduction from Air Quality budget)					
4.1	Carbon Monoxide - CO (kg/day)		160,771	4% under budget	7% under budget	12% under budget
4.2	Nitrogen Oxides - NOx (kg/day)		5,888	4% under budget	7% under budget	12% under budget
4.3	Volatile Organic Compounds -VOC (kg/day)		4,772	4% under budget	7% under budget	12% under budget
5	**Financial/Economics Targets**					
5.1	Revenue/Cost Gap (Ratio of traditional revenue/cost)			0.90	0.95	1.00
5.2	Cost effectiveness (cost per avg. vehicle trip reduction)			$0.90	$0.80	$0.70
5.3	Fixed-Guideway Transit Cost Indicator (total cost/trips)			$22	$18	$15
5.4	Cost of Congestion	**TBD**	**TBD**	**TBD**	**TBD**	**TBD**
5.5	Cost of Time Saved			**TBD**	**TBD**	**TBD**
6	**Environment Justice/Land Use Targets**					
6.1	Percent of Population within 1/4 mile of transit	58.7%	55.5%	60%	68%	75%
6.2	Employment Accessibility by Transit (jobs within 30 minutes via transit)	TBD	TBD	50%	60%	75%
6.3	EJ Travel Time (ratio of avg.travel time) (EJ/All)	TBD	TBD	1.05	1.02	1.00

TBD = To Be Determined

Draft

DCHC MPO
2035 LRTP Target Definitions

Purpose

The Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO) intends to adopt a set of quantitative Targets to measure the degree to which the 2035 Long Range Transportation Plan (2035 LRTP) meets the Goals and Objectives of the MPO. These Targets are presented as a table of brief titles and a range of corresponding values. The purpose of this document is to provide more detailed information than is practicable in the brief table.

Target Definitions

Guide Data

Most Targets have Guide Data to indicate what the Target values will be if the improvements and projects in the 2035 LRTP are not implemented. For example, the 2005 value assumes the 2005 population being served by the 2005 transportation system, while the 2035 Baseline assumes the 2035 population being served by the 2005 transportation system. In other words, the 2035 Baseline indicates the performance of the transportation system in 2035 if no further improvements are made. These two Guide Data values provide a context for setting the three Target values. Most of the Guide Data have been extracted from the Triangle Regional Model (TRM).

Targets

There are three Target values called Good, Better and Best. The use of more than one Target value helps to set a range of values that can be used for comparison. Most of the Target values are set based on the 2035 Baseline value to demonstrate the impact that the transportation investment (i.e., cost of the 2035 LRTP) will have on the transportation system.

Target Definitions

The remainder of this document provides a definition of the Targets using the same order and identification number as the brief table.

1.0 Mobility Targets

1.1 VMT Per Capita

This value indicates the average vehicle miles a person travels each day. It is the [total daily vehicle miles traveled / total population]. The TRM produced the Guide Data.

1.2 Total VMT Reduction from 2035 Baseline
This value indicates the percent reduction in the total vehicle miles traveled that the Target represents when compared to the 2035 Baseline. It is the [(2035 Baseline VMT - Target VMT)/ 2035 Baseline VMT]. This Target will change in exact proportion to "1.1 VMT Per Capita." Although this Target is redundant, it provides an additional viewpoint of the Target data. No Guide Data is practicable for this Target.

1.3 VHT Per Capita
This value indicates the average time a person spends in a vehicle each day. It is the [total daily vehicle minutes traveled / by the population]. Congestion directly impacts this value, and thus VHT adds a congestion dimension to the standard VMT Target. Please note that the "H" in the standard "VHT" is a misnomer because these values are presented in minutes to facilitate easier understanding of the Target. The TRM produced the Guide Data.

1.4 Total VHT Reduction from 2035 Baseline
This value indicates the percent reduction in the total vehicle minutes traveled that the Target represents when compared to the 2035 Baseline. It is the [(2035 VHT - Target VHT)/ 2035 VHT]. This Target will change in exact proportion to "1.3 VHT Per Capita." Although this Target is redundant, it provides an additional viewpoint of the Target data. Please note that the "H" in the standard "VHT" is a misnomer because these values are presented in minutes to facilitate easier understanding of the Target. No Guide Data is practicable for this Target.

1.5 Percent of Peak Period VMT at Congestion
This value indicates how the proportion of miles that are traveled during the morning and afternoon peak periods in congestion. It is a snapshot of the transportation system at peak travel times. It is the [total vehicle miles traveled during the peak periods in conditions where the facility volume exceeds the facility capacity / total vehicle miles traveled]. The TRM produced the Guide Data.

1.6 Average Travel Time (Work Trips)
This value indicates how long the average work trip takes to complete. It is the [total vehicle minutes traveled for work trips / total work trips]. The TRM produced the Guide Data.

1.7 Average Travel Time (All Trips)
This value indicates how long the average trip takes to complete. It is the [total vehicle minutes traveled / total trips]. The TRM produced the Guide Data.

1.8 Average Peak Travel Time (All Trips)
This value indicates how long the average trip takes to complete during the peak period. It is the [total vehicle minutes traveled during peak period / total peak period trips]. The TRM produced the Guide Data.

2.0 Transit Targets

2.1 Transit Mode Share (All Trips)
This value indicates the percent of all trips completed on transit. It is the [total transit trips / total trips]. The TRM produced the Guide Data.

2.2 Percent Ridership Increase From 2035 Baseline
This value indicates the percent increase in transit trips that the Target represents when compared to the 2035 Baseline. It is the [(Target transit mode share for all trips - 2035 Baseline transit mode share for all trips / 2035 Baseline transit mode share for all trips]. This Target will change in exact proportion to "2.1 Transit Model Share (All Trips)." Although this Target is redundant, it provides an additional viewpoint of the Target data. No Guide Data is practicable for this Target.

2.3 Transit Mode Share (Work Trips)
This value indicates the percent of work trips completed on transit. It is the [total transit work trips / total work trips]. The TRM produced the Guide Data.

3.0 TDM Targets

3.1 Percent SOV Trip Share (All Trips)
This value indicates the percentage of trips completed in a single-occupied vehicle (SOV). It is the [total trips completed in SOV / total trips]. The TRM produced the Guide Data.

3.2 Percent SOV Trip Reduction From 2035 Baseline (All Trips)
This value indicates the percent reduction in the trips completed in single-occupied vehicle (SOV) that the Target represents when compared to the 2035 Baseline. It is the [(2035 Baseline SOV trips - Target SOV trips)/ 2035 Baseline SOV trips]. This Target will change in exact proportion to "3.1 Percent SOV Trip Share (All Trips)." Although this Target is redundant, it provides an additional viewpoint of the Target data. No Guide Data is practicable for this Target.

3.3 Percent SOV Trip Share (Work Trips)
This value indicates the percentage of work trips completed in a single-occupied vehicle (SOV). It is the [total work trips completed in SOV / total work trips]. The TRM produced the Guide Data.

3.4 Percent Non-motorized Trip Share
This value indicates the percentage of trips completed using a non-motorized trip mode such as walking and bicycling. It is the [total non-motorized trips / total trips]. The TRM produced the Guide Data.

3.5 Percent Non-motorized Trip Increase from 2035 Baseline
This value indicates the percent increase in non-motorized trips (such as walking and bicycling) trips that the Target represents when compared to the 2035 Baseline. It is the [(Target non-motorized trips - 2035 Baseline non-motorized trips / 2035 Baseline non-motorized trips]. This Target will change in exact proportion to "3.4 Percent Non-motorized Trip Share." Although this Target is redundant, it provides an additional viewpoint of the Target data. No Guide Data is practicable for this Target.

4.0 Air Quality Targets

The North Carolina State Implementation Plan (SIP) sets an transportation emission budget for Carbon Monoxide (CO), Nitrogen Oxides (NOx – a contributor to ground level ozone), and Volatile Organic Compounds (VOC – a contributor to ground level ozone) in the Triangle air shed. The estimated emissions from transportation sources must be below the budgets in order to conform to air quality regulations. The Air Quality Targets are based on the SIP budgets.

4.1 Carbon Monoxide (CO)
This value indicates the percent reduction from the SIP budget represented by the estimated CO emissions. It is the [100 – (estimated CO emissions / SIP CO budget)]. The most recently adopted SIP budget is used as the Guide Data.

4.2 Nitrogen Oxides (NOx)
This value indicates the percent reduction from the SIP budget represented by the estimated NOx emissions. It is the [100 – (estimated NOx emissions / SIP NOx budget)]. The most recently adopted SIP budget is used as the Guide Data.

4.3 Volatile Organic Compounds (VOC)
This value indicates the percent reduction from the SIP budget represented by the estimated VOC emissions. It is the [100 – (estimated VOC emissions / SIP VOC budget)]. The most recently adopted SIP budget is used as the Guide Data.

5.0 Financial/Economic Targets

5.1 Revenue/Cost Gap
This value indicates the portion of plan costs that will be covered by traditional revenue sources, thereby indicating the level of new revenue sources that would be needed to cover the plan costs. It is [total revenue from tradition revenue sources / total costs]. There is no Guide Data for this Target.

5.2 Cost Effectiveness
This value indicates the per trip cost to reduce vehicle trips. It is [(2035 Baseline non-transit vehicle trips – non-transit vehicle trips) / total cost]. There is no Guide Data for this Target.

5.3 Fixed Guideway Transit Cost Indicator
This value indicates the cost per fixed-guideway trip. It is [(total fixed-guideway trips / total fixed-guideway cost]. The Guide Data uses the New Start policy for acceptable per trip fixed-guideway costs that are established by the Federal Transit Administration (FTA).

5.4 Cost of Congestion
This number indicates the monetary value of time lost because of congested traffic conditions. It is [total hours of travel delay * value of one hour]. The Guide Data will use Triangle Regional Model (TRM) output and information from the biennial Texas Transportation Institute report on congestion.

5.5 Cost of Time Saved
This value indicates what it costs to reduce congestion. It is [(2035 Baseline total hours of travel delay – total hours of travel delay) / total plan costs]. There is no Guide Data for this Target.

6.0 Environmental Justice/Land Use Targets

6.1 Percentage of Population Within ¼ Mile of Transit
This value indicates the percentage of the population that lives within one-quarter mile of a bus transit route of fixed-guideway transit station. It is [(population within ¼ mile of transit / total population]. The travel delay – total hours of travel delay) / total plan costs]. The Guide Data will use Triangle Regional Model (TRM).

6.2 Employment Accessibility by Transit
This value indicates the percentage of total jobs that are within a 30 minute-transit trip from residences. The technical method for computing this value might not be practicable, and therefore a substitute Target such as “Percentage of Employment within ¼ mile of Transit” could be used.

6.3 Environmental Justice (EJ) Travel Time
This value compares the average travel time for residents of TAZs (Traffic Analysis Zones) that are indentified as EJ TAZs and the average travel time for all residents. Environmental Justice TAZs are those in which the percentage of low-income or minority residents exceeds the percentage for the County. It is [average travel time for all residents / average travel time for residents in EJ TAZs]. The Guide Data will use the Triangle Regional Model (TRM).

SEPTEMBER 2007

CITY OF DURHAM, DURHAM COUNTY, AND DURHAM-CHAPEL HILL-CARRBORO METROPOLITAN PLANNING ORGANIZATION:

DRAFT GREENHOUSE GAS EMISSIONS INVENTORY , FORECAST & TARGET

DURHAM'S COMMITMENT TO CLIMATE PROTECTION

In 1996, the City of Durham joined the Cities for Climate Protection (CCP) and committed to achieving quantifiable reductions in local greenhouse gas emissions, improved air quality, and enhanced urban livability and sustainability. In the United States, over 160 municipalities have joined the CCP. Together, these communities are home to 55 million Americans and are reducing greenhouse gases by 23 million tons per year, equivalent to the emissions produced annually by four million passenger vehicles.

In 1999, the City of Durham completed a greenhouse gas inventory and action plan as part of the CCP. This new inventory is a follow up to that document. By joining the City in the development of this inventory and local action plan, Durham County and the Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO) have indicated their desire to take a leadership role in climate change mitigation and air quality improvement within the community.

Apart from Durham's responsibility to reduce its contribution to global climate change, there are numerous other benefits of reducing emissions in the region. Some of these benefits include, but are not limited to, increased efficiency for local government operations, improved air quality and public health - leading to a better quality of life for all citizens, reduced energy costs which will in turn lead to the community becoming less vulnerable to the market price of energy, and job creation within new fields as well as construction.

In 2005, ICLEI Energy Services (the consulting division of ICLEI – Local Governments for Sustainability) was retained by Durham to help develop a greenhouse gas (GHG) and criteria air pollutant (CAP) inventory and action plan and set a reduction target for the community and local governments of Durham. Using the CCP Framework and Protocol, ICLEI worked in collaboration with City and County staff and a community Advisory Committee to develop the inventory and action plan using 2005 as the baseline year and 2030 as a target year. In addition, a public forum was held in June 2007 and public input was solicited through a survey. The targets for GHG emissions reductions proposed for the City and County of Durham as a result of this process include a **30%** reduction from 2005 emissions levels by 2030 for the community and a **50%** reduction from 2005 emissions levels for local government operations.

This is the Executive Summary of the Draft Durham Greenhouse Gas and Criteria Air Pollutant Emissions Inventory and Local Action Plan for Emission Reductions. The full report is available online at www.durhamnc.gov/ghg. Approval of the plan by the Durham City Council and Board of County Commissioners is expected in fall 2007.

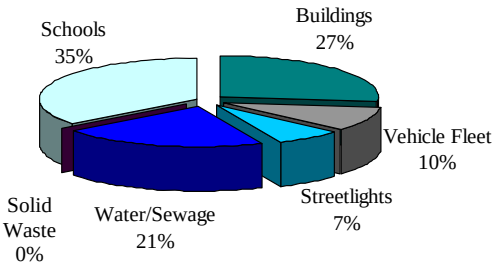
LOCAL GOVERNMENT INVENTORY, FORECAST & TARGET

Local government operations for the City of Durham and Durham County resulted in the production of approximately **158,710** tons of greenhouse gases in 2005. This accounts for approximately **2.5%** of the community's total emissions. Figure 1 illustrates the relative contribution of each sector of Durham's local government operations (including buildings, fleets, water and sewage treatment, streetlights and solid waste) to the total local government emissions profile. Durham requested that this inventory also include emissions from Durham Public Schools buildings and fleets. These emissions have been included in the schools sector.

A business-as-usual (BAU) emissions forecast scenario was developed for local government operations for the target year 2030. It was estimated that by 2030, if energy use and waste production continue to follow existing patterns, local government operations would result in approximately **205,146** tons of GHG, or a **29%** increase from the baseline year emissions.

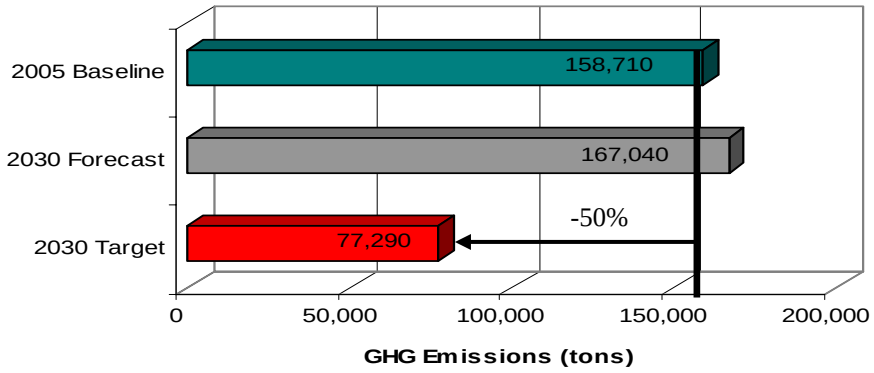
Information was then gathered about energy efficiency and emission reduction measures that have been implemented or are planned for future implementation by the City and County. Historic measures (before 2005) have resulted in a reduction of approximately **5,630** tons of GHGs emissions annually and annual energy costs savings of approximately **$510,380**. Measures that Durham has planned to undertake in the future will result in an annual reduction of approximately **38,110** tons of GHG and **$3,566,310** annually in energy cost savings. These reductions and savings have been through measures such as retrofitting buildings, a County green building policy, a police bike fleet, education and awareness programs and public school energy efficiency initiatives. The "2030 Forecast" scenario in Figure 2 takes into account the business-as-usual scenario and the future planned measures to provide a more realistic estimate of where emissions are likely to be by 2030. In the forecast scenario, local government GHG emissions will be **167,040** tons in 2030, which is a **5%** increase from the 2005 baseline year emissions.

Figure 1. 2005 Local Government GHG Emissions



ICLEI, City and County staff and the Advisory Committee then collaborated to identify new measures that could be implemented before the target year 2030. Low, medium and high target scenarios were developed to illustrate the levels of emissions reduction that could be achievable given different levels of commitment on the part of the City and County. The low scenario predicted a **38%** reduction in emissions, the medium, a **51%** reduction and the high scenario a **72%** reduction in emissions by 2030. The Advisory Committee has decided to recommend that the City and County adopt a **50%** reduction in local government emissions by 2030.

Figure 2. Local Government GHG Emissions, Forecast, and Target



Recommended Actions for Local Government Emission Reductions

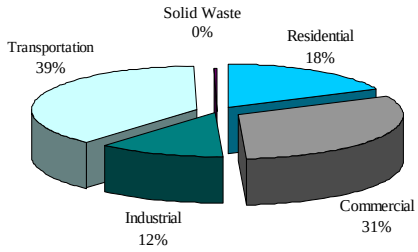
In the Local Action Plan, the Advisory Committee and ICLEI have made many recommendations for ways in which the local governments of Durham can reduce emissions in each sector of operations. Some examples include:

- Expanded energy efficiency improvements in the buildings of both the City, County, and Durham Public Schools and implementing a green building policy for all new construction and major renovations.
- New efficiency improvements in both the City and County's water and sewage operations including treatment processes, pumps, motors, etc.
- Considering offsetting emissions from buildings, streetlights and water & sewage operations by purchasing green electricity or green tags.

COMMUNITY INVENTORY, FORECAST & TARGET

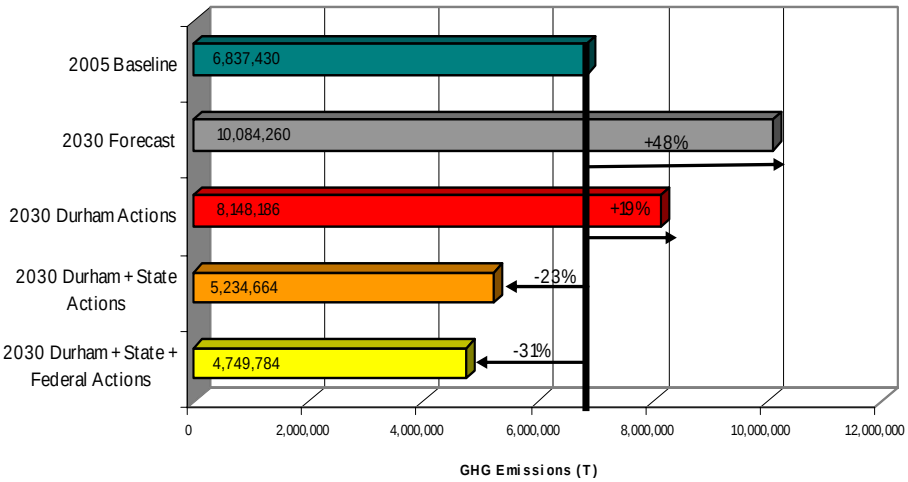
The community inventory provides an estimate of all of the greenhouse gas and criteria air pollutant emissions produced within Durham County, both by residents in their homes and by local businesses and agencies as they carried out their operations in the 2005 baseline year. In 2005, Durham produced approximately **6,837,430** tons of GHGs. Figure 3 illustrates the contribution of each sector to Durham's community emissions profile. Transportation is the largest single sector, however if the residential, commercial, and industrial sectors are combined, it is clear that buildings are the most significant source of GHG emissions in the community.

Figure 3. 2005 Community GHG Emissions



A business-as-usual (BAU) emissions forecast scenario was developed for the community for the target year 2030 using socio-economic growth factors to help determine what level of emissions reduction could be achieved. It was estimated that by 2030, if energy use and waste production continue to follow existing patterns, the community would produce approximately **10,237,010** tons of GHG in that year, equivalent to a **50%** increase from 2005 emissions.

Figure 4. Community GHG Emissions, Forecast, and Target



Working with the Advisory Committee, ICLEI analyzed some of the emissions reduction measures already in place in the community as well as those planned for future implementation. Historic measures have resulted in approximately **152,280** tons of savings and planned measures will result in approximately **152,750** tons of emissions savings. The "2030 Planned" scenario was then developed by combining these emission reduction estimates with the BAU forecast. In the planned scenario, Durham's emissions in 2030 will be approximately **10,084,260** tons of GHG; a **47%** increase from 2005 levels.

As was done with the local government sector, potential new measures were identified and high, medium and low emissions reduction scenarios were developed based on different levels of commitment on the part of the local governments. Given the scale of growth anticipated in the County and the amount of time between Durham's selected baseline and target years, it will not be possible for local governments of Durham to reduce emissions below baseline levels by 2030 on their own. The high scenario results in a **19%** increase in emissions from baseline levels by 2030, the medium scenario results in a **33%** increase and the low scenario results in a **41%** increase. The Advisory Committee has recommended that the City and County adopt the high target, which when combined with the impact of potential state and federal actions will result in a **30%** reduction in emissions from 2005 levels by 2030. Figure 4 illustrates the cumulative impact of local government, state and federal emissions mitigation strategies.

Recommended Actions for Community Emission Reductions

In the Local Action Plan, the Advisory Committee and ICLEI have made many recommendations for ways in which the local governments of Durham can reduce emissions in each community sector. Some examples include:

- Expand energy conservation measures in the commercial, residential and industrial sectors in both existing and new construction through education and awareness campaigns, partnerships, energy audits and design standards.
- Expand and enforce land use planning strategies to avoid transportation emissions related to new development through controlling urban sprawl and encouraging active transportation and transit use.
- Promote the use of alternative vehicles and fuels in the transportation sector.

IMPLEMENTATION — NEXT STEPS

The completion of the *Durham Greenhouse Gas Emissions Inventory and Local Action* report qualifies Durham for recognition of Milestones 1 and 3 in the Cities for Climate Protection Framework. The next step is for the Durham City Council, the Durham County Board of Commissioners, and the DCHC MPO to formally adopt the local government and community targets in order to achieve Milestone 2.

The Local Action Plan section of the report highlights many areas in which emissions reductions could be wrought in both the community and local government sectors. As the level of government closest to their citizens, the City and County have a unique ability to influence the community. The local governments have a major role to play in encouraging the public to reduce emissions through education and incentives. The governments of Durham can also help to coordinate the efforts of local businesses and non-profit groups in the community. Land use and transportation planners have a significant influence on the shape that a community will take and their decisions can impact not only the emissions profile of Durham, but can also help to make Durham a more socially, environmentally and economically sustainable community. In terms of the local governments' own operations, energy efficiency initiatives will result in financial savings which can be redirected into other community programming.

The development of an inventory and local action plan are major steps toward achieving GHG emissions mitigation; however, unless the plan is implemented, it will not be successful. The CCP Campaign divides these two steps into Milestones 3 and 4. Milestone 4 involves the implementation of the action plan. In order for the action plan to be successful, programs and efforts need to be coordinated across departments and between the two local governments and the DCHC MPO.

The Advisory Committee recommends that the City and County jointly fund a sustainability coordinator staff position to fulfill this role and ensure that progress is being made towards the targets. The sustainability coordinator would organize the work of City and County departments, monitor progress, update the inventory and provide regular plan updates to the City Council and County Commissioners (Milestone 5: Measuring Progress and Reporting Results). This person will ensure that the experiences, successes and failures of both governments are shared with one another. The sustainability coordinator would also pursue grants and funding and would coordinate community outreach and educational programs and work with citizens in identifying and pursuing new incentive programs, regulations, and policies to implement the plan. Timelines should also be developed to guide the implementation of the local action plan over the next 25 years.

CITIES FOR CLIMATE PROTECTION (CCP) PROTOCOL AND ACHIEVING THE MILESTONES

The City of Durham has committed to following the five milestone framework of the CCP program. These milestones are:

- **Milestone One**: Create a GHG Emissions Inventory and Forecast
- **Milestone Two**: Set a Reduction Target
- **Milestone Three**: Develop a Local Action Plan
- **Milestone Four**: Implement the Local Action Plan
- **Milestone Five**: Measure Progress and Report Results

The final plan will be presented for adoption by the Durham City Council and the Durham Board of County Commissioners on September 19, 2007. Adoption by the DCHC MPO is expected in at a later date.

For more information please visit:
www.durhamnc.gov/ghg
or contact:

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This executive summary brochure was created for the City and County of Durham and the DCHC MPO by ICLEI Energy Services. For more information please contact icleicanada@iclei.org. This is a summary of a full document for the City and County of Durham and the DCHC MPO

MEMORANDUM

To: Transportation Advisory Committee (TAC)
DCHC MPO

From: DCHC MPO Lead Planning Agency

Date: October 10, 2007

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

This memorandum provides a summary status of tasks for projects in the FY 2007-2008 Unified Planning Work Program.

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

2007-08 Unified Planning Work Program (UPWP) – Projects

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

- ✓ Draft schedule – August 2006
- ✓ Release SE Data for public comment – January 2007
- ✓ Release Goals and Objectives for public comment – July 2007
- ✓ TAC approve SE Data – September 2007
- ▪ Goals and Objectives – TAC hold public hearing, September 2007, and approve, October 2007.
- ▪ TAC review Deficiency Analysis – October 2007.

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 – August 13, 2007

- ✓ City issues contract
- ✓ Notice to proceed

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
- ✓ Request for funding from NCDOT
- ✓ Draft scope of services and Request for Proposals.
- Consultants selection in fall of 2007
- Notice to proceed in January 2008
- Completion of Project expected in Fall of 2008.

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

Page 2 of 5

- Kimley Horn and Associates is the consultant
- Data collection underway
- Steering Committee proposed
- Completion of study expected in January
- Integration in the 2035 LRTP

MPO Collector Street Plan

- ✓ Supplemental Agreement with Kimley Horn and Associates
- ✓ Data collection underway
- ✓ Completion of study and integration with the 2035 LRTP in Spring 2008

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

Unified Planning Work Program (UPWP) – Continuing Projects

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.

Page 3 of 5

- ✓ Recommend reduction targets, strategies and action plan anticipated to be done by March 2007.
- ✓ Draft Plan finalized in June 2007.
- ✓ Durham Public Forum - June 21, 2007
- Plan Adoption anticipated occurring during fall 2007. Durham City and Durham County approved on September 19, 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 80% complete.
- Data Collection and field inventory to be completed by fall 2007.
- Level of Service analysis anticipated to be completed by fall 2007.
- Development of CMS performance measures and guidelines likely to be completed in fall 2007.
- Evaluation of congestion management strategies and development of cost-effective mitigation measures expected to be done by fall 2007.
- Draft CMS State of System Report likely to be done in fall 2007.
- Public Comment and local review in fall 2007.
- Adoption anticipated in winter 2008.

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 fall 2007.
- Validation of 2002 model against 2005 count data anticipated to be completed in fall 2007.

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.

Page 4 of 5

Update of the MPO Public Involvement Policy Consistent with SAFETEA-LU

- ✓ Draft to be ready for fall of 2007.
- ✓ Adopted anticipated in Spring of 2008

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
- ✓ Alternative 3 selected as LEDPA – June 19, 2007
- ✓ Ad Hoc Committee Meetings – August 9, 2007, August 27, 2007, September 19, 2007

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NCDOT PROJECTS UNDER CONSTRUCTION IN DURHAM COUNTY - 10/1/2007

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%	97.1%	12/15/2007
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) 220-4680	12/31/2006	100%	98.9%	11/1/2007
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%	11/1/2007
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	100%	96.6%	10/5/2007
DURHAM	RESURFACING	PRIMARY	NC-54 FROM FALCONBRIDGE ROAD TO DRESDEN DRIVE	$ 318,281.20	1.45 miles	Barnhill Contracting	Aaron V. Earwood, PE	(919) 220-4680	8/30/2007	100%	96.4%	10/5/2007
DURHAM	RESURFACING	SECONDARY	21 SECTIONS OF SECONDARY ROADS	$ 2,795,584.75	18.9 miles	Barnhill Contracting	Bob Shultes	(919) 840-0914	9/1/2007	100%	74.6%	10/15/2007
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	9/20/2007	85.0%	98.1%	10/5/2007
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	75.0%	78.0%	5/10/2008
DURHAM / WAKE	U-4026A/B R 2904	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	19.2%	23.7%	11/1/2009
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	6.8%	3.0%	6/15/2008
DURHAM	U-4410DB	HOPSON ROAD	NEW ALIGNMENT OF HOPSON ROAD FROM NC-55 TO LOUIS STEPHENS DRIVE	$ 3,800,000.00	0.587 miles	NOT YET AWARDED	Phillip R. Johnson, PE, PLS	(919) 733-9499				
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	$ 20,300,000.00	1.769 miles	NOT YET AWARDED	Aaron V. Earwood, PE	(919) 220-4680				

NCDOT PROJECTS FOR LET NEXT 12 MONTHS IN DURHAM COUNTY - 10/1/2007

County	TIP #	Route	Location Description	Contract Estimate	Length	Contact Engineer	Phone #	Contract Let Date
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	U-2055B	NC 55	CONSTRUCTION OF TURN LANES AT RIDDLE ROAD AND NC-55			B. UPSHAW	(919) 220-4600	spring 2008
DURHAM	U-2055D	AVONDALE DRIVE	CONSTRUCTION OF ROUNDABOUT ON AVONDALE DRIVE			B. UPSHAW	(919) 220-4600	spring 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/

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	**95% complete**
Orange	U-4008 35009.3.2	US 15-501 & SR1734 (Erwin Rd.)	Grading,drainage, paving and intersection improvements(Super Street)	$4.98 million	**59.49% complete**
Orange	36945	SR 1010 (Franklin St.) @ Mallette St.	Upgrade traffic signal and install pedestrian signal heads REVISION: Install mast arm	$110,000.00	**POC pending**
Orange	SF-4907 B 41699.1	US 70 (Hillsborough Rd.) and NC 751 near Durham	Install a right turn lane for traffic travelling east on US 70 and turning right onto NC 751	$35,000 PE	Survey requested
Orange	SF-4907 C 41698.1	NC 57@ NC157 near Hillsborough	Install center traffic islands with stop signs on NC 157	$7,000 PE	Survey requested
Orange	SS-4907E 41026.3	NC 54 @ SR 1952 (White Cross Road)	Construct a left turn lane	$173,000.00	Request for quotes **pending additional funding**
Orange	SS-4907 I 41395.3.1	NC86 @ SR 1332 (Coleman Loop)	Construct a left turn lane (southern end)	$100,000.00	FA const.= **100% complete**
Orange	SS-4907 J 41634.3	NC 54 and SR 1945 (Neville Rd.)	Construct a left turn lane	$187,000.00	Survey requested
Orange	41096	NC 54 @ SR 2016 (Southern Drive)	Construct a left turn lane on NC 54 westbound	**$200,000.00**	**Bid opening 10/4/07**
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	$147,500.00	District design pending
Orange	41593	Union Street	Construct 750 feet of sidewalk and a crosswalk to connect Hillsborough Elementary School to SR 1156 (Nash St.)	$32,000.00	Town to construct w/ PE certification
Orange	41594	SR 1010 (W. Main St.) @ NC 54	Install pedestrian signal heads and crosswalk markings	$40,000.00	FA const. pending for timing revisions, crosswalk & **POC for wheelchair ramps**
Orange	41686	NC 54 @ SR 1102/1951 (Dodson's Crossroads/ Butler Rd.)	Construct left turn lanes in both directions	$250,000.00	Survey pending
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	**50% complete**

ACTIVE NCDOT PROJECTS LOCATED IN ORANGE COUNTY - DCHC MPO

Orange	EB-5021 41565.3.1	SR 1780 (Estes Drive) from Hillcrest Dr. to SR 1843 (Seawell School Road)	Add paved shoulders to accommodate bicycles (Widening, milling, guardrail and pavement markings)	$480,000.00	S.T. Wooten Corp. **can begin const.**
NCDOT PROJECTS CURRENTLY IN 12 MONTH LETTNG 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.	$1.5 million	**Letting to be delayed for scope change**;coring & grouting slabs = **35% compl.**
Orange	B-4218	SR 1730 (Turkey Farm Rd.)	Replace Bridge # 108 over New Hope Creek	$675,000.00	July 15,2008

EDITORIAL
The News & Observer
October 2, 2007

DOT's blackout

State transportation officials go against their responsibility to taxpayers in trying to keep a consultant's report secret

It's as sad as it is outrageous when state officials release documents with sections blacked out to keep secrets from the people those officials are supposed to serve. It shows arrogance -- the agency involved doesn't recognize its obligation to public disclosure -- and it evidences a distrust of the people themselves.

An egregious example of all this has just surfaced at the state Department of Transportation, which has behaved secretively at best in regard to a $3.6 million contract with a management consultant. The outside firm was hired earlier this year to assess the DOT, an agency long troubled by interference, inefficiency and internal discontent.

Contract details were blacked out wholesale in documents released to The News & Observer. Even worse is that DOT officials haven't required the consultants, McKinsey & Co., actually to supply a written report. The consultant's findings are being delivered orally, and behind closed doors.

Simply put, the state is spending $3.6 million for information and advice, but it has nothing to show the public.

Said Mark L. Foster, the DOT's chief financial officer, "No, there is no report ....They gave us a presentation on their software or whatever, of what they found." Foster added, "This is not a secretive thing by any means."

Not secretive? Then why waste all that black ink? Why agree to contract terms specifying that no results can be released to taxpayers without McKinsey's prior written consent? Amanda Martin of the N.C. Press Association (and a lawyer for The N&O) calls that "an illegal provision. The state does not have the ability to enter into this contract as it is written."

Certainly as a private firm McKinsey is welcome to make whatever demands it likes in exchange for its seven-figure contract. But the DOT is a public agency, not a private company, and it has no business going along with such a demand, even in the interest of finding out more about its own problems. It's a slap in the face of every citizen that this information -- much of it reportedly critical of DOT practices -- is withheld.

A commitment to spend $3.6 million for work of this nature is no small matter. Who approved it? With what oversight? Not requiring a written report makes it impossible for the public to judge whether the state is getting its money's worth.

The study's findings -- minus individuals' names if need be -- should be made public, and right now. And those DOT officials who aren't comfortable with their obligations to the public can head on down the road, and right now.

McKinsey is said to have interviewed many DOT employees and supervisors, in addition to legislators. Many of them apparently are unhappy with the way the department operates. Such information could be valuable in improving a department that clearly needs help. Foster is a recent addition to the agency, having come aboard to make DOT more "businesslike." That's fine, but it shouldn't include the keeping of secrets as if the DOT were a private firm battling a business competitor.

All this is an embarrassing miscue. The longer DOT lets it continue, the more the department's reputation and credibility will crack like the concrete on the stretch of I-40 that crumbled under the weight of a previous foul-up.

Consultant's review of DOT under wraps

McKinsey & Co. was asked to prepare a sweeping evaluation of the transportation agency, but DOT and the company are keeping a tight rein on the information

The News & Observer
September 29, 2007
Bruce Siceloff, Staff Writer

State Department of Transportation officials are paying a consultant $2.5 million to help make the agency more responsive, accountable and transparent.

They are keeping much of the work secret.

Attorneys for DOT and McKinsey & Co., an international management consultant hired in April to evaluate DOT, blacked out several pages of contract details and stamped other pages "CONFIDENTIAL" before DOT released them to The News & Observer.

Other contract documents indicate that McKinsey initially was asked for a candid, sweeping assessment of DOT's "strategic direction and organizational structure." It was expected to file reports in May and June.

DOT has declined to release a word of its consultant's findings. The April 11 contract includes an unusual pledge that DOT will seek McKinsey's permission before making public references to McKinsey or releasing any "reports, analyses or other such materials" it receives from McKinsey.

DOT officials now say they did not request or receive any written reports from McKinsey, whose contract ends in mid-October.

"They verbally work with us and assist our team in taking that information," said Mark L. Foster, the department's chief financial officer. "No, there is no report. ... They gave us a presentation on their software or whatever, of what they found."

Foster said there was no attempt to hide the results.

"This is not a secretive thing by any means," he said.

By all accounts, McKinsey got an earful of bad news when it surveyed thousands of DOT workers and interviewed at least two dozen key legislators, state officials, business executives and local transportation officials. Foster confirmed that DOT employees complained that they lack a shared understanding of their mission. He briefly described other criticisms: Road projects cost too much time and money. It's hard to figure out who is responsible for any DOT project.

'No unified vision'

"There was no unified vision in terms of goals and strategic direction," Foster said in an interview. "Loud and clear, it came out."

Foster, 53, came to DOT from the corporate world in 2003. He is one of the chief architects of what he calls a transformation intended to make DOT more businesslike and to rebuild its sagging credibility with state leaders.

"We knew that unless we were able to make DOT more efficient and sort of get our business act together, it was going to be very difficult to go out and argue for more money," he said.

Gov. Mike Easley this year rejected as "absurd" DOT's forecast that North Carolina would fall $65 billion short of needed transportation funds over the next 25 years. Legislators spurned requests for new transportation funding.

Sen. Clark Jenkins, a Tarboro Democrat who is one of the legislative leaders McKinsey interviewed last spring, says he admonished DOT leaders to reassess their performance. "A lot of people thought that needed to happen before they sent any new money to DOT," he said.

Jenkins has prodded transportation officials over the past several years to speed their work on highway projects.

Legislative critics often cite the U.S. 70 Clayton Bypass as an example of inefficiency at DOT. Planning for the highway started in 1991. Construction began in 2005 and is ahead of schedule, thanks in part to dry weather this year, but DOT was faulted for design and environmental problems that delayed the start of work for several years.

DOT leaders decided they needed an outside consultant to analyze their problems and recommend solutions. "Our credibility would not be as good as if someone from the outside assisted us," Foster said.

But DOT officials do not plan to provide any report created by McKinsey when they update a legislative committee in October on their work to modernize the department. Legislators will hear DOT's assessment only.

"No, it's all going to be us," Foster said.

Jenkins, co-chairman of the committee, wants to hear McKinsey's findings -- straight from the consultant's mouth.

"I would expect McKinsey to make a report," he said.

9,000 DOT responses

McKinsey surveyed all 13,000 DOT employees, and 9,000 responded, Foster said. McKinsey conducted 60 interviews with DOT leaders, held nine focus-group talks with 112 employees and interviewed members of the state Board of Transportation and about 20 legislators, business people and local and regional transportation officials who work regularly with the department, he said.

Asked about the heavily blacked-out contract documents, Foster said McKinsey wanted to shield its information from competitors.

"Clearly they felt that it was very proprietary in terms of their methodology," he said.

Foster referred questions about the deletions to DOT's lawyer, Elizabeth McKay, a special state deputy attorney general. State officials declined to make her available for interviews.

DOT officials provided the heavily blacked-out contract documents in response to an Aug. 30 request from The N&O. They said they did not provide reports from McKinsey because none existed.

The N&O filed an expanded public records request Tuesday for all communications from McKinsey and for DOT documents related to McKinsey's work. A DOT spokesman said Friday that department officials were working to fulfill this request.

State law allows businesses in some cases to request confidentiality for information they deem "trade secrets" in contract bids and other documents that otherwise are considered public records.

Amanda Martin of Raleigh, a lawyer for The N&O and the N.C. Press Association, said DOT lawyers appeared to have gone too far in holding back contract information, including the dollar amount of McKinsey's bid for the job and a description of the work it would do.

"I believe the state is withholding more information than it is legally entitled to withhold," Martin said.

She said there is nothing in the contract documents to change the original requirement that McKinsey file written reports about its evaluation of DOT. And she said DOT officials did not have the power under state law to promise that they would not release McKinsey's reports without written permission from McKinsey.

Provision challenged

"I think this is an illegal provision," Martin said. "The state does not have the ability to enter into this contract as it is written."

Jim G. Humphrey, Charlotte city transportation director, wants to know what McKinsey reported to DOT after it interviewed him and a handful of his colleagues from across the state. Humphrey and other local officials have complained that DOT is centralized and secretive and not attuned to urban needs.

"We had one meeting to share some concerns, but I'm not even sure that our concerns are on a list somewhere that someone is looking at to see if there is a way to address them," Humphrey said. He said he has seen only a brief summary prepared by a DOT administrator.

"However many millions of dollars they have spent and thousands of interviews have taken place have been narrowed down to four or five bullets -- each having 10 words," Humphrey said. "Words like 'accountability.' "

Bike and pedestrian work planned

By Daniel Goldberg, The Herald-Sun
September 12, 2007 8:02 pm

CHAPEL HILL -- Discussions concerning the need to improve bike and pedestrian access on Old Durham-Chapel Hill Road have popped up repeatedly over the past 14 years.

According to a feasibility study produced by the Durham-Chapel Hill-Carrboro Metropolitan Planning Organization in 2006, the topic is included in a 1993 Regional Bicycle Plan for Durham and Orange counties, a 2000 Chapel Hill comprehensive plan, the 2004 Town of Chapel Hill Draft Bicycle and Pedestrian Action Plan and the MPO's own Draft 2030 Long Range Transportation Plan.

For interested parties that feel like they've already waited 40 years, the good news is that improvements to Old Durham-Chapel Hill Road will almost certainly come before 2030.

A municipal agreement regarding bike and pedestrian projects will be presented to the Chapel Hill Town Council, Durham City Council and N.C. Department of Transportation as soon as next month. If the three parties agree to terms, design talks can begin for improvements from Sage Road on U.S. 15/501 to Garrett Road in Durham, said Dale McKeel, bicycle and pedestrian planner for the City of Durham and the Durham-Chapel Hill-Carrboro MPO.

"There is a lot of interest in the program and getting it going," McKeel said. He presented an update on the project at a monthly meeting of the Durham-Chapel Hill-Orange County Work Group held Wednesday at the Chapel Hill Town Operations Center.

An important step in advancing the project was realized with its inclusion in the N.C. DOT's Transportation Improvement Program for 2007-13. That document outlines specific transportation priorities for regions throughout the state. Although inclusion in the TIP puts a project on the DOT radar, it does not guarantee funding.

Bike and pedestrian projects for Old Durham-Chapel Hill Road are slated to begin in 2009 and conclude in 2010, according to the N.C. DOT plan for Division 7, which includes Orange County. More than $3.8 million is allotted for the work, including $2.742 million in federal funds.

Improvements to Old Durham-Chapel Hill Road are also listed in the Division 5 program, which includes Durham County. Division 5 officials are tapped to manage the work.

McKeel said the most recent estimate is that Durham and Chapel Hill would contribute approximately $686,000 combined, with Chapel Hill being responsible for about 35 percent ($240,100) of that total.

Work group participants were pleasantly surprised that DOT got onboard for the project. Durham County Commissioner Ellen Reckhow called earlier prospects for funding "bleak."

"I'm glad that we were able to pull a rabbit out of a hat and get funding," she said.

Preliminary suggestions for Old Durham-Chapel Hill Road have included adding sidewalks on both sides of the street, painting striped bicycle lanes along the road and improving crossing conditions at targeted intersections, such as U.S. 15/501 and Scarlett Drive.

URL for this article: http://www.heraldsun.com/durham/4-880552.cfm

Greenhouse gas cuts planned by city, county

By Carolyn Rickard, The Herald-Sun
September 23, 2007 7:50 pm

DURHAM -- City and county officials have adopted a plan to reduce greenhouse gas emissions from homes, businesses and cars by 30 percent by 2030 -- a move that could be the first of its kind in North Carolina.

Under the plan, adopted last week by a joint city and county committee, emissions from government buildings, including schools, would be reduced by 50 percent in that time. In 2005, Durham

government buildings emitted 158,710 tons of greenhouse gases, which are thought by some scientists to contribute to global warming by trapping gas in the atmosphere.

"A lot of local governments are doing initiatives like this," said Ellen Beckmann, the city transportation planner heading the project. "It really is becoming important, but I think we were the first municipality in the state to get to the point of adopting a plan."

The plan is a second try for Durham, which performed a global warming study in 1999. However, no action was taken, and the matter was dropped.

However, the county and city's interest in environmental issues can be traced back more than a decade, since 1996, when they joined the international Cities for Climate Protection group.

Since it began in 1993, the Cities for Climate Protection program has signed on some 800 cities across the world, according to ICLEI -- the International Council for Local Environmental Initiatives -- the association that started it. Using grant funds in 2005, Durham hired ICLEI's consulting firm to develop a greenhouse gas plan.

The county and city each have budgeted $50,000 for the plan. Some of the money will go toward hiring a sustainability director to oversee the project and educate the public. A major component of the plan involves education, said Ellen Reckhow, chairwoman of the Board of County Commissioners.

"A lot of this is about education, and there is going to be a real effort," she said. "We want this to be a countywide initiative, and we're excited."

The plan calls for the county to use planning strategies such as encouraging walking, biking or transit use and curbing urban sprawl to make sure new development doesn't contribute to vehicle emissions.

The plan also asks the county and city to promote the use of alternative fuels and vehicles, implement a green building policy for all new buildings and, perhaps, promote a police bike fleet. Older buildings should be retrofitted for energy improvements as well, according to the plan.

According to the National Energy Information Center, "Many chemical compounds found in the Earth's atmosphere act as 'greenhouse gases.'

"These gases allow sunlight to enter the atmosphere freely. When sunlight strikes the Earth's surface, some of it is reflected back towards space as infrared radiation (heat). Greenhouse gases absorb this infrared radiation and trap the heat in the atmosphere," rather than allowing it to escape, according to the agency.

"Some [greenhouse gases] occur in nature (water vapor, carbon dioxide, methane, and nitrous oxide), while others are exclusively human-made (like gases used for aerosols)," according to the National Energy Information Center. "During the past 20 years, about three-quarters of human-made carbon dioxide emissions were from burning fossil fuels."

URL for this article: http://www.heraldsun.com/durham/4-883594.cfm

Transit News

For Immediate Release

September 26, 2007
Contact: Mantill Williams (202) 496-4869
Virginia Miller (202) 496-4816

Public Transportation Use Substantially Reduces Greenhouse Gases, According to New Study

WASHINGTON, DC –The most powerful weapon you can use to combat global climate change may be a daily transit pass, according to a new study that was released today by the American Public Transportation Association (APTA). The study, *Public Transportation's Contribution to U.S. Greenhouse Gas Reduction*, was prepared for APTA by Science Applications International Corporation.

The research shows that when compared to other household actions that limit carbon dioxide (CO_2), taking public transportation can be more than ten times greater in reducing this harmful greenhouse gas. It takes one solo commuter of a household to switch their daily driving to using public transportation and he or she can reduce their household carbon footprint by 10 percent. If one household's driver gives up that second car and switches to public transit, a household can reduce its carbon emissions up to 30 percent.

"Encouraging use and expanding public transportation should be a part of our national strategy to address global climate change," said James L. Oberstar, U.S. Congress (D-MN), chairman, House Transportation and Infrastructure Committee. "The report provides further evidence that public transportation is one of the most important tools to minimize carbon output, help the environment and assist the nation in achieving a sustainable transportation system."

"Congress has yet to have a serious, comprehensive debate about how to reduce greenhouse gas emissions and mitigate the impacts of climate change," said Peter DeFazio, U.S. Congress (D-OR), subcommittee chairman, House Transportation and Infrastructure Committee. "As the APTA report shows, however, increasing use of public transportation will be central to the discussion about how to reduce emissions from the transportation sector, which is something that I will pursue as Chairman of the Subcommittee on Highways and Transit."

While it is very important to employ environmentally-friendly household activities, commuting by public transportation makes a more substantial impact. An individual switching to public transit can reduce their daily carbon emissions by 20 pounds; that's more than 4,800 pounds in a year. This is far greater than the many actions people are being encouraged to take, for instance;

- Home weatherizing and adjusting the thermostat for heating and cooling saves 2,847 pounds of carbon per year. Transit use saves almost twice the carbon.

- Replacing five incandescent bulbs to lower wattage compact fluorescent lamps saves 445 pounds of CO_2 per year. Transit use saves more than ten times the CO_2.

- Replacing an older refrigerator freezer with a high efficient one saves 335 pounds of CO_2 per year. Taking public transportation saves more than fourteen times the carbon.

Transit Reduces CO_2/222

"Public transportation use should be at the top of the list of ways for households to become greener," said William W. Millar, president of the American Public Transportation Association (APTA). "Switching to public transit gives a person the opportunity to immediately become part of the solution to help reduce carbon dioxide, a harmful greenhouse gas.

"Commuting by public transportation is one of the most significant actions a household member can take to reduce their carbon footprint," Millar added.

The research points out that due to increases in vehicle miles traveled, the problem of pollution from vehicle emissions is accelerating. Greenhouse gas emissions from mobile sources have grown 27 percent from 1990 to 2004. Autos and light duty trucks represent about 61 percent of the total mobile source of greenhouse gas emissions. The report says single occupancy drivers switching their work commute to public transportation is one of the more effective ways to reduce the nation's vehicle miles traveled while reducing harmful carbon dioxide.

"While it is good public policy to require more fuel efficient automobiles, increasing the use of transit can have a more immediate impact on our nation's transportation fuel consumption," said Millar. "It could take twenty to thirty years to see a complete turnover of the vehicle fleet. A household does not need to go to the expense of buying a new vehicle to make a difference; they can simply take advantage of the nation's existing bus or rail services to dramatically reduce their carbon footprint."

APTA is calling on Congress to incorporate public transportation into a national climate strategy that includes providing additional funding levels for more public transportation investment; providing tax credits to major employers who spend resources to support mass transit ridership programs; and tax credits to developers for mixed development residential, commercial and transportation sites that encourage greater use of public transportation.

# # #

APTA is a nonprofit international association of 1,500 member organizations including public transportation systems; planning, design, construction and finance firms; product and service providers; academic institutions; and state associations and departments of transportation. APTA members serve the public interest by providing safe, efficient and economical public transportation services and products. APTA members serve more than 90 percent of persons using public transportation in the United States and Canada.

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Date: Oct. 2, 2007
Contact: Communications Office, (919) 733-2522

TRANSPORTATION FUNDING ON THE WAY FOR STATE'S MUNICIPALITIES

More Than $157 Million in Powell Bill Funds Distributed for Road Projects

RALEIGH – The N.C. Department of Transportation has distributed $157.7 million in State Street Aid, also known as the Powell Bill Fund, to 505 municipalities across the state. The money will pay for maintenance, repair, construction, widening and sidewalks on city-owned streets. New legislation passed this year also allows municipalities to use Powell Bill funds to help pay for projects included in NCDOT's seven-year Statewide Transportation Improvement Program.

"The Powell Bill Fund is an important financial resource for North Carolina's municipalities," Transportation Secretary Lyndo Tippett said. "These funds are also an excellent example of the ways state and local entities can work together to pay for transportation improvements that will benefit communities across North Carolina."

The funds, which come from revenues generated by the state gas tax and other highway user fees, are dispersed annually using a formula set by the N.C. General Assembly. Seventy-five percent of the funds are allocated based on population, while the remaining 25 percent are based on the number of city-owned street miles in each municipality.

This year's distributions range from $20.8 million for Charlotte to $1,790 for Spencer Mountain in Gaston County. Charlotte's allocation was based on a 2007 estimated population of 660,931 and 2,243.65 miles of city-owned streets. Spencer Mountain's allocation was based on a 2007 estimated population of 51 and 0.27 miles of town-owned streets.

The fund is named for Junius K. Powell, former state senator and mayor of Whiteville, whose name headed a list of legislators sponsoring 1951 legislation to help the state's cities with urban road problems. The first allocation of Powell Bill funds was in 1951 for $4.5 million and was distributed to 386 of the state's cities and towns.

For a complete list of cities and towns receiving Powell Bill funds, go to https://apps.dot.state.nc.us/pio/releases and click on “Transportation Funding on the Way for State’s Municipalities.”

*****NCDOT*****

Federal Register

Wednesday,
July 11, 2007

Part II

Environmental Protection Agency

40 CFR Part 50
National Ambient Air Quality Standards for Ozone; Proposed Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 50

[EPA–HQ–OAR–2005–0172; FRL–8331–5]

RIN 2060–AN24

National Ambient Air Quality Standards for Ozone

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: Based on its review of the air quality criteria for ozone (O_3) and related photochemical oxidants and national ambient air quality standards (NAAQS) for O_3, EPA proposes to make revisions to the primary and secondary NAAQS for O_3 to provide requisite protection of public health and welfare, respectively, and to make corresponding revisions in data handling conventions for O_3.

With regard to the primary standard for O_3, EPA proposes to revise the level of the 8-hour standard to a level within the range of 0.070 to 0.075 parts per million (ppm), to provide increased protection for children and other ''at risk'' populations against an array of O_3-related adverse health effects that range from decreased lung function and increased respiratory symptoms to serious indicators of respiratory morbidity including emergency department visits and hospital admissions for respiratory causes, and possibly cardiovascular-related morbidity as well as total nonaccidental and cardiopulmonary mortality. The EPA also proposes to specify the level of the primary standard to the nearest thousandth ppm. The EPA solicits comment on alternative levels down to 0.060 ppm and up to and including retaining the current 8-hour standard of 0.08 ppm (effectively 0.084 ppm using current data rounding conventions).

With regard to the secondary standard for O_3, EPA proposes to revise the current 8-hour standard with one of two options to provide increased protection against O_3-related adverse impacts on vegetation and forested ecosystems. One option is to replace the current standard with a cumulative, seasonal standard expressed as an index of the annual sum of weighted hourly concentrations, cumulated over 12 hours per day (8 a.m. to 8:00 p.m.) during the consecutive 3-month period within the O_3 season with the maximum index value, set at a level within the range of 7 to 21 ppm-hours. The other option is to make the secondary standard identical to the proposed primary 8-hour standard. The EPA solicits comment on specifying a cumulative, seasonal standard in terms of a 3-year average of the annual sums of weighted hourly concentrations; on the range of alternative 8-hour standard levels for which comment is being solicited for the primary standard, including retaining the current secondary standard, which is identical to the current primary standard; and on an alternative approach to setting a cumulative, seasonal secondary standard(s).

DATES: Written comments on this proposed rule must be received by October 9, 2007.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA–HQ–OAR–2005–0172, by one of the following methods:

- *www.regulations.gov:* Follow the on-line instructions for submitting comments.
- *E-mail: a-and-r-Docket@epa.gov.*
- *Fax:* 202–566–1741.
- *Mail:* Docket No. EPA–HQ–OAR–2005–0172, Environmental Protection Agency, Mail code 6102T, 1200 Pennsylvania Ave., NW., Washington, DC 20460. Please include a total of two copies.
- *Hand Delivery:* Docket No. EPA–HQ–OAR–2005–0172, Environmental Protection Agency, EPA West, Room 3334, 1301 Constitution Ave., NW., Washington, DC. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.

Instructions: Direct your comments to Docket ID No. EPA–HQ–OAR–2005–0172. The EPA's policy is that all comments received will be included in the public docket without change and may be made available online at *www.regulations.gov,* including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through *www.regulations.gov* or e-mail. The *www.regulations.gov* Web site is an ''anonymous access'' system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through *www.regulations.gov,* your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD–ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses. For additional information about EPA's public docket, visit the EPA Docket Center homepage at *http://www.epa.gov/epahome/dockets.htm.*

Docket: All documents in the docket are listed in the *www.regulations.gov index.* Although listed in the index, some information is not publicly available, *e.g.,* CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in *www.regulations.gov* or in hard copy at the Air and Radiation Docket and Information Center, EPA/DC, EPA West, Room 3334, 1301 Constitution Ave., NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744 and the telephone number for the Air and Radiation Docket and Information Center is (202) 566–1742.

Public Hearings: The EPA intends to hold public hearings around the end of August to early September in several cities across the country, and will announce in a separate **Federal Register** notice the dates, times, and addresses of the public hearings on this proposed rule.

FOR FURTHER INFORMATION CONTACT: Dr. David J. McKee, Health and Environmental Impacts Division, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Mail code C504–06, Research Triangle Park, NC 27711; telephone: 919–541–5288; fax: 919–541–0237; e-mail: *mckee.dave@epa.gov.*

SUPPLEMENTARY INFORMATION:

General Information

What Should I Consider as I Prepare My Comments for EPA?

1. *Submitting CBI.* Do not submit this information to EPA through *www.regulations.gov* or e-mail. Clearly mark the part or all of the information that you claim to be CBI. For CBI information in a disk or CD ROM that

you mail to EPA, mark the outside of the disk or CD ROM as CBI and then identify electronically within the disk or CD ROM the specific information that is claimed as CBI. In addition to one complete version of the comment that includes information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket. Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR part 2.

2. *Tips for Preparing Your Comments.* When submitting comments, remember to:

- Identify the rulemaking by docket number and other identifying information (subject heading, **Federal Register** date and page number).
- Follow directions—The Agency may ask you to respond to specific questions or organize comments by referencing a Code of Federal Regulations (CFR) part or section number.
- Explain why you agree or disagree, suggest alternatives, and substitute language for your requested changes.
- Describe any assumptions and provide any technical information and/or data that you used.
- If you estimate potential costs or burdens, explain how you arrived at your estimate in sufficient detail to allow for it to be reproduced.
- Provide specific examples to illustrate your concerns, and suggest alternatives.
- Explain your views as clearly as possible, avoiding the use of profanity or personal threats.
- Make sure to submit your comments by the comment period deadline identified.

Availability of Related Information

A number of documents relevant to this rulemaking are available on EPA Web sites. The Air Quality Criteria for Ozone and Related Photochemical Oxidants (Criteria Document) (two volumes, EPA/ and EPA/, date) is available on EPA's National Center for Environmental Assessment Web site. To obtain this document, go to *http://www.epa.gov/ncea,* and click on ''Ozone.'' The Staff Paper, human exposure and health risk assessments, vegetation exposure and impact assessment, and other related technical documents are available on EPA's Office of Air Quality Planning and Standards (OAQPS) Technology Transfer Network (TTN) Web site. The Staff Paper is available at *http://www.epa.gov/ttn/naaqs/standards/ozone/s_o3_cr_sp.html,* and the exposure and risk assessments and other related technical documents are available at *http://www.epa.gov/ttn/naaqs/standards/ozone/s_o3_cr_td.html.* EPA will be making available corrected versions of the final Staff Paper and human exposure and health risk assessment technical support documents on these same EPA Web sites on or around July 16, 2007. These and other related documents are also available for inspection and copying in the EPA docket identified above.

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The following topics are discussed in this preamble:

I. Background

A. Legislative Requirements

Two sections of the Clean Air Act (CAA) govern the establishment and revision of the NAAQS. Section 108 (42 U.S.C. 7408) directs the Administrator to identify and list ''air pollutants'' that ''in his judgment, may reasonably be anticipated to endanger public health and welfare'' and whose ''presence * * * in the ambient air results from numerous or diverse mobile or stationary sources'' and to issue air quality criteria for those that are listed. Air quality criteria are intended to ''accurately reflect the latest scientific knowledge useful in indicating the kind and extent of identifiable effects on public health or welfare which may be expected from the presence of [a] pollutant in ambient air * * *.''

Section 109 (42 U.S.C. 7409) directs the Administrator to propose and promulgate ''primary'' and ''secondary'' NAAQS for pollutants listed under section 108. Section 109(b)(1) defines a primary standard as one ''the attainment and maintenance of which in the judgment of the Administrator, based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health.'' [1] A secondary standard, as defined in section 109(b)(2), must ''specify a level of air quality the attainment and maintenance of which, in the judgment of the Administrator, based on such criteria, is requisite to protect the public welfare from any known or anticipated adverse effects associated with the presence of [the] pollutant in the ambient air.'' [2]

[1] The legislative history of section 109 indicates that a primary standard is to be set at ''the maximum permissible ambient air level * * * which will protect the health of any [sensitive] group of the population,'' and that for this purpose ''reference should be made to a representative sample of persons comprising the sensitive group rather than to a single person in such a group'' [S. Rep. No. 91–1196, 91st Cong., 2d Sess. 10 (1970)].

[2] Welfare effects as defined in section 302(h) (42 U.S.C. 7602(h)) include, but are not limited to, ''effects on soils, water, crops, vegetation, man-

Continued

Traffic Impact Analysis (TIA) Requirements for DCHC MPO Member Jurisdictions

Town of Carrboro
Transportation-related Development Review Process

Each revision of a submitted plan is reviewed by the Town's transportation planner.

The Transportation Advisory Board is given the opportunity to review development plans at the beginning of the process (called the *courtesy review*) and again before the public hearing for a development.

If the development is along a state owned road, NCDOT is asked to review and comment.

Applicants are not required at the outset to provide a transportation impact analysis (TIA); however, this may be requested or required of the applicant at some point during the development review process. The location and nature of the proposal determine whether or not a TIA is required.

When an applicant is required to submit at TIA, the Town can request that the analysis include other proposed developments.

Guidelines for Traffic Impact Analysis

Town of Chapel Hill, North Carolina

Effective Date: October 1, 2001

Adopted by the Town Council on June 11 2001

Table of Contents

Town of Chapel Hill
Guidelines for Traffic Impact Analysis

I. INTRODUCTION

This document contains guidelines and requirements for conducting traffic impact analyses (TIA) for new developments within the planning jurisdiction of the Town of Chapel Hill, North Carolina. These guidelines will help assure that consistent and proper traffic planning and engineering practices are applied when land use actions are being considered within the Town. These guidelines provide a standard process, set of assumptions, set of analytical techniques, and presentation format to be used in the preparation of traffic impact analyses

II. REQUIREMENTS FOR TRAFFIC IMPACT ANALYSIS

The Town of Chapel Hill considers the traffic impacts of proposed new development during its review process. Therefore, the preparation of a traffic impact analysis is typically required to quantify impacts of the proposed development and to identify facility improvements needed to maintain acceptable level of service standards. Under the following circumstances, a traffic impact analysis is typically required:

A. Submittal of a development proposal requesting a change in zoning.

B. Submittal of an application for a major subdivision, special use permit, or site plan review. Typically, a full traffic impact analysis as detailed herein is required for all these development requests. The requirement to prepare a full traffic impact analysis may be waived by the Town Manager only if all of the following conditions are met:

- Daily trip generation is less than 500 (or, for a change to an existing property that does not requiring rezoning, difference in daily trip generation is less than 500); and
- No more than 250 vehicles per day (or, for a change to an existing property that does not requiring rezoning, no more than 250 vehicles per day in difference) access an existing collector or local road; and
- The total traffic, including background traffic and additional traffic from proposed new site or redeveloped property does not exceed an average of 150 vehicles per day on any unpaved road; and
- The applicant submits a written request for a Traffic Impact Analysis waiver with appropriate supporting documentation including pedestrian/bicycle analysis, if applicable; and
- The Town Manager concurs with the request.

C. When elapsed time or circumstances of the original analysis fall within the parameters presented in the following table, the applicant shall prepare an updated or amended analysis with documentation according to the following specific requirements.

D. Long Term Analysis may also be waived by the Town Manager based on the size and type of the development.

		Changes to the Original Proposed Development	
	Original Report Is	Access Changed* or Trip Generation Increased by > 15%	Access Not Changed and Trip Generation Increased by < 15%
1.	Less than 2 Years Old	Letter Amendment Required: Identify and discuss only items that changed.	Letter Documenting Change (No other reports required)
2.	Greater than 2 Years Old or Study Prepared Prior to TIA Guidelines Approval	New Study	Letter Amendment Required: 1. New local ground counts. 2. New Trip Generation 3. New LOS Analysis 4. Meet all current requirements of this TIA Guideline

* Changed access includes proposed new access or refinement of general access locations not specifically addressed in original proposed development.

III. RESPONSIBILITIES FOR TRAFFIC IMPACT ANALYSIS

The responsibility for assessing the traffic impacts associated with a proposed development rests with the applicant, with the Town Manager serving in a review/approval capacity. The assessment of impacts shall be provided in the form of a Traffic Impact Analysis, as specified herein, and prepared under the supervision of a "licensed" transportation planner/engineer. For the purpose of these guidelines, the word "applicant" shall mean the developer and/or his or her designated agent responsible for preparing the Traffic Impact Analysis.

IV. TRAFFIC IMPACT STUDY OVERVIEW: REQUIREMENTS, MEETINGS, AND WAIVERS

If a Traffic Impact Analysis is required, the information described in Section VI must be submitted to the Town of Chapel Hill.

A pre-application meeting with Town Planning Department staff for Rezoning, Master Plan, Subdivision, Site Plan and Special Use Permit application requests is strongly encouraged. This meeting should include discussion of the requirements for a Traffic Impact Analysis, and the applicant should provide a copy of any previous TIA prepared for the site and a site sketch plan showing the site location and access point(s) in relation to adjacent properties, and estimates of average daily traffic and peak hour traffic expected to be generated by the site development.

Request for waivers per Section II must be submitted in writing and accompanied by appropriate supporting information. The Town Manager will make a determination on such requests within 14 days of submittal of a completed application for a waiver.

If the applicant requires clarification of the guidelines or is preparing a large, complex and/or phased project, a separate meeting with Town Engineering Department staff is encouraged to specifically discuss Traffic Impact Analysis requirements and strategies.

V. PLANNING HORIZONS AND ROADWAY NETWORK ASSUMPTIONS

Each Traffic Impact Analysis shall present an analysis of the traffic conditions without and with the proposed project at two planning year horizons: short term and long term.

The intent of the short term planning horizon is to investigate the early impact of the proposed project on the existing roadway network. The short term horizon year is defined as one year after full occupancy of the development or development phase. If the project is proposed to occur over multiple phases, the analysis shall include an evaluation of the estimating conditions one year after full occupancy of the each phase development.

The intent of the long term planning horizon is to evaluate implications of the proposed project on the future planned transportation system. The long term planning horizon is based on the current Durham/Chapel Hill/ Carrboro Metropolitan Planning Organization Planning Model. The current horizon year is 2025, which changes each year to reflect a 25-year period.

The baseline surface transportation network (without the proposed project improvements) assumed for the short term planning horizon shall reflect existing facilities plus any approved improvements by the Town, State, and/or other developments within the study area. All future Town, State, and MPO surface transportation facilities proposed within the study area should be included in the baseline assumptions for the long term planning horizon network analysis.

The Town of Chapel Hill minimum acceptable standard for transportation facilities is Level of Service (LOS) D. Each planning horizon analysis shall identify the required improvements needed to maintain LOS D at a minimum for all affected facilities; or to improve the LOS of all affected facilities to acceptable Town of Chapel Hill standards. The analyses shall:

- identify what improvements are necessary to reach established standards and what portion of those improvements are necessary as a result of the development; and
- what improvements are needed to offset project impacts; and
- what (if any) changes to the adopted Thoroughfare Plan are proposed.

The transportation network diagram shall identify the on-site roadways, site-adjacent improvements, and the potential off-site improvements required and proposed by the development.

VI. TRAFFIC IMPACT REPORT REQUIREMENTS AND FORMAT

The information contained in this section is required in all traffic impact analyses submitted to the Town of Chapel Hill. All of the required data and information must be clearly identified in the appropriate sections of the report. Text contained in the required chapters shall be comprehensive and complete, yet brief and to the point. All maps required in individual sections shall be placed in the Summary as well.

The Traffic Impact Analysis report shall be typed and bound. It shall contain a table of contents, lists of figures and tables, and indicate any map pockets contained within. Additional copies of the TIS may be required by the Town, depending on circumstances. The following outline shall be used for all Traffic Impact Analysis reports submitted to the Town of Chapel Hill:

A. Summary

The Summary shall be provided as a condensed, stand-alone document. Use the "Summary of Traffic Impact" sheets included in Section VII to these guidelines. Maps and tables required or provided in individual sections of the report shall be placed in the Summary in the order described and provided in the text of the report. Individual sections of the report may be referenced only as necessary to document a source of information.

B. Introduction

1. Project Overview

This section shall state why a traffic analysis is required for the proposed development, and shall describe the approval request. The overview section shall also contain a discussion of the horizon years.

2. Site Location and Study Area Boundaries

Provide a vicinity map that shows the site, the study area, and the surrounding surface transportation network. Include a brief description of the location of the site within the Town's planning jurisdiction.

The limits of the study area shall be based on the size and extent of the proposed development, and an understanding of existing and future land use and traffic conditions at and around the site. The reasons the study area was selected shall be described in the traffic study in sufficient detail that the reviewer and decision-maker can understand the reasoning.

At the **minimum**, the study area shall contain:

- adjacent streets,
- nearest arterial/arterial intersection(s),
- site driveways, sidewalks, and bicycle lanes
- internal roads,
- all signalized or potentially future signalized intersections, either current or future years, where:
  - the project contributes a 10 percent impact (during either the a.m. or p.m. peak hour) to any approach leg of the intersection where the intersection is operating at level of service C or better, or
  - the project contributes a 5 percent impact (during either the a.m. or p.m. peak hour) to any approach leg of the intersection where the intersection is operating at level of service D or worse.
- All intersection and roadway segments on the NCDOT Highway Safety Improvement Program where the project contributes a 5 percent impact,
- pedestrian and bike facilities within ½ mile walk or bicycle ride to/from the site, and identification of any attractions (existing or approved) within the above pedestrian and bicycle limits. The suggested speeds for pedestrians and bicycles are 4 mph and 10 mph respectively.

3. Description of Site

Provide a brief description of the site. This shall include, as a minimum, a description of its size, general terrain features, existing zoning and use, (and proposed zoning and use, if applicable).

Provide a map showing build out conditions of the development site including the following:

- street system
- roadway classifications
- number of travel lanes
- street widths and lane widths, if applicable
- existing and proposed ROW dimensions
- existing and proposed multi-use driveways and site access points (with turning movements)
- exiting and proposed sidewalks and bike lanes.

Similar information for adjacent property shall be provided as well, if available, on the same map. The data presented in this report shall be identical in every respect to the site plan submitted for development approval.

For situations where a site plan does not exist, a prototypical site roadway and access system should be assumed for purposes of the study. Subsequent update will be necessary when a site plan becomes available.

4. Existing and Proposed Uses in Vicinity of Site

The applicant shall identify existing and anticipated land uses in the general vicinity of the site in order to understand other influences to area traffic patterns. A list of the applicable development approvals shall be included. (This information shall be obtained from the Town's records.) Specific attention shall be paid to property adjacent to the site and any undeveloped land in the study area. A map shall be prepared for the project vicinity that graphically depicts the location of approved or proposed developments. Developments within the project study area but in other jurisdictions shall also be identified and documented on the map.

5. Existing and Committed Surface Transportation Network

The applicant shall prepare a map showing the planned surface transportation network for the short term and long term planning horizons. Committed/funded improvements by the Town and previously approved developments shall be identified for the short and long term horizon years.

The long-term improvements shall be those documented in the Town's Thoroughfare Plan and any other long-term improvements adopted through the MPO and/or included in the State Transportation Improvement Program.

The improvements of other local jurisdictions, agencies, and developments within the study area shall be identified, including the nature of the improvements, their extent and implementation schedule, and the responsible party.

C. Existing Traffic Conditions

The applicant shall provide a description of the existing traffic conditions within the study area. A map shall be prepared, which presents a.m. and p.m. peak hour and daily traffic volumes. These volumes shall be no more than two years old and less if the development is in a high growth area. The source of existing traffic volume information shall be explicitly stated (Town counts, new counts by applicant, County counts, etc.) Summaries of current traffic counts shall be included in the appendix. A map of the existing roadway network shall be prepared that presents lane geometrics, traffic control, existing access, speed limits, and any other notable features.

Existing a.m. and p.m. peak hour intersection levels of service shall be determined for the intersections within the study area based on procedures described in the latest edition of the Highway Capacity Manual. The existing arterials shall also be analyzed based on a daily volume/capacity ratio analysis where the threshold capacities are defined by arterial designation per the following table. Volume/capacity ratios that exceed 1.00 shall be identified. It should be noted that these are general thresholds for planning purposes only, and a supplementary peak hour analysis shall be considered. These daily volume/capacity ratios shall be recorded on the existing volume map.

Roadway links shall be analyzed. Acceptable maximum traffic volumes allowed for the specific class of roadways are per the following table:

Facility Type	Lanes	Threshold Capacity
Local Residential	2	1,500 (ADT)
Local Non-Residential	2	2,500 (ADT)
Collector (no residential access)	2	7,000 (ADT)
Minor Arterial	2	550 each way (Peak Hour)
Major Arterial	4	1,600 each way (Peak Hour)
Major Arterial	6	2,400 each way (Peak Hour)

D. Future Traffic Conditions Without Proposed Development

Long term a.m. and p.m. peak hour planning horizon traffic forecasts shall be based on the most recent regional model traffic forecasts. Long-term peak hour estimates shall be provided in sufficient detail to understand the recommended forecasts. Requests for forecasts shall comply with current regional model protocol. It should be noted that the regional model forecasts are based on future year population and employment projections that reflect a regional perspective on growth and development. The applicant and consultant shall investigate those land use assumptions as they apply to their development study area and make forecast adjustments as necessary.

The applicant shall develop a short and long term planning horizon traffic forecast. The short term planning horizon is one year after full occupancy. The short term planning horizon traffic forecast shall be the sum of existing traffic volumes plus cumulative development traffic plus ambient growth. The short term planning horizon traffic forecasts shall also include cumulative development traffic from other jurisdictions within the study area. The short term planning horizon year ambient growth rate traffic forecasts shall be based on:

a. proportion between existing traffic volumes and buildout regional model forecasts;

b. extrapolation from historical traffic counts (from NCDOT data) to current counts; and/or
c. planning analysis that considers trends in the area's circulation system through either a proportion or extrapolation estimate.
d. bicycle and pedestrian analysis, if applicable

Whatever method is used to develop the annual growth rate for determining ambient traffic, it is important that the method be documented with sufficient detail to replicate the findings.

The map of the committed and funded improvements (for each planning horizon) as required in section VI.B.5 shall be used as a base for determining short term and long term planning horizon levels of service. The applicant may identify improvements that would mitigate unacceptable levels of service under the traffic conditions without the proposed development. In addition to needed improvements, it is also important to identify when such improvements are needed. The time that improvements are necessary could be defined by when a traffic threshold is reached, or by year.

E. Proposed Project Traffic

Development traffic shall be analyzed based on the traditional trip generation, distribution, and assignment process described as follows:

1. Trip Generation

The applicant shall complete the "Traffic Generation Summary Sheet" (Table 1), listing each type of land use within the site at build-out, the size involved, the average trip generation rates used (total daily traffic and a.m./p.m. peaks), and the resultant total trips generated. Build-out land uses and generation shall be for both the short term and long term planning horizons. If, however, the land use action is of a type that build-out in the short-term is not feasible due to the size of development, interim phases, such as 2-year increments, shall be developed.

Trip generation shall be calculated from the latest data contained within the Institute of Transportation Engineers' Trip Generation report or other industry publications such as the ITE Journal. Data limitations, data age, choice of peak hour or adjacent street traffic, choice of independent variable and choice of average rate versus statistical significant modification shall be presented and discussed. In the event that data is not available for a proposed land use, the applicant must conduct a local trip generation study following procedures prescribed in the ITE Trip Generation manual and provide sufficient justification for the proposed generation rate. This rate must be acceptable to the Town Manager.

For shopping centers, trip generation shall be based on both the shopping center trip generation algorithms and the application of trip generation rates to individual land uses. The greater of the two methods shall be used in the analysis.

2. Adjustments to Trip Generation Rates

After first generating trips at full ITE rates, trip-making reduction factors may be used. These factors fall into two categories: those that reassign some portion of generated trips to the background stream of traffic, and those that "remove" or "move"

generated trips. In all cases, the underlying assumptions of the ITE Trip Generation rates must be recognized and considered before any reductions are claimed.

The first category of adjustments is when trips to the proposed development currently exist as part of the background traffic stream, referred to as a passby trip. Passby percentages identified in the ITE Trip Generation manual or other industry publications may be used.

This traffic must continue to be assigned to site driveways and access points, but is not additive to the background stream of traffic. A technical appendix that illustrates the rediversion of passby trips is recommended.

The second category of adjustments is for internal site trips, transit use, and TDM (transportation demand management) actions. In general, reductions are not recommended. However, if reductions are claimed, analytic support to show how the figures were derived must be provided. Optimistic assumptions regarding transit use and TDM actions will not be acceptable unless accompanied by specific implementation proposals that will become a condition of approval. Such implementation proposals must have a reasonable expectation of realization within a 5-year period after project initiation.

3. Trip Generation Budget

Major concern has been raised when the traffic study identifies a trip generation rate that is less that what ultimately is experienced once the development is built and occupied. Because entitlement has been granted, the impacts of the traffic from underestimating the trip generation is experienced by the community and modifications or improvements, if possible, become the burden of the public. It is recognized that the trip generation process is ultimately dependent on a number of market and social factors; however, it is imperative that the traffic impact study be sufficiently conservative to account for full impact of the proposed development.

To assure the public and the Town that the traffic impact analysis adequately addresses the full impact of the development, any discounted trip generation might be conditioned as a maximum trip budget. If a future traffic impact is experienced that was not identified in the traffic study and it is determined that this impact resulted from the development's trip generation exceeding the maximum trip budget, the Town might require the development to either: 1) require that subsequent phases of development be reduced for multi-phase developments, 2) require the development to reduce the project traffic volumes to the amount estimated in the traffic study, or 3) provide for additional mitigations.

4. Trip Distribution

Trip distribution may be based on the MPO regional modeling, market analysis, existing traffic flows, applied census data, and professional judgement. Regardless of the estimates, the procedures and logic for estimating the trip distributions must be well documented. The trip distribution patterns must be presented for each phase if changes in roadway network, access or land use are proposed. The distribution percentages shall be noted on the Summary of Traffic Impacts sheet.

5. Project Trip Assignment
This section shall present the forecast the traffic assignment based on the development's trip generation estimates and project trip distribution. The traffic forecasts shall be graphically presented and include: a.m. peak hour, p.m. peak hour, and total daily site-generated traffic. If trip generation is different for the short term and long term planning horizons, both shall be shown on separate graphics. "Passby" traffic shall be included at driveways and access points.

F. Future Traffic Forecasts With the Proposed Development

The applicant shall present a graphical summary of the short term and long term horizon year traffic plus the proposed development traffic for the a.m. peak hour, p.m. peak hour, and daily conditions. These volumes shall include turn movements at the key intersections. The base map for this exhibit shall reflect the respective transportation network by planning horizons.

G. Project Impacts

The key elements of the development impact analysis include:

1. Generalized peak hour and/or daily link level of service analysis
2. Access analysis to include accident analysis (corridor strip accident analysis)
3. Intersection Analysis (signal warrant, phasing analysis to include the intersection accident analysis, and progression analysis)
4. A peak hour intersection level of service
5. Turn lane storage requirements
6. Sight distance considerations
7. Appropriateness of acceleration or deceleration lanes
8. Pedestrian and bicycle considerations
9. Public Transportation analysis

The requirements for these nine evaluations are as follows:

1. Generalized Peak Hour and/or Daily Link Level of Service Analysis
Using the peak hour directional volumes and daily traffic volumes forecast and service thresholds, a general evaluation shall be made of the arterial street system for the short term and long-term horizon years. Incremental differences attributable to the land use action shall be identified. A map showing generalized levels of service shall be presented for each design year.

2. Access Analysis
The design, number, and location of access points to collector and arterial roadways must be fully analyzed. The number of access points shall be kept to a minimum and be designed to be consistent with the type of roadway facility. Access analysis shall include a strip accident, intersection accident analysis and bicycle/pedestrian analysis.

3. Intersection Analysis (Signal Warrant Analysis, Phasing Analysis, Intersection Accident Analysis and Progression Analysis)

The appropriateness of the development's access locations and type must be established. For full-access locations, a signal warrant analysis based on the Manual on Uniform Traffic Control Devices must be conducted for each design year. Traffic signals specifically warranted by the land use action shall be identified. Warrant Analysis should also be included the pedestrian analysis.

The acceptability of the signal locations must be demonstrated through a signal progression (time-space) analysis. The analysis shall consider any existing access or intersection or a possible future signal location along the arterial for a distance of at least one mile in each direction of the proposed signal. The maximum cycle length that will be permitted is 110 seconds. A travel speed of 45 mph on majors and 35 mph on minors, unless the existing posted speed limit is less, must be used. A major arterial bandwidth of 50% and a minor arterial bandwidth of 40% are considered desirable, and must be used where existing conditions allow. Where intersections or other accesses have no signals presently, but are expected to have signals, a 60% mainline, 40% cross street cycle split should be assumed. Where more detailed information is available from turning movement projections, other split assumptions may be made.

Any access that would reduce the desirable bandwidth if a traffic signal were installed shall be identified. In general terms, that access should remain unsignalized and have turning movements limited by driveway design or median islands, unless the impacts to traffic operation and safety are made even worse by doing so. The implications of the land use action upon the adequacy of the signal locations for each design year shall be provided. Distances between signalized intersections (centerline) shall be indicated. Signal progression worksheets (time-space diagrams) shall be included in the Appendix.

4. Peak Hour Intersection Level of Service

An a.m. and p.m. peak hour intersection level of service analysis shall be conducted for each intersection, based on procedures specified in the most recent release of the Highway Capacity Manual. Levels of service for signalized intersections shall be based on the signal timings developed for the signal progression analysis. All level of service analysis worksheets shall be included in the Appendix.

The principal objective of the intersection level of service traffic impact analysis is to identify whether the traffic from the proposed project when added to the existing plus short and long term planning horizon traffic will result in a significant impact and an unacceptable level of service. For definition purposes, the threshold for acceptable level of service is D.

Significance is defined as: 1) when the added project traffic causes the level of service to deteriorate below level of service D, or 2) when the short term or long term horizon year traffic without the project is below level of service D and the project traffic causes a 2% increase in the volume/ capacity ratio or delay.

For unsignalized intersections, the minimum level of service permitted for outbound left turns is level of service E. An analysis of maximum queue length shall also be performed and if the queue exceeds five vehicles, then a separate left turn lane with adequate storage shall be provided.

5. **Turn Lane Storage Requirements**
   Turn lane storage needs shall be identified for the "necessary" situation, based on projected turning volumes and AASHTO analytic techniques. Appropriate documentation of the calculations must be provided.

6. **Sight Distance**
   The identification of sight distance at the development entrances and all internal streets shall be conducted. Line of sight triangles for determining sight distances and landscape restrictions shall be drawn on the site plan.

7. **Appropriateness of Acceleration or Deceleration Lanes**
   All proposed development access points on arterials shall be evaluated as to whether they require acceleration lanes or deceleration lanes, with justification and basis provided for recommendations.

8. **Pedestrian and Bicycle Analysis**
   Continuity and adequacy of pedestrian and bike facilities shall be provided to the nearest attraction (existing or planned) within a ½ mile walk or bike ride to/from the development site. Destinations of significance include bus stops, elementary schools, parks, activity centers and major bicycle facilities. Adherence to the Americans with Disabilities Act (ADA) shall be required.

9. **Public Transportation Analysis**
   Existing and proposed (if any) public transportation facilities analysis shall be provided. Existing bus stops and proposed bus stop shall be identified on the site plan.

H. Special Analysis/Issues

Town may require specific focused traffic analyses relative to the proposed development. Issues requiring special study could include access control, access spacing, accident/safety concerns, cut-through traffic and residential quality of life concerns, truck/bus traffic estimates and pavement design, accident statistics, pedestrian safety, routes to schools, emergency routes, etc. This section could also contain environmental and regional air quality conformity analysis, as may be appropriate.

I. Mitigation Measures/Recommendations

This section shall describe the location, nature, and extent of all transportation improvements that the applicant recommends to yield reasonable operating conditions in each horizon year with the land use action approved as requested. For this discussion, the following terms apply:

Planned*:* Improvements that are already planned and have committed funding, including those identified in short term capital improvement programs by the Town, State, or others.

***Background Committed**:* Improvements committed to by previously approved development.

***Applicant Committed**:* When existing plus cumulative traffic, with planned and background improvements, results in unacceptable levels of service, the applicant shall identify mitigation measures to offset project impacts.

***Necessary**:* Improvements required to mitigate background plus applicant traffic to establish acceptable levels of service, regardless of the amount of traffic contributed by the project.

The reason that "necessary" improvements (see Section E) must be explored is that often the "background committed" or "planned" improvements, plus the improvements that the applicant typically understands and commits to, are not adequate to provide a satisfactory level of service. The applicant shall assure that all practical solutions have been considered when developing the list of "necessary" improvements, so that the resulting operating conditions will approach the accepted level of service.

For purposes of identifying improvement possibilities (either by the applicant, Town, or State) necessary to yield an acceptable level of service, the cost of the improvements shall not be considered a limiting constraint within the context of the traffic impact study. However, the goal of the evaluation is to identify cost-effective solutions that yield a reasonable level of service. Extremely high-cost solutions may not be cost-effective, but it is important to at least identify solutions so that decision-makers are cognizant of existing options.

The applicant shall use the "Recommended Improvements Summary Sheet" (Table 2) to present the recommendations. One sheet may be used for both design years if all the improvements can be conveniently described thereon. If not, one or more sheets should be completed for each design year.

All recommended improvements shall be identified on the Summary sheet, including "planned," "background committed," "applicant committed," and "necessary." Each project shall be briefly described as to its location, the type of project, flow line and right-of-way needs (for roadways), signal or turn lane improvements (for intersections), and, at a sketch planning level, cost of the improvement. Also, commitment to the improvement shall be identified, either by local governments, districts, or by the applicant himself (this may include both the "applicant committed" and "necessary" projects). Identification of a project as "not currently committed" may be an appropriate description for many needed projects, including some of those that are "planned." However, the goal of the recommendations shall be to identify a firm program of improvements that will support the proposed land use action and background traffic in each design year.

It is further required that all geometric improvements such as pavement markings, signs, adding through or turn lanes, adding project access and assorted turn lanes, acceleration lanes, and changes in medians, shall be presented in a schematic scaled drawing, preferably on a current aerial map. Sufficient dimensions shall be identified to facilitate review. Right-of-way needs shall also be identified on the plan.

VII. TRAFFIC IMPACT ANALYSIS ATTACHMENTS

1. Summary

Development Name:
Development Location (include section, township, and range):
Applicant Name/Address/Phone:
Traffic Engineer Name/Address/Phone:

2. Introduction

Short Term Planning Horizon:
Long Range Planning Horizon:

Please attach the following maps:
a. Vicinity map, with site and study area
b. Site plan with transportation network
c. Study area land uses
d. Committed surface transportation network

Please attach the table of values for the proposed development adjacent to the site.

3. Existing Traffic Conditions

Attach the daily, a.m., and p.m. peak hour traffic map(s); bicycle and pedestrian counts;
Attach levels of service table.

4. Future Traffic Conditions w/o Proposed Development

Attach the daily, a.m., and p.m. peak hour traffic map(s); bicycle and pedestrian counts;
Attach levels of service table.

5. Proposed Development Traffic

a. Attach trip generation table.
b. Provide documentation for making adjustments to the trip generation rates (include a brief explanation/justification).
c. Attach the trip assignment and traffic volume map(s):

6. Future Traffic Forecasts with The Proposed Development

Attach the daily, a.m. and p.m. peak hour traffic map(s).
Attach levels of service table.

7. Traffic Impacts

Attach following maps (and/or table of values):
a. Capacity and volume/capacity ratios
b. Peak hour intersection level of service

c. Traffic signal and access improvements

8. Special Analysis/Issues

Present brief information on any special analysis or issues which have influenced the results of this traffic impact study.

9. Required Mitigation Measures/Recommendations

Attach "Recommended Improvements Summary Sheet"
Attach map showing level of service resulting from recommended improvements.
Attach scaled map or aerial photograph showing proposed improvements.

Chatham County
Transportation-related Development Review Process

Chatham County currently does not have criteria that specify when a traffic impact analysis is required. TIA's are sometimes submitted with rezoning applications and subdivision requests, but there are no criteria for what is required to be submitted. All of the roads in the unincorporated part of Chatham County are either private or will be turned over the NCDOT. Chatham County does require NCDOT Commercial Driveway Permits when necessary.

The page from the Chatham County Subdivision Regulations that applies to Traffic Impact Analyses is attached.

(2) Economic
Developers of subdivisions consisting of more than fifty (50) lots or dwelling units may be required to submit an economic impact assessment compiled by the developer with assistance from the Planning Board staff. The impact assessment shall address the probable effects of the development in terms of the following area:

a. Approximate schedule of occupancy of the subdivision.
b. Attendance to public schools; number of children by age
c. Increases in vehicular traffic; number of automobiles
d. Changes in the number of legal residents; increase in population
e. Provisions of housing for persons of low and moderate income
f. Increases in public service costs; schools, police protection, maintenance of roads, etc.
g. Projected demands on public utilities
h. Changes in property tax revenues
i. Increased demand for refuse disposal service
j. Harmony with the character of surroundings

(3) Where potential negative impacts have been identified, it shall be the responsibility of the subdivider to provide plans and methods of how such impacts may be alleviated or minimized to the satisfaction of the Board of County Commissioners. (#15Q)

(4) The failure to provide reasonably adequate or accurate information under any item specified shall be cause for disapproval of the preliminary plat.

B. Topographic Map

A topographic map with contours at vertical intervals of not more than five (5) feet, at the same scale as the preliminary plat, for all major subdivisions unless not deemed necessary by staff. Staff may require a topographic map for other subdivisions if necessary for adequate review. United States Geological Survey quadrangle sheets may be adapted to meet this requirement. The date and method of preparing the topographic survey shall be stated.

C. Soils Evaluation

A soils evaluation shall be performed by a certified/licensed soil scientist or persons approved by the Health Department to perform such evaluations or investigations. Such evaluations shall be performed unless a central sewage disposal system is proposed. A soils map showing the location of suitable soils and a letter of explanation shall be submitted. (19)

D. Drainage Plan and Erosion Control Plan

For all subdivisions with new roads the developer shall submit a drainage plan and an erosion control plan which provides information as specified in the regulations of the Soil Erosion and Sedimentation Control Program of the Division of Environmental Health of the Chatham County Public Health Department. (#39)

Durham City/County
Transportation-related Development Review Process

The attached UDO Section is the development regulation that requires a traffic impact analysis in Durham, and the attached TIA guidelines are in the Reference Guide for Development. Durham City/County uses the guidelines when reviewing the TIA to determine if the TIA meets the requirements.

Sec. 3.3 Traffic Impact Analysis (TIA)

3.3.1 Applicability

Unless exempted below, a traffic impact analysis (TIA) shall be required for zoning map changes utilizing a development plan, site plans, and preliminary plats that can be anticipated to generate at least 150 vehicle trips at the peak hour (as determined by Institute of Transportation Engineers Standards). Trips generated by separate developments meeting the criteria of Sec. 3.3.3, TIA Submission for Projects with Cumulative Impacts, shall be considered cumulatively.

3.3.2 Exemptions

The following projects shall not be required to submit a TIA:

A. Projects located within the Downtown Tier.

B. Developments that submitted a TIA in conjunction with a zoning map change or previously approved site plan, special use permit, or other plan, where the TIA remains valid, consistent with the provisions of Sec. 3.3.6, Period of Validity.

C. Redevelopment of any site on which the increase in traffic at peak hour represents an increase of less than 150 trips from the previous development, if the redevelopment is initiated within 12 months of the cessation of use of the previous development so long as no access road that leads directly to the site is operating at a level of service worse than the jurisdiction's adopted level of service.

3.3.3 TIA Submission for Projects with Cumulative Impacts

A. Unified, Phased, or Otherwise Aggregated Developments

An applicant shall be required to submit a TIA, or obtain a major special use permit as hereafter provided, for a development plan, site plan, preliminary plat, special use permit, or other similar plan that does not otherwise meet the thresholds for submission of a TIA or for obtaining a major special use permit if the development approval is for a project that:

1. Shares features such as site access or other roadways, design elements, or other infrastructure with nearby unbuilt, but reasonably foreseeable developments; and,
2. When complete, will function in conjunction with such nearby developments as a single project, the impact on the infrastructure of which would exceed the thresholds for preparation of a TIA.

B. Determination

The Public Works Director, or designee shall determine whether a development application meets the criteria in paragraph A, above, and shall determine whether one TIA shall be required for all of the aggregated development, or whether multiple TIAs may be employed for separate phases of the development.

3.3.4 Pre-Application Conference

The applicant shall schedule a pre-application meeting with the Public Works Director or designee to discuss procedures, standards, and regulations required for TIA submittal and approval.

3.3.5 Requirements

A. Content

The Public Works Director or designee shall set forth specific guidelines for preparation of TIAs. A TIA shall, at a minimum, provide the following information:

1. An estimate of the traffic generated as a result of the proposed development;
2. An analysis of the existing street system serving the proposed development; and
3. An assessment of the improvements needed to the existing street system in order to support the traffic anticipated to be generated by the proposed development.

B. Preparer

A TIA shall be prepared by a registered professional engineer with experience in traffic engineering.

C. Sources of Data

Estimates of vehicle trips shall be calculated based on trip generation rates from the most recent edition of the Trip Generation Manual published by the Institute of Transportation Engineers, unless an alternative source of information is approved by the Public Works Director or the NCDOT.

3.3.6 Period of Validity

A TIA shall be valid for a specific site for no more than eight years, so long as no significant modifications to the development proposed for the site that substantially increase the traffic impact are made. A TIA submitted in connection with a project that is accessed by a road that is operating at a level of service lower than the jurisdiction's adopted level of service shall be valid for no more than five years, however.

3.3.7 Coordination with Zoning Map Changes, Site Plans, and Preliminary Plats

Transportation mitigation measures may be required to address issues raised by a TIA, or as part of the approval of a Transportation Special Use Permit (TSUP.) Such measures may include, but not be limited to, onsite and offsite improvements related to reduction of traffic impact on the surrounding road system, bicycle facilities, pedestrian movement, and the environment. These measures shall be conditions of development approval. Deletion or modification of these conditions shall require the same approval process that was required for the original project, unless the approved mitigation measure is deemed to conflict with NCDOT or Public Works requirements, in which case they may be deleted or modified by the Development Review Board.

3.3.8 Transportation Special Use Permit

A. Requirements

A Transportation Special Use Permit shall be required for site plans and preliminary plats that are expected to generate:

1. 600 or more vehicle trips at peak hour; or

2. 300 or more vehicle trips at peak hour, if any road serving the project is operating at a level of service lower than the jurisdiction's adopted level of service.

B. Exemptions

The following projects shall be exempt from the requirement for a TSUP, even if they meet or exceed the thresholds specified above.

1. Projects utilizing either the UC or SRP zoning district.
2. Projects located within the Downtown Tier.
3. Projects which have submitted a TIA in connection with a zoning map change, and which are developing consistent with the approved development plan, if the TIA is valid pursuant to Sec. 3.3.6, Period of Validity, above.

C. Process

Projects requiring a TSUP shall be processed in accordance with the provisions of Sec. 3.9, Special Use Permit.

D. Criteria for Approval

In order to approve a TSUP; the governing body shall make the following findings:

1. The traffic generated by the development and associated improvements to the street system will not have a significant adverse impact on the surrounding area. Significant adverse impact shall include:
   a. Substantial increases in traffic on local residential streets such that the majority of the traffic is not associated with the residential properties which front on the street; or
   b. The need to widen local residential streets which would detract significantly from the character or basic function of the nearby streets.
2. Adequate provisions have been made for safe and efficient vehicular circulation, parking and loading, and pedestrian access.
3. The traffic generated by the proposed development and any proposed improvements to the street system will not have a significant adverse impact on the environment. Significant adverse impacts shall include but not be limited to undue concentration of air pollutants, or excessive noise or vibrations.
4. The traffic generated by the development can be accommodated by the existing or funded transportation system, or adequate traffic mitigation measures have been proposed as part of the development application. Proposed mitigation measures shall become conditions of the special use permit. The adopted level of service for the adjacent roadways may be considered in making this determination but shall not be the sole factor considered by the governing body.

The standard street light provided by the City of Durham is 9500 lumen, nema head, high pressure sodium unit mounted on a wooden pole at a minimum height of 20'.

A developer or legal home owner's association may elect to install decorative (non-standard) street lighting. This may be accomplished by ordering the non-standard lighting through the local utility company serving the area. At locations the City would have automatically installed the standard street lighting, the City may participate in the cost of the monthly electrical fees. Developers and associations considering this option are cautioned to consider possible problems with future maintenance.

Section IV. Guidelines for Traffic Impact Analysis (TIA)

Requirement:
A Traffic Impact Analysis (TIA) is required if the proposed development is expected to generate 150 or more peak hour vehicle trips as determined by the ITE Trip Generation Manual, most recent edition. The TIA must be of sufficient scope and detail to allow the City to evaluate the impact of the proposal and the need for roadway capacity, operation, and safety improvements resulting from the proposed development. Supplemental analysis may be required if there is a change in the development plan, site plan, or land use. A TIA is valid as long as the approved site plan or development plan associated with the TIA is deemed valid.

Preparer:
The report shall be prepared by a professional engineer who is registered in North Carolina and has expertise in traffic engineering.

Analysis Period:
The analysis must examine expected traffic conditions one year after the project is scheduled to be complete.

Pre-Submittal Conference:
Prior to submitting the TIA, the traffic engineer must consult with the City Transportation Division to discuss various assumptions for the study, including, but not limited to: trip generation assumptions, other approved developments within the study area, study area limits, trip distribution and pass-by traffic. This discussion may be accomplished via phone, e-mail or fax, or in person. TIAs submitted without a pre-submittal conference may be rejected.

Memorandum of Understanding:
The traffic engineer shall submit a memorandum of understand to the City Transportation Division to document the agreements made during the pre-submittal conference. The memorandum of understanding may be received by the City via e-mail, fax, or mail. The traffic engineer shall not begin work on the TIA until the City Transportation Division has approved the memorandum of understanding.

Trip Generation:
Trip generation estimates must be obtained from the latest version of the ITE Trip Generation Manual. The standard trip generation estimates to be used are those for the AM and PM peak hours of adjacent street traffic on a weekday. Exceptions to this may include churches, recreation facilities or other special generators. ITE procedures for generating traffic shall be used as specified in the Trip Generation Manual. Alternate rates may be used with prior approval by City Transportation staff. Any assumption regarding site traffic distribution or demand reduction via pass-by trips, internal trips, transit usage, or transportation demand management (TDM) strategies, must be approved in advance by the City Transportation staff and documented in the report. Include documentation calculations (i.e. rates or equations used for each land use) in the report.

Trip Distribution and Assignment:
Sketches of site traffic distribution percentages must be included. An accompanying trip assignment sketch should clearly indicate turning movements attributable to the project site at the analysis intersections.

Area of Analysis:
The analysis area should include all streets where site traffic will constitute 10% or more of any intersection approach during the peak hour. Current intersection turning movement counts must be obtained unless recent counts (within the last twelve months) are available from the City or NCDOT. All turning movement counts utilized must have been collected within the twelve months prior to the date of submittal and on weekdays (excluding Monday AM and Friday PM peak hours and holidays). Other peak periods such as noon or weekend periods, may be required if appropriate for the development. Efforts should be made to balance traffic volumes between closely spaced intersections where appropriate. City Transportation staff may require signal warrant analyses for high volume unsignalized intersections. The analysis must follow the warrant guidelines specified in the latest edition of the Federal Highway Manual of Uniform Traffic Control Devices (MUTCD).
The analysis may include recent crash data in the study area. The report should identify locations where traffic safety should be given extra consideration.

Approved Development Traffic:
As listed below, traffic from other nearby significant approved developments must be included in the analysis. Analysis of traffic from pending development projects with significant trip generation potential may also be required at the discretion of the City. Traffic volumes for any approved developments can be obtained from the City's Transportation Division.

Improvements:

Improvements which may be assumed in the analysis are those which have an expected completion date concurrent with that of the project and are either:

1. Funded in the City's Capital Improvement Program,
2. Funded through the State's Transportation Improvement Program, or
3. Indicated as required improvements of other approved development projects.

Those improvements related to other development projects must be clearly referenced in the report. Prior approval must be obtained from City Transportation staff to include other roadway improvements.

The study should clearly indicate those improvements offered by the developer to improve safety or operations. The goal is to achieve LOS D, ensure proper traffic operations, and mitigate potential safety concerns. Where existing conditions are below LOS D, improvements must be recommended that, at a minimum, attain LOS D unless otherwise approved by City staff.

Analysis Required:
The study shall be performed using the operational analysis of the latest Highway Capacity Manual and its associated software (Synchro HCM Reports may be substituted for HCS). Other software packages such as Synchro are preferred for coordinated signal systems and may be required for supplemental analysis. All signalized intersections within the analysis area, all project entrances, and all unsignalized intersections at which site traffic will constitute 10% or more of any one approach shall be modeled. Due to related impacts or current operational problems, the Transportation Division may require other adjacent intersections to be included in the study area. Safety, traffic simulation, gap, queue, traffic signal warrants, or other analyses may also be required under certain circumstances.

If a signal is part of a coordinated system, it must be analyzed as such under all scenarios. It is acceptable to optimize all signals for future alternative analyses, however present signal timings and phasing shall be used for the existing conditions analysis. The following assumptions shall be used unless City Transportation staff grants prior approval for variance. Supporting data may be required.

- A peak hour factor of .90 shall be applied for all cases except existing traffic.
- Zero right turns on red for signalized intersections as a worst-case scenario.
- Type III arrival rate.
- Minimum four (4) second yellow and two (2) second all-red clearance interval.
- Minimum seven (7) second green time per phase for left turns.
- Minimum ten (10) second green time for through movements.

- Preferred Signal Cycle Lengths:
  - Two or Three Phase = 60 second minimum, 120 second maximum
  - Four to Eight Phase = 110 second minimum, 180 second maximum

Intersections shall be analyzed under four scenarios:

1. Existing
2. No-Build (existing + 3% annual growth + approved developments)
3. Build (existing + 3% annual growth + approved + site traffic)
4. Build Improved (existing + 3% annual growth + approved + site + necessary improvements)

Scenario 4 may be eliminated if improvements are not necessary to satisfy any queuing problems or the LOS criteria listed herein. Overall LOS must be provided for all signalized intersections and worst movement LOS must be provided for all unsignalized intersections. Intersection analysis shall include queue analysis. The analysis year for all future scenarios is one year following the development's scheduled completion year (Build + 1).

Report Content:

Two copies of the final report should be submitted to the City Transportation Division, one copy shall be submitted to the City Planning Department, and if necessary, copies relating to projects impacting state roads should be submitted to the NCDOT District Office as well as the NCDOT Traffic Engineering Branch.

The report must include:

- A full size copy of the site/development plan, (If the site plan had a development plan preceding it, then the site plan must be consistent with the official development plan submitted to the City-County Planning Department.)
- A vicinity map,
- Speed limits of streets within the study area,
- Sketches of traffic distribution percentages and peak hour volumes,
- All capacity analyses (detailed report),
- Signal warrant studies, if appropriate,
- Intersection diagrams, which, as a minimum shall indicate:
  - The current approach and departure laneage at each intersection,
  - The distance between adjacent intersections,
  - The length of full width storage and departure for existing auxiliary lanes,
  - Recommended storage for proposed auxiliary lanes,
  - Any mid-block changes in cross section should also be noted, and
- Other documentation of data and assumptions used in the analysis.

Any submittal not containing all of the above elements will be considered incomplete and shall not be reviewed until a complete submittal is received.

The report must clearly indicate those improvements proposed by the developer. For multi-phase developments, the phasing of improvements should be addressed. Capacity analyses may be required to confirm that the phasing of improvements will provide an acceptable level of service with each phase.

Attached are pages that illustrate the preferred outline (table of contents) for all TIA reports submitted to the City along with the Review Checklist used by City of Durham officials. ***See attachments.***

TIA Attachment #1 - Standard Table of Contents

FOR TIA REPORTS SUBMITTED TO THE CITY OF DURHAM

1. **Introduction**

2. **Executive Summary**

3. **Site Location and Access**
   - Figure: Vicinity Map
   - Figure: Site Plan Map
   - Figure: Existing Lane Geometry of Study Intersections *(include current approach and departure laneage at each intersection, distances between intersections, speed limits, and full width storage for exclusive turn lanes)*

4. **Existing Analysis**
   - Figure: Existing AM and PM Turning Movement Volumes
   - Table: Existing LOS Results *(Overall LOS indicated for signalized intersections and Worst Movement/Approach for unsignalized intersections)*

5. **Future No-Build Analysis**
   - Figure: No-Build AM and PM Turning Movement Volumes
   - Table: No-Build LOS Results *(Overall LOS indicated for signalized intersections and Worst Movement/Approach for unsignalized intersections)*

6. **Trip Generation**
   - Table: Trip Generation Rates *(Land use and quantity, ITE Code, and resulting ADT volumes, AM and PM Enter and Exit volumes included)*

7. **Trip Distribution and Assignment**
   - Figure: Directional Distribution Percentages
   - Figure: Site Generated Trip Assignment

8. **Future Build Analysis**
   - Figure: Build AM and PM Turning Movement Volumes
   - Table: Build LOS Results *(Overall LOS indicated for signalized intersections and Worst Movement/Approach for unsignalized intersections)*

9. **Future Build Improved Analysis** ***(Not required if no improvements are necessary)***
   - Figure: Build Improved AM and PM Turning Movement Volumes
   - Table: Build Improved LOS Results *(Overall LOS indicated for signalized intersections and Worst Movement/Approach for unsignalized intersections)*

10. **Supplemental Analysis (Safety, Signal Warrant, Queue, or other analysis as required)**

11. **Findings and Conclusions**
    - Table: LOS Comparison of All Scenarios *(Overall LOS indicated for signalized intersections and Worst Movement/Approach for unsignalized intersections)*
    - Figure: Roadway Lane Configurations *(Existing, Proposed, and Committed Improvements Indicated, with accompanying identification of parties responsible for improvments)*

Appendix – Count Data, Trip Generation, LOS Analysis and Output

TIA Attachment #2 - Traffic Impact Assessment
Review Checklist

Development Name : _____
Development Location : _____
Development Owner : _____
TIA Prepared by : _____ Company : _____
Site Plan Prepared by: _____ Company : _____
Review Date : _____ Reviewed By : _____

Submittal Package:

_____Full size copy of the site / development plan
_____Plans Sealed
_____TIA Sealed
_____Vicinity map
_____Speed limit(s) of streets within the study area
_____Sketch of traffic distribution percentages
_____Sketch of peak hour volumes
_____Capacity Analyses
_____Signal Warrant Study (if applicable)
_____Documentation of Data and Assumptions (traffic counts, trip generation, safety)
_____Intersection diagrams, including
    _____Approach laneage
    _____Departure laneage
    _____Distance between adjacent intersections
    _____Length of full-width storage in existing auxiliary lanes
    _____Recommended storage for proposed auxiliary lanes
_____Improvements proposed by developer clearly noted
_____Multi-phase development?
    _____Phased improvements addressed?
    _____Capacity analysis for phased improvement provided?

General Requirements:

_____Operational analysis performed using Highway Capacity Software / Synchro
_____All project entrances analyzed
_____All signalized intersections within study area analyzed
_____All unsignalized intersections where site traffic will constitute 10% or more of any one approach.
_____Other intersection analysis required??
    Which intersection(s): _____
    _____
    _____

Assumptions:

_____Peak hour factor of 0.9
_____Type III arrival rate
_____Minimum six (6) second yellow + all red clearance
_____Seven (7) second minimum green time per left turn movement
_____Ten (10) second minimum green time per left through movement (speed limit)

Scenarios Analyzed:

_____Existing traffic
_____No Build (Existing traffic + 3% annual growth + approved development traffic)
_____Build (Existing traffic + 3% annual growth + approved development traffic + site traffic)
_____Build Improved (Existing + 3% annual growth +approved development traffic+ site traffic+ necessary improvements)

Detailed Review Comments :

Existing Traffic Volumes: Are the existing counts based on recent peak hour turning movements? If older data were used, have they been updated using reasonable factors (agreed to by the City)? Are the seasonal and day of the week representative of the year or design year? Were construction or any other events that might have impacted the validity of the counts noted? _____

Comments: _____
_____

Trip Generation: Are the project trip generation rates from the latest edition of ITE's Trip Generation? If yes, are the rates based on a sufficient number of studies to be accurate and used correctly? If local trip generation rates are used, such as from similar developments in the area, is there adequate documentation to support the rates? _____

Comments: _____
_____

Reduction in Trip Generation: Are any trip reductions used for Pass-By Trips, Internal Capture Traffic, Transit, Ride-Sharing, etc. reasonable? Are reductions adequately documented? Is the source and rationale for reductions valid for this application? Are the full impact of turning movements addressed? _____

Comments: _____
_____

Trip Distribution / Assignment: Are the expected trip patterns to / from the subject site reasonable based on a market analysis, existing patterns, population distribution, or a network traffic assignment model, etc.? _____

Comments: _____
_____

Background Traffic: Is there a reasonable projection of non-project traffic on the nearby street system for the horizon year based on historic increases and consideration of approved projects in the vicinity? Are these volumes shown graphically? _____

Comments: _____
_____

Analysis: Are the correct time periods evaluated – i.e. AM peak hour, PM peak hour, daily / weekend peaks at shopping centers, recreational uses, etc.? Are levels of service shown for each movement at the study area intersections? Has the study addressed all issues from pre-study meetings / conferences / transmittals, etc.? _____

Comments: _____
_____

Access: Are the number of driveways proposed the minimum needed to accommodate site traffic? Could conditions be improved with some sort of shared access system or relocation of access points? _____

Comments: _____

_____

_____

Mitigation Alternatives: If the study acknowledges that improvements to the roadway system will be needed, are the proposed mitigation alternatives reasonable and implementable? _____

Comments: _____

_____

_____

Mitigation Timing: Are the timing and responsibility for implementing mitigation measures addressed sufficiently? Are there any recommended roadway improvements which are not addressed? _____

Comments: _____

_____

Review Meeting: Is there a need for a joint meeting between the City, community representatives, adjacent communities, others, and the developer to discuss traffic issues related to this project prior to any approval? _____

Comments: _____

_____

Town of Hillsborough
Transportation-related Development Review Process

A Traffic Impact Analysis (TIA) is required for all Special Use Permits and sometimes for Master Plans in the Entranceway Special Use district. A TIA is also required for a residential subdivision with 20 or more lots or a non-residential subdivision.

There are no set standards for the TIA; that is worked out on a case by case basis in consultation with the Division Engineer.

Orange County
Transportation-related Development Review Process

The zoning ordinance requires a Traffic Impact Analysis (TIA) for any Special Use Permit or Site Plan where the estimated traffic generated by the use will exceed 800 trips per day. Article 13 Traffic Impact Study, 13.4 General Requirements and Standards includes this provision:

f) Conclusions and Recommended Improvements

*Amended 8-21-90

Levels of service for all roadways and signalized intersections serving 10 percent or more of peak-hour project traffic shall be reported. All roadways and/or signalized intersections showing a level of service below D in urban or developed areas or below C in rural areas shall be considered deficient, and specific recommendations for the elimination for these problems shall be listed. This listing of recommended improvements shall include, but not be limited to the following elements: internal circulation design, site access location and design, external roadway and intersection design and improvements, traffic signal installation and operation including signal timing, and transit service improvements. All physical roadway improvements shall be shown in sketches.

There are also extra requirements for the Major Transportation Corridor Overlay District which is an area measuring a minimum distance of 1,250 feet from the edge of right-of-way along both sides of all interstates in Orange County.

The relevant section of the Orange County subdivision regulations related to TIAs is attached.

SECTION IV. REQUIRED MINIMUM DESIGN STANDARDS

***IV-B-3-e.**
*Amended
2/1/88

Traffic Impact Study - A traffic impact study shall be required of subdivisions as defined in Section IV-B-3-e-3. The study will enable Orange County to assess the impact of a proposed subdivision on the highway system when that system is at or near capacity or a safety problem exists. Its purpose is to insure that proposed developments do not adversely affect the highway network and to identify any traffic problems associated with access from the site to the existing transportation network. The purpose of the study is also to identify solutions to potential problems and to present improvements to be incorporated into the proposed development.

***IV-B-3-e-1.**
*Amended
2/1/88
8/21/90

Conduct - A traffic impact study shall be prepared by a qualified professional traffic engineer and/or certified transportation planner with previous traffic study experience. The procedures and standards for the traffic impact study are set forth in Section IV-B-3-e-3 of this Ordinance.

Prior to the preparation of the traffic impact study, a scoping meeting shall be held, including the planning staff, the applicant, and the preparer of the study. The discussion at this meeting should set the study parameters, including the study area, planned and committed roadway improvements (by NCDOT or others), road links and intersections to be analyzed, preliminary traffic distribution, other planned developments to be considered, traffic growth rate, available data, periods for which analysis is to be performed, and other staff concerns. The qualifications of the preparer may be discussed at or prior to this meeting.

***IV-B-3-e-2.**
*Amended
2/1/88
8/21/90

Applicability - Except as described below, a traffic impact study shall be required for all subdivisions containing 80 or more dwelling units or where the estimated traffic generated by the subdivision exceeds 800 trips/day.

A subdivision containing 80 or more dwelling units or which generates traffic in excess of 800 trips/day may be exempted for the requirement to prepare and submit a traffic impact study if, as part of sketch plan review for the subdivision, a traffic impact study has previously been prepared for this particular project or development and there is to be no change in land use or density that would increase travel and no change in access to the external street system or material is submitted to demonstrate that traffic created by the subdivision when added to existing traffic will not result in a need for transportation improvements. Planning Department Staff will review material submitted in support of an exemption and will determine from that material whether or not to grant the exemption. If an exemption is granted, documentation of the exemption will be submitted as part of the staff recommendation on the preliminary plan. Orange County may require any subdivision approval application to be accompanied by a traffic impact study when a road capacity or safety issue exists. If one is required, the County will notify the applicant of the reason for the requirement.

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General Requirements and Standards - The traffic impact study shall contain the following information:

A) General Site Description - The site description shall include the size, location, proposed land uses, number of units and gross square footage by land use, existing land use and zoning, construction staging and completion date of the proposed land development to the extent known or able to be described at the time the application is prepared. If the development is residential, types of dwelling units and number of bedrooms shall also be included. A brief description of other major existing and proposed land developments within the study area shall be provided. The general site description shall also include probable socio-economic characteristics of potential site users to the extent

that they may affect the transportation needs of the site (i.e., number of senior citizens).

B) Transportation Facilities Description - The description shall contain a full documentation of the proposed internal and existing external transportation system. This description shall include proposed internal vehicular, bicycle and pedestrian circulation, all proposed ingress and egress roadway system within the study area. Major locations, traffic channelizations, and any traffic signals or other intersection control devices at all intersections within the site.

The report shall describe the entire external roadway system within the study area. Major intersections in the study area and all intersections or driveways adjacent to or within 400 feet of the site shall be identified and sketched. All existing and proposed public transportation services and facilities within one mile of the site shall also be documented. Future highway improvements, including proposed construction and traffic signalization, shall be noted. This information shall be obtained from North Carolina's Transportation Improvement Program. Any proposed roadway improvements due to proposed surrounding developments shall also be noted.

C) Existing Traffic Conditions - Existing traffic conditions shall be documented for all roadways and intersections in the study area. This shall include documentation of traffic accident counts as recorded by the N.C. Department of Transportation District Engineers Office, municipal or county law enforcement, and the N.C. Highway Patrol. Existing traffic volumes for average daily traffic, peak highway hour(s) traffic and peak development generated hour(s) traffic, if appropriate, shall be recorded. Manual traffic counts at major intersections in the study area shall be conducted, encompassing the peak highway and development generated hour(s), if appropriate, and documentation shall be included in the report. Existing average daily or peak-hour traffic counts made within one year of the study date may be used subject to Planning Department approval. A volume/capacity analysis based upon existing volumes shall be performed during the peak highway hour(s) and the peak development generated hour(s), if appropriate, for all roadways and major intersections expected to be impacted by development traffic. Levels of service shall be determined for each

signalized intersection or roadway segment analyzed above.

This analysis will determine the adequacy of the existing roadway system to serve the current traffic demand. Roadways and/or intersections experiencing levels of service E or F shall be noted as congestion locations.

D) Transportation Impact of the Development - Estimation of vehicular trips to result from the proposed development shall be completed for the average weekday, the average daily peak hours of highway travel in the study area, and, if appropriate, peak hour of traffic generation by the development. Vehicular trip generation rates to be used for this calculation shall be obtained from an accepted source such as "Trip Generation" (Institute of Transportation Engineers, Fourth Edition, 1987 as amended). These development generated traffic movements as estimated, and the reference source(s) and methodology followed shall be documented. These generated volumes shall be distributed to the study area and assigned to the existing roadways and intersections throughout the study area. Documentation of all assumptions used in the distribution and assignment phase shall be provided. All average daily traffic link volumes within the study area shall be shown graphically. Peak hour turning movement volumes shall be shown for signalized and other major intersections, including all access points to the development. Pedestrian and bicycle volumes at school crossings and as otherwise applicable shall be reported. Any characteristics of the site that will cause trip generation to vary significantly from average rates available in published sources shall be documented, including such factors as diversion of passer-by traffic, internal capture, staggered work hours, or use of transit.

E) Analysis of Transportation Impact - The total traffic demand that will result from construction of the proposed development shall be calculated. This demand shall consist of the combination of the existing traffic generated by the proposed development, and traffic due to other developments and other growth in traffic that would be expected to use the roadway at the time the proposed development is completed. If staging of the proposed development is anticipated, calculations for each stage of completion shall be made. This analysis shall be performed for average weekday traffic, the peak highway hour(s) and if

appropriate, peak development generated hour(s) for all roadways and major intersections in the study area. Volume/capacity calculations shall be completed for all major intersections. It is usually at these locations that capacity is most restricted.

All access points and pedestrian crossings shall be examined for adequate sight distance and for the necessity of installing traffic signals. The traffic signal evaluation shall compare the projected traffic and pedestrian volumes to the warrants for traffic signal installation.

F) Conclusions and Recommended Improvements - Levels of service for all roadways and signalized intersections serving 10 percent or more of peak-hour project traffic shall be reported. All roadways and/or signalized intersections showing a level of service below D in urban or developed areas or below C in rural areas shall be considered deficient, and specific recommendations for the elimination of these problems shall be listed. This listing of recommended improvements shall include, but not be limited to the following elements: internal circulation design, site access location and design, external roadway and intersection design and improvements, traffic signal installation and operation including signal timing, and transit service improvements. All physical roadway improvements shall be shown in sketches.

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Submission and Implementation - The traffic impact study will be submitted to the Orange County Planning Department within the applicable time frame indicated below. The Planning Department will review the study as part of the development review process. Recommendations will be incorporated into the approval process as indicated below.

A) Time of Submission - The sketch plan should be sufficiently detailed to allow the Planning Department to assess the need for a traffic impact study. The traffic impact study shall be submitted to the Planning Department with and as part of, the preliminary plan application for subdivision approval.

B) Implementation - The Planning Department and such other agencies or officials as may appear appropriate in the circumstances of the case shall review the impact study to

analyze its adequacy in solving any traffic problems that will occur due to the subdivision. The Planning Department and Planning Board may recommend and the Orange County Board of Commissioners may decide that certain improvements on or adjacent to the site are mandatory for plan approval and may attach these conditions to the approval. If the Board of Commissioners concludes that additional improvements are necessary, the applicant shall have the opportunity to resubmit alternative improvement designs for approval.