

# Transportation in North Carolina



Transforming *the Good Roads State*  
into *the Good Transportation State*



September 2009

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## **About *NC Go!***

*NC Go!* is the state’s only diverse, broad-based coalition advocating for North Carolina’s transportation system. *NC Go!* has grown from a handful of founding members to become a coalition of more than 100 businesses, chambers of commerce, associations and transit agencies representing 25,000 businesses and member organizations, with more than 6 million employees, transit riders, citizens and drivers in North Carolina.

*NC Go!* is leading the call to adequately invest in highways, bridges, public transportation, rails, ports, airports and ferries.

## Executive Summary

As with many concerns in the state such as education, health care and public safety, our transportation system faces numerous challenges. In the next few legislative sessions, lawmakers must determine how we address transportation needs and prepare for the future. Our current transportation funding model is untenable. It fails to adequately prepare for population growth in the face of declining revenue. The outcome will adversely affect our ability to attract and retain businesses and talent as well as citizens' quality of life and safety.

The economic climate in North Carolina has been anything but comforting in 2009. From job losses and soaring unemployment to shrinking state revenues and budget gaps, our leaders have faced one hurdle after another resulting from the current recession. However, while exacerbated the current recession, shortfalls facing transportation funding are not new. Vehicles have continued to become more fuel efficient which has diminished the buying power of the state's motor fuels tax. Construction costs have also risen greatly, further exacerbating the gap between revenue and costs. In short, the money raised for transportation has not kept pace with the higher costs to maintain and improve the system, much less prepare for projected population growth.

There are real world consequences to having a transportation system that is inadequate in terms of its physical condition and its capacity to serve users. In our urban areas, Charlotte drivers waste an **additional \$876 and 27 gallons of gas** per year as a result of rush-hour traffic congestion and delays due to inadequate roads. On average, drivers in our state spend an **additional \$251** due to poor road conditions—dollars spent on replacement tires, front-end alignments and other damage. Nationally, more than half of vehicle crash fatalities occurred in accidents where road condition contributed to the crash occurrence or severity.



Businesses and economic development suffer as a result of an inadequate transportation system. Traffic delays, wrecks due to road condition and excess vehicle road wear drive up costs. The movement of workers, goods and services depends upon safe and efficient mobility options. Unfavorable transportation

or logistics situations can cause businesses to relocate to better locations. And new industries considering our state weigh our transportation system against other states' systems. The condition of our overall transportation system impacts North Carolina's ability to recruit businesses and create jobs.

The following report reflects a compilation of several studies issued recently regarding highway safety and the costs of poor roads, bridges and traffic congestion. Additional information from the NC Department of Transportation on road and bridge conditions and recovery funds provides further context for the discussion on the current status of transportation in North Carolina.

At the conclusion of this report we provide several options available to the state in planning to meet future revenue needs. *NC Go!* does not favor any single plan over another, but simply suggests all options be considered and that any solution be equitable in gauging how each user pays for their share of highway, bridge and public transportation consumption.

Bottom line—doing nothing is not an option. Difficult decisions must be made about the course our state should take to reform transportation funding. To adequately prepare for the future, there will be a cost associated. But, doing nothing will cost far more in the long run.

## **Starting Point: Transportation and Policy in 2009**

The discussion on transportation needs versus revenue in our state must begin by looking forward. As with other infrastructure projections around the state, population growth is expected to outpace system capacity in the next 20 years. According to the U.S. Census Bureau, North Carolina is projected to see an additional 4 million residents by the year 2030 – a 50 percent increase from 2000 and a 33 percent increase from 2008.

Our state is growing fast, and so are the number of cars on the roads and the miles each of us drive. That equates to more burden placed on our highway and bridge systems. At the same time revenue from existing sources like the motor fuels tax (gas tax) has been declining as fuel efficiency rises—in part due to a cap placed on the tax in 2007. We are using up the resources—our roads and bridges—faster than we can replace, repair or expand them.

The impacts are detailed in the sections that follow but in short, the results are increased traffic congestion, damage to vehicles from potholes and other road hazards, and increased risk of unsafe roads. We waste more time in traffic, add to air pollution, damage vehicle tires and alignment, and have more frequent accidents when roads are not maintained properly or cannot meet demand.

In terms of policy, several bright spots occurred during the state legislative sessions of 2008 and 2009. In 2008 the General Assembly began the process of phasing out the transfer of transportation revenue to the state’s General Fund. At the same time, much of the money was earmarked to help launch a series of toll projects – all designed to complete much-needed urban projects with true “user-pays” revenue collection. Under a “user-pays” system, those who actually use the road pay for the consumption.

During the 2009 legislation session, one piece of historic legislation was signed into law and a major tolling project began. The Congestion Relief and Intermodal Transportation 21st Century Fund (HB 148) was signed by Governor Beverly Perdue, which provides 99 counties with the authority to hold referenda on local option sales tax committed to public transportation. Urban counties in the Triangle and Triad will have the option for ½ cent tax per dollar and all other counties except Mecklenburg can vote on a ¼ cent tax. Mecklenburg already is exercising its option for ½ cent tax and has greatly expanded its public transportation services with robust support from voters.

The North Carolina Turnpike Authority kicked off its first toll project in the state with a groundbreaking for the Triangle Expressway. The project entails three sections with one already open for traffic. The first construction project, the Triangle Parkway, is projected to open in 2011 – decades earlier than possible without tolling. It is estimated that the project will create or preserve 30,000 jobs and will save drivers up to 20 minutes per round trip.

With the local options sales tax for transit and tolling projects, two new solutions have become realities in North Carolina. What is missing is that third piece of the revenue puzzle – fundamentally changing how we gauge usage and collect transportation funds. Some of these concepts will be introduced at the end of the report.

### Grading North Carolina’s Transportation: ASCE

Every other year North Carolina and states around the nation are graded on the condition of their infrastructure by the American Society of Civil Engineers (ASCE). ASCE, founded in 1852, represents more than 146,000 members of the civil engineering professionals worldwide and is the oldest national engineering society in the U.S.

Although some areas of our state’s infrastructure saw small up ticks, the grades were gloomy for transportation.

N.C. 2009 Infrastructure Report Card	
<b>D-</b> ↓	<b>Roads</b> (D in 2007)
<b>C-</b>	<b>Bridges</b>
<b>D+</b>	<b>Airports</b>
<b>C</b> ↓	<b>Rail</b> (B- in 2007)

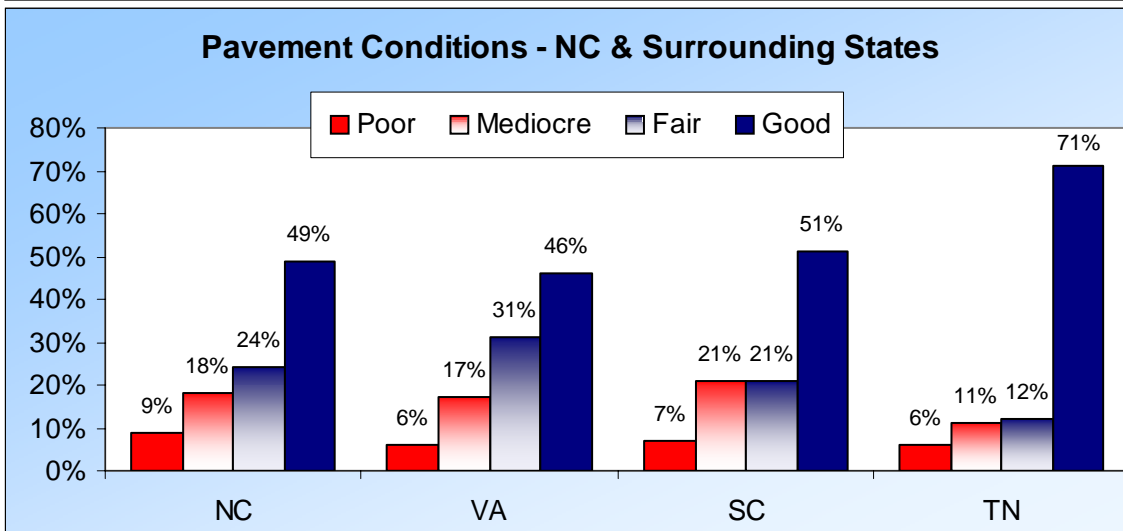
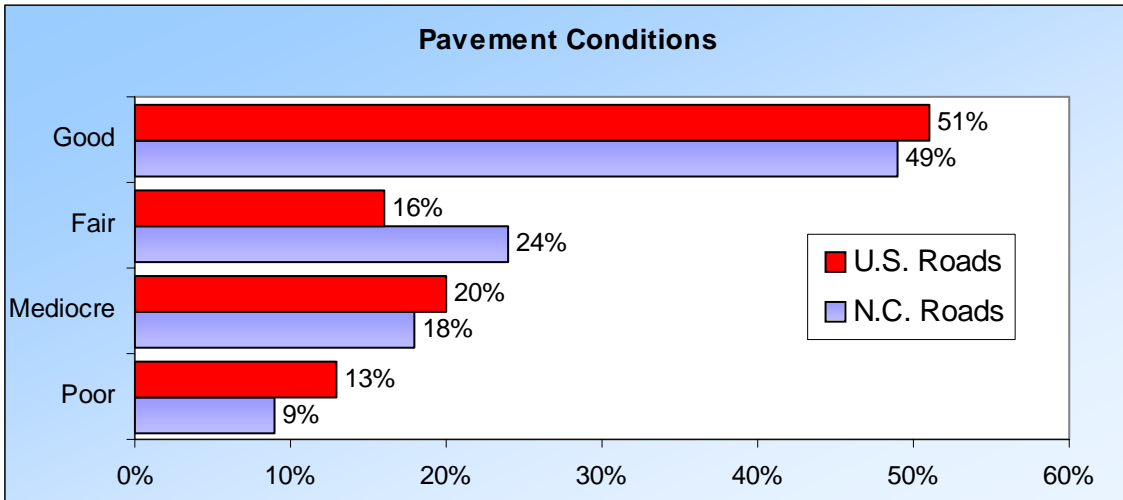
Source: North Carolina American Society of Civil Engineers, *Infrastructure Report Card 2009*

The root cause for the low grades is again the combination of too little revenue in the face of growing population and use. Specifics related to the grades include:

- *Thirty-one percent of North Carolina’s 18,182 bridges are considered structurally deficient or functionally obsolete. The cost to replace deficient bridges is estimated to be \$8 billion.*
- *Freight rail requires an additional \$799 million for modernization and \$3.5 billion for passenger rail.*
- *The funding gap for transportation is estimated to be at least \$29 billion over the next 25 years.*
- *\$588 million is needed to bring all the airports in the state’s general aviation plan up to “good” or “excellent” ratings.*

## The Condition of North Carolina's Roads

A grade of D- is more than just a letter on paper. There are real world consequences that affect drivers, their vehicles, communities and our state. And the cost of inaction in dealing with deteriorating roads is only exacerbated over time; the cost to repair a road tomorrow is much lower than the cost to replace a road in years to come. According to the American Association of State Highway and Transportation Officials, the cost per mile to rebuild a road after 25 years can be three times greater than the cost to maintain that road over the same period.

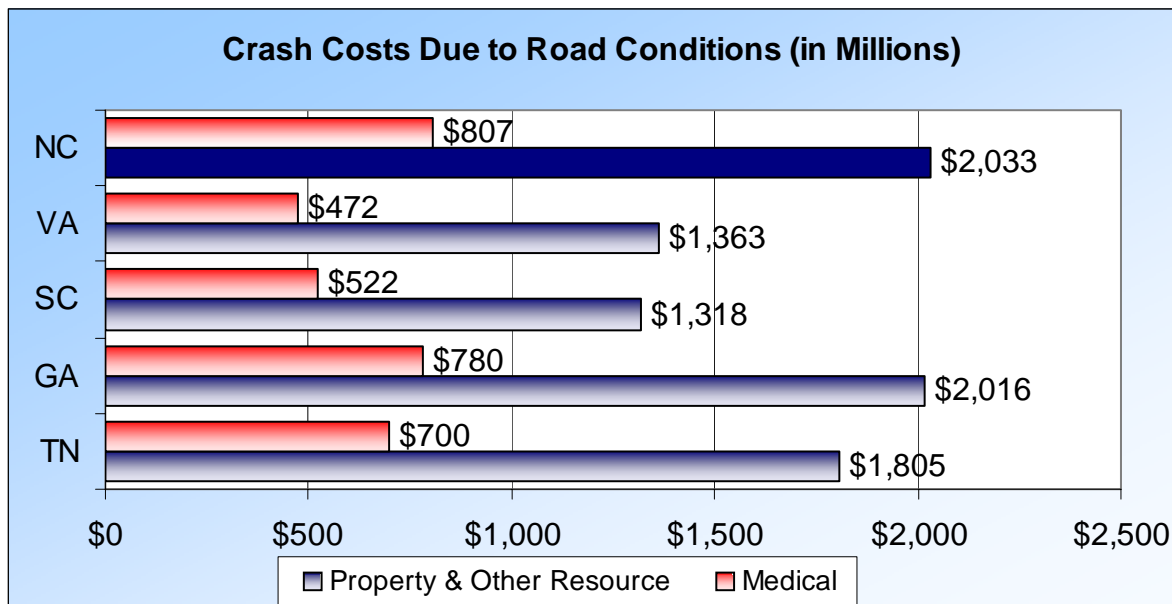
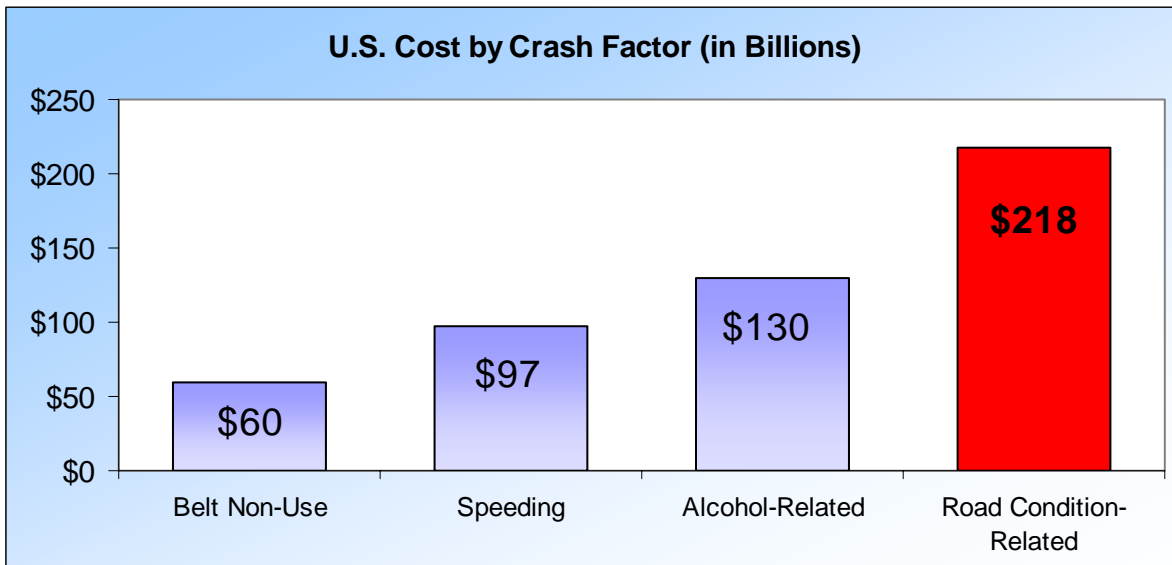


Source: AASHTO ([www.transportation.org/](http://www.transportation.org/)) and TRIP ([www.tripnet.org/](http://www.tripnet.org/)); Rough Roads Ahead, Fix Them Now or Pay for It Later (<http://roughroads.transportation.org/>)

What do poor road conditions mean to individuals? It impacts wear and tear on vehicles, safety and traffic congestion. Causes include potholes, crumbling pavement, improperly functioning traffic control devices, missing signs and narrow shoulders or roadways. Vehicles subjected to poor pavement conditions suffer from tire and other vehicle damage as well as improper alignment which leads to increased tire wear and safety concerns. All of the causes listed can impact safety and lead to more

frequent and more severe crashes. Many of those same crashes and breakdowns contribute to traffic snarls and delays.

Unsafe and improperly maintained roads are a threat to safety and carry an economic cost due to related accidents. Accidents stemming from poor road conditions, maintenance or design carry a higher cost than any other crash factor. North Carolina also faces higher costs from road condition-related crashes than any neighboring state.



Source: The Pacific Institute for Research and Evaluation ([www.pire.org](http://www.pire.org)); *On a Crash Course: The Dangers and Health Costs of Deficient Roadways*; Commissioned by the Transportation Construction Coalition ([www.transportationconstructioncoalition.org](http://www.transportationconstructioncoalition.org))



## Most Dangerous Intersections in 25 Counties

(06/01/2004 - 05/31/2009)

County	Intersection	Total Crashes	Fatal Injuries	Total Injuries
WAKE	I 440 at WAKE FOREST	537	3	228
GUILFORD	I 40 at WENDOVER	260	1	136
MECKLENBURG	CENTRAL at SHARON AMITY	234	1	110
DURHAM	I 40 at FAYETTEVILLE	234	0	72
WAKE	BRIAR CREEK at GLENNWOOD	232	1	80
ONSLow	US 17 at WESTERN	205	1	82
CUMBERLAND	ALL AMERICAN	200	0	95
FORSYTH	US 52 at US 421	169	0	57
CATAWBA	I 40 at MCDONALD	168	0	77
ROWAN	JAKE ALEXANDER at MOORESVILLE	165	0	69
NEW HANOVER	COLLEGE at NEW CENTER	156	1	66
WATAUGA	NC 105 at BLOWING ROCK	153	0	36
IREDELL	I 77 at NC 150	151	0	51
MOORE	US 15 at TRAFFIC	145	1	69
CATAWBA	I 40 at EIGHTH	145	0	72
CABARRUS	I 85 at SPEEDWAY	141	0	37
HENDERSON	I 26 at US 25	136	0	52
GASTON	I 85 at NC 273	129	0	36
BRUNSWICK	US 17 at US 17B	125	3	117
ROBESON	FAYETTEVILLE at ROBERT	125	1	56
UNION	US 74 at SR 1367	124	0	52
PITT	GREENVILLE at TENTH	122	0	53
ORANGE	US 15 Aat NC 54	117	0	37
BUNCOMBE	I 240 at US 19	116	0	68
LEE	HORNER at MAIN	109	1	23

## Fatal Crashes: Most Dangerous Routes in 25 Counties

(06/01/2004 - 05/31/2009)

County	Route	Total Crashes	Fatal Crashes	Fatal Injuries
ROBESON	I 95	1,483	38	47
MECKLENBURG	I 85	4,382	29	30
BRUNSWICK	US 17	1,541	23	24
NASH	I 95	860	20	26
HALIFAX	I 95	811	18	21
BUNCOMBE	I 40	1,383	18	19
DAVIDSON	I 85	1,583	17	18
GUILFORD	I 40	2,536	16	21
CUMBERLAND	US 401	3,716	16	19
CRAVEN	US 17	1,211	15	18
ROWAN	SR 1002	568	15	17
CLEVELAND	US 74	1,325	14	15
NEW HANOVER	US 117	2,554	14	14
JACKSON	US 23	441	13	16
ONSLow	US 17	2,382	13	14
WILSON	I 95	368	12	17
JOHNSTON	I 95	1,157	12	16
SCOTLAND	US 74	348	12	14
CARTERET	US 70	1,789	12	13
IREDELL	I 77	1,908	12	12
WAKE	NC 55	1,725	12	12
HAYWOOD	US 19	596	11	15
CHATHAM	US 421	410	11	14
RANDOLPH	US 64	1,483	11	14
BLADEN	NC 87	469	11	12

Source: NC Department of Transportation, Transportation Mobility and Safety Branch

## Lowest Rated Bridges for North Carolina's Counties

County	Route	Across	Year Built	Sufficiency Rating
ALAMANCE	SR1148	GUM CREEK	1953	6.6
ALEXANDER	SR1579	CREEK	1960	19.6
ALEXANDER	SR1338	GRASSY CREEK	1963	21.3
ALLEGHANY	NC18	LITTLE RIVER	1948	6.7
ANSON	NC742	N. FORK JONES CREEK	1937	12.5
ASHE	SR1503	N.FORK NEW RIVER	1965	4
AVERY	SR1525	CAMP CREEK	1950	4.8
BEAUFORT	US264	PANTEGO CREEK	1950	7
BERTIE	US13	QUIOCCOSION SWAMP	1930	8
BLADEN	NC11	CAPE FEAR RIVER	1952	4
BRUNSWICK	NC130	BEAR BRANCH	1939	4
BUNCOMBE	SR2115	REEMS CREEK	1945	7
BURKE	SR1803	HENRY FORK RIVER	1950	7
CABARRUS	SR1394	CODDLE CREEK	1954	6
CALDWELL	SR1503	JOES FORK CREEK	1963	5
CAMDEN	NC343	JARVIS CREEK	1948	4
CARTERET	SR1124	BRANCH OF NEWPORT RIVER	1964	7
CASWELL	SR1554	COUNTRY LINE CREEK	1953	13.3
CATAWBA	SR1404	FALLING CREEK	1954	13.1
CHATHAM	SR1916	SHADDOX CREEK	1951	5
CHEROKEE	SR1340	OWL CREEK	1960	7
CHOWAN	SR1208	POLLOCK SWAMP	1964	17.2
CLAY	NC175	CHATUGE LAKE	1941	6
CLEVELAND	SR2033	BUFFALO CREEK	1955	7
COLUMBUS	NC904	JUNIPER SWAMP	1948	5
CRAVEN	SR1470	NEUSE RIVER	1952	19.5
CUMBERLAND	I95BUS.LOOP	SR1738,SR1741,C.F.RIVER	1954	2
CURRITUCK	SR1232	TULLS CREEK	1962	25.7
DARE	NC12	OREGON INLET (Bonner Bridge)	1962	4
DAVIDSON	SR1243	ABBOTTS CREEK	1951	13.9
DAVIE	SR1802	PEELER CREEK	1965	22.9
DUPLIN	SR1004	BRCH NE CAPE FEAR	1970	9
DURHAM	SR1902	LICK CREEK	1930	20
EDGECOMBE	NC33	TAR RIVER	1931	6
FORSYTH	SR2667	SALEM CREEK	1961	7
FRANKLIN	SR1003	TAR RIVER	1953	10.1
GASTON	SR1136	BLACKWOOD CREEK	1957	11.4
GATES	SR1100	TROTMAN CREEK	1952	41.8
GRAHAM	SR1223	BEECH CREEK	1963	7
GRANVILLE	SR1139	TAR RIVER	1951	6.6
GREENE	NC58	RAINBOW CREEK	1940	7
GUILFORD	SR2128	REEDY FORK CREEK	1967	4
HALIFAX	SR1804	KEEHUKKEE SWAMP	1952	15.2
HARNETT	NC55	MINGO SWAMP	1936	4
HAYWOOD	SR1643	SOUTHERN RAILROAD	1931	5.5
HENDERSON	NC191	FR.BROAD RIVER OVERFLOW	1955	4
HERTFORD	SR1308	LIVERMAN CREEK	1960	15.8
HOKE	SR1432	ROCKFISH CREEK	1953	7.4
HYDE	SR1311	CANAL	1958	10
IREDELL	SR2402	CREEK	1959	7
JACKSON	US23BUS.	SCOTT CR.,SOU.RR	1939	4

Source: NC Department of Transportation, Asset Management Branch

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## Lowest Rated Bridges for North Carolina's Counties—Cont.

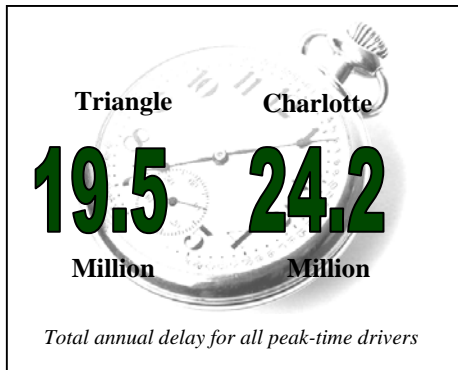
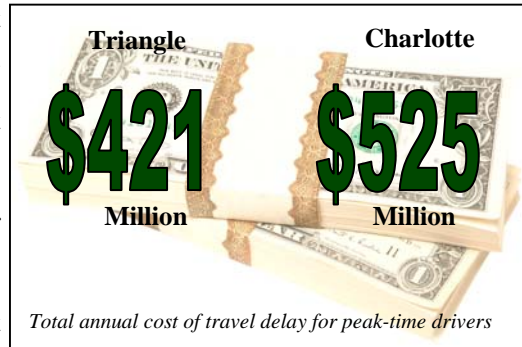
County	Route	Across	Year Built	Sufficiency Rating
JOHNSTON	NC42	NEUSE RIVER	1939	4
JONES	SR1319	MUSSELL SHELL CREEK	1975	39.4
LEE	US15,501, NC87	DEEP RIVER	1949	18.8
LENOIR	SR1515	GROUNDNUT CREEK	1966	22.1
LINCOLN	NC150	RELIEF	1955	12
MACON	SR1635	MIDDLE CREEK	1964	7
MADISON	SR1318	LITTLE CREEK	1951	7
MARTIN	SR1501	SWEETWATER CREEK	1965	11.6
MCDOWELL	SR1103	CATAWBA RIVER	1947	7
MECKLENBURG	SR3135	GREASY CREEK	1953	6
MITCHELL	SR1140	BEAVER CREEK	1959	4
MONTGOMERY	NC109	ROCK CREEK	1921	25.4
MOORE	SR1864	LITTLE RIVER	1961	24.3
NASH	SR1001	TOISNOT SWAMP	1952	3
NEW HANOVER	SR2812	SCL RR	1934	2
NORTHAMPTON	SR1505	WILDCAT SWAMP	1965	26.4
ONslow	SR1003	MILL SWAMP	1941	26.1
ORANGE	SR1730	OLD FIELD CREEK	1953	14.9
PAMLICO	NC55	TRENT CREEK	1960	17.9
PASQUOTANK	US17	KNOBBS CREEK	1940	5.3
PENDER	SR1332	BRANCH OF LONG CREEK	1937	5.5
PERQUIMANS	US17 BUS.	PERQUIMANS RIVER	1929	7.3
PERSON	SR1112	SOUTH FLAT RIVER	1955	11.4
PITT	SR1565	TAR RIVER OVERFLOW	1954	4
POLK	SR1138	BRANCH	1960	7
RANDOLPH	SR2106	LITTLE POLECAT CREEK	1963	13.4
RICHMOND	NC73	NAKED CREEK	1952	37.1
ROBESON	SR1723	COLD SWAMP CREEK	1961	4
ROCKINGHAM	SR2351	HAW RIVER	1964	14.1
ROWAN	SR2048	SECOND CREEK	1955	4
RUTHERFORD	US221	BROAD RIVER	1939	7
SAMPSON	SR1320	BRANCH OF COHARIE	1963	5
SCOTLAND	US15/US501	JUNIPER CREEK	1930	8
STANLY	NC73	LONG CREEK	1912	7.4
STOKES	SR1001	CREEK	1951	16.6
SURRY	NC104	JOHNSON CREEK	1955	7
SWAIN	SR1103	SILVERMINE CREEK	1963	9
TRANSYLVANIA	SR1316	FLAT CREEK	1960	7
TYRRELL	NC94	NW FORK ALLIGATOR	1954	31.8
UNION	NC218	GOOSE CREEK	1950	4
VANCE	SR1120	BED BUD CREEK	1967	13
WAKE	SR2217	BEAVER DAM CREEK	1948	5
WARREN	SR1304	HAWTREE CREEK	1955	17
WASHINGTON	SR1122	MAIN CANAL	1964	35.5
WATAUGA	SR1153	CREEK	1967	4
WAYNE	SR1537	NAHUNTA SWAMP	1951	13.5
WILKES	SR2488	MORAVIAN CREEK	1961	5
WILSON	SR1514	SWAMP	1940	21.2
YADKIN	SR1502	NORTH DEEP CREEK	1963	10.8
YANCEY	SR1395	BALD MTN CREEK	1951	6

Source: NC Department of Transportation, Asset Management Branch

## Traffic Congestion and Mobility

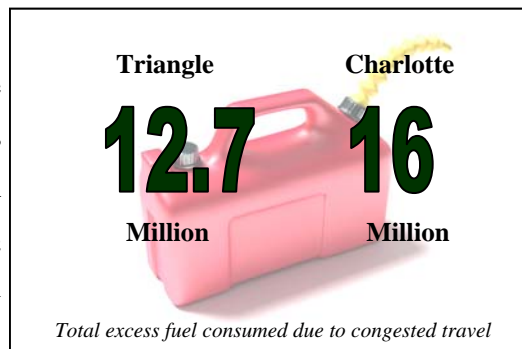
As opposed to the national trend, delays from traffic congestion are only getting worse in our state. While the recession has meant a decline in drivers and in the amount of time driven nationally, according to the Texas Transportation Institute’s *2009 Urban Mobility Report*, North Carolina drivers wasted more money, time and fuel sitting in traffic.

The causes of traffic congestion vary from state to state but typically fall into three categories; including: too many commuter and freight vehicles on highways and roads at peak times; insufficient capacity for the road system to handle the number of peak vehicles; and, irregular or unexpected delays that vary such as wrecks, breakdowns, poor weather or improperly timed traffic signals. The last category is more difficult to address but would be alleviated by changes in the number of vehicles or capacity.

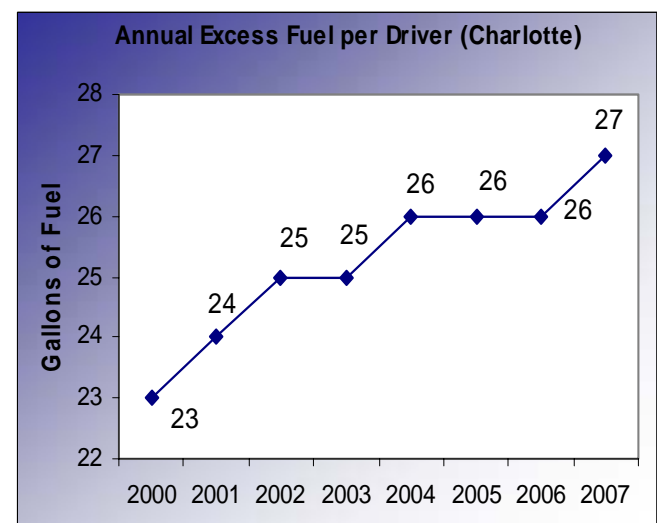
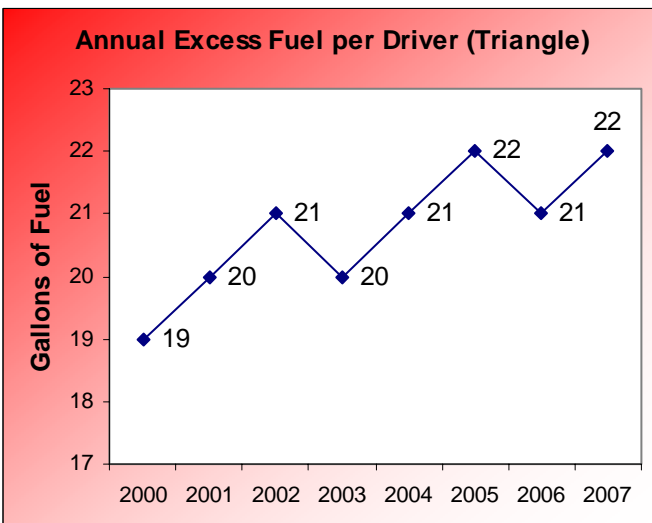
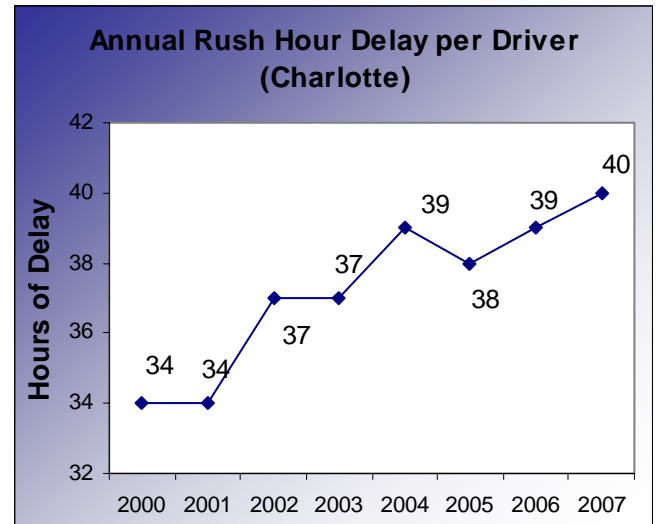
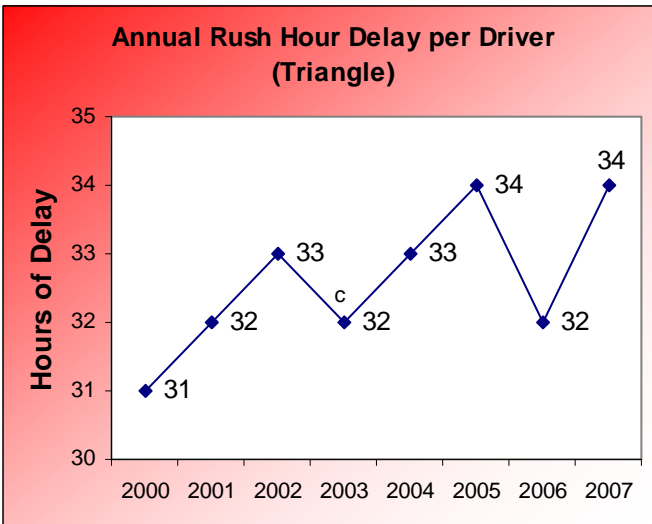
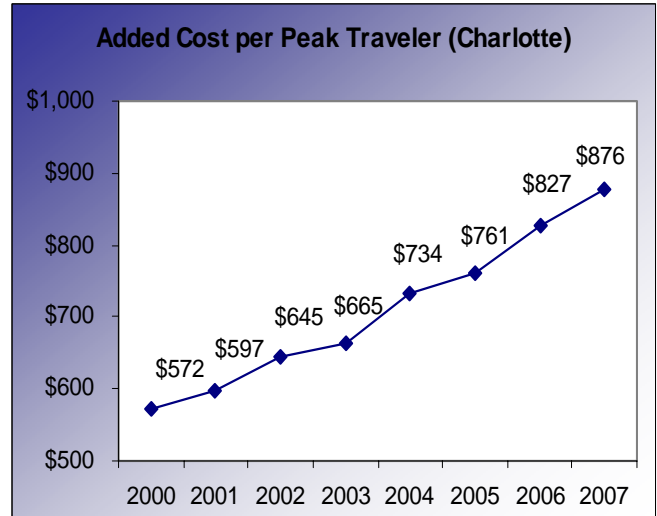
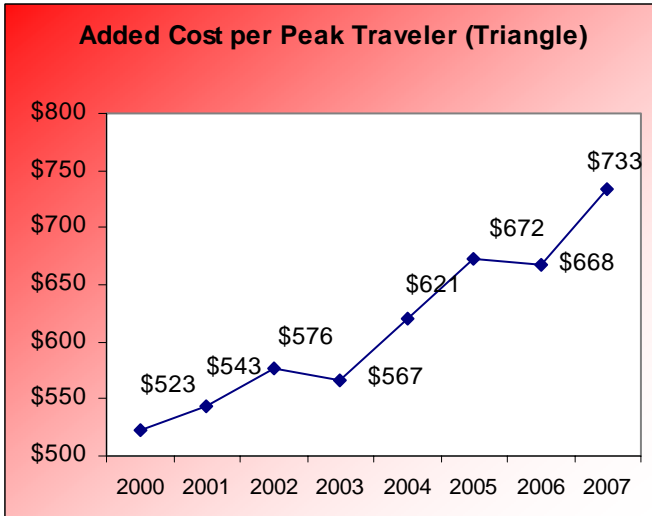


But what are the impacts of traffic congestion? There are both individual and societal impacts that affect economic development, safety and the environment. First, traffic congestion impedes the efficient movement of commuters or employees, goods and services. To businesses delays mean increased costs and time lost. When severe enough, they impact the decision of businesses to stay or locate to a congested region. No business will choose to locate in an area where their employees cannot get to work in a timely manner or where costs rise and fall on the whim of traffic jams. And, attracting employees is a challenge in highly congested areas. In a nutshell, economic development is adversely impacted by increased traffic congestion.

The environment suffers as well when vehicles sit in traffic, idling their engines. Carbon dioxide and other pollutants are emitted at higher levels from idling vehicles which run less efficiently, plus the operating time is longer due to delay. A car driving less than 5 mph emits about twice as much CO<sub>2</sub> as one operating at 30 mph—a typical average local speed for a commuter.



While there is a considerable societal cost to traffic congestion, there are also individual costs shouldered by drivers stuck in traffic. Data available from 2000-2007 for the Triangle and Charlotte regions convey the costs to drivers in wasted money, time and fuel.



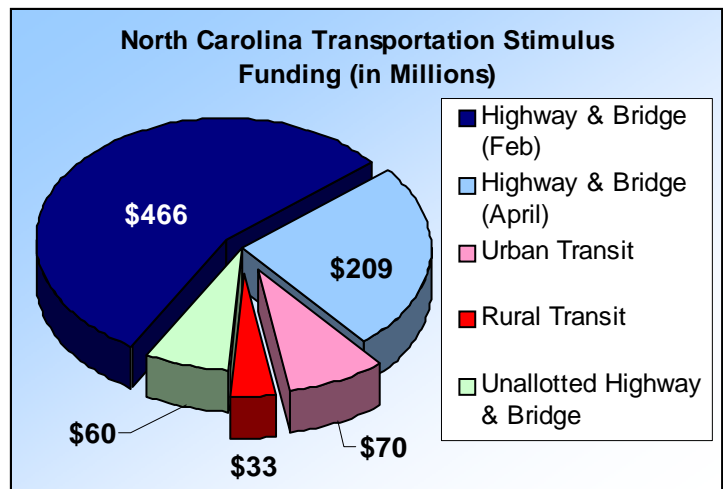
Source: Texas Transportation Institute, 2009 Urban Mobility Report; (<http://mobility.tamu.edu/ums/>)

## Transportation Stimulus Funds in North Carolina

Thanks to the proactive efforts of Governor Beverly Perdue and the NC Department of Transportation, our state was well-positioned in the race for stimulus money—determining ahead of schedule projects that met the criteria established in the legislation. Those criteria included projects that were “shovel-ready” or quickly executable as well as ones that create and sustain jobs.

With the signing of the American Recovery and Reinvestment Act into law in mid-February, North Carolina was put on the road to receiving \$838 million in federal funding for transportation projects. Unfortunately, given the projected revenue shortfall of more than \$300 million per year, stimulus funds will only be plugging holes for three years—rather than truly creating new jobs.

Regardless, the money is helping to preserve many jobs throughout the transportation construction industry and related businesses. Transportation funding might be received initially by major contracting firms, but it flows downhill to engineers, equipment and material suppliers, banks and law firms. All of these companies spend locally, using other services, restaurants and businesses within their communities. It is estimated that every \$1 invested in transportation construction yields a seven-fold economic return.



In February, DOT identified about 70 highway and bridge projects in counties throughout the state, totaling about \$466 million. In April, an additional 64 projects, totaling about \$209 million, were announced. Combined, the highway and bridge projects to date total \$679 million.

Stimulus funds were also provided for public transportation with 140 transit projects across the state receiving recovery money. Twenty-one urban transit systems will receive \$70 million for 77 projects while rural areas of the state will receive \$33 million for projects. In total, these projects are expected to create or retain more than 3,200 jobs.

## What’s Next: Sustaining Funding and the Transportation System

North Carolina must adequately prepare for the future. The expected growth in population will mean more people and goods on our roads, rails, airports and public transportation. To prepare, several key things must occur, including:

- Find sustainable, equitable revenue sources
- Shift more drivers to transit—free road capacity for more freight/business
- Plan smarter; create population-dense areas that justify system expansion

### User-Pays Models

The best way to gauge use is to account for how much of any product is consumed. For highways and bridges, that equates to the miles driven and bridges crossed. As a first step, the most equitable means to measure is with a Mileage Consumption Fee or Vehicle Miles Traveled fee based on a driver’s actual use of roads.

Tolling is a good example of this measurement but is confined to set roadways, not general roadway usage. However, the concept is the same—for the amount you use you are charged the same as another driver, regardless of your vehicle’s fuel efficiency.

Critics of the mileage consumption fee point to the current motor fuels tax as a simpler program that already gauges usage. At best, the gas tax is an approximation—one which is also declining as fuel efficiency improves. In fact, with every gain in fuel economy we pay less per mile to drive the same mile of road. At the same time, building or maintaining that mile of road is becoming more costly.

<b>Current 29.9¢ per Gallon Gas Tax</b>				
	<b>MPG (Combined)</b>	<b>Annual Mileage</b>	<b>Total Fuel Purchased</b>	<b>Total Revenue Contributed</b>
<b>Honda Accord Sedan</b>	<b>22</b>	12,000 miles	545 Gallons	<b>\$163</b>
<b>Chevrolet Tahoe</b>	<b>16</b>	12,000 miles	750 Gallons	<b>\$224</b>
<b>Toyota Prius Hybrid</b>	<b>45</b>	12,000 miles	266 Gallons	<b>\$80</b>
<b>Mileage Consumption Fee 1.25¢ per mile = \$150 per vehicle</b>				

The question simply put is “what’s fair?” Should I pay less than you because my car has a higher MPG and therefore uses less gas? Are you using more of the product in terms of roads or bridges? The answer is no. Unfortunately the current system gauges fuel use, not road use. And in the not-to-distant-future, there will be Chevy Volt electric automobiles hitting the roads—estimated to get more than 200 MPG. They won’t use any gas, so how will those drivers contribute to the maintenance of the roads they drive?

Vehicle fuel economy does not impact wear and tear on roads, where miles driven and vehicle weight do. Whatever system is used should factor both and not rely on the motor fuels tax. A combined formula factoring vehicle weight, miles driven and a percent fee would be the most equitable and realistic measure of use and wear.

### **Other Concepts**

Other transportation revenue alternatives that should be on the table for policy makers in our state include congestion pricing, interstate tolling and public-private partnerships. Congestion pricing would help to both raise revenue for traveling at peak times in dense areas as well as help moderate the flow of traffic. As our society becomes more connected through technology and our workplace becomes more globally focused, the traditional nine to five workday is getting flexible. There is more freedom than ever before to use tools like congestion pricing to encourage drivers to be flexible and avoid congested routes during peak times.

Interstate tolling—specifically along the I-77 and I-95 corridors could raise millions of dollars from the motorists and trucks that pass through North Carolina, using our roads, often times without purchasing gas and thereby paying no motor fuels tax. To capture that lost revenue on high-volume interstates, tolls could be placed with discounts or tax credits for local North Carolina drivers—citizens that use targeted interstates in their local commutes.

With public/private partnerships, sections of roadways, bridges or other transportation projects are turned over to a private entity to operate in exchange for up front payments or potentially a share of revenues. The benefit of public/private partnerships is that money is given to a state upfront—as opposed to accrued throughout the life of a toll project. Costs to operate, maintain and improve the project are the responsibility of the private partner, as are toll setting and collection. The public partner (the state) would still have broad oversight of the project—to ensure safety, compliance and that the project meets customer approval. As with tolling, public/private partnerships can help finance projects that would otherwise take decades to complete.



On a smaller scale, taxes on vehicle purchases (the Highway Use Fee) should be brought in line with surrounding states. Simply increasing the fee from 3 percent to 3.5 percent would generate about \$100 million. Fees for registering passenger vehicles should also be increased by a total of \$30 over a three-year period which would generate \$65 million per each \$10 increase. Lastly, officials could raise transportation revenue by eliminating the \$1,000 cap placed on commercial vehicles for the Highway Use Tax. Commercial vehicles have greater per axle weight—the greatest determinant on road wear and tear. According to a study from the Transportation Research Board, the National Academy of Sciences and AASHTO (American Association of State Highway and Transportation Officials), one 80,000 pound tractor trailer truck does the same damage to roads as 9,600 passenger vehicles.

### **Summary: Which Road Will North Carolina Take?**

Before we know where our transportation system will end up, difficult decisions must be made by elected leaders and by their constituents—the voters/taxpayers. One course is to invest wisely and base revenue collection on actual usage. Doing so would invariably mean higher costs—more fees and taxes—but charges that more accurately reflect the true costs to maintain and improve our transportation system.

The other path is to do nothing and stick to revenue systems that are outdated and will soon be obsolete with the adoption of electric cars. Many lawmakers and citizens complain that taxes are too high or there is too much waste, but the truth is there are more people using the transportation system and costs have increased faster than revenue. Our state's Department of Transportation has made great strides and should always seek to operate more efficiently. But, even if the organization cut an astronomical \$100 million per year in costs, it would still lag far behind in needed revenue.

Doing nothing is not an option—not for a growing state. Failure to invest in transportation infrastructure is bad for safety, quality of life and economic development. Transportation construction generates jobs and money for local communities. A sound system that offers good mobility—highway, transit, pedestrian/bicycle, airport, etc.—is attractive to businesses and individuals outside of North Carolina and helps our state compete with other growing areas.

**You get what you pay for.** We can either pay our fair share and invest in a safe, efficient system with options for mobility or stick with a revenue paradigm created in the 1920s and updated in the 1980s. The North Carolina transportation system of 2010 deserves more vision from our leaders and citizens.