Durham-Chapel Hill-Carrboro Metropolitan Planning Organization
Key Targets for the 2040 LRTP

What is the 2040 LRTP?

The Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO) performs the long-range transportation planning for Durham County and parts of Orange County and Chatham County. The DCHC MPO is developing their 2040 Long Range Transportation Plan (2040 LRTP) which will identify the highway, transit, pedestrian and other transportation projects to be implemented, maintained and operated over the next twenty-nine years in the MPO's planning area.

What are the Targets?

The DCHC MPO has identified a list of Targets that will be used to evaluate the extent to which the adopted 2040 LRTP meets the MPO's goals and objectives. These Targets use measurements from the Triangle Regional Model (a travel demand model), such as the miles traveled, trips taken, congestion levels, and mode split (between automobiles, transit, bicycling and walking), to compare the Target value and the value generated by the 2040 LRTP.

What are the Key Targets?

The Key Targets are a subset of a larger table of performance measures. These nine Key Targets represent a broad spectrum of the various types of measurements and provide a general overview of the represented measurement. In addition, this Key Targets document 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. This presentation is intended for the citizens, public officials and staff who are interested in transportation issues but do not need the details of the complete table.

What is the Guide Data?

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

- 2010 – This is the current condition. It is the 2010 population and employment using the 2010 transportation network (e.g., highways and transit service). This is the **2010** column and value in the charts.
- 2040e+c – This is the 2040 population and employment using the existing transportation network plus any projects that are committed to being completed. This is the **2040e+c** column and value in the charts.
- 2035 – This shows how a major transportation investment might affect the Target value. It is the 2040 population and employment using the 2035 transportation network, which is budgeted at over $8 billion and includes light rail and High Occupancy Vehicle (HOV) lanes. This is the **2035** column and value in the charts.

What is the Target Range?

There are three Target values -- Good, Better and Best. 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 – www.dchcmpo.org.

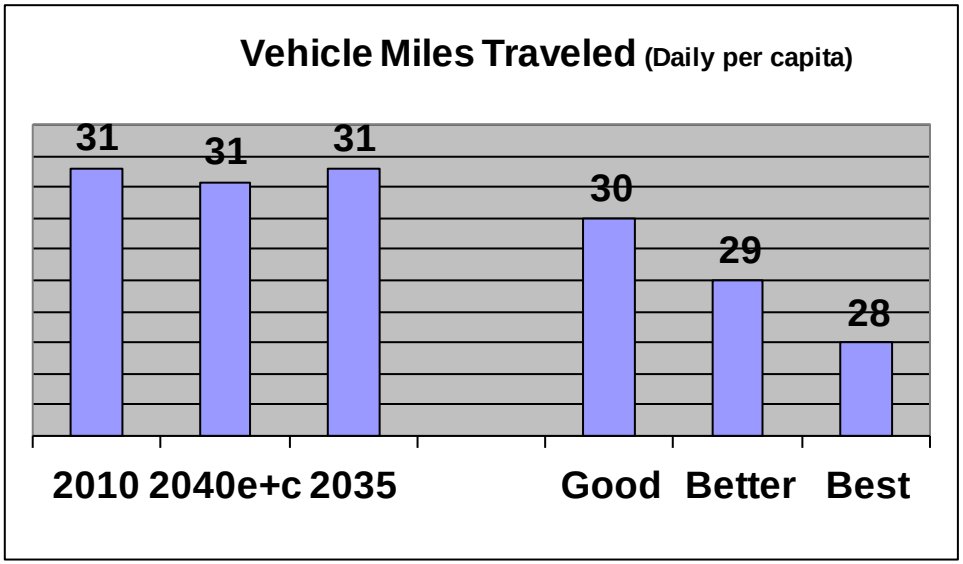
You can also contact:

Andy Henry
Transportation Planner
101 City Hall Plaza
Durham, NC 27701

(919) 560-4366, ext. 36419
andrew.henry@durhamnc.gov

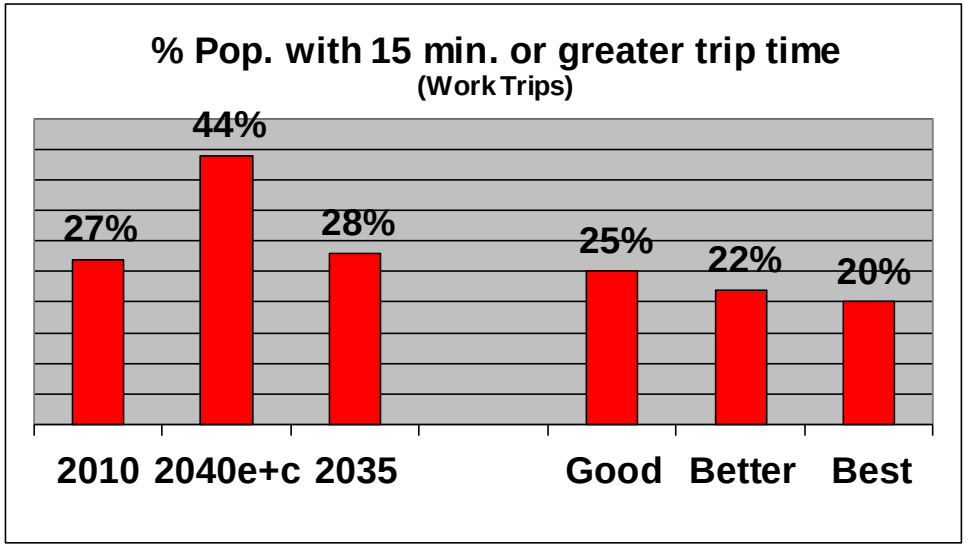
2040 LRTP and CTP Targets

Reduce Vehicle Miles Traveled (VMT)

Why Reduce VMT?	How to Reduce VMT?	Trends and Targets
▪ Reduce pollutant emissions – Triangle Region is on federal non-attainment and maintenance plan for ozone and carbon monoxide, respectively. ▪ Minimize congestion – Bi-annual mobility report lists Triangle Region among those areas with the fastest growing traffic congestion. ▪ Relieve transportation demand – NCDOT study concludes that Triangle Region transportation needs will outpace revenues by several billion dollars over next few decades.	▪ Transportation – Encourage transit use, carpooling, walking and bicycling. ▪ Land Use – Permit more concentrated residential and employment development along key travel corridors. ▪ Land Use – Permit more mixed-use development.	

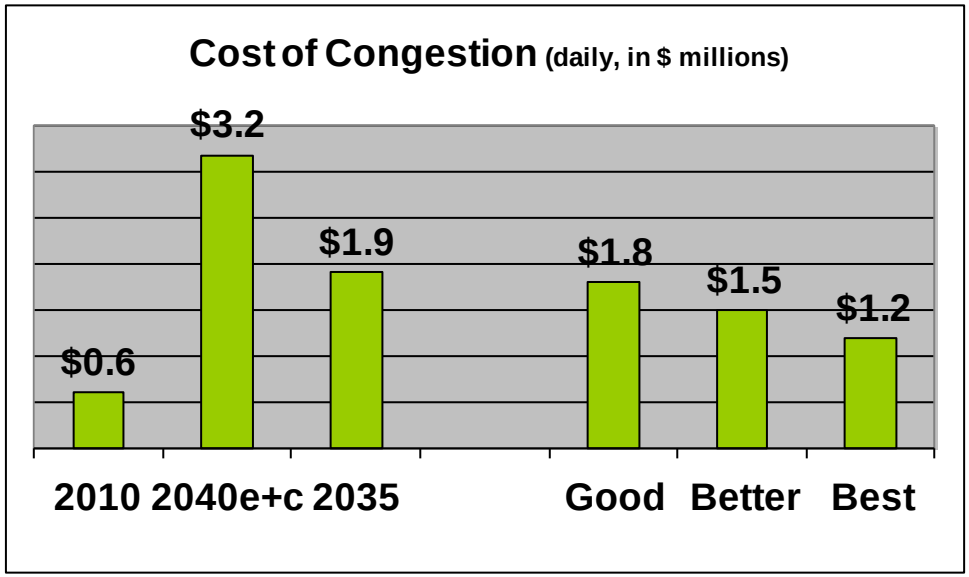
Method: From the Triangle Regional Model (TRM), the total daily vehicle miles are divided by the total population of the TRM area.

Reduce Congestion (Percent of Population with 15 minute or greater trip time)

Why Reduce Congestion?	How to Reduce Congestion?	Trends and Targets
▪ Reduce Travel Costs – Mobility Report concludes annual congestion cost is $537 per commuter in Triangle. ▪ Reduce Travel Time – Mobility Report estimates 25 hours of annual delay per commuter in Triangle. ▪ Reduce Pollution – Congestion reduces travel speed and increases pollution.	▪ Transportation – Encourage transit use, carpooling, walking and bicycling. ▪ 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, especially along critical corridors. ▪ Land Use – Permit more mixed-use development. ▪ Design – Permit design elements that support alternative transportation modes such as sidewalks and grid street patterns with shorter block lengths.	

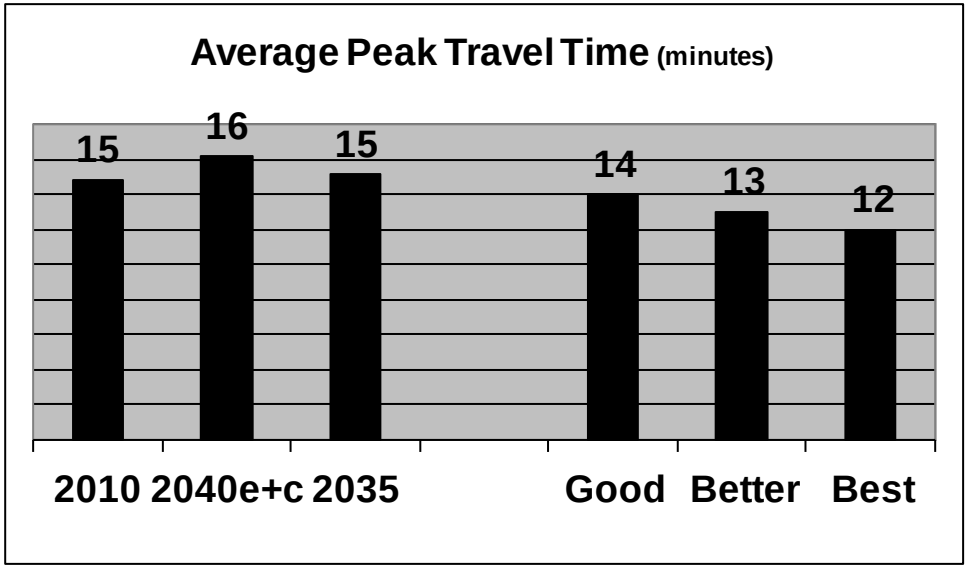
Method: From the Triangle Regional Model (TRM), the percent of the population with a 15-minute or greater average trip time is divided by the total population.

Reduce Cost of Congestion

Why Reduce Congestion Cost?	How to Reduce Congestion Cost?	Trends and Targets
▪ Reduce Travel Costs – Mobility Report concludes annual congestion cost is $537 per peak hour traveler in Triangle. ▪ Reduce Travel Time – Mobility Report estimates 25 hours of annual delay per peak traveler in Triangle ▪ Reduce Pollution -- Congestion reduces travel speed and increases pollution.	▪ Transportation – Encourage transit use, carpooling, walking and bicycling. ▪ 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, especially along critical corridors. ▪ Land Use – Permit more mixed-use development. ▪ Design – Permit design elements that support alternative transportation modes such as sidewalks and grid street patterns with shorter block lengths.	

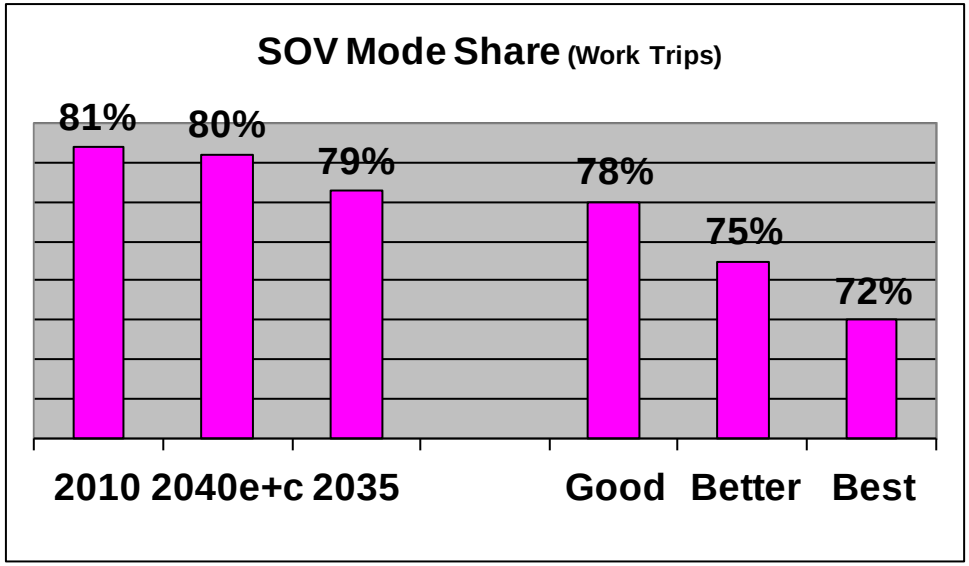
Method: From the Triangle Regional Model (TRM), the total daily hours of vehicle and truck delay is multiplied by the cost of time, which is $16.30 and $88.12, respectively (from Texas Transportation Institute -- TTI). A vehicle occupancy factor accounts for multiple persons per vehicle and a TTI method accounts for wasted gas consumption.

Reduce Travel Time (Average Peak Travel Time)

Why Reduce Travel Time?	How to Reduce Travel Time?	Trends and Targets
▪ 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 Greenhouse Gases – Longer vehicle trips produce greater amounts of greenhouse gases that contribute to global warming.	▪ 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.	

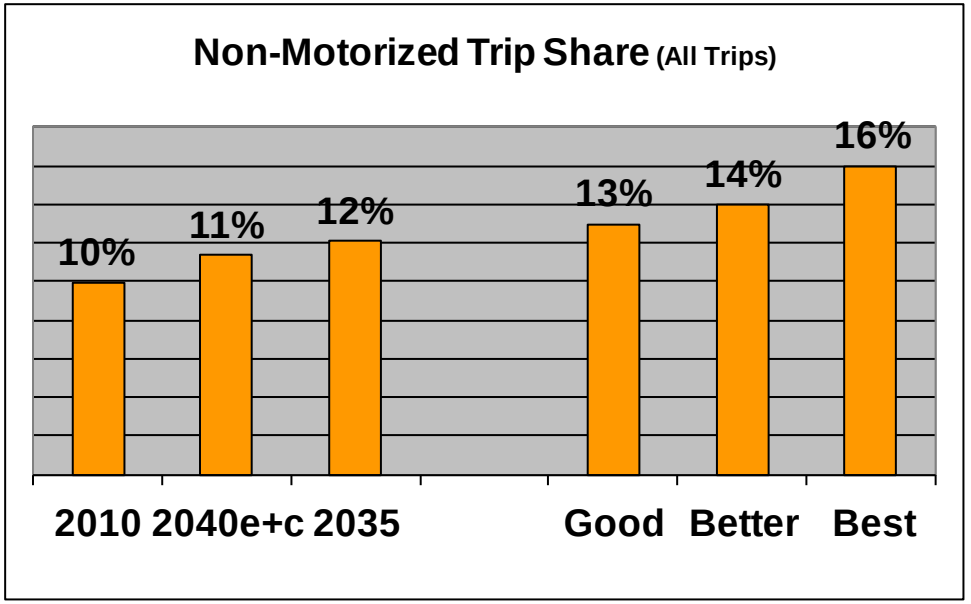
Method: From the Triangle Regional Model (TRM), the average travel time for trips in the peak period is calculated.

Reduce Single-Occupied Vehicle (SOV) Share (Work Trips)

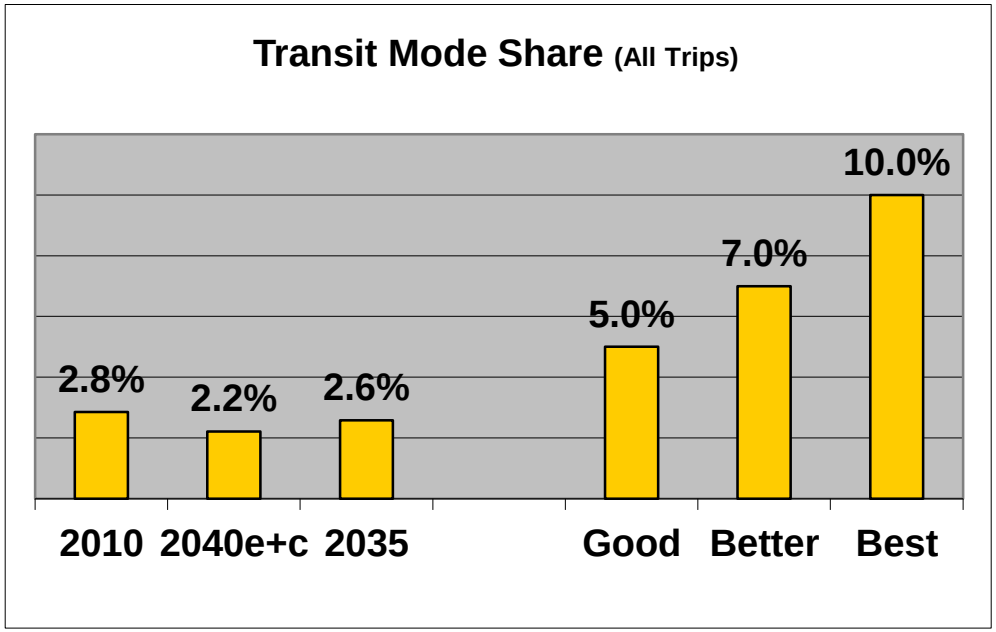
Why Decrease SOV Share?	How to Decrease SOV Share?	Trends and Targets
▪ Reduce Congestion – SOV contributes to congestion, which wastes time, fuel and money. ▪ Reduce Pollution – SOV contributes to air pollutants. Triangle Region is on federal maintenance plan for carbon monoxide and ozone.	▪ Transportation – Increase support for Transportation Demand Management programs such as carpooling, vanpooling, and company-based rideshare efforts. ▪ Transportation – Support infrastructure that creates incentives to rideshare such as HOT (high occupancy vehicle/toll) and park-and-ride facilities. ▪ Ordinance – Create local ordinances that support ridesharing. ▪ Land Use – Permit more concentrated employment development that enables easier ride matching. ▪ Design – Permit design elements that support ridesharing such as convenient drop off points.	

Method: From the Triangle Regional Model (TRM), work trips in single-occupied vehicles are divided by all work trips.

Increase Percent Non-Motorized Trip Share (All Trips)

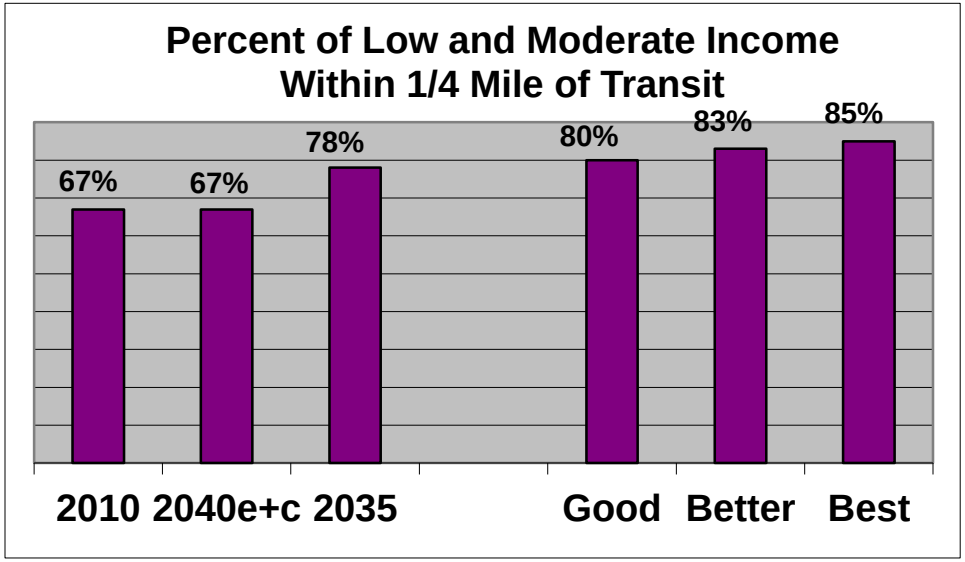
Why Increase Non-Motorized Share?	How to Increase Non-Motorized Share?	Trends and Targets
▪ Reduce Pollution – Motorized vehicles are major emitters of carbon monoxide, nitrogen oxides (ozone precursor), carbon dioxide (greenhouse gas), particulate matter and several other toxics that are linked to increased health ailments and global warming. ▪ Reduce Congestion – The percent of congested peak travel miles in the Triangle has risen from 13% to 49%, between 1982 and 2010. Bicycle and walking trips can replace vehicle trips to help abate the growing vehicle congestion problem. ▪ Support Personal Health – Lack of exercise is a leading contributor to the obesity epidemic in the U.S.	▪ Transportation – Increase investment in bicycle and pedestrian facilities and programs. ▪ Transportation – Require bicycle and pedestrian facilities on new and improved roadways, as appropriate. ▪ Ordinance – Require bicycle and pedestrian facilities and supportive design in new and renovated developments. ▪ Land Use – Permit more concentrated residential and employment development along key travel corridors. ▪ Land Use – Permit more mixed-use development. ▪ Land Use – Encourage shorter block lengths and greater roadway connectivity. Method: From Triangle Regional Model (TRM), total bicycle and pedestrian trips divided total trips for all modes.	

Increase Transit Mode Share (All Trips)

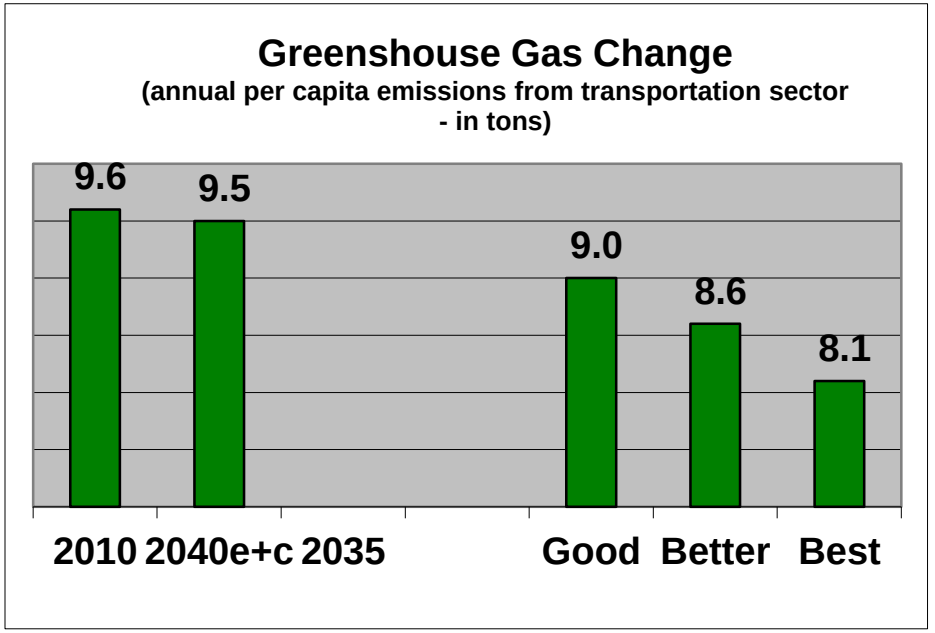
Why Increase Transit Mode Share?	How to Increase Transit Mode Share?	Trends and Targets
▪ Provide Transportation Alternatives – Approximately 6% of households do not own a vehicle, and carless households have increased at twice the rate of other households. ▪ Reduce Congestion – Congestion wastes time, fuel and money. ▪ Reduce Pollution – Triangle Region has difficulty meeting carbon monoxide, ozone, and greenhouse gases standards. Using transit instead of driving a single-occupied-vehicle reduces overall pollution emissions.	▪ Transportation – Increase transit capacity and investment. ▪ Land Use – Permit more concentrated residential and employment development along key travel corridors that have transit and adjacent to proposed transit station areas. ▪ Design – Encourage the type of scale, building orientation, connections, public spaces, parking, amenities and other design elements that support transit.	

Method: From the Triangle Regional Model (TRM), total transit trips are divided by total trips for all modes.

Increase Percent of Low and Moderate Income Population within One-Quarter Mile of Transit

Why Increase Transit Access?	How to Increase Transit Access?	Trends and Targets
▪ 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 bicycling and walking trips. ▪ Reverse Transit Disinvestment – Triangle transit investment lags behind comparable regions.	▪ Transportation – Increase transit routes and service levels. ▪ Transportation – Increase transit 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. Method: Using geographic information software, U.S. Census data (block group level) of minority and low- and moderate-income households is compared to the current and planned (2035 LRTP) transit network.	

Reduce Greenhouse Gases (annual per capita emissions from transportation sector – in tons)

Why Reduce Greenhouse Gases?	How to Reduce Greenhouse Gases?	Trends and Targets
▪ Support Environment – Greenhouse gases are causing global warming. An estimated 39% of the greenhouse gases in Durham County are from the vehicle emissions. ▪ Reduce Pollution – Greenhouse gas emissions are accompanied by other pollutants such as carbon monoxide, nitrogen oxides (ozone precursor), and particulate matter that 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 mixed-use development. ▪ Transportation – Increase investment and ordinance support for bicycle and pedestrian facilities and programs.	

Method: These goals are based on the portion of greenhouse gas emitted from the transportation section and under the control of the locality.