

RE: NCDOT Transportation Planning Branch Comprehensive Transportation Plan Socio-economic Data Forecasting Methodology

In August of 2010, the Transportation Planning Branch of the North Carolina Department of Transportation and Watauga County initiated a study to cooperatively develop the Watauga County Comprehensive Transportation Plan (CTP), which includes the Towns of Boone, Blowing Rock, Seven Devils, and Beech Mountain. Existing and anticipated deficiencies will be determined through an analysis of the transportation system looking at both current and future travel patterns.

For the Watauga CTP two analysis methods will be used: one for the non-modeled area and another for the more urbanized area around Boone. For the non-modeled portion of Watauga County which includes the Towns of Blowing Rock, Seven Devils, and Beech Mountain, travel demand will be projected from 2010 to 2040 using a trend line analysis based on Annual Average Daily Traffic (AADT) from 1990 to 2010. In addition, local land use plans and growth expectations will be used to further refine future growth rates and patterns.

It is more difficult to predict future travel patterns in a larger urban area where there are more alternative route options. So for the Town of Boone and the surrounding area, travel demand will be projected from 2010 to 2040 using a travel demand model. Travel demand models are developed to replicate travel patterns on the existing transportation system as well as to estimate travel patterns for 2040. Additionally, travel demand models require a broad range of socio-economic input data such as population and employment. These inputs are available from sources like the U.S. Census Bureau for the base year of 2010, but data for 2040 is also required.

The Watauga County CTP Committee worked with NCDOT to estimate population growth, economic development potential, and land use trends to determine the potential impacts on the future transportation system in 2040. We would like to update you on the process and to ask for your official approval of the projected socio-economic data used to determine future deficiencies. Your approval can be documented as part of the official minutes of the meeting.

Below is a description of the methodology used in the analysis.

Population

Population trends were estimated using available data from the Office of State Budget and Management (OSBM) and simple linear growth. Population counts and projections through the year 2030 were taken from the OSBM website. The 2040 population was projected by applying the same growth rate as 2025 to 2030. For those years an annual growth rate of 1.4% was used in Watauga County. The CTP steering committee identified areas in Watauga County that would experience growth rates higher and lower than the county average. These are displayed in the attached map titled "Projected Population Growth." Growth rates for each intensity category are shown on the map. The areas in category "Middle" are those areas expected to grow at the same rate as the county average. Growth for Appalachian State University was based on the "Citizens Plan for Watauga" 2030 projection and grown at 1% per year to 2040.

Employment

Future employment conditions within Watauga County were obtained from the CTP steering committee input and discussions. This included approximate locations and intensity for proposed employment centers. Any anticipated heavy demand on the future transportation system as a result of these

proposals will be accounted for in projected traffic volumes. Areas of expected higher employment growth and traffic growth are identified in the attached map titled "Projected Employment Growth." Growth rates for each intensity category are shown on the map. Growth for Appalachian State University was based on the same student-to-staff and student-to-faculty ratios as existed in 2010.