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)
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)
Metropolitan Transportation Plan (Minimum 20 Year Plan)

Comprehensive Transportation Plan (30+ Year Needs)

CTP:
- State requirement
- No fiscal constraint
- Beyond 2040

MTP:
- Federal requirement
- Fiscal constraint
- 2010 to 2040

TIP (7 Year Plan)

Collector Street Plan
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?

1. Goals and Objectives
2. Socioeconomic Data (population and employment forecasts)
3. Deficiency Analysis
4. Alternatives Analysis
5. Preferred Option
6. Draft LRTP
7. Air Quality Conformity
8. Federal Approval

We are Here! Aug.-Oct. 2012

Dec. 2012

Jan.-Apr. 2013

By June 2013
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.
2040 Land Use Scenario

CommPlan: based on comprehensive land use plan.

All-in-Transit: Transit oriented development at rail stations.

Transportation Network

Highway (no fiscal constraint)

Transit (no fiscal constraint)

Moderate: hybrid of highway and transit
Alternatives Analysis
-- Land Use Scenarios **Example**

2040 Community Plan -- Employment

2040 All-in-Transit -- Employment

0 = Increased employment concentrations adjacent to rail transit
# Alternatives Analysis

## Transportation Networks (3 different networks)

<table>
<thead>
<tr>
<th>Highway Intensive</th>
<th>Transit Intensive</th>
<th>Moderate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Highway</strong></td>
<td><strong>Basic</strong></td>
<td><strong>2035 LRTP (minus some minor highway projects)</strong></td>
</tr>
<tr>
<td>• 2035 LRTP</td>
<td>• 2035 LRTP</td>
<td>• 2035 LRTP</td>
</tr>
<tr>
<td>• CTP highway projects</td>
<td>• County plans (based on ½ cent sales tax)</td>
<td>• County plans (based on ½ cent sales tax)</td>
</tr>
<tr>
<td>▶ 410 new lanes miles</td>
<td>▶ LRT between Durham and Wake (instead of CRT)</td>
<td>▶ LRT between Durham and Wake (instead of CRT)</td>
</tr>
<tr>
<td>▶ $3.9 billion highway costs</td>
<td>▶ LRT and CRT extensions in Orange County</td>
<td>▶ LRT and CRT (based on Locally Preferred Alternative)</td>
</tr>
<tr>
<td>▶ 2,979 total lane miles in network</td>
<td>▶ CRT addition between Cary and western RTP</td>
<td>▶ MLK Blvd Bus Rapid Transit (BRT) in Chapel Hill</td>
</tr>
<tr>
<td></td>
<td>▶ All Bus Rapid Transit (BRT) in Chapel Hill</td>
<td>▶ 2,882 bus transit line miles (Triangle)</td>
</tr>
<tr>
<td></td>
<td>▶ 2,646 bus transit line miles (Triangle)</td>
<td>▶ 66,211 transit service miles (Triangle)</td>
</tr>
<tr>
<td></td>
<td>▶ 69,354 transit service miles (Triangle)</td>
<td>▶ 75 miles of rail transit line (Triangle)</td>
</tr>
<tr>
<td></td>
<td>▶ 260 miles of rail transit alignment (Triangle)</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Transit</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Current bus transit</td>
<td>• Current bus transit</td>
<td>• Current bus transit</td>
</tr>
<tr>
<td>• No rail transit</td>
<td>• County plans (based on ½ cent sales tax)</td>
<td>• County plans (based on ½ cent sales tax)</td>
</tr>
<tr>
<td>▶ 2,028 bus transit line miles (Triangle)</td>
<td>• LRT and CRT (based on Locally Preferred Alternative)</td>
<td>• LRT and CRT (based on Locally Preferred Alternative)</td>
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<tr>
<td></td>
<td>• MLK Blvd Bus Rapid Transit (BRT) in Chapel Hill</td>
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<td></td>
<td></td>
<td>▶ 75 miles of rail transit line (Triangle)</td>
</tr>
</tbody>
</table>
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.
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
Triangle Regional Model Output

Performance Measures

Travel Isochrones

Travel Time

Congestion Maps (V/C)
Alternatives Analysis
Output -- Congestion Maps

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

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

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