Durham-Chapel Hill-Carrboro Metropolitan Planning Organization *Targets for the 2045 LRTP*

What are the Targets?

The Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO) has selected eight performance measures from the MPO's Goals/Objectives/Performance Measures to demonstrate in a brief manner the extent to which the adopted 2045 Metropolitan Transportation Plan (2045 MTP) meets the MPO's Goals. The MPO has set Target values for these selected performance measures, mostly using measurements from the Triangle Regional Model (TRM - the region's travel demand model) and uses values for just the MPO, not the entire region.

The Targets were selected because they are broad measurements and the data is available and relatively reliable. This document also identifies the reasons the Target is important and what changes need to be made in land use, transportation and other policies to meet the Target.

What is the Guide Data?

The Targets have Guide Data for two scenarios to help set the Target values:

- <u>2015</u> This is the current condition. It is the 2015 population and employment using the 2015 transportation network (e.g., highways and transit service). This is the <u>2015</u> column and value in the charts.
- <u>2045e+c</u> This is the 2045 population and employment using the existing transportation network plus any projects that are committed to being completed. This is the <u>2045e+c</u> column and value in the charts.
- <u>2045</u> This shows how a major transportation investment might affect the Target value. It is the 2045 population and employment using the 2055 transportation network, which is budgeted at over \$8 billion and includes passenger rail and managed lanes. This is the <u>2045</u> column and value in the charts.

What is the Target Range?

There are three Target values -- <u>Good</u>, <u>Better</u> and <u>Best</u>. The use of more than one Target value helps to set a range of values that can be used for comparison.

Additional Information

Additional information is available at the DCHC MPO's Web site – <u>www.dchcmpo.org</u>.

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Increase Percent of Work Trips by Auto Less than 30 Minutes

Why Increase Auto Access?	How to Reduce Congestion?	Trends and Targets
 Connect People to Jobs – Reduced commute times can increase job opportunities. Reduce Travel Costs – Mobility Report concludes annual congestion cost is \$734 per peak auto commuter in Triangle. Reduce Travel Time – TRM data shows travel time will double and triple in most major travel corridors without additional investments. Reduce Pollution – Congestion reduces travel speed and increases pollution. 	■ Transportation — Implement Congestion Management practices such as traffic signal synchronization and spot improvements at traffic bottlenecks. ■ Transportation — Increase highway, transit and other transportation mode capacity, especially along critical corridors. ■ Transportation — Use managed lanes to increase corridor capacity. ■ Land Use — Permit more mixed-use development. Method: From the Triangle Regional Model (TRM, the percent of work trips that are less than 30 minutes.	(Not actual data) % Auto Trips less than 30 minutes (Work Trips) 27% 28% 25% 22% 20% 20% 20% 20% 20% 20% 20% 20% 20



Increase Percent of Jobs within One-Quarter Mile of High-End Bus Transit or One-Half Mile of Fixed-Guideway Transit

Why Increase	How to Increase Transit	Trends and Targets
Transit Access?	Access?	
 Provide opportunity – Approximately 6% of households do not own a vehicle, and carless households have increased at twice the rate of other households. Reduce Congestion – Congestion wastes time, fuel and money, and contributes to air pollutants. Transit use can help reduce roadway congestion. Support Personal Health – Lack of exercise is a leading contributor to the obesity epidemic in the U.S. Transit use has shown to induce 	investment. Land Use – Permit more concentrated residential and employment development along key travel corridors that best support transit. Design – Encourage transit-supportive scale, building orientation, connections, public spaces, parking, amenities and other design elements along transit corridors and station areas.	% of Jobs Within 1/4 Mile of Bus and 1/2 Mile of Fixed-Guideway 78% 85% 90% 64% 64% 64% Good Better Best
bicycling and walking trips. Reverse Transit Disinvestment — Triangle transit investment lags behind comparable regions.	Method: Using geographic information software, the location of jobs is compared to the current and planned (2045 MTP) transit network.	



Increase Transit and Non-automobile Trip Share (All Trips)

Why Increase This	How to Increase Transit	Trends and Targets
Share?	& Non-Motorized Share?	
Reduce Pollution – Automobiles are major emitters of carbon monoxide, nitrogen oxides (ozone precursor), carbon	 Transportation – Increase investment in transit, bicycle and pedestrian facilities and programs. Transportation – Require bicycle and pedestrian 	(Data is from Preferred Option) Transit & Non-Motorized Trip Share (All Trips) 25%
dioxide (greenhouse gas), and several other toxins that are linked to increased health ailments or climate change. Reduce Congestion – The percent of congested peak travel miles in the Triangle has	facilities on new and improved roadways, as appropriate. Ordinance – Require transit, bicycle and pedestrian facilities and supportive design in new and renovated developments. Land Use – Permit more concentrated residential and applearment development.	21% 22% 23% 20%
risen steadily the last several decades. Transit, bicycle and walking trips can replace vehicle trips to help abate the growing	 employment development along key travel corridors. Land Use – Permit more mixed-use development. Land Use – Encourage shorter block lengths and greater roadway connectivity. 	2015 2045e+c 2045 Good Better Best
congestion problem. Support Personal Health Lack of exercise is a leading contributor to the obesity in the U.S.	Method: From Triangle Regional Model (TRM), total bicycle and pedestrian trips, divided by total trips for all modes.	



Reduce Mobile Source Emissions (GHG, ozone, CO, and particulate matter emissions per capita)

Why Reduce	How to Reduce Emissions?	Trends and Targets
Emissions?		
■ Support Environment — Greenhouse gases are causing climate change. An estimated 39% of the greenhouse gases in Durham County are from the vehicle emissions. ■ Reduce Pollution — Pollutants such as carbon monoxide, nitrogen oxides (ozone precursor), and particulate matter are linked to increased health ailments.	 Local Initiative – Support efforts of Durham greenhouse gas local action plan. Land Use – Permit more concentrated residential and employment development along key travel corridors. Study concludes that 10% density increase results in 4.3% emissions reduction in urban areas. Land Use – Permit more mixeduse development to reduce automobile trips. Transportation – Increase investment and ordinance support for bicycle and pedestrian facilities and programs. Method: Triangle Regional Model and Mobile6 emissions model; GHG based on local plan. 	(Need to add ozone, CO and particulate matter graphs) Greenshouse Gas Change (annual per capita emissions from transportation sector - in tons) 9.6 9.5 9.0 8.6 8.1 2015 2045e+c 2045 Good Better Best

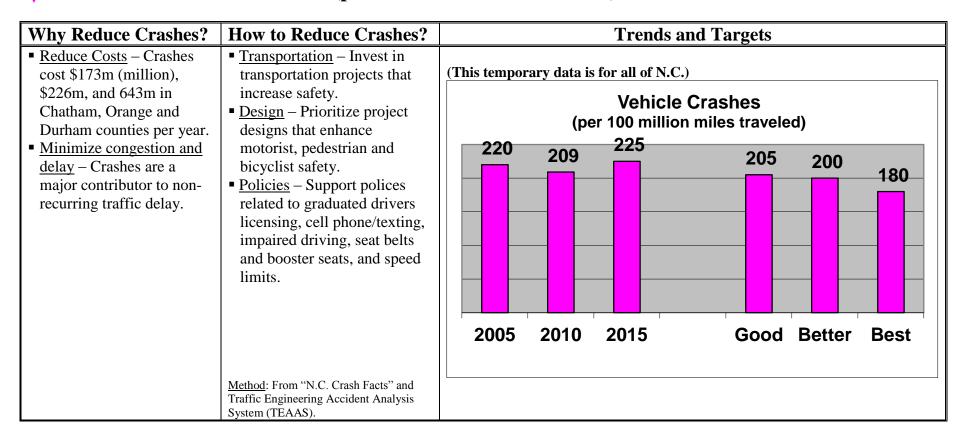


Reduce Daily Travel Delay (per capita) (in minutes)

Why Reduce Travel	How to Reduce Travel	Trends and Targets
Delay?	Delay?	
 Reduce In-Vehicle Time Travel model estimates that the average peak-hour travel time in the western Triangle will increase 22% from 2005 to 2035. Reduce Emissions – Vehicle delay produces greater amounts of emissions that increase health ailments and climate change. Support Job Opportunities – Shorter travel times can increase the size of a particular labor shed. 	 Transportation – Implement Congestion Management Program practices such as traffic signal synchronization and spot improvements at traffic bottlenecks. Transportation – Increase highway, transit and other transportation mode capacity. Land Use – Permit more mixed-use development. Method: Triangle Regional Model (TRM), total daily travel delay divided by the population. 	Daily Travel Delay (Per Capita) (minutes) 7 4 7 4 2015 2045e+c 2045 Good Better Best

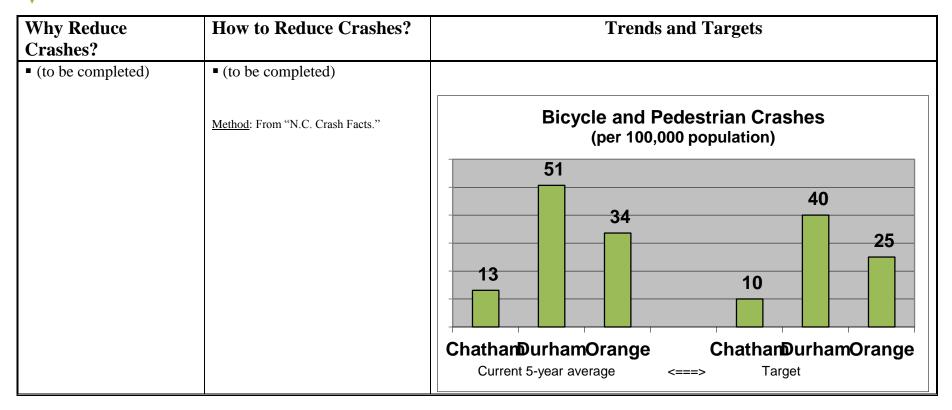


Reduce Vehicle Crashes (per 100 million miles traveled)





Reduce Pedestrian and Bicycle Crashes (per capita)





Reduce Truck Delay (minutes per trip)

Why Reduce Truck	How to Reduce Truck	Trends and Targets
Delay?	Delay?	
 Support Economic <u>Development</u> – Travel model estimates that truck delay will increase fourfold from 2015 to 2045 without additional transportation investments. Reduce Emissions – Truck delay produces greater amounts of emissions that increase health ailments and climate change. 	 Transportation – Implement Congestion Management Program practices such as traffic signal synchronization and spot improvements at traffic bottlenecks. Transportation – Increase highway investments on major roadways. Land Use – Permit more mixed-use development. Method: Triangle Regional Model (TRM), total daily truck delay divided by the number of truck trips. 	(Data is from Preferred Option) Truck Delay (minutes per trip) 4 4 4 3 2 2015 2045e+c 2045 Good Better Best