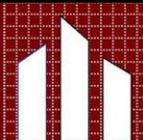


# Durham-Chapel Hill-Carrboro Metropolitan Planning Organization

## 2040 Metropolitan Transportation Plan and Comprehensive Transportation Plan

Alternatives Analysis  
August 17, 2012 - Revised

Durham City Council  
September 20, 2012 (work session)



# Presentation Outline

- What is DCHC MPO?
- What is 2040 MTP?
- What is Alternatives Analysis?
- How to understand the data provided for the Alternatives Analysis
- Next steps

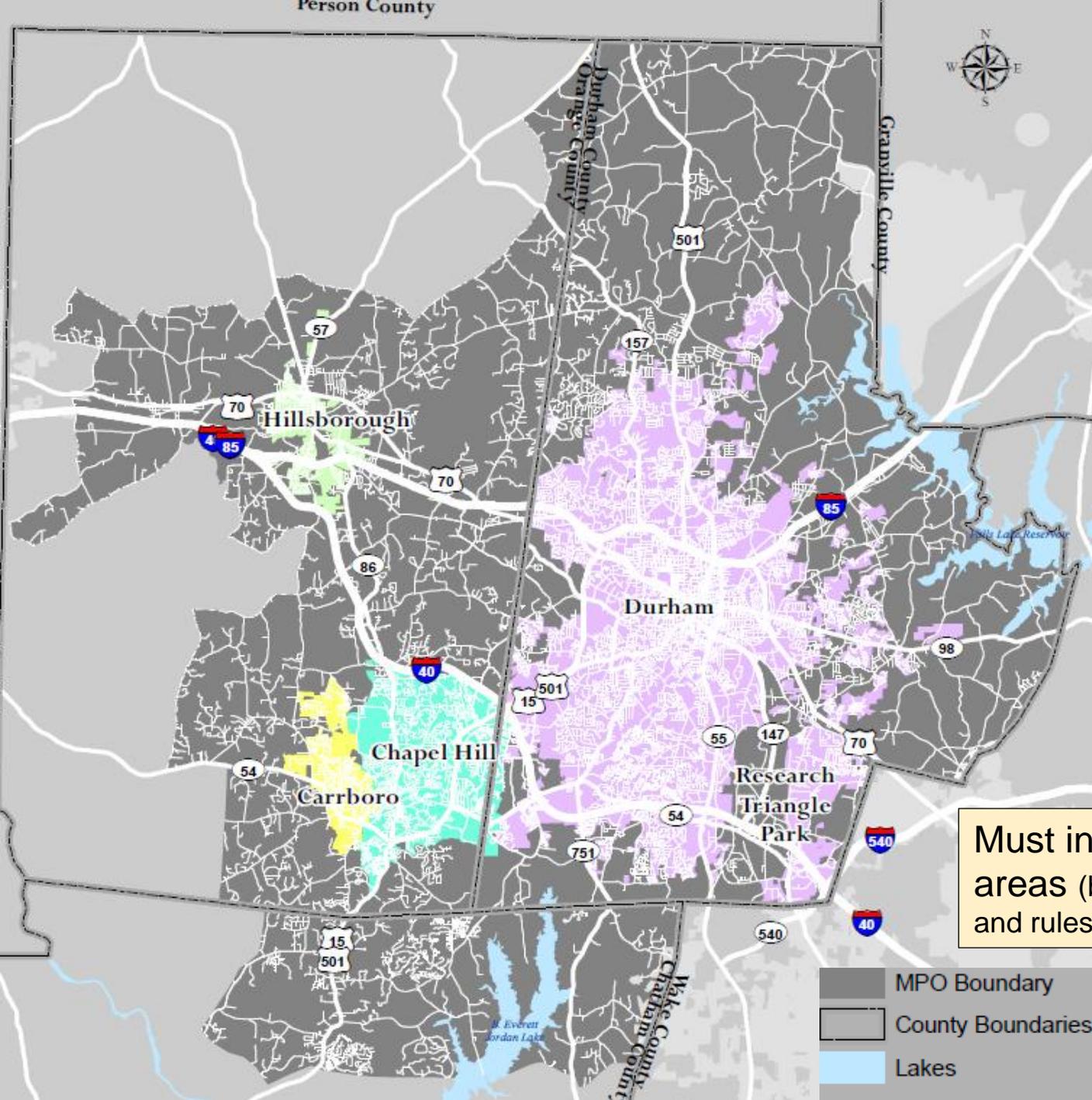


# What is the DCHC MPO?

## Durham-Chapel Hill Carrboro Metropolitan Planning Organization

- Responsible for long range transportation planning in
  - Durham City and County, and
  - Parts of Orange County and Chatham County.
- Federal mandate – MPO must plan use of federal transportation funding
- Policy Board -- Transportation Advisory Committee (TAC) composed mostly of local elected officials.

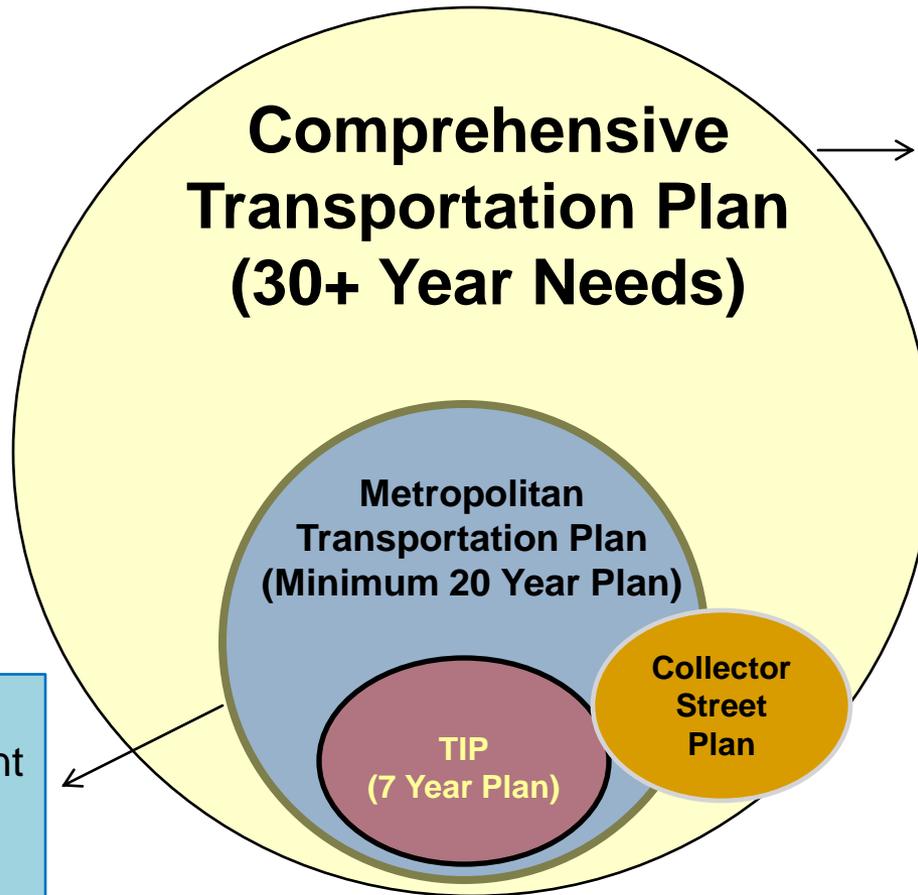
# What is the DCHC MPO?



Must include all urbanized areas (based on Census bureau data and rules)



# Relationship Between Plans

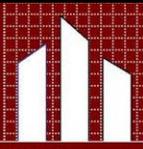


CTP:

- State requirement
- No fiscal constraint
- Beyond 2040

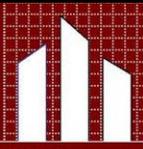
MTP:

- Federal requirement
- Fiscal constraint
- 2010 to 2040

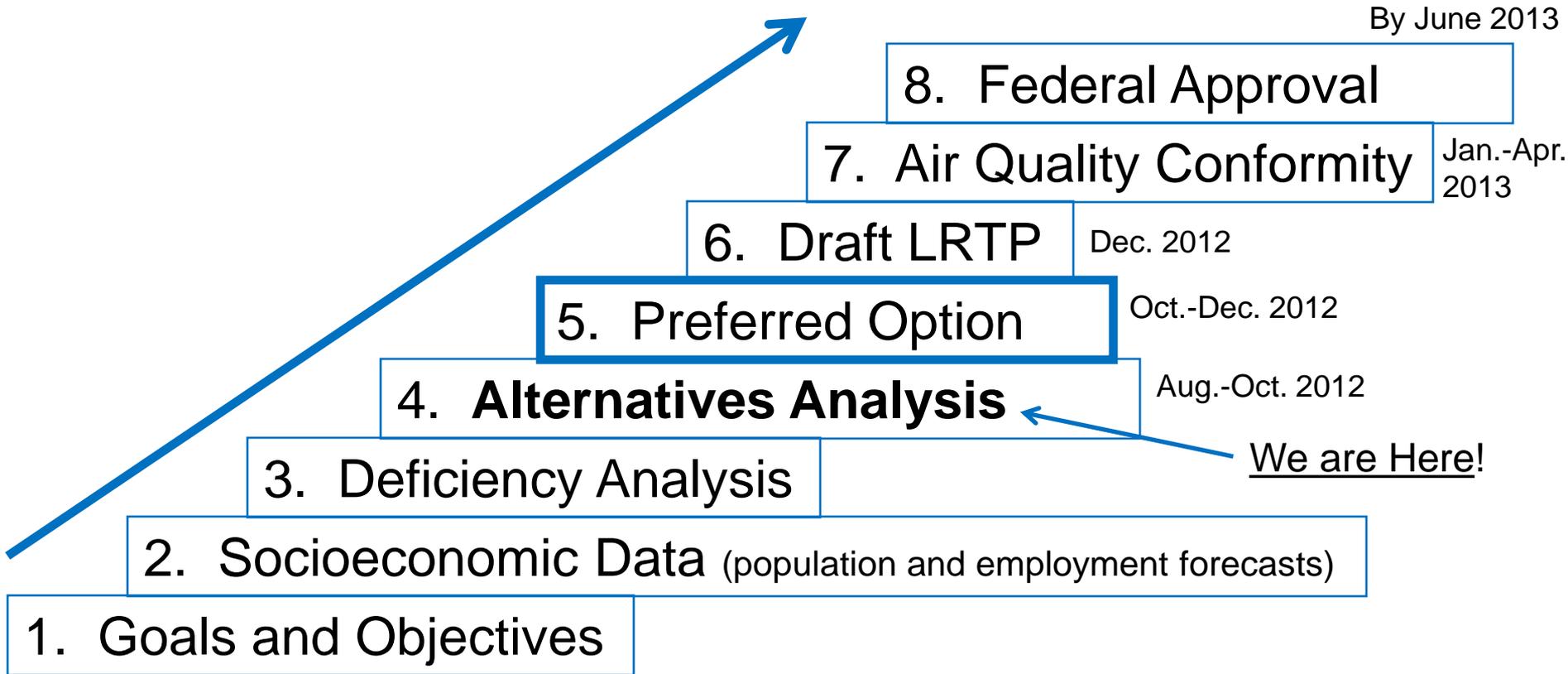


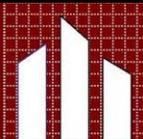
# What is the 2040 Metropolitan Transportation Plan (MTP)?

- Lists highway, transit and other transportation projects to address future transportation deficiencies through year 2040.
- Assumptions – based on future land use, population and employment.
- Fiscal Constraint – Anticipated revenues must cover anticipated project costs.
- Funding -- Projects must be in MTP to receive state and federal funding (via Transportation Improvement Program – TIP)
- Used for Planning
  - e.g., In development review, use LRTP to reserve right-of-way for future highway and fixed guideway projects



# What is the 2040 MTP Process?





# Alternatives Analysis

## ■ What –

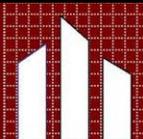
Proposed sets of projects/services to meet transportation deficiencies -- this is the 1st cut.

## ■ Why –

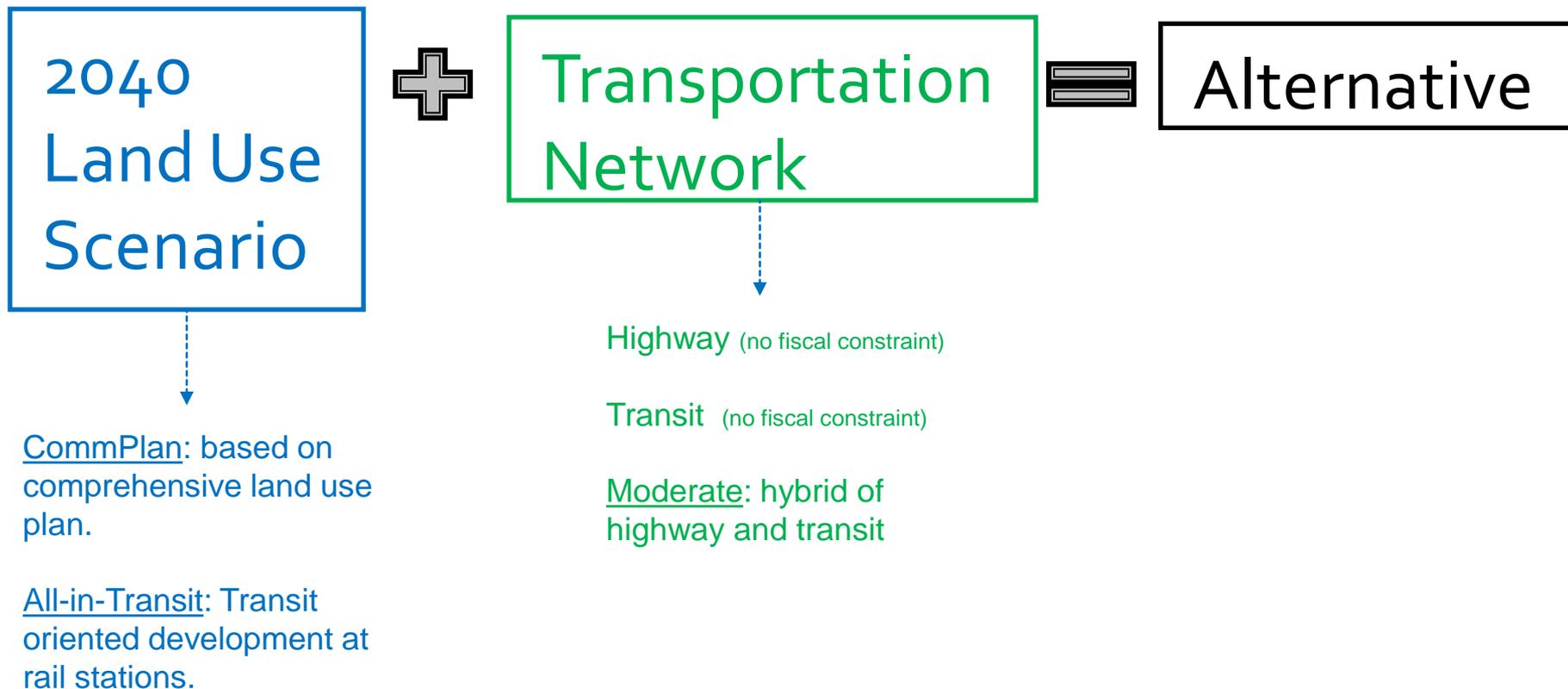
- Determine how project types and individual projects meet future transportation demand.
- Understand public and local officials preferences.

## ■ When –

- Released August 17, 2012
- Public input
  - Workshop at Durham Station Transportation Center, 9/18, 4-7pm
  - Planning Commission, BPAC, etc.



# Alternatives Analysis (cont.)

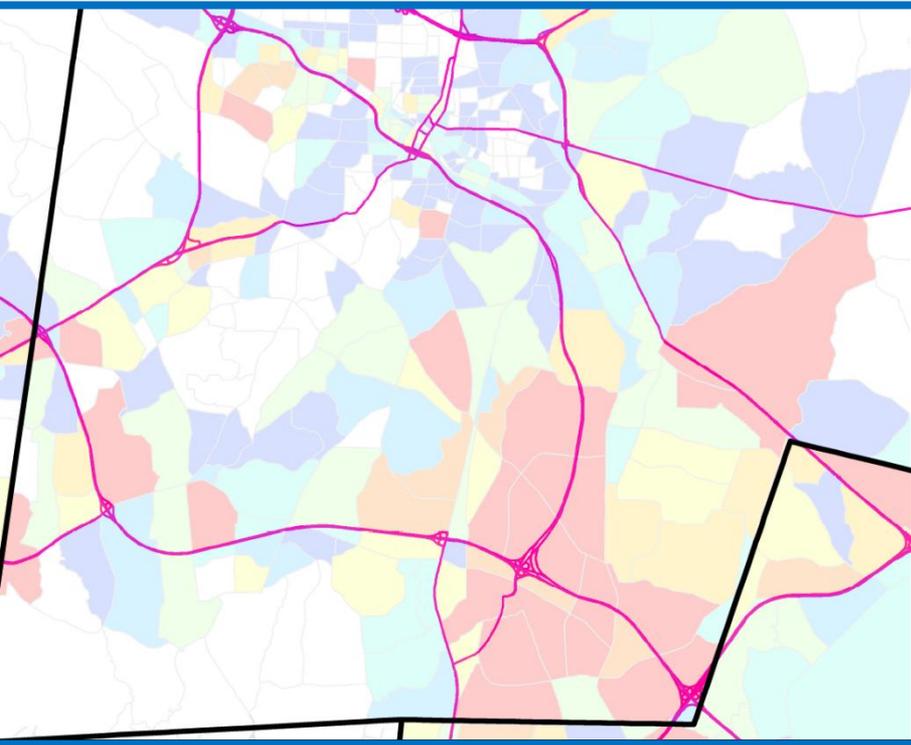




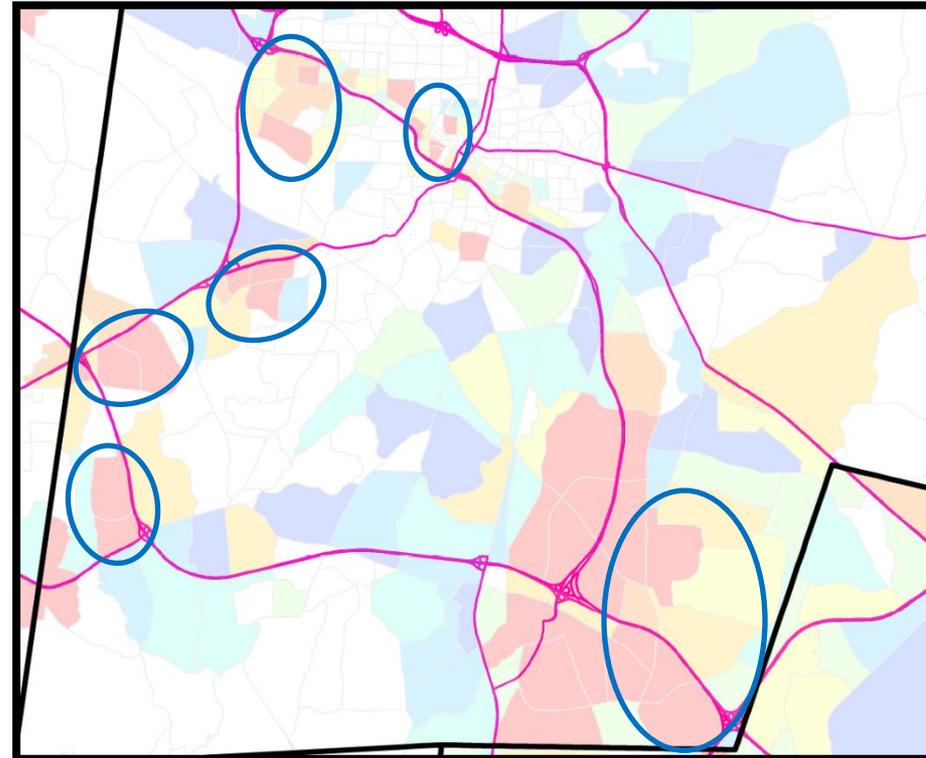
# Alternatives Analysis

## -- Land Use Scenarios **\*\*Example\*\***

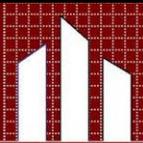
2040 Community Plan -- Employment



2040 All-in-Transit -- Employment



 = Increased employment concentrations adjacent to rail transit



# Alternatives Analysis

## -- Transportation Networks (3 different networks)

	Highway Intensive	Transit Intensive	Moderate
Highway	<ul style="list-style-type: none"> <li>• 2035 LRTP</li> <li>• CTP highway projects</li> <li>➤ <u>410</u> new lanes miles</li> <li>➤ <b>\$3.9</b> billion highway costs</li> <li>➤ <u>2,979</u> total lane miles in network</li> </ul>	<ul style="list-style-type: none"> <li>➤ Basically, 2015 and 2025 tier</li> <li>➤ No 2035 tier or CTP highway projects</li> <li>➤ <u>120</u> new lanes miles</li> <li>➤ <b>\$1.2</b> billion highway costs</li> <li>➤ <u>2,842</u> total lanes miles in network</li> </ul>	<ul style="list-style-type: none"> <li>➤ Basically, 2035 LRTP (minus some minor highway projects)</li> <li>➤ <u>261</u> new lanes miles</li> <li>➤ <b>\$2.5</b> billion highway costs</li> <li>➤ <u>2,737</u> total lanes miles in network</li> </ul>
Transit	<ul style="list-style-type: none"> <li>• Current bus transit</li> <li>• No rail transit</li> <li>➤ <u>2,028</u> bus transit line miles (Triangle)</li> </ul>	<ul style="list-style-type: none"> <li>• Current bus transit</li> <li>• County plans (based on ½ cent sales tax)</li> <li>• LRT between Durham and Wake (instead of CRT)</li> <li>• LRT and CRT extensions in Orange County</li> <li>• CRT addition between Cary and western RTP</li> <li>• All Bus Rapid Transit (BRT) in Chapel Hill</li> <li>➤ <u>2,646</u> bus transit line miles (Triangle)</li> <li>➤ <b>69,354</b> transit service miles (Triangle)</li> <li>➤ <b>260</b> miles of rail transit alignment (Triangle)</li> </ul>	<ul style="list-style-type: none"> <li>• Current bus transit</li> <li>• County plans (based on ½ cent sales tax)</li> <li>• LRT and CRT (based on Locally Preferred Alternative)</li> <li>• MLK Blvd Bus Rapid Transit (BRT) in Chapel Hill</li> <li>➤ <u>2,882</u> bus transit line miles (Triangle)</li> <li>➤ <b>66,211</b> transit service miles (Triangle)</li> <li>➤ <b>75</b> miles of rail transit line (Triangle)</li> </ul>

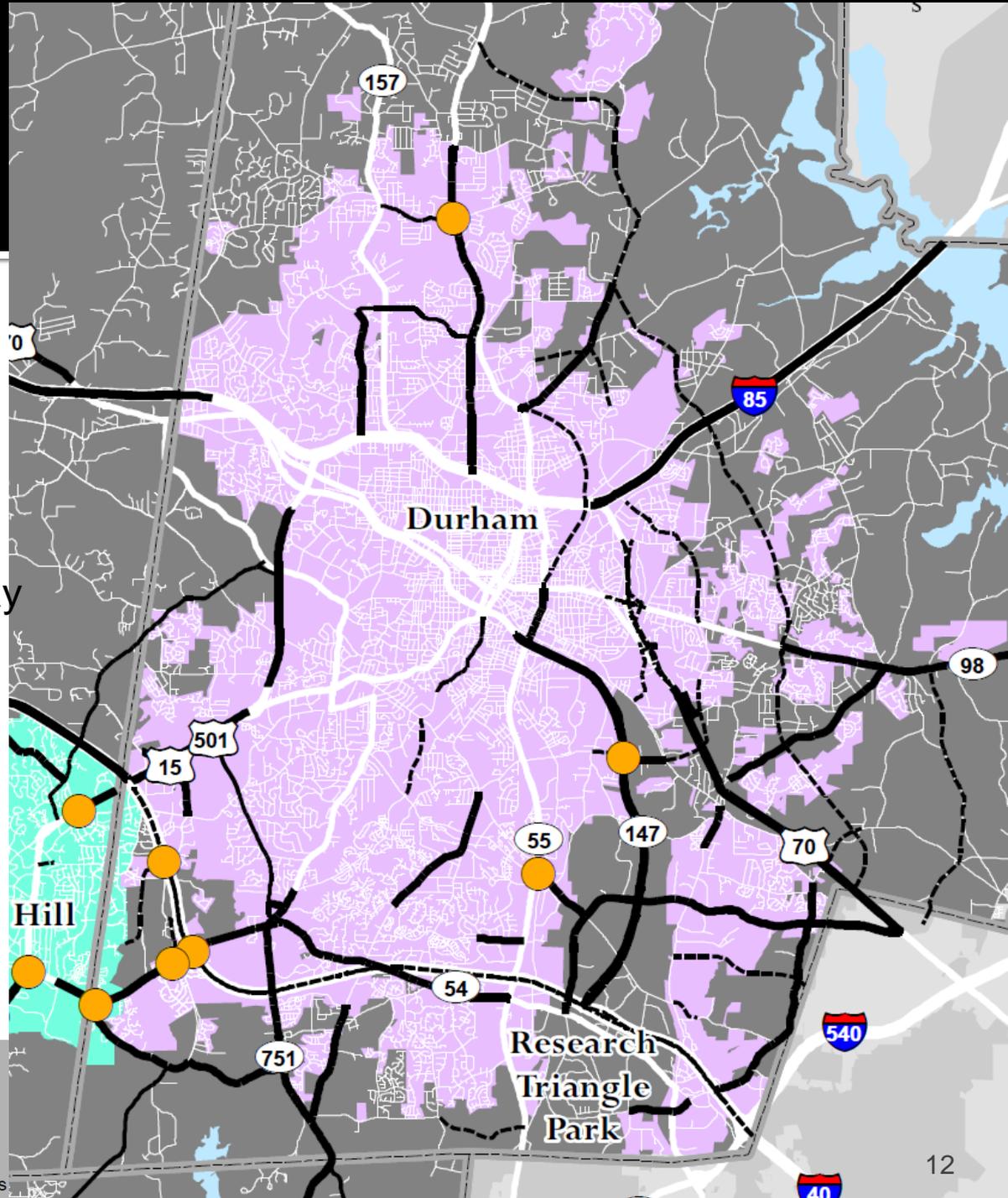
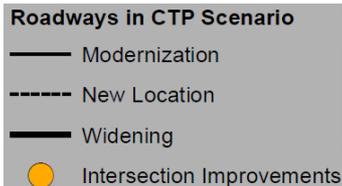
# Highway Projects

## Moderate Network

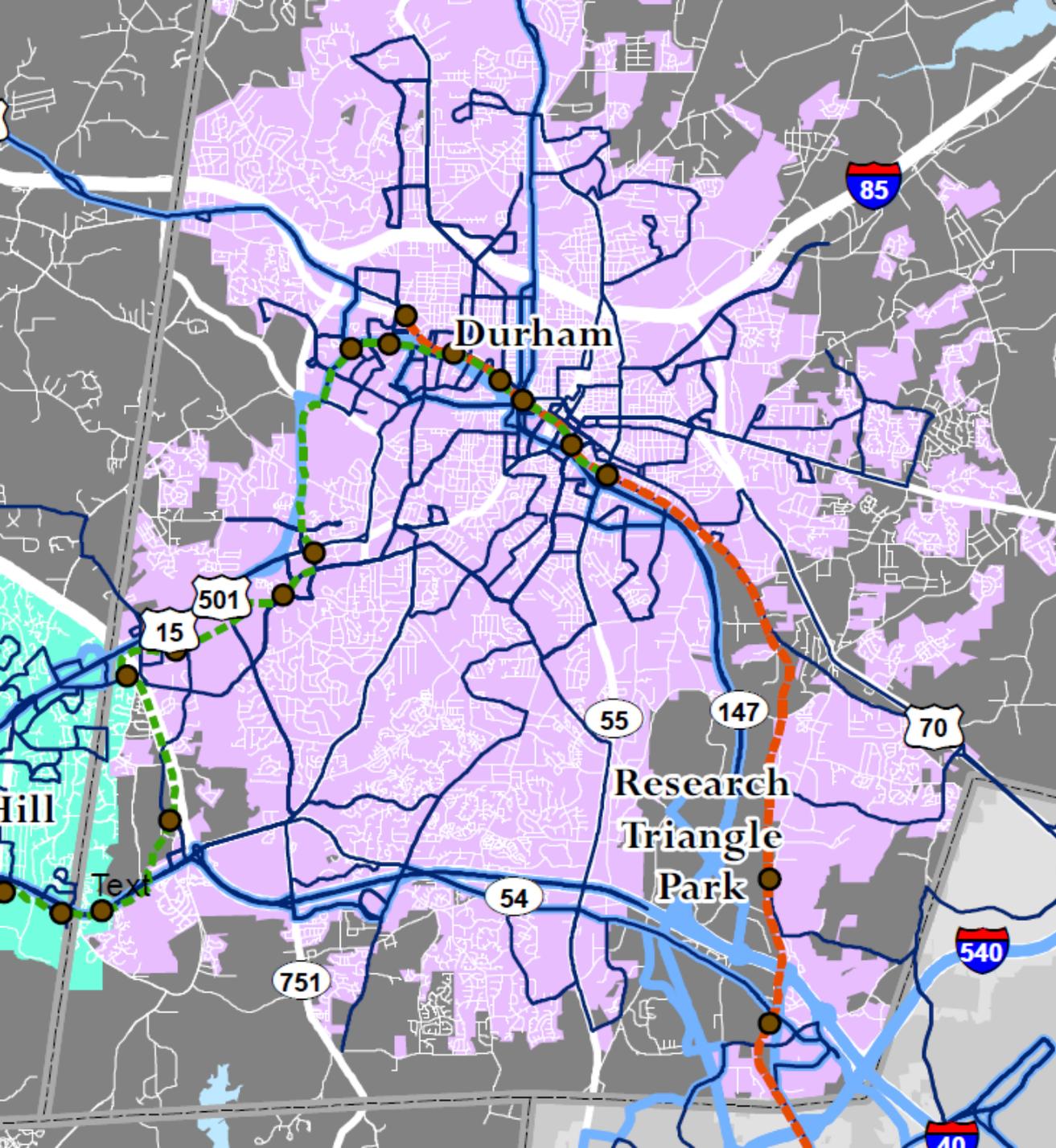
### Major Projects:

- HOV lanes
- East End Connector
- US 70 upgrade to freeway
- US 15-501 upgrade to freeway
- I-85 widening
- Northern Durham Parkway
- Roxboro Rd. widening
- NC 54 Widening

There are additional projects in Highway Intensive network



# Transit Services



## Moderate Network

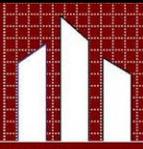
*Major Services:*

- Light Rail Transit (Dur-CH)
- Regional Transit (Dur-Ral)
- DATA Designing Better Bus Service
- Bus improvements in Durham County Bus and Rail Transit Investment Plan

There is additional rail services in Transit Intensive network

### Transit Service

- Local
- - - Express/Shuttle
- ... Light Rail
- - - Regional Rail



# Alternatives Analysis

## -- Triangle Regional Model Output

### Triangle Regional Model Output

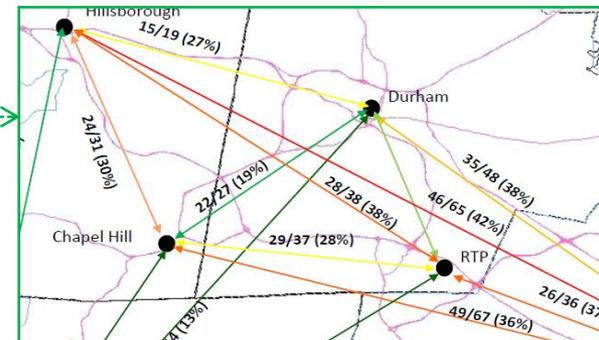
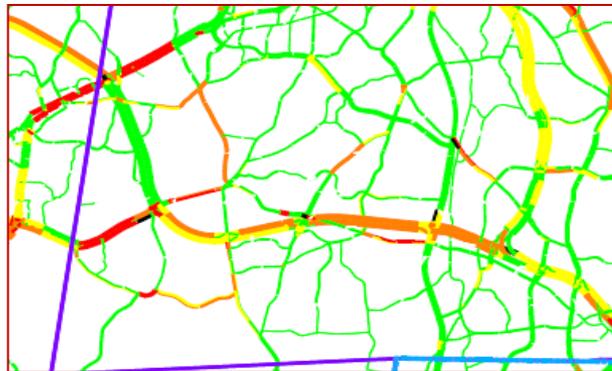
Performance Measures

Travel Isochrones

Travel Time

Congestion Maps (V/C)

		SE Data		
		2010	2040	2040
		Transportation Network		
		2010	E+C	2035
<b>1</b>	<b>Performance Measures</b>			
1.1.1	Total Vehicle Miles Traveled (VMT-daily)	13,217,550	20,368,697	20,581,822
1.1.1a	Total Vehicle Miles Traveled (VMT-per capita)	33	32	33
1.2.1	Total Vehicle Hours Traveled (VHT-daily)	312,669	581,776	536,746
1.2.1a	Total Vehicle Hours Traveled (VHT-per capita)	0.77	0.92	0.85
<b>1.3</b>	<b>Average Speed by Facility (miles/hour)</b>			
1.3.1	- Freeway	63	57	61
1.3.2	- Arterial	42	38	39
1.3.3	- All Facility	51	47	50



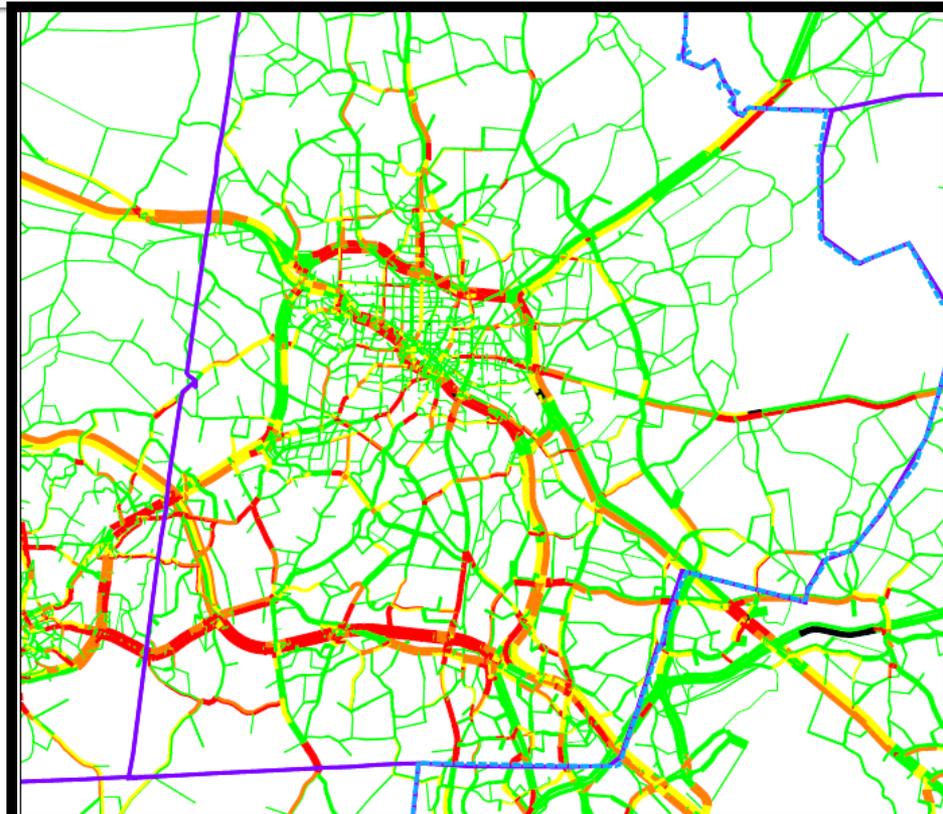


# Alternatives Analysis

## Output -- Congestion Maps



2040 E+C (no build)

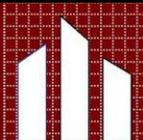


2040 Moderate/CommPlan

**PM Peak Hour V/C**

- 0.000 to 0.700
- 0.701 to 0.850
- 0.851 to 1.000
- 1.001 to 3.500

In Moderate, clears up congestion on many major roads, but congestion persists on I-40, NC 147, NC 54 and US 15-501.

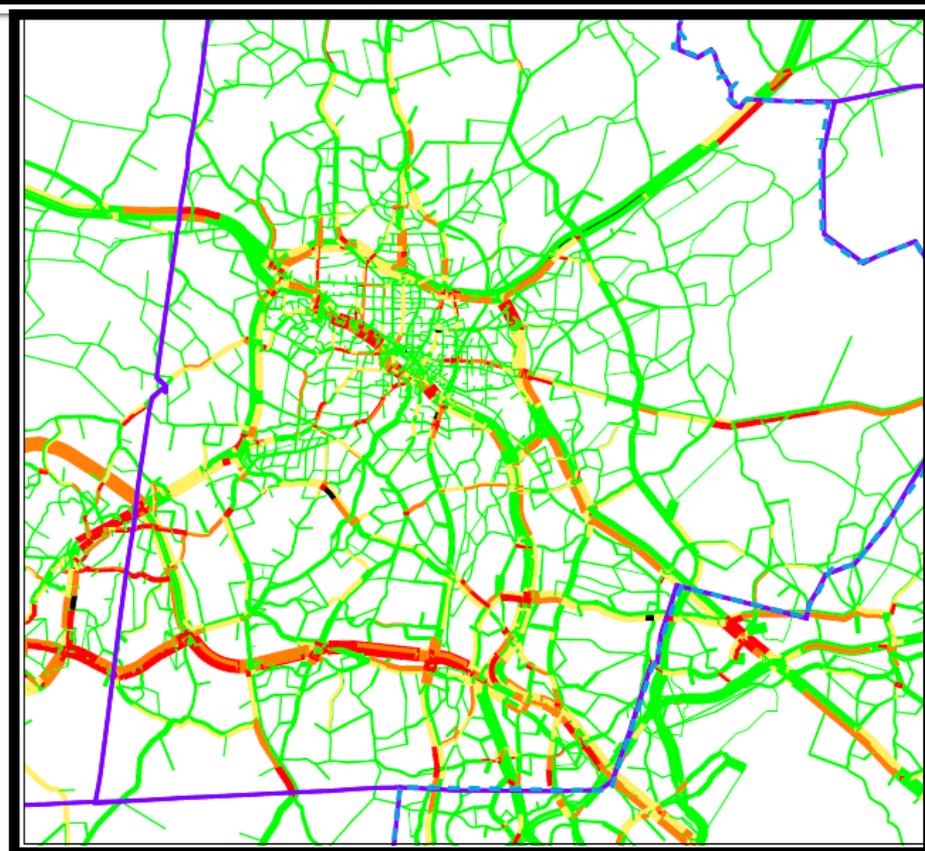


# Alternatives Analysis

## Output -- Congestion Maps

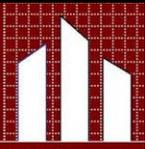


2040 E+C (no build)



2040 Highway Intensive/CommPlan

In Highway Intensive, congestion persists on interstates, freeways and major road corridors.

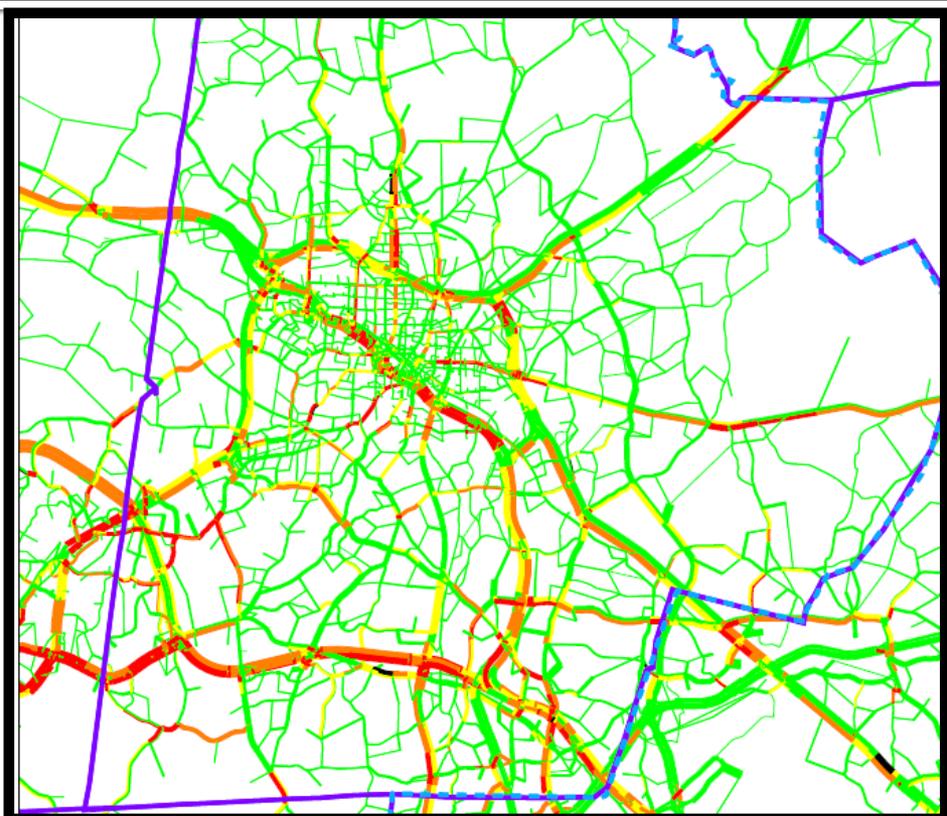


# Alternatives Analysis

## Output -- Congestion Maps



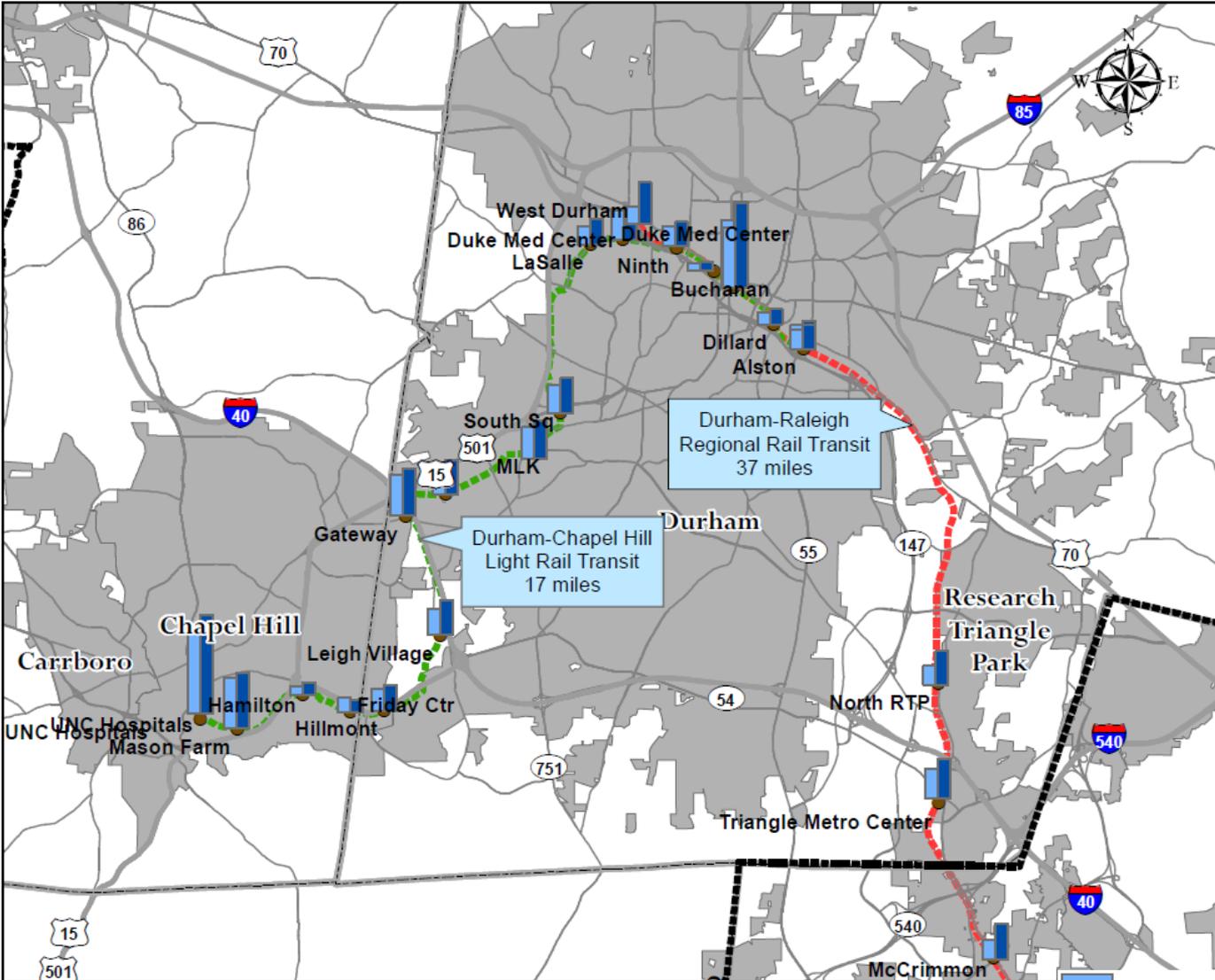
2040 E+C (no build)



2040 Transit Intensive/All-in-Transit

# Alternatives Analysis

-- Moderate Network  
(boarding/alighting by stop)



Name	Comm Plan	AIT
UNC Hospitals	4,341	4,793
Mason Farm	2,499	2,755
Hamilton	392	539
Friday Ctr	1,077	1,245
Hillmont	684	563
Leigh Village	1,252	1,690
Gateway	1,988	2,269
Patterson Pl	1,375	1,662
MLK	1,559	1,863
South Sq	1,400	1,757
LaSalle	943	1,302
West Durham	785	1,907
Duke Med Center	1,475	1,611
Ninth	954	1,177
Buchanan	392	452
Durham Station (LRT)	3,309	4,230
Durham Station (CRT)	2,800	3,934
Dillard	604	737
Alston (LRT)	1,182	1,374
Alston (CRT)	877	1,131
North RTP	881	1,540
Triangle Metro Ctr	1,370	1,839
<b>Total</b>	<b>32,139</b>	<b>40,370</b>

All-in-Transit land use scenario provides 15% to 25% increase in rail boardings/alightings.

# 2040 MTP

## -- Next Steps

- Develop the Preferred Option  
(release in October 2012)
- Get public feedback on the Preferred Option  
(October through December 2012)
- Approve draft 2040 MTP  
(December 2012)
- Adopt after Air Quality Conformity  
(April 2013)



# Comments and Questions