



# Triad Commute Challenge 2008



The second annual Triad Commute Challenge began March 1, 2008 and ended May 31, 2008. The purpose of the challenge is to encourage use of public transportation, car and vanpools, walking, biking and telecommute, in an effort to improve air quality by reducing congestion on our roads. According to the North Carolina Division of Air Quality (DAQ), most of our air pollution comes from mobile sources. Air pollution places a burden on the health and well being of our communities and our economy.

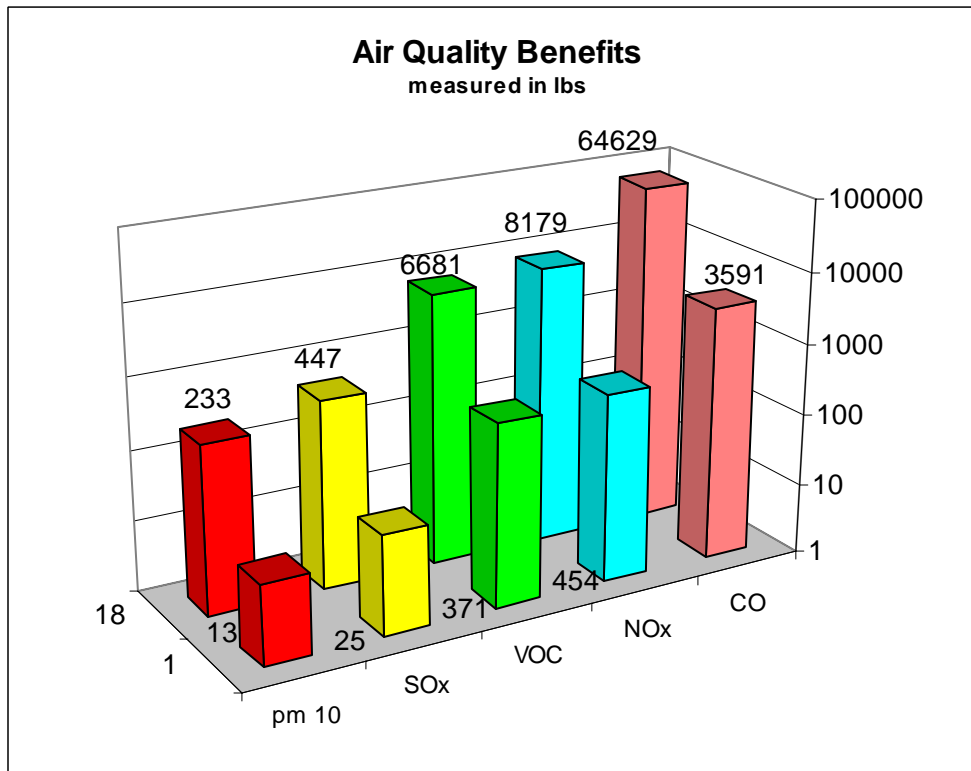
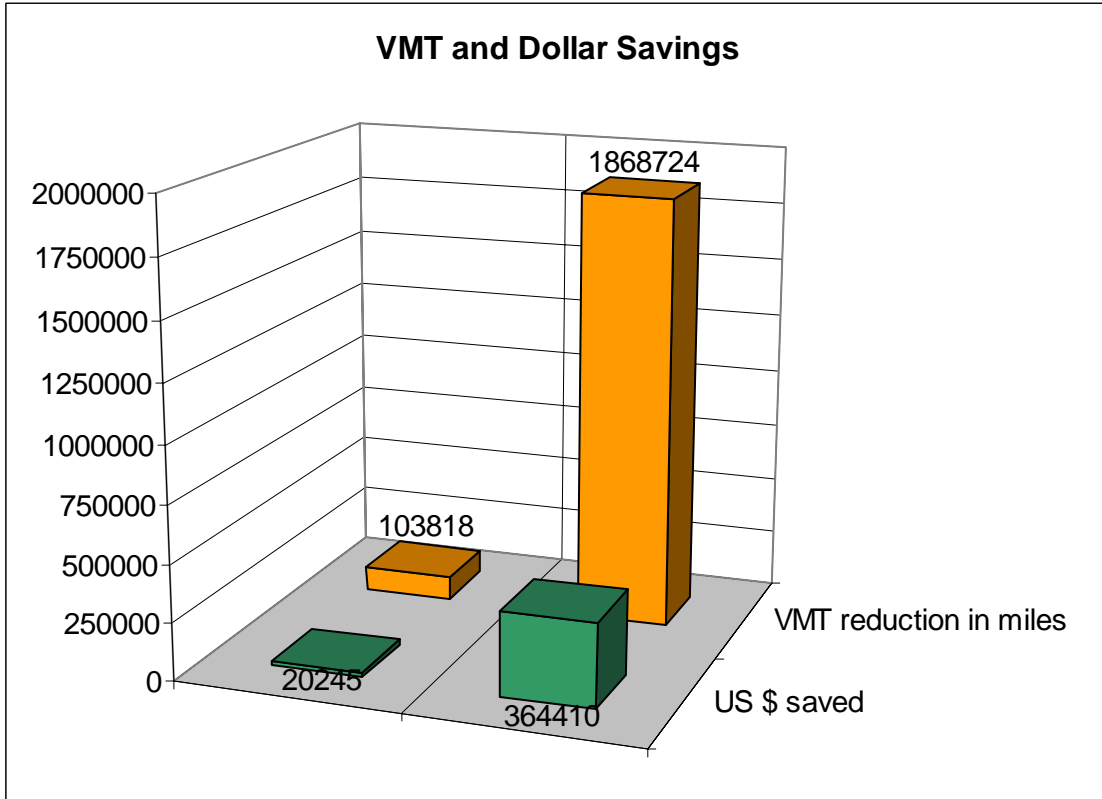
## **Vehicle Miles Traveled (VMT) and fuel reductions:**

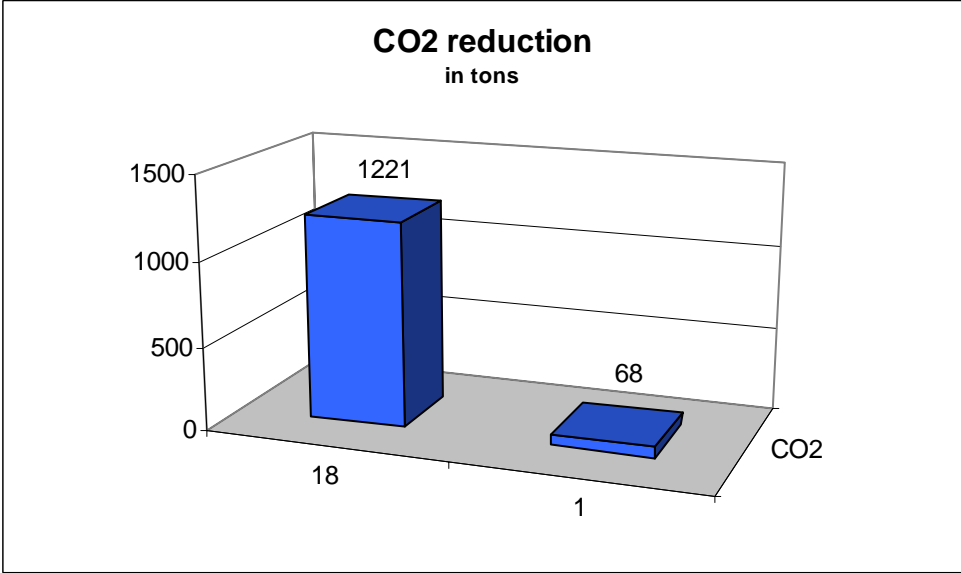
During the challenge, 1,573 people pledged to get out of their single occupancy vehicle and try an alternative form of transportation. Based on year 2000 census data, Triad residents commute an average of 33 miles one way. Consequently, if each of the participants used their alternative form of transportation *just once* during the challenge, the number of VMT would have been reduced by 103,818 miles. However, according to our follow-up survey, challenge participants used their alternate form of transportation on average 18 times throughout the challenge period traveling an average of 32 round trip miles per day. This is half the number of miles traveled for the typical Triad commuter, which leads us to believe that most of our challenge participants come from within the heart of the Triad and not the outlying areas.

Based on the survey results of 18 trips per person at 32 miles per day, the total VMT reduction is approximately 906,048 miles. This adds up to an approximate fuel savings of \$160,000. (\$3.90 per gallon of gas, averaging 20 mpg)

## **Air Quality Benefits:**

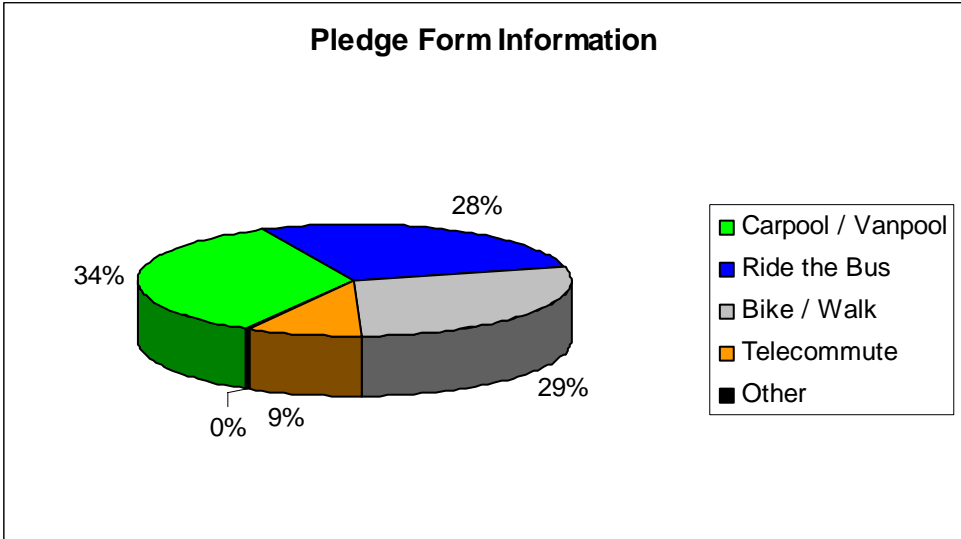
Based on one trip per participant, the challenge resulted in the following air quality benefits. Greenhouse gas (CO<sub>2</sub>) emissions were reduced by 68 tons. Criteria air pollutants emissions for oxides of nitrogen (NO<sub>x</sub>) were reduced by 454 lbs; oxides of sulfur (SO<sub>x</sub>) were reduced by 25 lbs.; carbon (CO) emissions were reduced by 3,591 lbs.; volatile organic compounds (VOCs) were reduced by 371 lbs. and coarse particulate matter by 13 lbs. We consider these numbers to be much lower than actually air quality savings since the post challenge survey showed a greater frequency of alternative transportation use. If each participant used their alternative form of transportation 18 times, which was the average stated by post survey respondents, the air quality benefits would be a reduction of 1,221 tons of CO<sub>2</sub>; 8,179 lbs of NO<sub>x</sub>; 447lbs of SO<sub>x</sub>; 64,629lbs. of CO; 6,681lbs of VOCs and 233lbs of PM<sub>10</sub>. (See comparison charts below.)





**Pledge form information:**

Information gathered from the pledge forms shows that out of the total 1,573 participants, 1,322 stated they had previously driven alone. Out of the total, 34% stated they would like to try to carpool or Vanpool; 29 % wanted to try walking or biking; 28% wanted to try riding the bus; and 9% stated they would like to give telecommuting a try. See chart below.

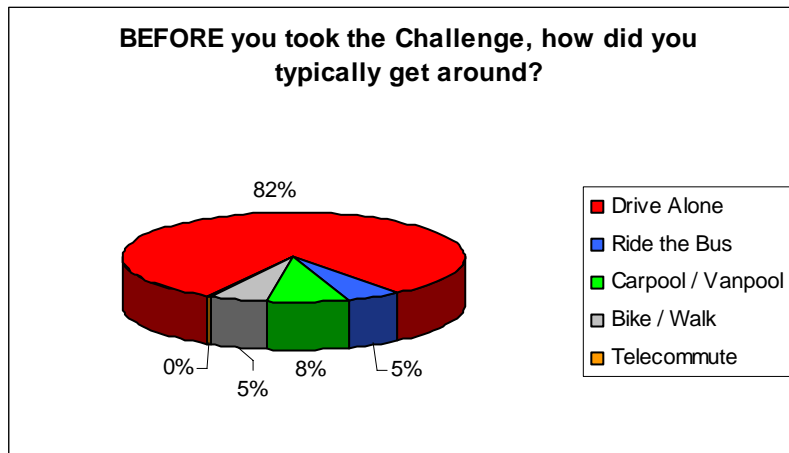


## Post Challenge Survey

After the challenge was concluded, a five question survey was sent to the participants who provided an email address, (1,391 out of 1,573 total participants.) We received 280 survey responses. The five questions and responses were:

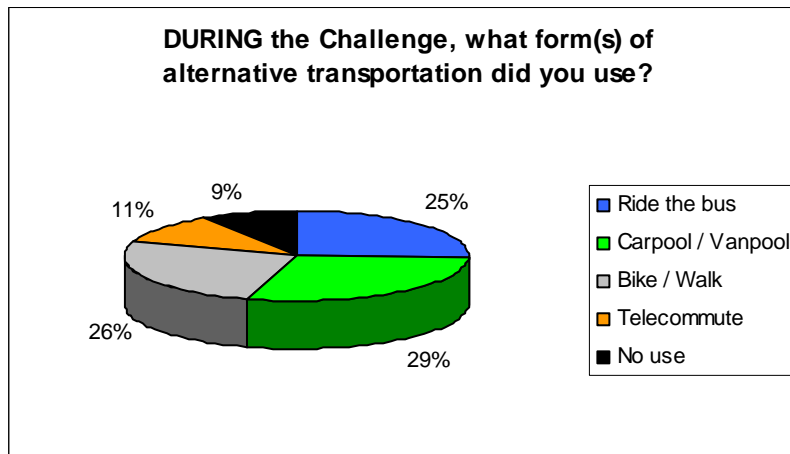
1. Before you took the challenge, how did you typically get around? The choices were: Drive Alone, Ride the bus, Carpool/Vanpool, Bike/Walk and Telecommute.

82 % responded that they drove alone prior to the challenge  
5% rode the bus  
8% used carpool or vanpool  
5% biked or walked  
0% telecommuted



2. During the Challenge, what form(s) of alternative transportation did you use? The choices were: Ride the Bus, Carpool/Vanpool, Bike/Walk, Telecommute and No Use.

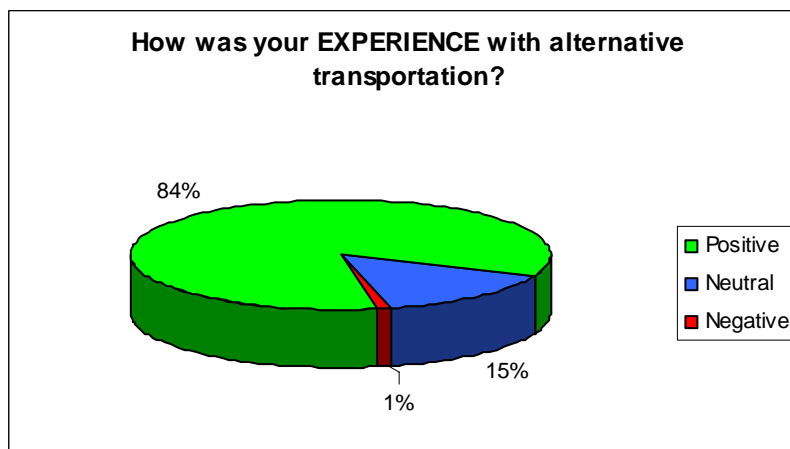
25% rode the bus  
29% used carpool or vanpool  
11% telecommuted  
9% no use  
26% biked or walked



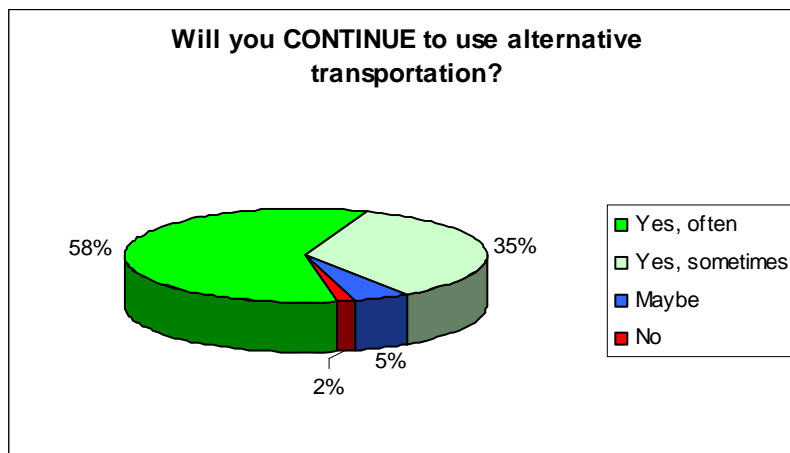
\*310 people registered with ShareTheRideNC.org as a result of the Challenge.

3. How was your experience with alternative transportation? The choices were: Positive, Neutral and Negative.

84% positive  
15% neutral  
1% negative



4. Will you continue to use alternative transportation? The choices were: Yes, often, Yes, sometimes, Maybe and No.
- 58% yes, often
  - 35% yes, sometimes
  - 5% maybe
  - 2% no



## **North Carolina's Triad Air Shed**

The Triad region encompasses ten counties in the western Piedmont of North Carolina, with several metropolitan areas within its borders. The growing urban sprawl, increase in population and congested thoroughfares, which are located in the downwind emission plume of a major metropolitan area, makes this region a prime location for unhealthy air quality levels.

In the late 1980s, Forsyth County violated the 1-hour ozone National Ambient Air Quality Standard several times and was subsequently designated ozone nonattainment by the US Environmental Protection Agency (EPA). Additionally, the area violated the 8-hour carbon monoxide standard and was designated CO nonattainment by EPA. The EPA was petitioned to reclassify Forsyth as Maintenance in 1994, after meeting the required emissions reductions and appropriate maintenance plan requirements. Since 1993, Forsyth County maintained compliance with both the 1-hour and 8-hour standards for ozone and carbon monoxide, respectively. In 1997, EPA promulgated regulations for two new standards, 8-hour ozone, and fine particulate matter (PM fine).

In accordance with the Federal requirements, Forsyth County Environmental Affairs Department began monitoring for these pollutants in 1998 (8-hour ozone) and 1999 (PM fine). In 2004, EPA finalized the 8-hour ozone designations and the Triad area was slated for nonattainment for 8-hour ozone, including the counties of Rockingham, Caswell, Guilford, Alamance, Randolph, Forsyth, Davie and Davidson. Actual implementation was deferred under the Triad Early Action Compact. In April 2008, the EPA recognized the successful efforts of the Triad Early Action Compact and nonattainment designation for Triad counties was canceled.

Additionally, the Triad counties Davidson and Guilford were designated by the EPA as being in nonattainment for Fine Particle Pollution, (PM 2.5), on April 5, 2005.

In March, 2008, the EPA changed the National Ambient Air Quality Standards for ground level ozone, to be more health protective. This change was based on the findings of numerous medical studies and the effect air pollution has on human and environmental health. Meeting this more protective national standard is the new challenge the Triad regions faces.

Since most of North Carolina's air pollution issues are mobile source related, the continued efforts of transit organizations like PART is vital to meeting our air quality challenges. Cooperation between groups like Triad Air Awareness and City and County planning and transit organizations will help address attainment issues on a regional basis, benefiting all Triad communities as well as enhancing our economic vitality.