2040 Long Range Transportation Plan (LRTP)
Comprehensive Transportation Plan (CTP)
Summarized Development Schedule

Public Involvement Activities	
W = Public **W**orkshops/meetings	H = Public **H**earings
N = LRTP **N**ewsletter	O = **O**ther Public Involvement Activities
M = Mailing List - flyers, information, materials	

(bold/blue block) = TAC task/action	
(light/blue crosshatch) = First TAC review or action	
(light grey block) = task/action	
(yellow/horizontal stripe) = adopted or completed	

Task ID#	Plan Tasks	Pub. Involve.	2011 Aug	Sep	Oct	Nov	Dec	2012 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2013 Jan	Feb	Mar	Apr	May	Jun
1	**2040 LRTP Work Plan and Schedule -- develop, review and endorse**																								
2	**2040 LRTP Public Involvement Plan -- update, release for comment, conduct hearing and approve**	N, W, M, H, O										public h													
3	**Goals & Objectives and Targets -- develop, release for comment, conduct hearing, and adopt**	N, W, M, H, O										public he													
4	**Socio-economic Data (SE Data) -- develop, release for comment, conduct hearing and approve for use in 2040 LRTP**	N, W, M, H, O										public heari													
5	**Triangle Regional Model (TRM) -- update model, complete Base Year validation, verify network, and TAC approve**																								
6	**Deficiency Analysis and Needs Assessment -- generate deficiency analysis, develop needs assessment, and TAC review and comment**																								
7	**Financial Plan -- Preliminary forecasts for Alts. Analysis; final forecasts for Preferred Option**																								
8	**Alternatives Analysis -- establish evaluation criteria, generate and evaluate alternatives, conduct workshops and public hearing, other agency and local review, TAC select Preferred Option**	N, W, M, H, O														public hearing									
9	**CTP Projects -- Same tasks as #8 (Alternatives Analysis) except most of CTP report will be drafted, and NC Bd. of Transportation needs to approve after TAC approval.**	N, W, M, H, O														public hearing									
10	**Incorporated Studies -- Freight; Purpose & Need; Environmental Justice; Resource agency review (4F); Planning Factors; and, Indirect & Cumulative**																								
11	**Adoption of 2040 LRTP -- release fiscally-constrained 2040 LRTP full report for public comment, conduct hearing, receive local review, and approve Plan**	M, H, O																public hearing							
12	**CTP Report -- Write full CTP report (includes purpose & need, etc.), release for public comment, conduct workshop, TAC adopt final CTP Report, NC BOT approves final CTP Maps.**	M, H, O																public hearing							
13	**AQ Conformity Determination -- prepare networks, conduct emissions analysis and prepare draft report**	M, H, O																							
14	**Final LRTP/AQ Conformity Adoption -- release fulle report for comment, conduct public hearing, TAC approve full report, and federal agency approval**	M, H																				public hearing			
▶	Conformity Lapse Date -- June 15, 2013																								

Goals and Objectives.

The Durham-Chapel Hill-Carrboro Metropolitan Planning Organization's goals and objectives are:

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.
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.
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 System

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 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.

4. Pedestrian and Bicycle System

Goal: A pedestrian and bicycle system that: provides a safe alternative means of transportation; allows greater access to public transit; supports recreational opportunities; and 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 implement a Regional Pedestrian Plan and a Regional Bicycle Plan.
c) Identify and recommend ways that local governments may provide adequate staff and resources to meet the goals of their pedestrian and bicycle programs.
d) Develop a regional bicycle and pedestrian policy that establishes linkages between activity centers and provides for access to public transit.
e) Ensure that bicycle and pedestrian facilities are included in the planning, design, and construction of every roadway and development project, including the connection to external transportation facilities, in accordance with bicycle and pedestrian plans and local ordinances.
f) Increase education about the benefits of pedestrian and bicycle alternatives.
g) Support the enforcement of pedestrian and bicycle regulations.
h) Pursue strong funding commitment for building both pedestrian and bicycle facilities.
i) Provide greater safety for pedestrians and bicyclists of all levels of ability, and safer interaction with users of other modes of transportation.

j) Encourage the efforts and activities of citizen advocacy groups for pedestrian and bicycling by providing information and support for their programs.

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 the impacts of different land use patterns and site designs on travel behavior.
d) Evaluate the changes in land use brought about by the expansion of existing transportation facilities and the construction of new facilities.
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) Ensure that transportation facilities do not negatively 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 transportation policy and planning process.
c) Educate the public and elected officials, in order to increase public understanding of both the options and the constraints of transportation alternatives.
d) Determine the public's knowledge of the metropolitan transportation system, and public values, attitudes and concerns regarding transportation.
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 evacuation 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.

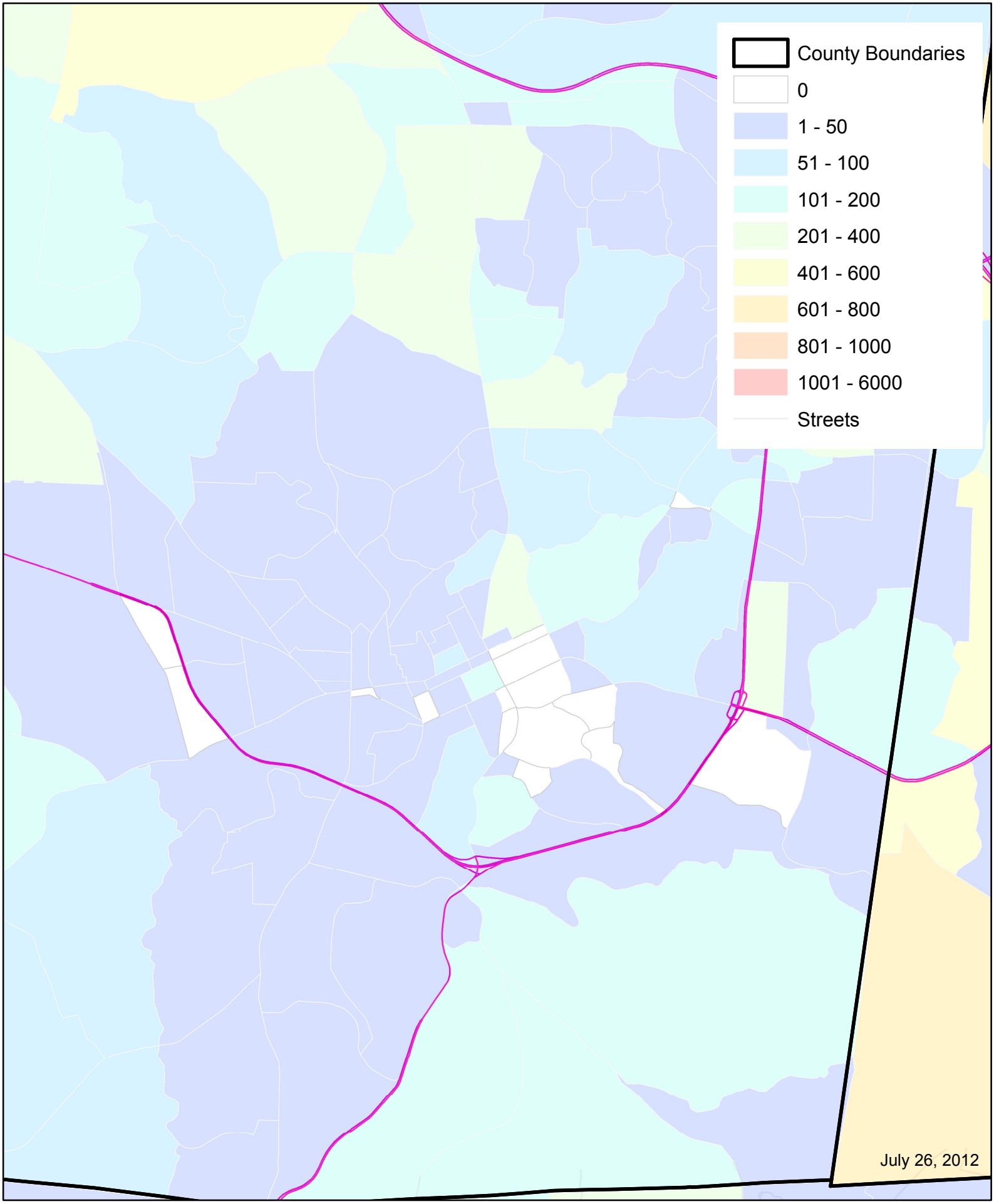
9. Freight Transportation and Urban Goods Movement

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

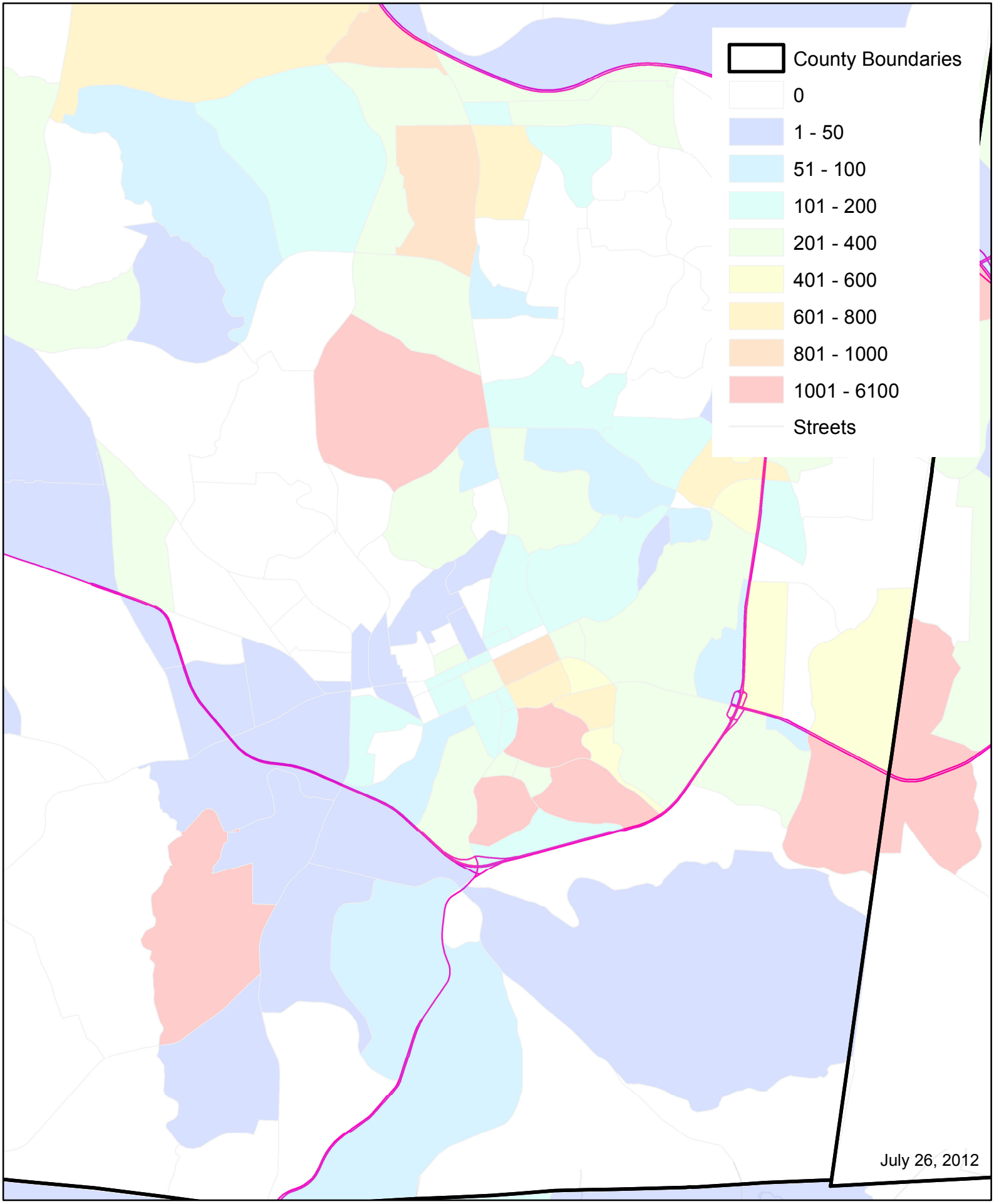
Objective:

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.

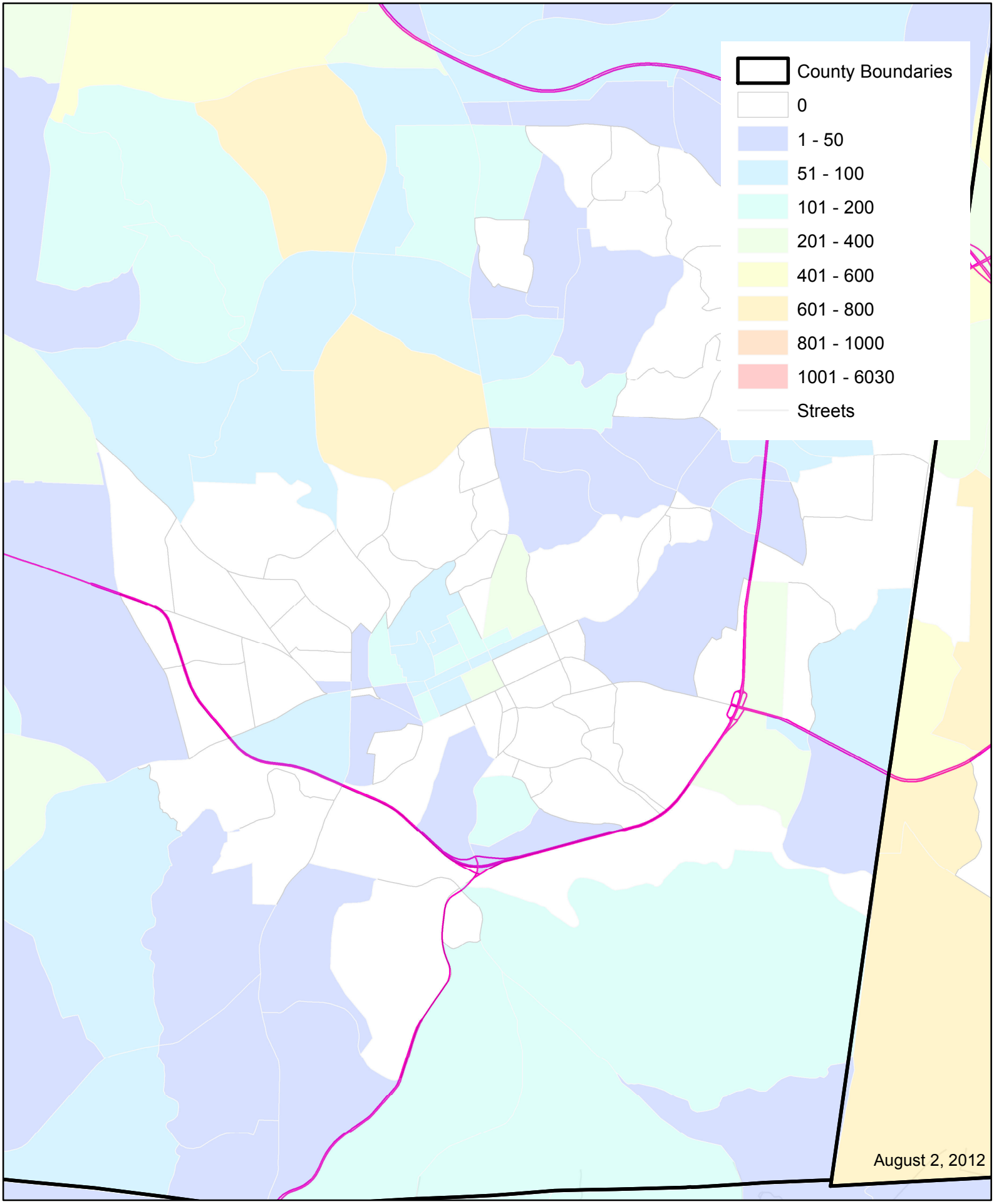
Chapel Hill
Community Plan--Dwelling Unit Growth 2010-2040



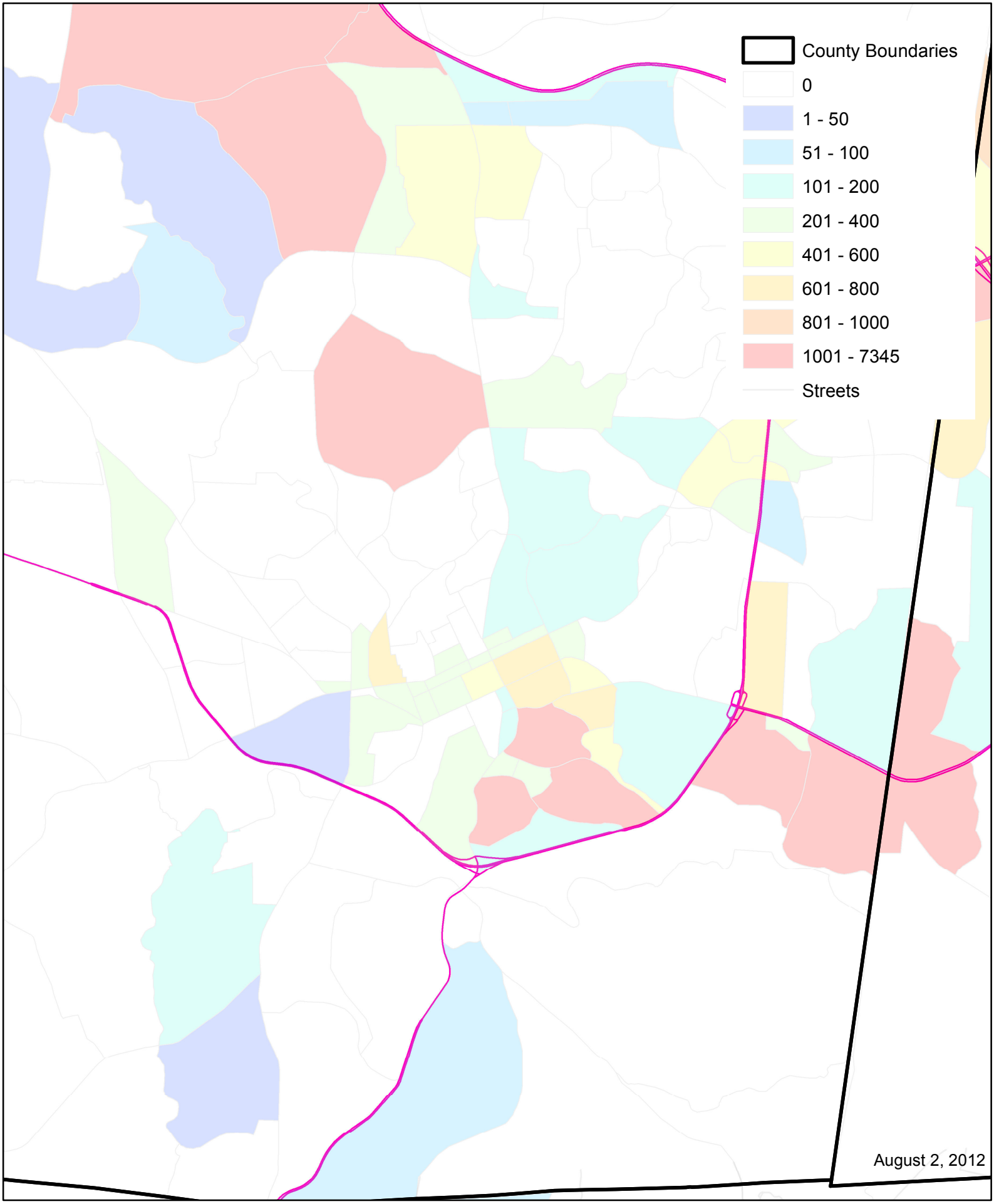
Chapel Hill
Community Plan--Employment Growth 2010-2040



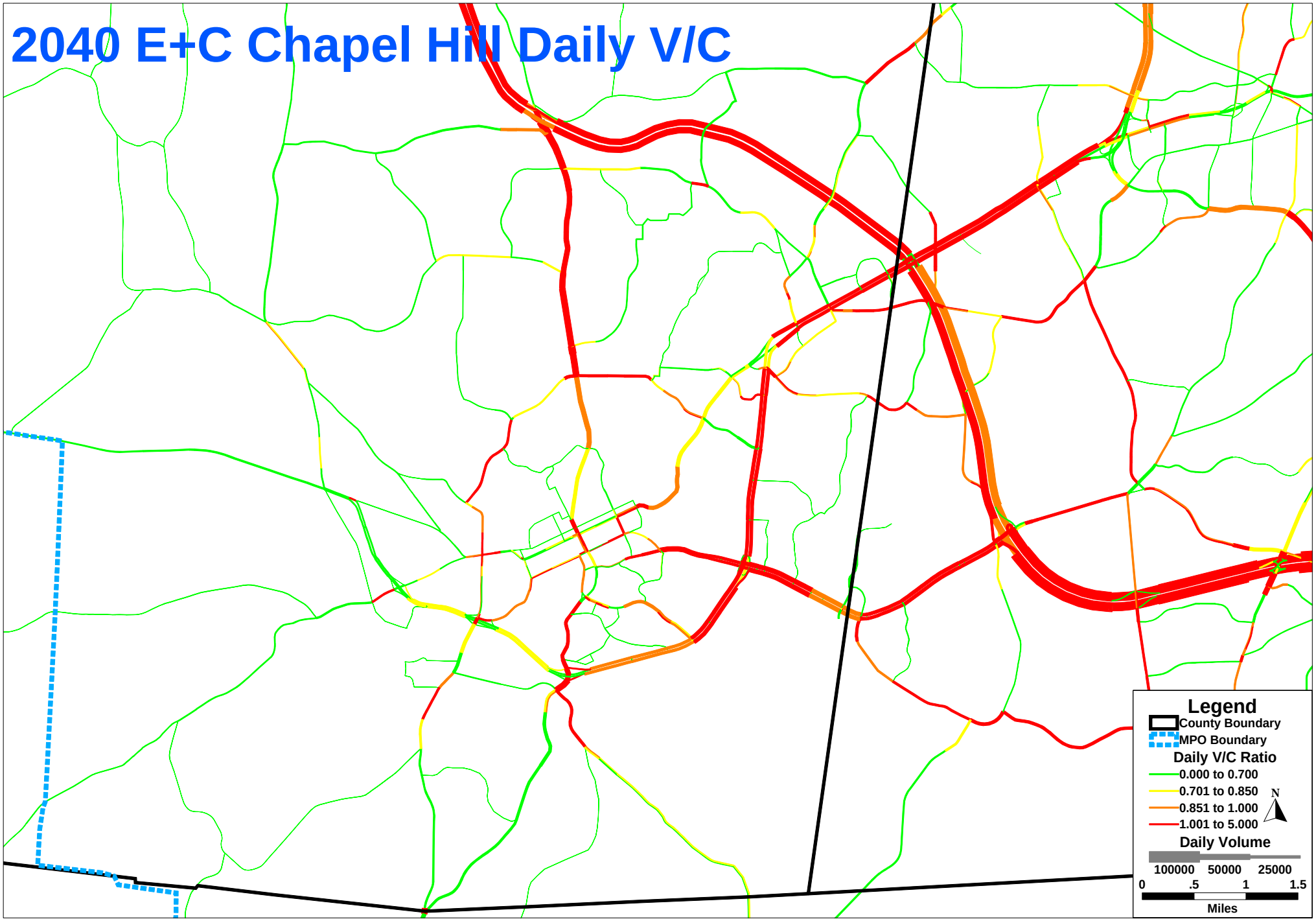
Chapel Hill
All In Transit--Dwelling Unit Growth 2010-2040

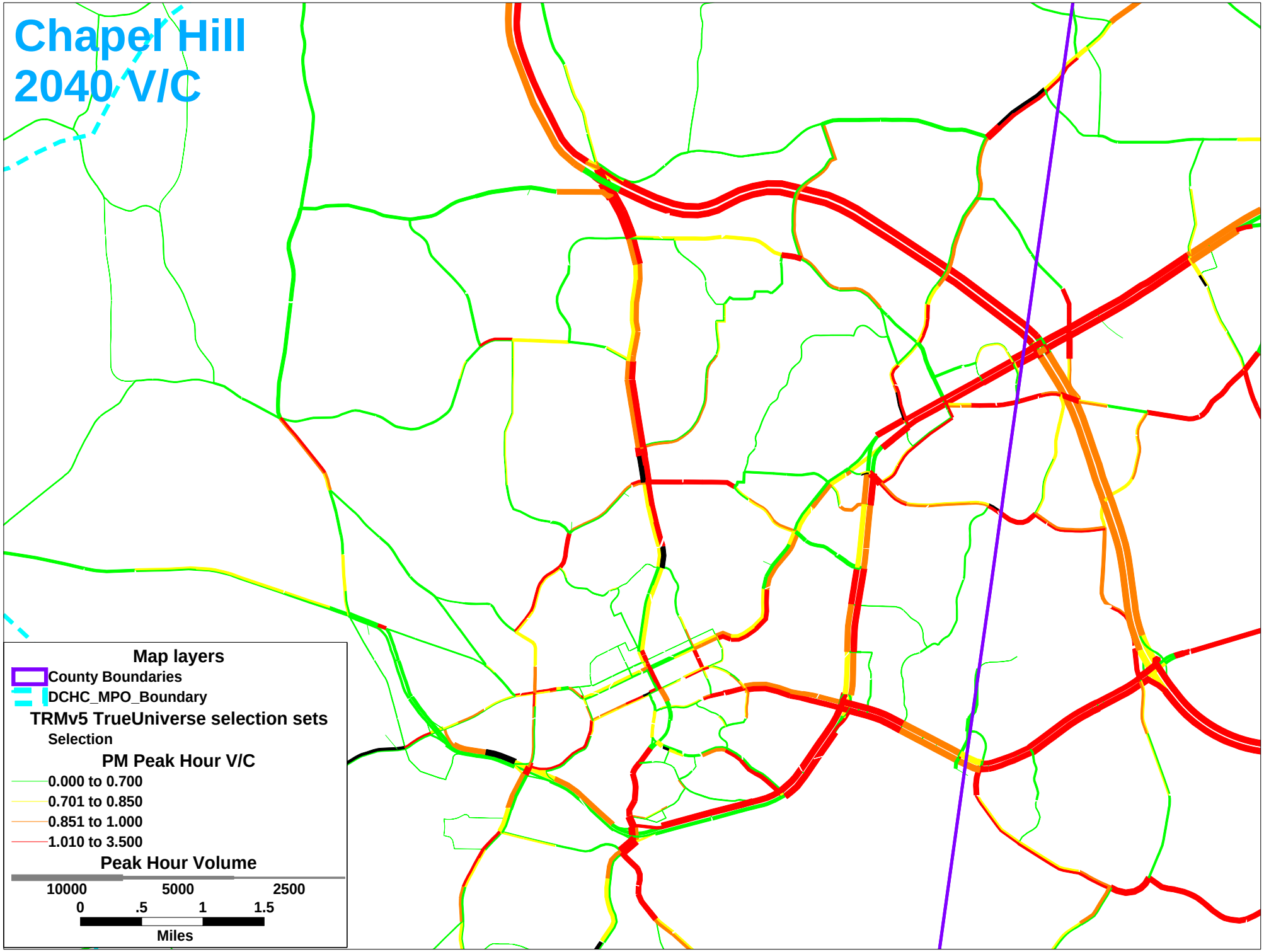


Chapel Hill
All In Transit--Employment Growth 2010-2040



2040 E+C Chapel Hill Daily V/C




Chapel Hill
2040 V/C
Map layers
County Boundaries
DCHC_MPO_Boundary
TRMv5 TrueUniverse selection sets
Selection
PM Peak Hour V/C
0.000 to 0.700
0.701 to 0.850
0.851 to 1.000
1.010 to 3.500
Peak Hour Volume
10000
5000
2500
0
.5
1
1.5
Miles

2040 MTP and CTP
Alternatives -- Introduction

What is the 2040 MTP?

The 2040 Metropolitan Transportation Plan (MTP) is the guide for major transportation investments in the Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC-MPO) area. The DCHC-MPO area covers the entire Durham County and the urbanized portions of Orange and Chatham Counties. The 2040 MTP recommends major transportation projects, policies and strategies designed to maintain existing transportation systems and serve the region's future travel needs. The 2040 MTP is also designed to support land use and air quality goals for the urban area, and must be prepared in accordance with Federal transportation and environmental requirements. Projects must be in the 2040 MTP to receive state and federal transportation funding in the North Carolina Transportation Improvement Program (TIP).

What is the CTP?

North Carolina General Statute 136-66.2 requires each municipality or Metropolitan Planning Organization (MPO), with the cooperation of the NCDOT, to develop a Comprehensive Transportation Plan (CTP) serving present and anticipated travel demand in and around the MPO. The principal differences between the MTP and CTP include:

- MTP lists only proposed highway improvements and transit services, whereas the CTP maps out both the current and proposed projects;
- MTP must be fiscally-constrained, i.e., the anticipated revenues must cover the anticipated costs, but the CTP has no fiscal element.

The development process for these two documents is very similar – each includes the use of a travel demand model and extensive public involvement. As a result, the DCHC MPO will complete the development process for both documents at the same time.

What are Alternatives?

The DCHC MPO plans to develop and evaluate several Alternatives in the process to create the 2040 Metropolitan Transportation Plan. Each Alternative will be a combination of a Transportation network, which includes a set of highway, transit and other transportation improvements, and a Land Use scenario that depicts the distribution of population and employment for the year 2040. These Alternatives will be run in the Triangle Regional Model (TRM) to produce a set of transportation performance measures that describe how the transportation system will meet the travel demand generated by a particular population and employment distribution in the year 2040. These performance

measures, such as the level of roadway congestion, average travel time, and transit ridership, will be used to evaluate and compare the various Alternatives.

It should be noted that it is very unlikely that one of the Alternatives in its entirety would be advanced as the Preferred Option. These Alternatives have been designed to emphasize a particular mode in meeting the future travel demands so that the public and technical staff can understand how the designated mode meets travel demand. In fact, it is unlikely that the Alternatives using the Highway Intensive and Transit Intensive networks are financially feasible.

How can Citizens Participate?

There are many opportunities for citizens to review and comment on the Alternatives and Preferred Option at a series of public workshops and public hearings that will take place from August through December 2012. The complete public involvement calendar for the Alternatives is displayed in the table on the next page. The DCHC MPO Web site will continue to post a detailed list of these public involvement opportunities in the Alternatives Analysis section of the Website – www.dchcmpo.org. For more information, citizens can also contact Andy Henry, (919) 560-4366, extension 36419, or andrew.henry@durhamnc.gov.

Public Hearing -- The MPO policy board, the Transportation Advisory Committee (TAC), will conduct a public hearing on September 12, 2012, 9AM, in the Committee Room on the 2nd Floor of Durham City Hall. The public can sign up to speak directly to the TAC on the Alternatives.

Where to Send Comments – Comments can be sent to the following email and postal address"

- andrew.henry@durhamnc.gov.
- Andrew Henry
  City of Durham/Transportation Dept.
  101 City Hall Plaza
  Durham, NC 27701

Comment Period – The public comment period for the Alternatives will run from August 17, 2012 through October 10, 2012.

Alternatives Analysis – Public Involvement Calendar

Jurisdiction	Elected Board	Planning Board	Transpor-tation Board	Bicycle/ Pedestrian Board	Transit Board	Public Workshops
City of Durham	9/27/2012	9/11/2012	n/a	8/21/2012	9/3/2008	9/18 Durham Station Transportation Center*
Durham County	9/24/2012	9/11/2012	n/a	8/21/2012	n/a	
Chapel Hill	9/24 or 10/8	TBD	TBD	TBD (Active Living)	n/a	9/20 (tentative) Chapel Hill Town Hall, 4-7pm
Carrboro	9/11 & 10/2	9/20/12	9/20/12			
Hillsborough	9/24/12	9/20/12	n/a	n/a	n/a	9/13 "The Barn", 4-7 pm
Orange County	10/2/2012	Invited to OUTBoard Mtg	9/19/2012	n/a	n/a	
Chatham County	9/17/2012	9/11/2012	8/28/2012	8/23/2012	n/a	n/a

*One workshop will be focused for environmental justice organizations.

Notes: Check DCHC MPO Web site for any meeting date and time updates – www.dchcmpo.org.
Check local government information to make sure the Alternatives is on the agenda.

What is the Next Step in the 2040 MTP Process?

In the next major step in the 2040 MTP development process, the public, elected officials and technical staff will use the evaluation and comparison of the Alternatives to create a single Alternative that best meets the MPO's Goals and Objectives and the fiscal constraint requirements. The fiscal restraint requirements demand that the project costs do not exceed the expected funding revenues. This final Alternative is called the Preferred Option, and it will also go through a public review process similar to that of the Alternatives.

Development of Alternatives

The table below shows the combinations of transportation networks and land use scenarios that will be modeled for the 2040 MTP development process to produce each Alternative.

Land Use/Network	Highway Intensive	Transit Intensive	Moderate
CommPlan	Yes	Yes	Yes
All-in-Transit	No	Yes	Yes

The land use scenarios are based on the following assumptions:

Community Plan

- Based on local comprehensive plans
- Used in Deficiency Analysis (June 2012)

All-in-Transit

- Based on local comprehensive plans, plus…
- Additional and enhanced transit oriented developments
- Additional development attraction to rail and premium transit

The table on the next page summarizes the highway and transit projects included in each of the three transportation networks. Section 7 provides a map and project list for each transportation network.

The remainder of this report is dedicated to presenting tables and maps that show the level to which each of the Alternatives meets the forecasted travel demand. Two additional Alternatives from the Deficiency Analysis are used for purposes of comparison. The MPO completed the Deficiency Analysis in June 2012 and the detailed results are available on the MPO Web page.

- 2010 – This is the current condition. It uses the current transportation network and current population and employment distribution.
- E+C (Existing plus Committed) – This is the no build alternatives. It uses the current transportation network (including any committed projects) and the forecasted population and employment.

Transportation Networks

	Highway Intensive	Transit Intensive	Moderate
Highway	• 2035 LRTP • CTP highway projects ➢ ***410*** new lanes miles ➢ **$3.1** billion highway costs ➢ 2,979 total lane miles in network	➢ Basically, 2015 and 2025 tier ➢ No 2035 tier or CTP highway projects ➢ ***120*** new lanes miles ➢ **$0.3** billion highway costs ➢ 2,842 total lanes miles in network	➢ Basically, 2035 LRTP (minus some minor highway projects) ➢ ***261*** new lanes miles ➢ **$1.6** billion highway costs ➢ 2,737 total lanes miles in network
Transit	• Current bus transit • No rail transit ➢ 2,028 bus transit line miles (Triangle)	• Current bus transit • County plans (based on ½ cent sales tax) • LRT between Durham and Wake (instead of CRT) • LRT and CRT extensions in Orange County • CRT addition between Cary and western RTP • All Bus Rapid Transit (BRT) in Chapel Hill ➢ 2,646 bus transit line miles (Triangle) ➢ ***69,354*** transit service miles (Triangle) ➢ **520** miles of rail transit line (Triangle)	• Current bus transit • County plans (based on ½ cent sales tax) • LRT and CRT (based on Locally Preferred Alternative) • MLK Blvd Bus Rapid Transit (BRT) in Chapel Hill ➢ 2,882 bus transit line miles (Triangle) ➢ ***66,211*** transit service miles (Triangle) ➢ **150** miles of rail transit line (Triangle)

Notes: New lane miles only includes proposed widenings and new roadways in the Alternative.
Total lane miles includes all interstates, arterials and major collector streets in the Alternative network; most local streets are not included.
Transit line miles, service miles and miles of rail transit line are daily values and are for the entire Triangle region.

Summary of Alternatives

The Alternatives presented in this report can be summarized as follows:

2010 – This benchmark shows the current state of the transportation system. It assumes the 2010 highway and transit network and 2010 population and employment.

E+C (Existing plus Committed) – This is the no build benchmark – it shows the state of the transportation system in the year 2040 if no highway or transit improvements are made.

Highway Intensive – This transportation network assumes an emphasis on highway improvements and less investment in transit (e.g., does not include rail transit)

Transit Intensive – This transportation network assumes an emphasis on bus and rail investment, including the extension of light rail transit beyond the UNC-Chapel Hill area and the extension of commuter rail transit into Orange County. There are two Alternatives using this network:

- one assumes a year 2040 land use scenario with Transit Oriented Development (TOD) around proposed rail stations to take advantage of the synergy between the rail mode and concentrated station development – this land scenario is called All-in-Transit for this study.

- one assumes a 2040 land use scenario based on the local comprehensive plans – this scenarios is called Community Plan (CommPlan).

Moderate – This transportation network assumes a mix of highway projects, bus transit and rail transit that is very similar to that of the 2035 Long Range Transportation Plan (2035 LRTP). Like the Transit Intensive network, there are two Alternatives for this network – one for each of the All-in-Transit and Community Plan land use scenarios.

See the Alternatives Description and Socioeconomic Data sections of this report for detailed information on the transportation networks and land use scenarios used to create these Alternatives.

How is Report Organized?

This report presents the TRM model output first and then provides details on the land use scenarios and the Alternatives. The model output begins with the broad, system-wide Performance Measures and progressively moves toward more project based information such as the congestion maps (e.g., volume/capacity ration).

Who Can I Contact?

For more information, citizens can contact Andy Henry, (919) 560-4366, extension 36419, or send an email to **andrew.henry@durhamnc.gov**.

2040 MTP and CTP
Alternatives – Performance Measures

Purpose of Performance Measures

Performance Measures provide a general indicator from a variety of perspectives such as mobility, travel time, congestion, mode choice, and air quality. The measures are not specific to a particular roadway or travel corridor but instead cover the entire transportation system, and therefore are useful for comparing the overall efficiency and effectiveness of the different transportation Alternatives. Most of the data used for calculating the Performance Measures comes from the Triangle Regional Model (TRM), which is a travel demand model that forecasts future travel statistics based on a set of assumptions concerning the highway network, transit service and other transportation facilities.

Presentation of Performance Measures

The first section is a table that presents all the Performance Measures for all of the Alternatives. Next a series of graphs compare key Performance Measures.

2040 MTP and CTP

Performance Measures

	SE Data Scenario	2010	2040	CommPlan	CommPlan	AIT	CommPlan	AIT
	Transportation Network	2010	**E+C**	**Highway**	**Moderate**	**Moderate**	**Transit**	**Transit**
1	**Performance Measures**							
1.1	Total Vehicle Miles Traveled (VMT-daily)							
1.1.1	All Facility+C Connectors	13,217,550	21,281,636	21,962,571	21,549,193	21,687,674	21,678,833	21,787,173
1.1.2	All Facility (no C Connectors)	12,430,435	19,842,072	20,556,024	20,140,382	20,280,151	20,278,564	20,388,595
1.2	Total Vehicle Hours Traveled (VHT-daily)							
1.2.1	All Facility+C Connectors	312,669	614,488	560,421	587,951	597,801	563,549	571,035
1.2.2	All Facility (no C Connectors)	260,012	517,982	466,092	493,481	503,408	469,649	477,242
1.3	Average Speed by Facility (miles/hour)							
1.3.1	- Freeway	63	55	61	58	58	60	60
1.3.2	- Arterial	42	37	39	38	38	39	38
1.3.3	- All Facility	53	46	50	48	48	50	50
1.4	Peak Average Speed by Facility (miles/hour)							
1.4.1	- Freeway	62	52	59	56	55	58	58
1.4.2	- Arterial	41	35	38	36	36	37	37
1.4.3	- All Facility	51	43	48	45	45	47	47
1.5	Daily Average Travel Length - All Person Trips							
1.5.1	- Travel Time	14.0	15.4	14.5	15	15	15	15
1.5.2	- Travel Distance	6.3	5.9	6.2	6	6	6	6
1.6	Daily Average Travel Length - Work Trips							
1.6.1	- Travel Time	17.7	19.4	18.0	19	19	18	18
1.6.2	- Travel Distance - Work Trips	9.1	8.0	8.5	8	8	8	8
1.7	Peak Average Travel Length - All Person Trips							
1.7.1	- Peak Travel Time	14.8	16.7	15.5	16	16	16	16
1.7.2	- Peak Travel Distance	6.7	6.1	6.5	6	6	6	6
1.8	Daily Average Travel Length - All CV Trips							
1.8.1	- Travel Time	15.0	17.2	15.7	16	16	16	16
1.8.2	- Travel Distance	8.3	8.5	8.5	9	8	8	8
1.9	Daily Average Travel Length - Truck Trips							
1.9.1	- Travel Time	15.3	17.4	16.0	17	17	16	16

2040 MTP and CTP

Performance Measures

	SE Data Scenario	2010	2040	CommPlan	CommPlan	AIT	CommPlan	AIT
	Transportation Network	2010	**E+C**	**Highway**	**Moderate**	**Moderate**	**Transit**	**Transit**
1.9.2	- Travel Distance	8.5	8.8	8.7	9	9	9	9
1.1	Hours of Delay (daily)	27,446	139,455	77,308	108,972	115,868	85,700	90,952
1.10.1	Truck Hours of Delay (daily)	1,086	4,742	2,604	3,752	3,942	2,884	3,026
1.11	Percent of VMT experiencing congestion - All Day							
1.11.1	- Freeway	1.7%	17.1%	5.6%	0	10.3%	5.9%	6.0%
1.11.2	- Arterial	3.3%	14.5%	7.0%	0	11.3%	9.1%	9.1%
1.11.3	- All Facility	2.0%	13.7%	5.2%	0	9.3%	6.1%	6.1%
1.12	Percent of VMT experiencing congestion - Peak							
1.12.1	- Freeway	3.0%	30.7%	9.8%	0	18.1%	10.4%	10.5%
1.12.2	- Arterial	5.0%	22.7%	11.4%	0	17.9%	14.7%	14.5%
1.12.3	- All Facility	3.1%	22.7%	8.7%	0	15.2%	10.2%	10.2%
1.12.4	- Designated truck routes	5.0%	16.6%	6.7%	0	11.3%	9.2%	9.9%
1.12.5	- Facilities w/bus routes	3.8%	20.0%	9.7%	0	15.3%	10.5%	10.6%
2	**Mode Share Measures**							
2.1	All Trips - Daily							
2.1.1	- Drive alone (single occupant vehicle -SOV)	864,965	1,535,469	1,556,192	1,545,257	1,552,393	1,540,220	1,546,013
2.1.2	- Carpool (Share ride)	683,083	1,184,575	1,210,390	1,197,270	1,226,494	1,194,841	1,222,487
2.1.3	- Bus	50,579	71,588	74,672	63,940	63,058	71,791	71,085
2.1.4	- Rail	-	-	-	11,328	13,582	25,653	31,615
2.1.5	- Non-Motorized (Bike and Walk)	176,554	281,839	275,473	280,755	328,135	274,454	320,615
2.2	Work Trips - Daily							
2.2.1	- Drive alone (single occupant vehicle -SOV)	270,716	473,750	480,908	473,593	475,254	471,702	472,977
2.2.2	- Carpool (Share ride)	35,360	61,545	63,278	62,312	62,966	61,445	61,961
2.2.3	- Bus	12,852	19,080	20,448	17,707	17,857	20,187	20,254
2.2.4	- Rail	-	-	-	3,755	4,628	8,999	11,089
2.2.5	- Non-Motorized (Bike and Walk)	16,343	25,102	24,155	25,211	30,632	23,418	28,437
2.3	All Trips - Peak Hours							
2.3.1	- Drive alone (single occupant vehicle -SOV)	483,159	845,886	865,655	854,112	857,969	854,752	858,178
2.3.2	- Carpool (Share ride)	411,958	704,589	727,434	717,207	736,381	718,074	736,989

2040 MTP and CTP

Performance Measures

	SE Data Scenario	2010	2040	CommPlan	CommPlan	AIT	CommPlan	AIT
	Transportation Network	2010	**E+C**	**Highway**	**Moderate**	**Moderate**	**Transit**	**Transit**
2.3.3	- Bus	25,416	34,741	37,027	31,730	31,495	34,188	33,862
2.3.4	- Rail	-	-	-	5,719	6,854	14,583	17,813
2.3.5	- Non-Motorized (Bike and Walk)	101,821	165,869	158,458	163,674	190,068	158,798	184,229
3	**Transit Measures**							
3.1	Transit Ridership by Prod. Ends	Total	Total	Total	Total	Total	Total	Total
3.1.1	- TTA (Including Rail)	5,362	8,853	9,858	32,777	38,760	70,658	86,916
3.1.2	- CAT	16,639	22,957	24,986	42,763	44,330	45,698	47,725
3.1.3	- CHT	26,788	38,460	39,061	37,476	38,194	45,900	46,888
3.1.4	- DATA	17,637	25,924	26,614	22,467	21,719	25,359	24,399
3.1.5	- NCSU	12,147	21,332	21,403	16,571	17,742	16,926	18,241
3.1.6	- DUKE	14,007	17,358	17,631	17,204	16,342	17,274	16,446
3.1.7	- OPT	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3.1.8	- CARY	1,412	2,136	2,266	12,066	14,366	14,213	16,252
3.1.9	Total	93,988	137,015	141,816	181,320	191,449	236,025	256,867
3.2	Ridership By Prod. Ends by Routes							
3.2.1	Rail CR CP EB (ID: 237)		N/A	N/A	2,061	2,637	634	1,009
3.2.2	Rail CR CP WB (ID: 238)		N/A	N/A	2,061	2,637	1,870	2,212
3.2.3	Rail LRT D-O 1 EB (ID: 239)		N/A	N/A	4,288	5,103	172	335
3.2.4	Rail LRT D-O 1 WB (ID: 240)		N/A	N/A	4,288	5,103	255	477
3.2.5	Rail LRT Wake 1 EB (ID: 241)		N/A	N/A	5,046	6,229	693	877
3.2.6	Rail LRT Wake 1 WB (ID: 242)		N/A	N/A	9,142	10,207	1,389	1,770
3.2.7	Rail CR Long EB (ID: 243)		N/A	N/A	N/A	N/A	2,280	2,874
3.2.8	Rail CR Long WB (ID: 244)		N/A	N/A	N/A	N/A	8,215	9,730
3.2.9	Rail CR West Cary NB (ID: 245)		N/A	N/A	N/A	N/A	699	808
3.2.10	Rail CR West Cary SB (ID: 246)		N/A	N/A	N/A	N/A	469	491
3.2.11	Rail LRT Apex-Cary NB (ID: 247)		N/A	N/A	N/A	N/A	3,460	4,623
3.2.12	Rail LRT Apex-Cary SB (ID: 248)		N/A	N/A	N/A	N/A	1,727	2,461
3.2.13	Rail LRT D-O 2 Long EB (ID: 249)		N/A	N/A	N/A	N/A	8,567	10,861
3.2.14	Rail LRT D-O 2 Long WB (ID: 250)		N/A	N/A	N/A	N/A	13,051	16,474

2040 MTP and CTP

Performance Measures

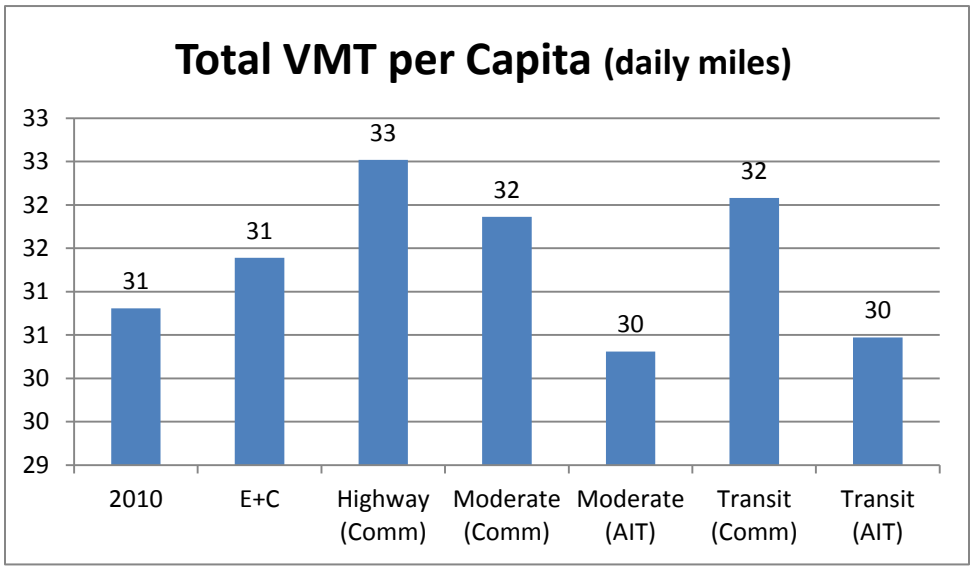
	SE Data Scenario	2010	2040	CommPlan	CommPlan	AIT	CommPlan	AIT
	Transportation Network	2010	**E+C**	**Highway**	**Moderate**	**Moderate**	**Transit**	**Transit**
3.2.15	Rail LRT RDU Connection EB (ID: 251)		N/A	N/A	N/A	N/A	1,683	2,244
3.2.16	Rail LRT RDU Connection WB (ID: 252)		N/A	N/A	N/A	N/A	541	917
3.2.17	Rail LRT Wake 2 Long EB (ID: 253)		N/A	N/A	N/A	N/A	6,382	7,731
3.2.18	Rail LRT Wake 2 Long WB (ID: 254)		N/A	N/A	N/A	N/A	10,863	12,932
3.2.19	Rail LRT CHT Cnctr (ID: 301)		N/A	N/A	N/A	N/A	94	103
3.3	Total Rail Ridership		N/A	N/A	26,890	31,922	63,062	78,945
4	**Demographics Measures**							
4.1	Population	403,494	632,102	632,102	632,102	669,124	632,102	669,124
4.2	Employment	261,566	427,876	427,876	427,876	428,337	427,876	428,337
4.3	Total Daily Person Trips	1,775,182	3,073,472	3,116,728	3,098,552	3,183,664	3,106,960	3,191,817
4.3.1	Work Person Trips	335,271	579,478	588,790	582,580	591,338	585,752	594,719
4.4	Total Daily CV Trips	137,279	211,324	211,324	211,324	211,592	211,324	211,592
4.4.1	Daily Truck Trips	57,715	85,991	85,991	85,991	85,992	85,991	85,992
5	Other Measures							
5.1	Lane Miles	2,472	2,548	2,979	2,737	2,737	2,842	2,842

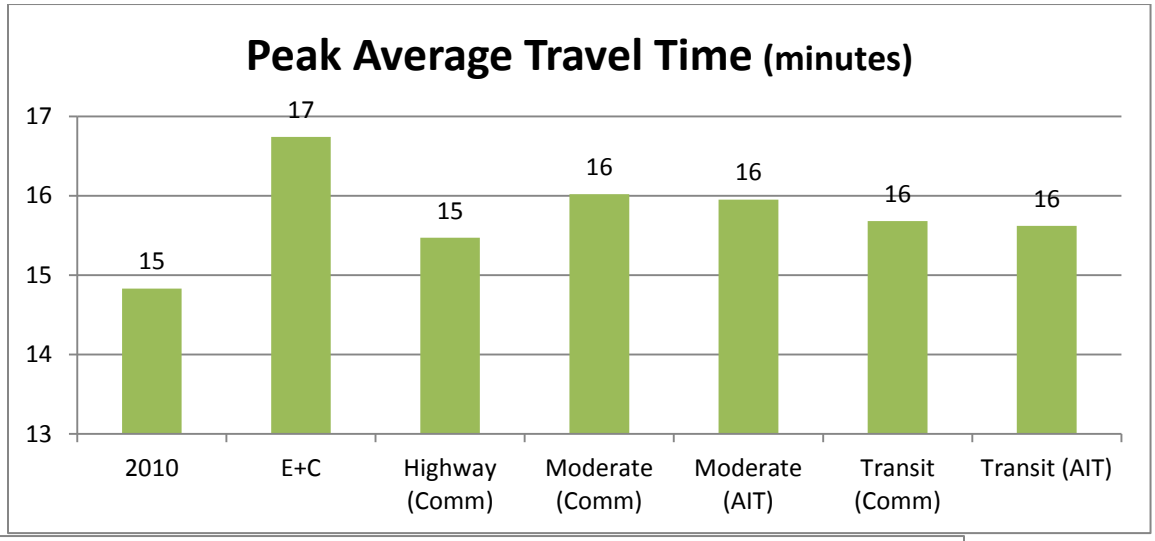
CV = Commercial vehicles (which includes large and small trucks and vans.

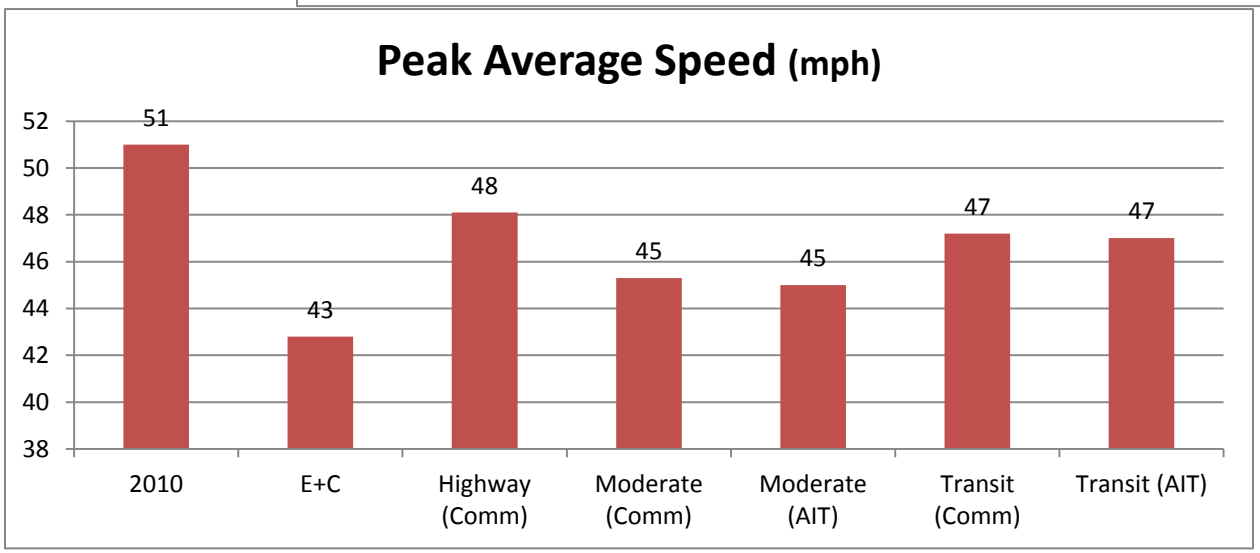
Trucks = Subset of CV that includes only large trucks.

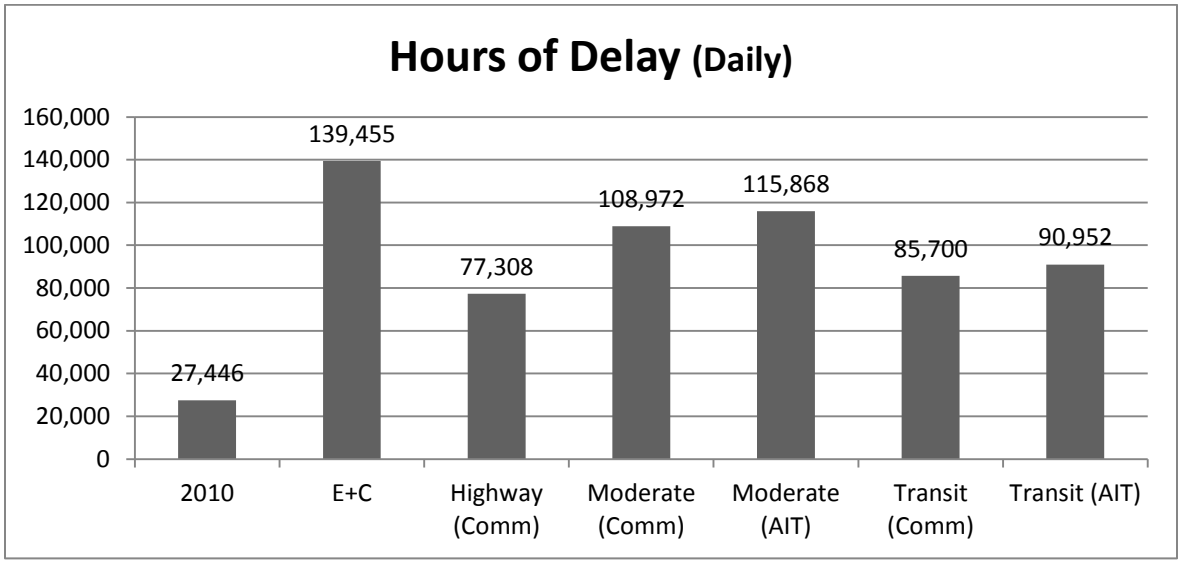
Transit ridership is higher than transit trips because transfers are counted mulitple times in ridership numbers.

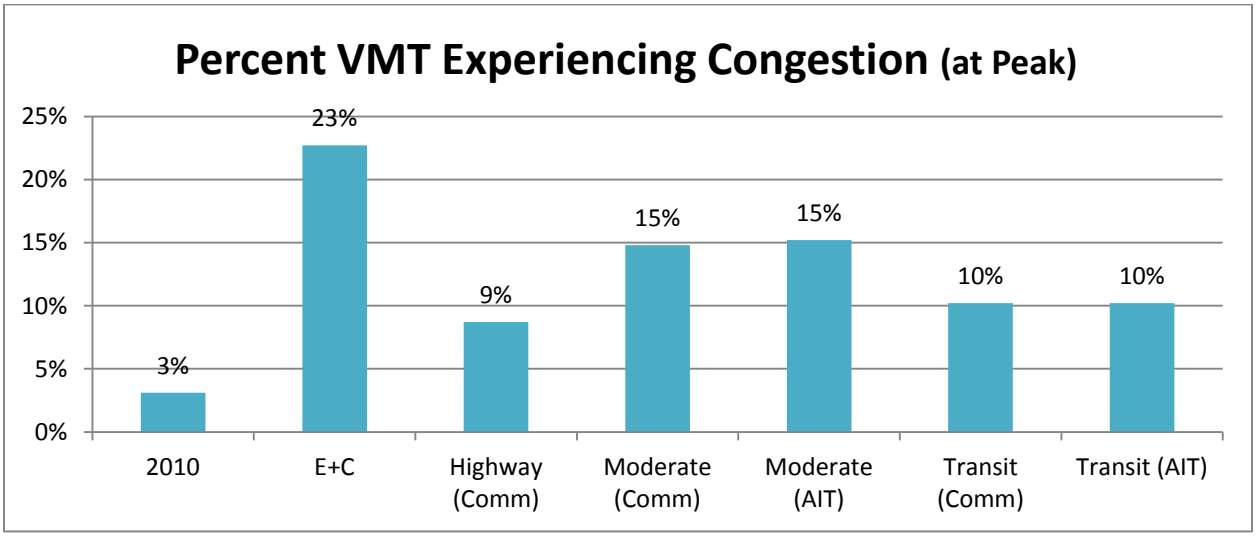
Average Speed (1.3 and 1.4), Percent of Congested VMT (1.11 and 1.12)and Hours of Delay (1.10) calculations do not include local streets or centroid connectors (which often represent local streets in modeling networks)

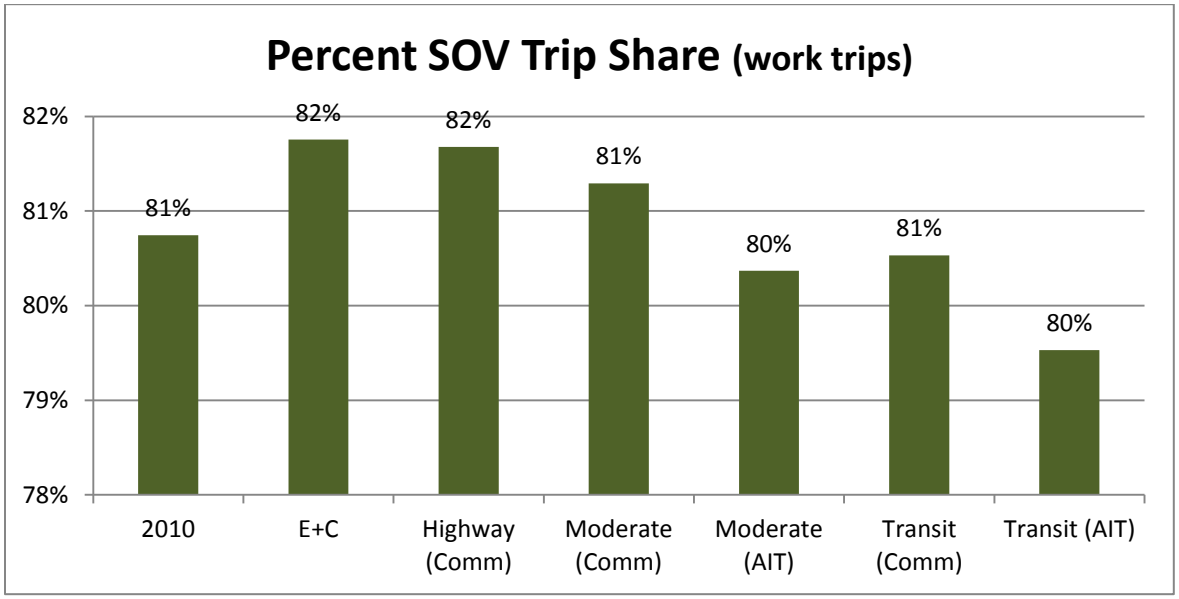

Total VMT per Capita (daily miles)
33
33
32
32
31
31
30
30
29
31
31
33
32
30
32
30
2010
E+C
Highway (Comm)
Moderate (Comm)
Moderate (AIT)
Transit (Comm)
Transit (AIT)

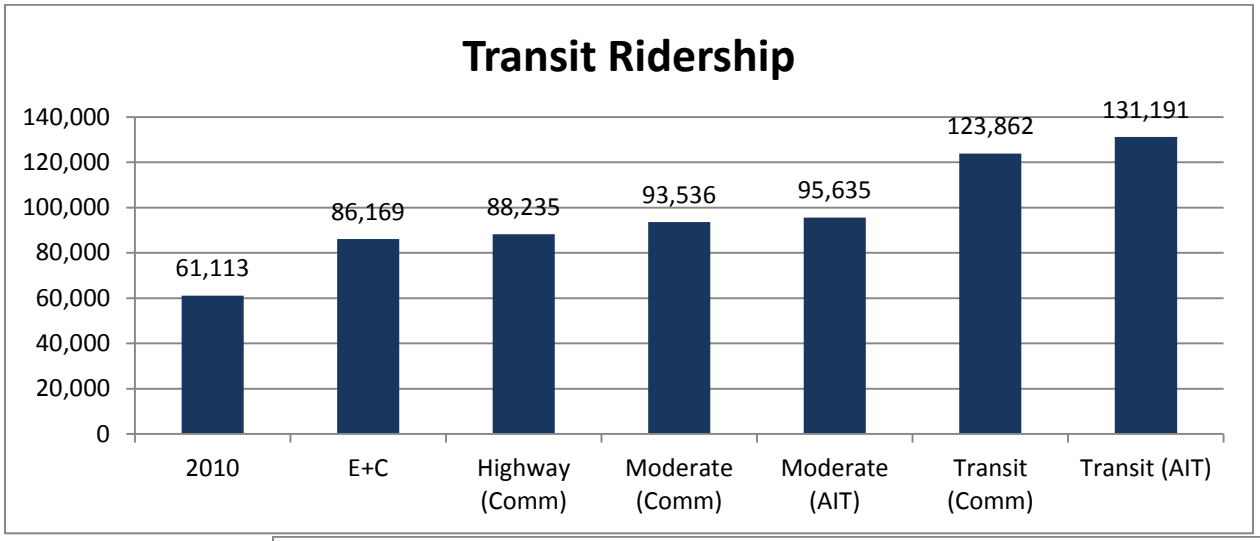

Peak Average Travel Time (minutes)
17
16
15
14
13
15
17
15
16
16
16
16
2010
E+C
Highway (Comm)
Moderate (Comm)
Moderate (AIT)
Transit (Comm)
Transit (AIT)

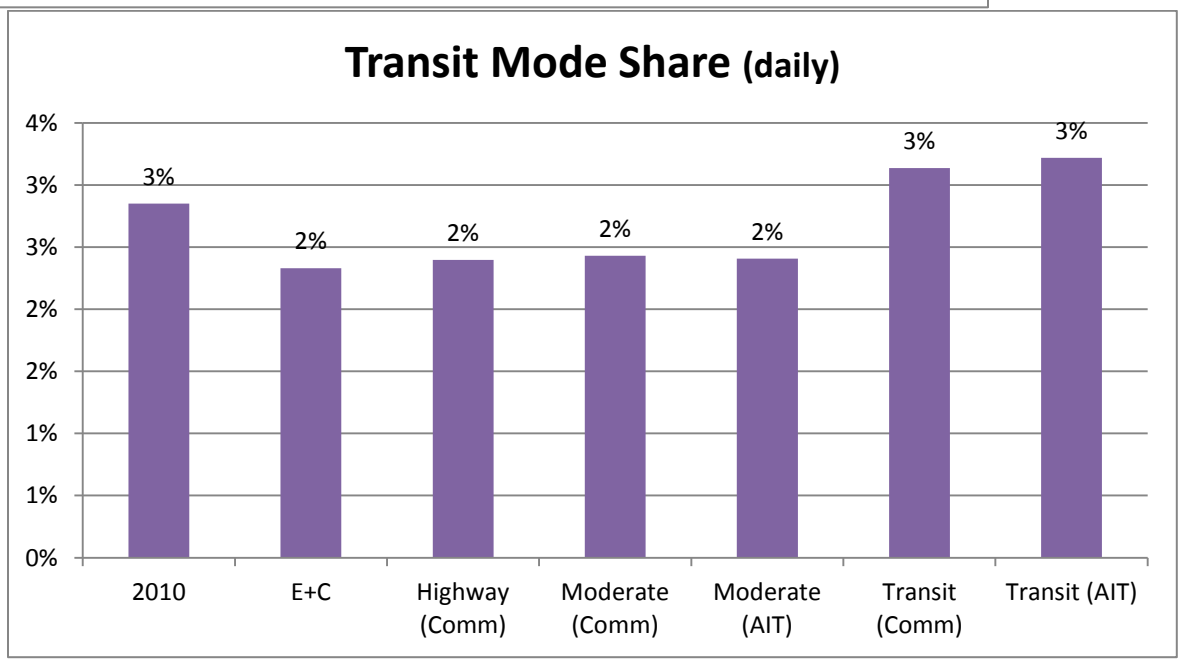

Peak Average Speed (mph)
52
50
48
46
44
42
40
38
51
43
48
45
45
47
47
2010
E+C
Highway (Comm)
Moderate (Comm)
Moderate (AIT)
Transit (Comm)
Transit (AIT)

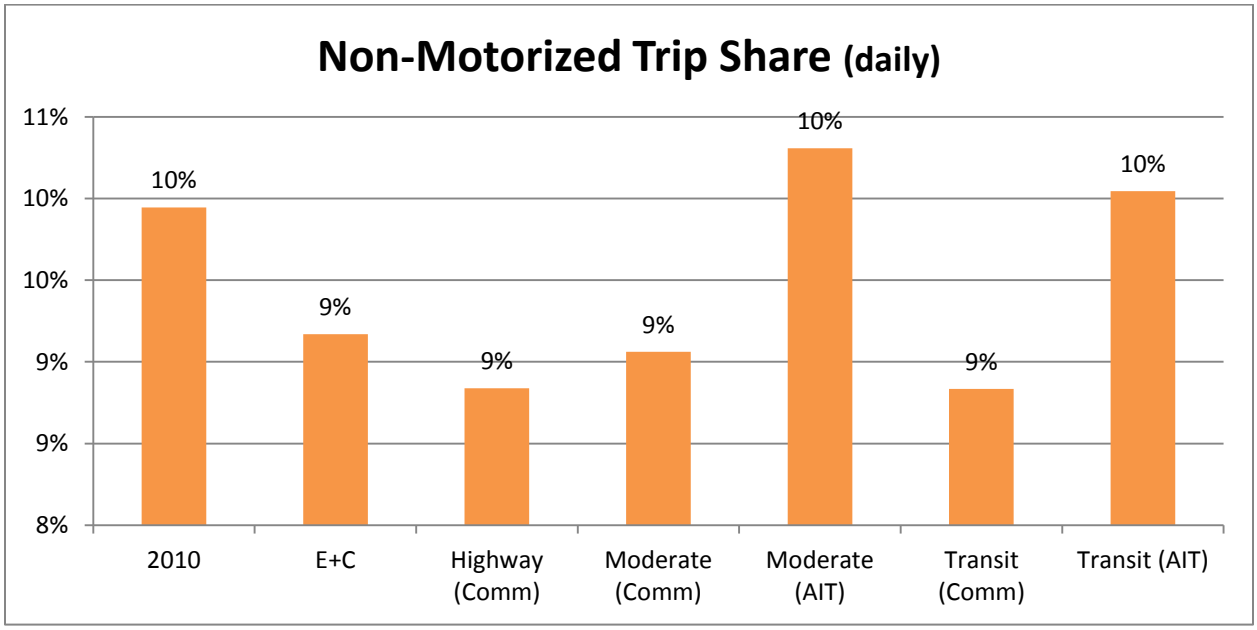

Hours of Delay (Daily)
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
27,446
139,455
77,308
108,972
115,868
85,700
90,952
2010
E+C
Highway (Comm)
Moderate (Comm)
Moderate (AIT)
Transit (Comm)
Transit (AIT)


Percent VMT Experiencing Congestion (at Peak)
25%
20%
15%
10%
5%
0%
3%
23%
9%
15%
15%
10%
10%
2010
E+C
Highway (Comm)
Moderate (Comm)
Moderate (AIT)
Transit (Comm)
Transit (AIT)

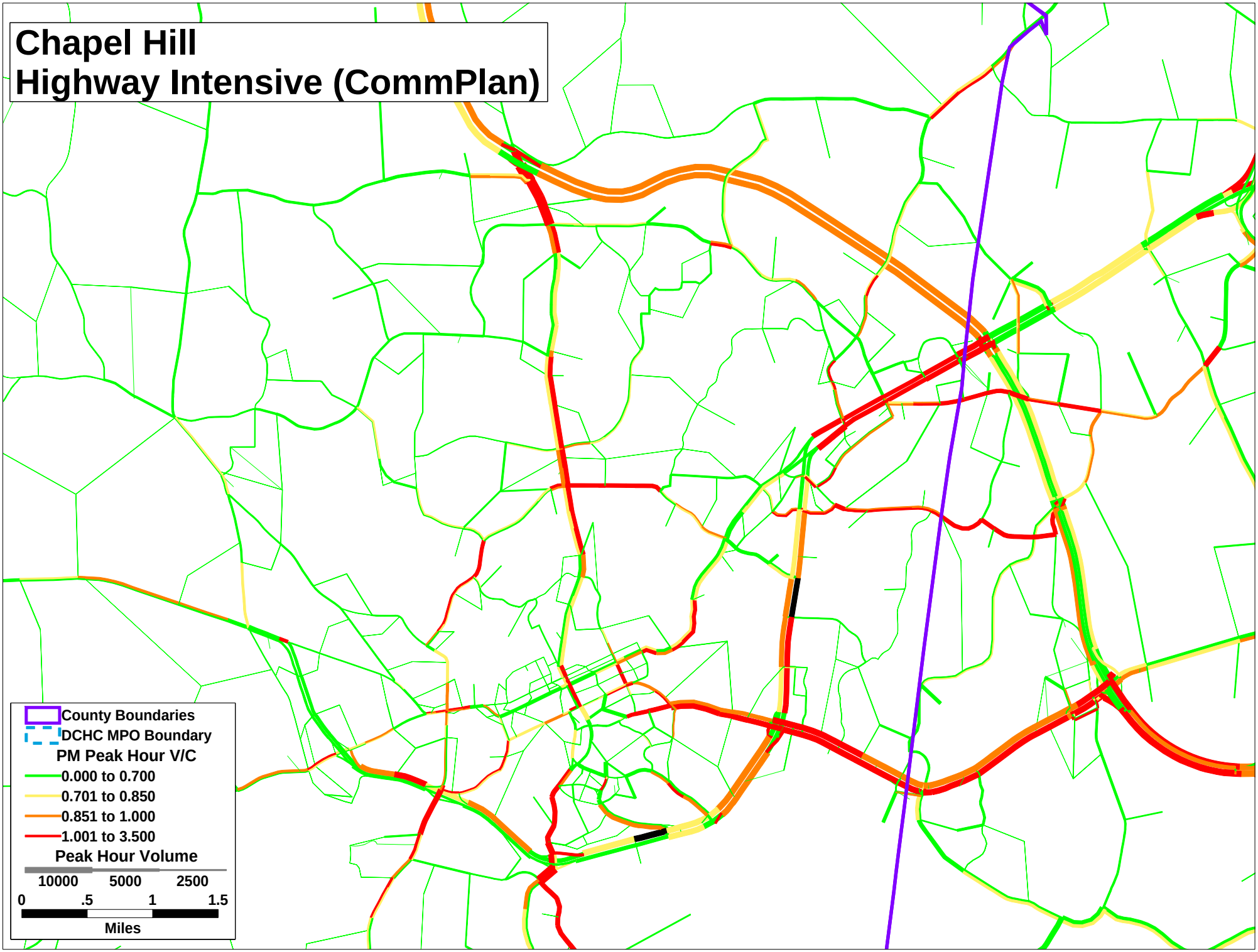

Percent SOV Trip Share (work trips)
82%
81%
80%
79%
78%
81%
82%
82%
81%
80%
81%
80%
2010
E+C
Highway (Comm)
Moderate (Comm)
Moderate (AIT)
Transit (Comm)
Transit (AIT)


Transit Ridership
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
61,113
86,169
88,235
93,536
95,635
123,862
131,191
2010
E+C
Highway (Comm)
Moderate (Comm)
Moderate (AIT)
Transit (Comm)
Transit (AIT)

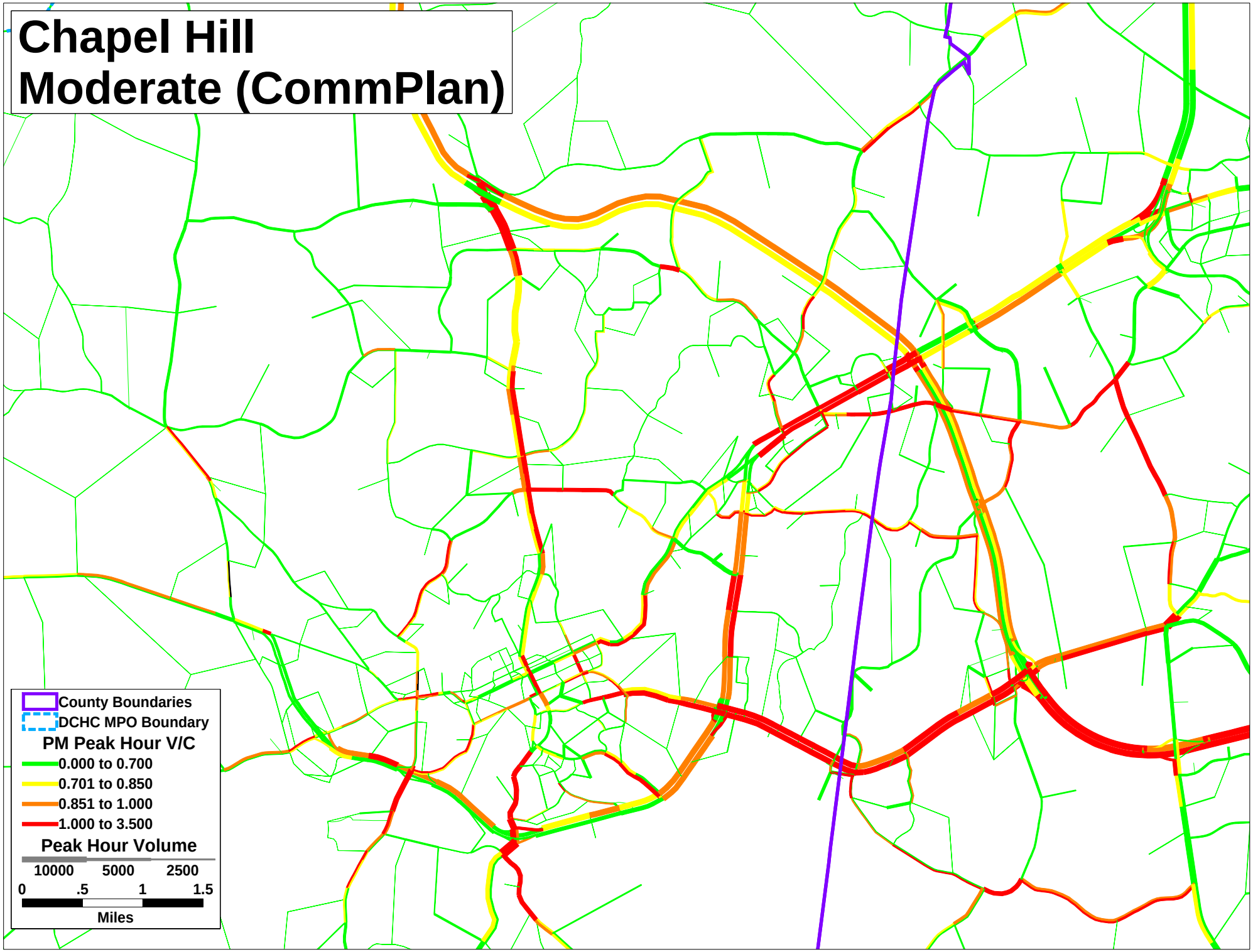

Transit Mode Share (daily)
4%
3%
3%
2%
2%
1%
1%
0%
3%
2%
2%
2%
2%
3%
3%
2010
E+C
Highway (Comm)
Moderate (Comm)
Moderate (AIT)
Transit (Comm)
Transit (AIT)


Non-Motorized Trip Share (daily)
11%
10%
10%
9%
9%
8%
10%
9%
9%
9%
10%
9%
10%
2010
E+C
Highway (Comm)
Moderate (Comm)
Moderate (AIT)
Transit (Comm)
Transit (AIT)

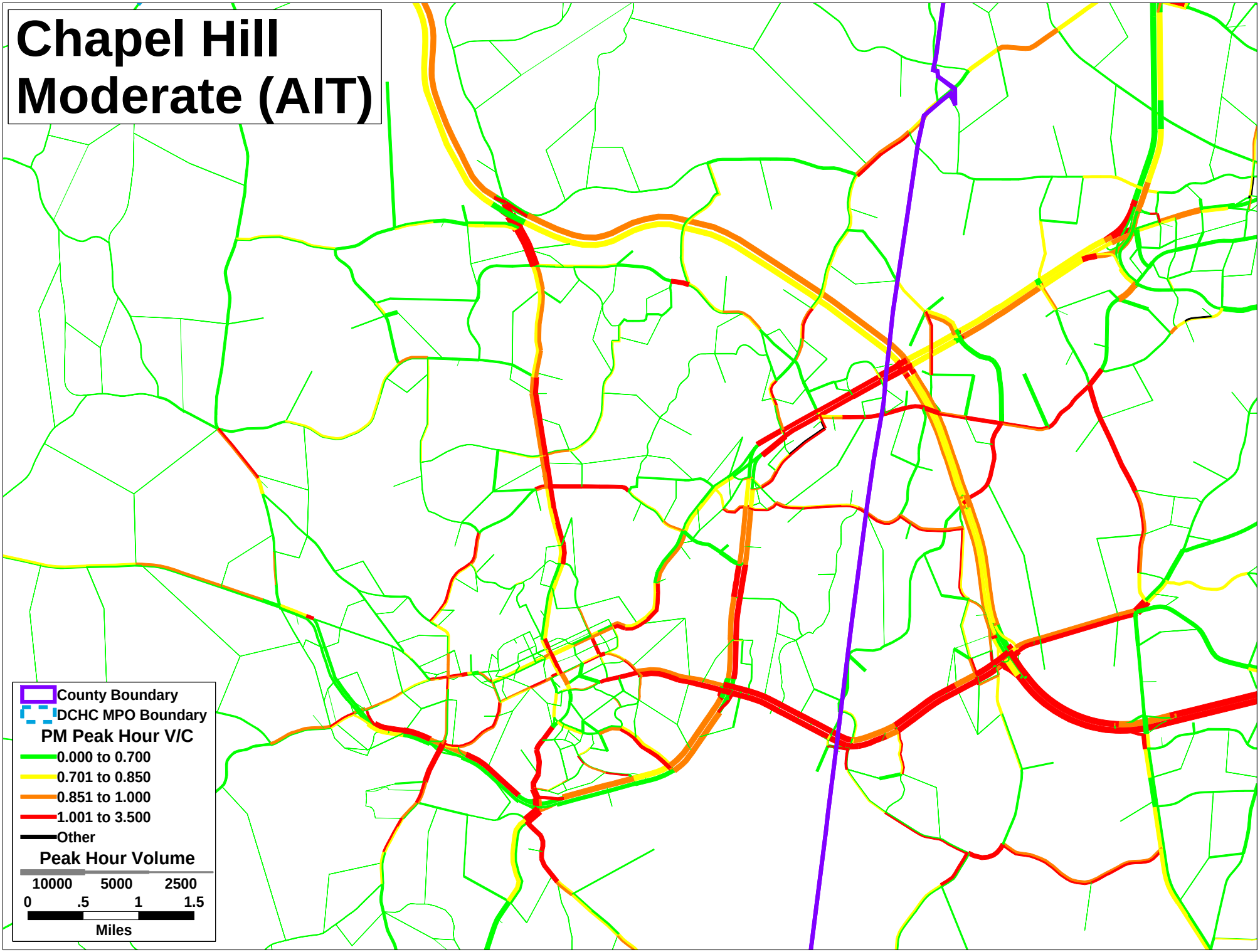
Chapel Hill
Highway Intensive (CommPlan)



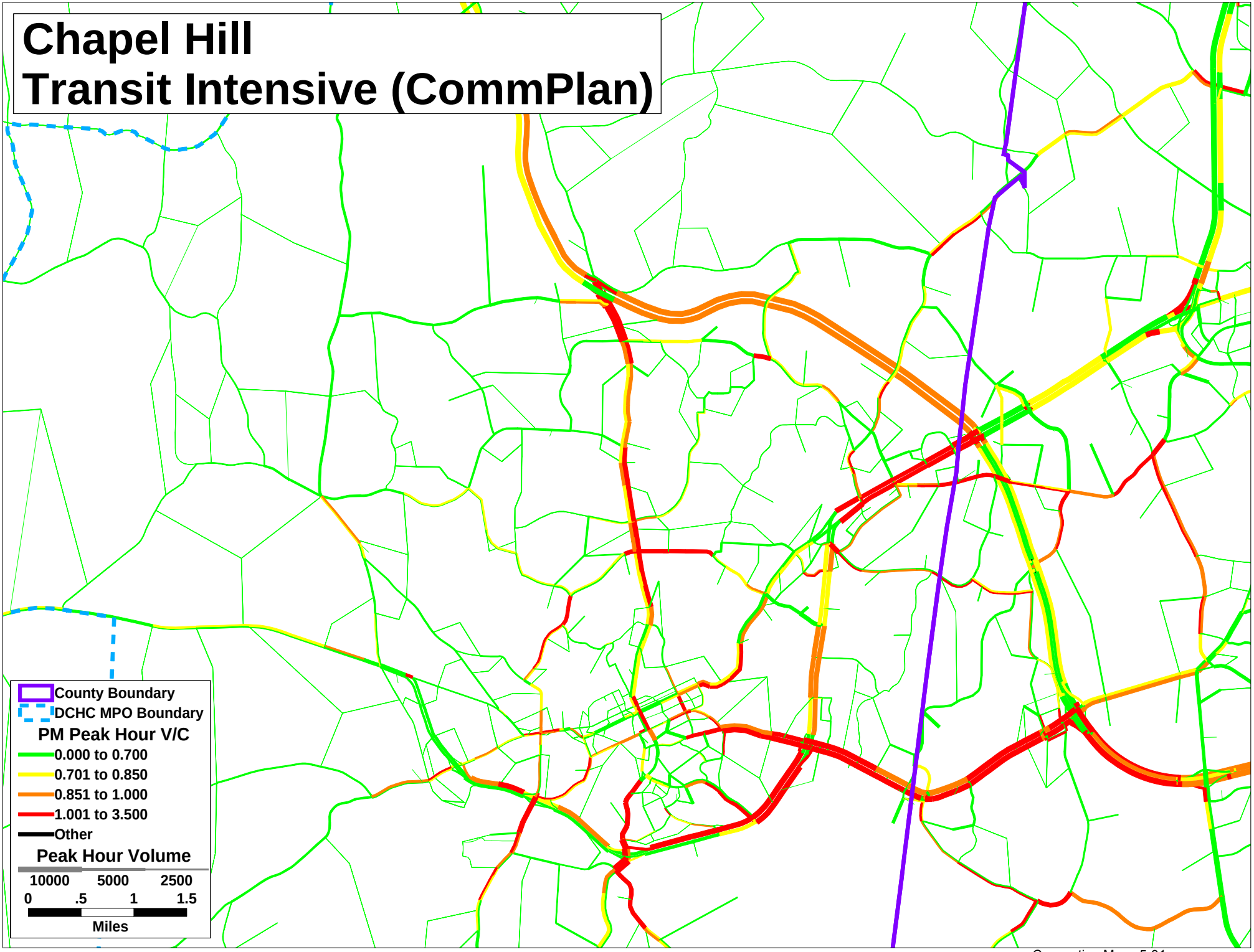
Chapel Hill
Moderate (CommPlan)



Chapel Hill Moderate (AIT)



Chapel Hill
Transit Intensive (CommPlan)



Chapel Hill Transit Intensive (AIT)