



Metropolitan Planning Organization
Planning Tomorrow's Transportation

(<http://www.dchcmpo.org/default.asp>)

2045 Metropolitan Transportation Plan

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2045 MTP

The 2045 Metropolitan Transportation Plan (MTP) will list the highway, transit, passenger rail, bicycle and pedestrian projects to be implemented in the region over the next 30 years. The development and review schedule is shown below. Please see the Alternatives Web page to participate.

- Deficiency Analysis; Board released in June
- Alternative Analysis; Board released in August
- Preferred Option; Board to release on October 11, 2017
- Adopted 2045 MTP; Board to adopt on December 13, 2017

Request for Public Comment

2045 MTP Goals and Objectives

The first step in planning for the 2045 Metropolitan Transportation Plan is to create a set of Goals and Objectives. It is important to understand that this document will drive the MPO's policies and project decision-making process in the future. In addition, the MPO attaches performance measures to the Goals and Objectives that will help the MPO Board and the public assess the extent to which the region's transportation system is meeting the Goals and Objectives.

This Webpage presents the process for developing the Goals, Objectives and Performance Measures. At this point, the public input process has ended but the MPO has not yet adopted the final document because development of the Performance Measures continues.

The MPO requested that the public review the draft Goals, Objectives and Performance Measures and provide feedback to the MPO. This public comment period was from Friday, February 12, 2016 through Friday, April 1, 2016. There are several options for participating, including:

www.surveymonkey.com/r/DCHCMPO-Goals (<http://www.surveymonkey.com/r/DCHCMPO-Goals>)

You can communicate your transportation values to the MPO by completing a short survey at the preceding link.

[Draft Goals, Objectives and Performance Measures](#)

- Review a [copy of the draft Goals, Objectives and Performance Measures here](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29572) (<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29572>)
- Send your comments to andrew.henry@durhamnc.gov (<mailto:andrew.henry@durhamnc.gov?subject=2045%20MTP%20Draft%20Goals,%20Objectives%20and%20Performance%20Measures>)

Public Workshop

Stop in anytime between 4 and 7 pm at the Durham Station Transportation Center (corner of W. Pettigrew St. and W. Chapel Hill St.) on Thursday, March 17 to learn more about your future transportation system and provide your comments on the Goals, Objectives and Performance Measures.

Public Hearing

You can provide feedback on the Goals, Objectives and Performance Measures to local elected officials (DCHC MPO Board) on Wednesday, March 9, 2016 at 9:00 AM in the Committee Room (2nd Floor of Durham City Hall, 101 City Hall Plaza). Persons with disabilities will be accommodated -- provisions must be requested at least 48 hours in advance of the meeting.

Contact

Comments and questions should be directed to:

Andy Henry, City of Durham, Transportation Department
101 City Hall Plaza
Durham, NC 27701

E-mail: andrew.henry@durhamnc.gov (<mailto:andrew.henry@durhamnc.gov?subject=2045%20MTP%20Draft%20Goals,%20Objectives%20and%20Performance%20Measures>) Phone:(919) 560-4366, ext. 36419

Background

The MPO forecasts socioeconomic data (SE Data), such as dwelling units, population and employment, to the year 2045 and uses that data as a key input into the travel demand model (called the Triangle Regional Model, or TRM). The process starts with the 2045 guide totals, which are county- level population and employment projections for the year 2045, and proceeds to the Community Visualization model that distributes the dwelling units and employment to particular parcels based on land availability and suitability. The following document will provide details of this process and the output:

[2045 MTP Guide Totals \(http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29951\)](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29951)

[Community Visualization \(http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29952\)](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29952)

Connect 2045 -- Scenarios

Different scenarios, or different ways that the region might develop, are created under the name Connect 2045. More information on how and why these scenarios are created can be found [here \(http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29956\)](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29956). This section presents the outputs of the various scenarios as they become available.

Community Plans

This scenario is based on the adopted local land use plans and can be considered the "most likely" scenario.

- [New household distribution by MPO and County \(http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29988\)](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29988)
- [New employment distribution by MPO and County \(http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29987\)](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29987)

- [Distribution tables by jurisdiction \(http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29961\)](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29961)

Attachment B

AIM High

This scenario pushes the limits but is still market possible. It is based on draft data from a regional study on rail station development potential. It has a higher density and mixed use around future rail stations than the Community Plan scenario.

- [New household distribution by MPO and County \(http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29992\)](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29992)
- [New employment distribution by MPO and County \(http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29991\)](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29991)
- [Distribution tables by jurisdiction \(http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29990\)](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29990)



<http://arcg.is/qfzGH>

<http://arcg.is/2r6NQuu>

The icon above provides an interactive daily congestion map for the year 2045. See the information below under Congestion Maps for more information.

Background

What is a Deficiency Analysis?

The concept is fairly simple. The analysis compares today's travel conditions with that of a future year. Thus, the Deficiency Analysis shows staff, the MPO and the public where transportation investments in highways, transit and other modes are needed to address the future travel demands. It will guide the development and evaluation of the various transportation alternatives that will be considered in a subsequent step of the 2045 MTP development.

What Future Year is Used?

The measures and maps are based on a travel demand model that estimates conditions in two different years:

2013- This is 2013 population and employment using the existing transportation system of streets, transit, etc., and reflects the current travel conditions.

2045 E+C- This is the estimated 2045 population and employment using the existing transportation system plus any projects that are committed to construction or implementation. "E+C" means "Existing plus Committed." This "no build" scenario allows us to see where future deficiencies are to be expected.

What is the Next Step?

With the MPO's Goals and Objectives in mind, staff will use the deficiency data to create several alternatives to meet the future travel demand. This Alternatives Analysis will be released to the public and will include public meetings and a hearing to help gather people's comments.

2045 MTP Deficiency Analysis

The following link is a presentation on the Deficiency Analysis. This Web page provides the detailed tables and maps that comprise the Deficiency Analysis and presents the Socioeconomic Data (SE Data) used to generate the analysis.

- [Presentation of Deficiency Analysis \(http://www.dchcmo.org/civicax/filebank/blobdload.aspx?BlobID=29975\)](http://www.dchcmo.org/civicax/filebank/blobdload.aspx?BlobID=29975)

Congestion Maps

The congestion maps estimate the level of congestion in the year 2045 if no additional transportation projects are implemented. This is often called the No Build Scenario. In this case, the travel demand model puts the trip demand for the 2045 population and 2045 employment on to the current transportation network that might also have a few additional approved projects (e.g., East End Connector and Alston Ave widening) that are close to beginning construction. The maps depict the level of congestion by dividing the traffic volume by the road capacity. So, if the road has 8,000 vehicle trips per hour and the road capacity is 10,000 vehicles; the V/C (volume to capacity value) will be 0.80. Note that the MPO's travel demand model uses a Level of Service (LOS) of "E," or the V/C = 1.0. Most motorists would experience LOS E as highly congested and the overall travel delay would be great especially in urban areas and those areas with intersections and driveways. Thus, most motorists would experience a V/C higher than 1 as highly congested (orange lines on the map), and a V/C higher than 1.2 as long delays (red lines on the map).

The thumbnail map at the top of this page provides an interactive daily congestion map.

Afternoon Peak

The congestion maps below show the average V/C for both roadway directions for the afternoon peak hour (i.e., 5:30pm to 6:30pm. Roadways in which the V/C exceeds 1 are labeled with the actual V/C value.

- [DCHC MPO Peak Hour Congestion Map \(http://www.dchcmo.org/civicax/filebank/blobdload.aspx?BlobID=29981\)](http://www.dchcmo.org/civicax/filebank/blobdload.aspx?BlobID=29981)
- [Chatham County Peak Hour Congestion Map \(http://www.dchcmo.org/civicax/filebank/blobdload.aspx?BlobID=29977\)](http://www.dchcmo.org/civicax/filebank/blobdload.aspx?BlobID=29977)
- [Durham County Peak Hour Congestion Map \(http://www.dchcmo.org/civicax/filebank/blobdload.aspx?BlobID=29979\)](http://www.dchcmo.org/civicax/filebank/blobdload.aspx?BlobID=29979)
- [Orange County Peak Hour Congestion Map \(http://www.dchcmo.org/civicax/filebank/blobdload.aspx?BlobID=29983\)](http://www.dchcmo.org/civicax/filebank/blobdload.aspx?BlobID=29983)
- [Close up of Central Durham Peak Hour Congestion Map \(http://www.dchcmo.org/civicax/filebank/blobdload.aspx?BlobID=29976\)](http://www.dchcmo.org/civicax/filebank/blobdload.aspx?BlobID=29976)
- [Southwest Durham Peak Hour Congestion Map \(http://www.dchcmo.org/civicax/filebank/blobdload.aspx?BlobID=29985\)](http://www.dchcmo.org/civicax/filebank/blobdload.aspx?BlobID=29985)
- [Southeast Durham Peak Hour Congestion Map \(http://www.dchcmo.org/civicax/filebank/blobdload.aspx?BlobID=29984\)](http://www.dchcmo.org/civicax/filebank/blobdload.aspx?BlobID=29984)
- [Northern Durham Peak Hour Congestion Map \(http://www.dchcmo.org/civicax/filebank/blobdload.aspx?BlobID=29982\)](http://www.dchcmo.org/civicax/filebank/blobdload.aspx?BlobID=29982)

- [Close up of Chapel Hill and Carrboro Peak Hour Congestion Map](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29978)
(<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29978>)

- [Hillsborough Peak Hour Congestion Map](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29980) (<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29980>)

Daily

The congestion maps below show the daily V/C for each roadway. Roadways in which the V/C exceeds 1 are labeled with the actual V/C value."

- [DCHC MPO Daily Congestion Map](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29969) (<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29969>)
- [Chatham County Daily Congestion Map](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29965) (<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29965>)
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- (<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29965>)[Durham County Daily Congestion Map](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29967)
(<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29967>)
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- (<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29967>)[Orange County Daily Congestion Map](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29971)
(<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29971>)
(<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29971>)
- (<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29971>)[Close up of Central Durham Daily Congestion Map](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29964)
(<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29964>)
(<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29964>)
- (<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29964>)[Southwest Durham Daily Congestion Map](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29973)
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- (<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29973>)[Southeast Durham Daily Congestion Map](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29972)
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- (<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29972>)[Northern Durham Daily Congestion Map](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29970)
(<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29970>)
(<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29970>)
- (<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29970>)[Close up of Chapel Hill and Carrboro Daily Congestion Map](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29966)
(<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29966>)
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- (<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29966>)[Hillsborough Daily Congestion Map](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29968)
(<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29968>)
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(<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29968>)

Travel Time

The table and maps below show the travel time between key destinations in the Triangle region in 2013 and 2045, and calculates the change in that travel time. These travel times are for the afternoon peak hour. The map shows the average travel time for the afternoon peak hour, the connector lines becoming a "hotter" color as the percentage increase in travel time from 2013 to 2045

<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29968>)

- <http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29968>)Travel Time table
<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29962>)
- [Map showing travel times \(http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29963\)](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29963)

Isochrone Maps

An isochrone map shows lines that connect the points that have the same travel time from a specified point. The isochrone maps below show the travel time to key destinations in the Triangle region in fifteen minute increments. The destinations are the downtowns or center of Durham, Chapel Hill, Raleigh and the Research Triangle Park.

- [Isochrone Maps \(http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29974\)](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29974)

Performance Measures

The Performance Measures are a broad set of calculations that provide an indicator of the mobility, trip volume, mode choice and congestion in the overall transportation system. The measures are not specific to a travel corridor or transportation project but are useful for broad comparisons of different transportation system alternatives. The first table below compares the 2013 and the 2045 Existing plus Committed (E+C, also known as the No Build) models for the DCHC MPO. The remaining tables provide the same data at the county level.

- [DCHC MPO Performance Measures \(http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29957\)](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29957)
- [Performance Measures by County \(http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29986\)](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29986)

SE Data

The Triangle J Council of Governments (TJCOG), in partnership with the MPO, forecasts Socioeconomic Data (SE Data; such as dwelling units, population and employment) to the year 2045. This forecast is used as key input into the Triangle Regional Model (TRM -- the regional travel demand model). The TRM is a principal tool for identifying the future transportation deficiencies in our area and helping to propose transportation improvements to address those deficiencies. This model is used for long range plans, major transit and transportation studies and transportation project environmental analyses.

The guide totals document below shows the expected population and employment growth from 2013 through 2045 for Triangle counties. These guide totals are input to a land use model called Community Visualization that uses a set of rules and database of available land to geographically distribute the population and employment. The two set of maps show the forecasted distribution for households and employment by MPO and county. Finally, the distribution tables show the detailed household and employment growth capacity in each county and how the guide totals were distributed.

- [Guide Totals by County \(http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29958\)](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29958)
- [New Household Distribution by MPO and County \(http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29988\)](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29988)
- [New Employment Distribution by MPO and County \(http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29987\)](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29987)
- [Distribution Tables \(http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29961\)](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29961)



(<http://arcg.is/0mme84>)



(<http://arcg.is/X0rbS>)



(<http://arcg.is/mabqz>)



(<http://arcg.is/H19yK>)

Presentation on Alternatives Analysis

(<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=30017>)

Background

This Web page presents background and public involvement information, and then the analysis metrics and maps for the Alternatives Analysis.

Alternatives Analysis -- Overview

An Alternative is 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 2045. These Alternatives are run in the Triangle Regional Model (TRM) to produce a set of transportation metrics that describe how well the Alternative meets future travel demand.

It should be noted that it is very unlikely that one of the Alternatives in its entirety would be advanced as the Preferred Option. The final 2045 CTP will be a combination of projects and policies from the various Alternatives.

Citizen Participation

(<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=30024>)

(<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=30024>)

The following information and links provide opportunities for the public to provide input on the long-range plan:

(<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=30024>)

- **Workshops** (<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=30024>)
- **Public Hearing:** The MPO Board will conduct a public hearing on September 13, 2017, 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.
- **Local Elected Officials and Boards** (<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=30024>)
- Comments can be sent to:

Andy Henry
City of Durham/Transportation Dept.
101 City Hall Plaza
Durham, NC 27701
(919)560-4366, extension 36419
andrew.henry@durhamnc.gov (<mailto:andrew.henry@durhamnc.gov>)

- **Comment Period:** The public comment period for the Alternatives will run from August 9, 2017 through September 20, 2017.

For more information, citizens can contact:

Andy Henry
(919)560-4366, extension 36419
andrew.henry@durhamnc.gov (<mailto:andrew.henry@durhamnc.gov>)

Alternatives Analysis Background

Scenarios

The MPO developed four future scenarios. Each scenario is based on a combination of a mobility investment (or assumption of improved highway, transit and other transportation facilities) and a development foundation (or, land use assumptions). The following documents provide more information on these scenarios.

- [Summary of Scenarios \(http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=30003\)](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=30003)
- [Details on Scenario Development \(http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=30004\)](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=30004)

Development Foundation

For information on the two different land use assumptions used in the four scenarios, see the 2045 MTP's land use Web page: <http://bit.ly/DCHC-MTP-LandUse> (<http://bit.ly/DCHC-MTP-LandUse>)

Mobility Investment

The link below is an interactive map that shows highway network improvements in Mod-MTP, Asp-MTP and Asp-Transit Alternatives (which is the 2040 MTP network), and those for the Mod-Hwy Alternative (with is the 2040 MTP & Highway Plus network). The user can click on the highway and interchanges to get a pop-up that has additional information on the project.

[Map: Highways and Interchanges in the Alternatives \(http://arcg.is/DOWvK\)](http://arcg.is/DOWvK)

Alternatives Analysis Data and Maps

Congestion Maps

The poster-sized maps at the links below and interactive maps at the top of this Web page provide the daily congestion values for the principal roadway segments in the MPO.

- [Understanding Congestion Maps \(http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29998\)](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29998)
- [Moderate VC Map \(http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29999\)](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29999)
- [Moderate \(highway enhanced\) VC Map \(http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=30000\)](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=30000)
- [Aspirational \(transit enhanced\) VC Map \(http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=30001\)](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=30001)
- [Aspirational VC Map \(http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=30002\)](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=30002)

Travel Choice Neighborhoods (TCN)

Travel Choice Neighborhoods focus on the mode choice change in areas that are expected to experience significant transit investment.

- [Background, tables and graphs \(http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=30010\)](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=30010)
- [Details on TNC method \(http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=30011\)](http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=30011)

This measure provides the time, speed and cost of travel in the most important travel corridors of the MPO for each Alternative. The two tables show indicators of congestion. The Travel Time Index indicates the level of congestion by dividing the peak period travel time by the free-flow travel time. For example, a TTI of 1.2 means that a 10-minute free-flow trip will take 12 minutes in the afternoon peak. The Hourly Cost of Congestion shows the value of the additional time it takes for all the motorists, both car and truck, while traveling in that corridor under congested conditions. All of the values in the tables are colored – the higher, or more congested values, are a hotter color, i.e. red.

- Travel Time Index by Corridor (<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=30012>)
- Hourly Cost of Congestion (<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=30013>)
- Travel Time (in minutes) (<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=30014>)
- Peak Speed (<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=30015>)

Travel Time -- Key Destinations

The tables and maps below compare the travel time between key destinations in the Triangle for the 2013 Base Year and each of the four Alternatives. The Alternatives consistently increase the travel time between these destinations because the MPO's counties will experience population and employment increases of approximately 300,000 and 200,000, respectively, by the year 2045.

- Travel Time Tables (<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=30007>)
- Travel Time Maps (<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=30009>)

Isochrone Maps

Isochrone travel maps connect the points that have the same travel time from a specified center. They resemble contour maps. They are useful for illustrating the labor, retail, residential and other markets in terms of travel time. The tables and maps below depict the afternoon peak hour and compare the four different alternatives for each center.

- Tables: population, employment and area in terms of travel market (<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=30016>)
- Downtown Durham (<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29994>)
- Carrboro/Chapel Hill (<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29993>)
- Research Triangle Park (<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29995>), and
- Downtown Raleigh (<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=29997>)

Performance Measures

These 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 the travel demand model for the entire region.

- Performance Measure Table - MPO (<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=30005>)
- Performance Measure Table - By Country (<http://www.dchcmpo.org/civicax/filebank/blobdload.aspx?BlobID=30028>)

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