Distributing Transportation Funds

Testimony of
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Joint Transportation Oversight Committee
North Carolina General Assembly
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Introduction and overview

Committee Members, good afternoon. My name is **Joseph Coletti**, I am the director of health and fiscal policy studies at the John Locke Foundation. It is our pleasure to submit testimony today regarding North Carolina's processes for distributing highway funds. This is a topic that we have researched and commented on at numerous times in the past. Today we want to express our thanks to the Committee on its action to review this issue, and offer suggestions for amending the processes so that they meet our modern circumstances.

I will keep my remarks brief and focused on recommendations, but will augment them with written testimony that covers:

- The status of NC road condition and congestion
- Major challenges ahead
- Sub-state funding formulas
- How these formulas affect our ability to meet the challenges
- Recommendations for your consideration.

Our central finding, probably at variance with those of many, is that *this is NOT fundamentally a question of where or how to find new money, but rather how to select road projects that best meet the needs of the state.* Changes in funding formulas are probably warranted (and we suggest several below) but short of that, *we can make great progress in meeting our road needs by applying the current formulas judiciously, and selecting projects by merit, within the 7 distribution regions.*

System Status

North Carolina has (as of 2008) the Nation's *largest* state-administered road system, over 80,000 miles. Unlike most states, we have no county-owned road system, relying on our municipalities for management of urban roads and the state for intra-urban roads.

Although much has been written about road conditions and road needs recently, much of it negative, it may come as a surprise that *by independent accounts our road system has been improving since the early 2000's, after years of decline in national*

ratings. The Reason Foundation, a Los Angeles good-government think tank, publishes the only independent comprehensive long-term comparison of road conditions in the 50 states. This 19-year series, which originated here in North Carolina and which the John Locke Foundation sponsored for a number of years, shows that, after many years of decline, we are now making improvements[1]. The following table shows the basic data. The key points:

- We have the largest state-owned road system but the 9th largest road budget.
- Road funding has increased almost 20% since 2002. However, we have decreased attention to maintenance, relative other needs. This hurts us in the long term
- On a per-mile basis, we are the bottom 3-5 states in road funding. This means that we have to stretch our road dollars further than most states.
- By most measures, we have improved our system, both relatively and absolutely since 2002. Our interstates are smoother, our roads are safer, and our congestion is improved. We have even made progress in bridge repairs.

Table 1: Trends in North Carolina's Road Performance

Statistic	2002 (Rank)	2008 (Rank)
State-Owned Miles	79,265 (2nd)	**80,214 (1st)**
Total Budget, $B	$2.865 (10th)	**$ 3.425 (9th)**
Capital/Bridge Expenditures, per Mile	$22,800 (3rd)	**$ 25,900 (5th)**
Maintenance Expenditures, per Mile	$7,200 (4th)	**8,400 (4th)**
Rural Interstate, Percent Poor Condition	7.7 (44th)	**1.7 (35th)**
Urban Interstate, Percent Poor Condition	10.6 (42nd)	**2.1 (24th)**
Rural Other Princ Art, Percent Poor	1.7 (45th)	**0.4 (27th)**
Urban Interstate, Percent Congested	74.9 (47th)	**60.9 (42nd)**
Bridges, Percent Deficient	31.2 (37th)	**30.4 (41st)**
Fatal Accident Rate, per 100 mil miles	1.70 (30th)	**1.41 (34th)**
Rural Other Princ Art, Pct Narrow Lanes	12.7 (33rd)	3.9 (21st)
Overall Rating	**36th**	**21st**

We still have a long way to go on accident rates, bridge conditions, and road surface conditions, but we are making progress. For that our state should be justifiably proud.

But these improvements have not come without a cost. As we focused on stewardship, one effect is that many major projects are not getting funded or delayed. It is this delay more than anything that has raised the focus of major project funding and our equity formulas.

Major Challenges Ahead

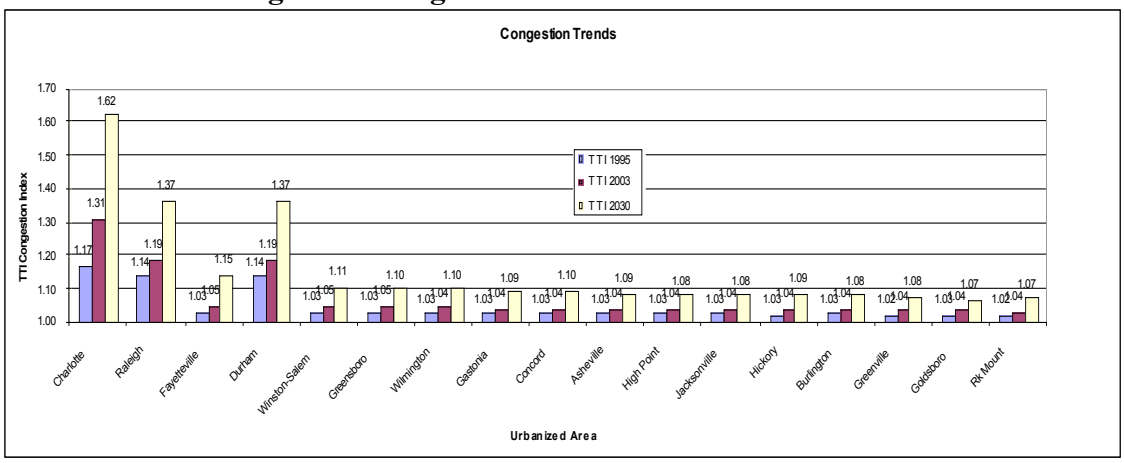
- *Improving our economic health*. North Carolina is in dire economic straits, and unemployment approaches 13 percent in several of our regions. On the other

[1] Reason Foundation, 18th Annual Report on the Performance of State Highway Systems, Policy Brief 380, December 2009. Available at www.reason.org.

hand, we have historically been favored with superior transportation access, which has helped us attract and hold employers. Far from being a luxury we can delay work on, our road system is a key element in our economic recovery. We can do this primarily through the greater efficiency offered by the resulting better system, and to a lesser extent by the jobs needed to make transportation improvements.

- *Dealing with traffic growth and congestion.* Most growth in traffic will be on the Interstate system and in the suburbs of metropolitan regions, and on major long-distance routes such as I95. Increasing congestion will slow travel times and increase delays, dragging the states economy. Funds for transit service will have no significant effect on urban access. This graphic shows how the state's major regions will see increasing congestion over the next two decades[2]:

Figure 1: Congestion Trends for North Carolina*



*based on the Travel Time Index, a widely used measure of congestion.

These two challenges are related: without good smooth access, our economy will falter. Table 2 shows the effect of removing major congestion from our regions, about $ 850 M annually. This is a substantial share of the State's economy. While we cannot, and should not, remove all congestion, dealing with the worst of it will strengthen our economic hand.

Table2: Economic Impact of Congestion Relief in NC Regions

Region	Total Economic Impact $M 2005	Total Impact as % of Gross Regional Product
Charlotte Region	484.464	0.80
Raleigh-Durham	278.506	0.59
Triad-Burlington	44.088	0.10
Fayetteville	18.814	0.18

[2] D. Hartgen, Traffic Congestion in North Carolina: Status, Prospects and Solutions. A report to the John Locke Foundation, March 2007. At www.johnlocke.org.

Wilmington	11.759	0.19
Asheville	5.710	0.09
Coastal Plain	5.609	0.07
Hickory	3.791	0.06
Jacksonville	1916	0.04
Total	**$ 854.658**	

This estimate may be very low. A recent study[3] of North Carolina's road system estimated that NC citizens waste $ 5.7 B annually in lost time, lost fuel, and vehicle repairs due to poor roads.

- *Pavement condition on the lower systems.* The improved performance of the upper-level road systems suggested by Table 1 belies the worsening condition of many secondary roads. Most reviews of the lower road systems show them to be in worse shape than the higher systems[4]. Basically, the state is one 'Hurricane Floyd' away from a major deterioration of secondary roads. Increasing truck traffic will damage pavement more, proportionally, than cars.

- *Balancing 'expansion' and 'maintenance'*: Our large system requires extensive maintenance, which increases as it ages. As our maintenance needs increase, our limited funds will require hard choices.

- *Bridges*. The 'Achilles Heel' of our system, our high percentage of deficient bridges and a large bridge inventory, will increasingly require attention. Over 30 percent of our bridges are rated deficient, and 1/7th have structural deficiencies[5]. We have no serious plan to fund these needs, even for large major bridges which are aging, such as the I-85 crossing of the Yadkin River. If one of our major bridges were to fail, as recently happened in Minneapolis, the impact on our economy would be catastrophic.

- *Options for more funding are limited.* North Carolina has the 6th highest gasoline tax in the Nation and the highest in the southeast, and at $ 0.30/gallon, we have very little 'upside'. But increasing car and truck fuel efficiency, a good thing in itself, will slow revenues to our highway funds, even as travel increases. Toll roads may cover some limited needs, but most toll road proposals are not viable with current traffic volumes, and tolls generally cannot be used for other roads, limiting their potential statewide to probably less than 3% of revenues. Periodic federal 'infusions' such as from the Stimulus package, have added some funds, about $ 735 M, but these are essentially replacements for declines in fuel revenues and are unlikely to be continued. Increased other federal funds are also unlikely, and competition for federal funds is fierce. Special funds such as 'earmarks' are

[3] The Road Information Program, The future of North Carolina's transportation system, March 2010. Available at www.tripnet.org.
[4] Tom Kuennen, At a crossroads: the fate of our secondary roads, Better Roads, March 2010.
[5] TRIP report, Ref. 3.

also increasingly unlikely. Per-mile use taxes, such as VMT taxes, are probably some time off and are merely a substitute for fuel taxes.

- *Antiquated fund allocation.* For our major fund categories (STIP and Loop), funds are allocated not by need but by geography. This was necessitated by the needs of the State, as seen in 1989 when the program was established. But in our modern era, the result is a perceived 'rural' bias that twists project selection and leads to public skepticism.

Funding formulas

North Carolina allocates funds to sub-regions of the state in a variety of ways. There are actually 8 major funding programs, several with multiple formulas, described in Table 3.

Table 3: North Carolina Highway Funding Distribution Formulas

Program	Distributed To	Basis of Distribution	Formula Proportion	Variables used for Distribution
1. STIP, Intrastate (and "Moving Ahead", but excl Loops)	7 Distribution Regions	1st 90 Pct of Intrastate System Completion	25 % 50 % 25 %	Miles to complete Intrastate Population 1/7th each
		Last 10 Pct	66 % 34 %	Population 1/7th each
2.Urban Loops	Named Routes	Discretional	100 %	Project Status
3.Primary: Maintenance	14 DOT Divisions		100 %	Lane-miles
4.Secondary: Construction	100 Counties	First $68.67 M annually	100%	Unpaved secondary miles
		Remainder	100%	Unpaved sec miles > 50 ADT
5.Highway Bonds, 1996	100 Counties	All	100%	Unpaved sec miles > 50 ADT
6.Secondary: Maintenance	100 Counties	All	90% 10 %	Paved miles Population
7.Urban Maintenance	14 DOT Divisions	All	50 % 50 %	Urban Lane-miles Population
8.Contract Resurfacing	14 DOT Divisions	All	50 % 37.5 % 12.5 %	Pavement needs Lane-miles Population
	100 Counties	All	50 % 37.5 % 12.5 %	Co pavement needs Secondary paved miles Co population

Most of these formulas allocate funds according to system length or population. Only one (#8, Contract Resurfacing) allocates funds on the basis of needs. Because most major projects are funded from the first two categories, most attention centers on the formulas for the STIP and the Loop fund.

Federal law stipulates that, in order for highway projects to receive federal funding, they must be on the approved State Transportation Improvement Program (STIP). This is a biennial list of projects that the State intends to implement over the next 5-7 years. The STIP is approved by the Board of Transportation, but within metropolitan regions (17 urbanized areas over 50,000 population) Metropolitan Planning Organizations play a key role in recommending projects for their local TIPs.

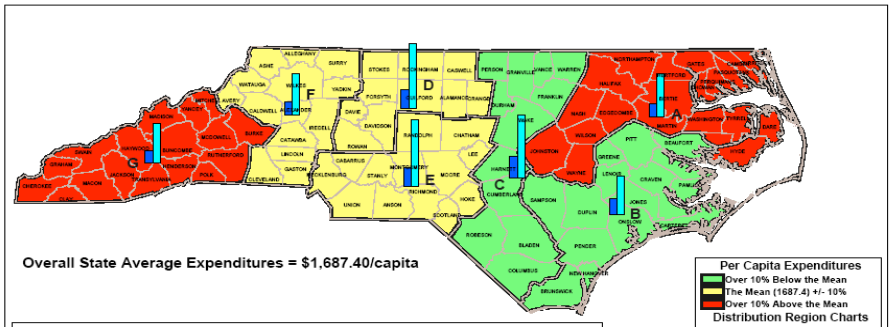
In 1989 the State established an Infrastructure Program with the goal of bringing 4-lane roads to within 10 miles of 90 percent of the State's population, and paving 20,000 miles of (then) unpaved rural roads. Originally funded at about $13 Billion, the program was expanded in the mid-1990's to fund "Loop" roads around urban areas.

For the major program (STIP and Intrastate), funds are distributed geographically using population, miles to complete the Intrastate System, and equally by Distribution Region. (About 76 percent of the 3000-Intrastate System is complete or fully funded). *Needs-based data such as congestion, condition, accident rates, traffic or other measures of need are not used in funding allocations.* For the Loop fund, the distribution is *discretionary* based on status of each loop.

Therefore, it is not surprising that almost 2/3 of the highway expenditures fund allocations are not allocated by population (per-capita). This is true regardless of the geography: Distribution Region, DOT Division, or County. Our analysis of the differences in distributions, conducted 2004[6], found that the disparity in funding, per capita, between distribution regions, was about 2-to-1, as indicated in the following figure.

Figure 2.6
NORTH CAROLINA HIGHWAY (TIP + LOOP) EXPENDITURES (1990 - 2003)

DOT Distribution Region Per Capita Expenditures vs.
Board Membership by Year (1985 - 2004) and Total Expenditures (1990-2003)



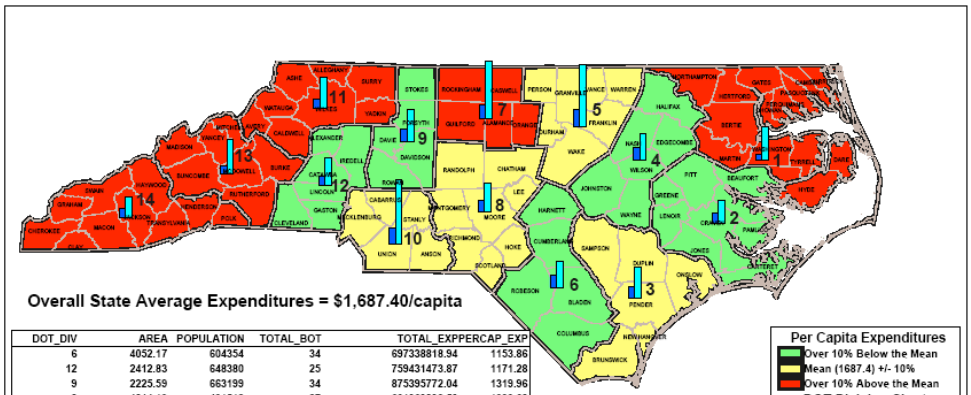
DIS_REGION	AREA	POPULATION	TOTAL_BOT	TOT_EXP	PERCAP_EXP
C	7355.33	1649821	82	2383506640.81	1444.71
B	8691.19	965623	61	1466127325.46	1518.32
F	5744.42	993917	51	1600528995.36	1610.32
D	4719.73	1448703	72	2453354325.66	1693.48
E	6649.49	1480191	73	2542074900.14	1717.40
G	7265.77	761454	44	1502038182.42	1972.59
A	8925.39	749604	52	1633900956.73	2179.69

Cartography by Greg Fields, 5-19-04

[6] John Locke Foundation, Cost-Effectiveness of North Carolina Highway Projects, 2004. Available at www.johnlocke.org.

However, funding distributions by the 14 DOT Divisions show an even wider disparity. On a per-capita basis, the highest Division allocation is 2 ¼ times larger than the lowest Division.

Figure 2.7
NORTH CAROLINA HIGHWAY (TIP + LOOP) EXPENDITURES (1990 - 2003)
Division Per Capita Expenditures vs.
Board Membership by Year (1985 - 2004) and Total Expenditures (1990-2003)

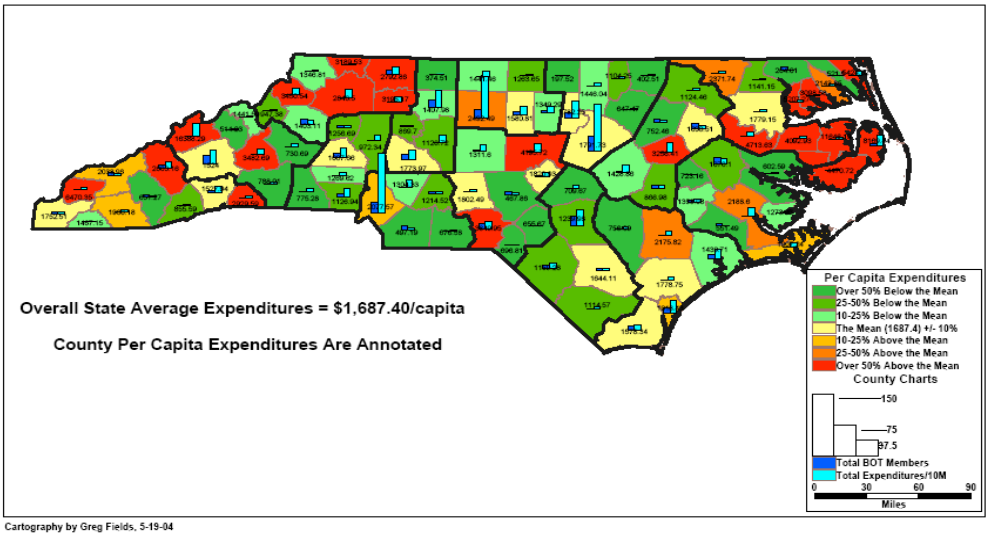


DOT_DIV	AREA	POPULATION	TOTAL_BOT	TOTAL_EXP	PERCAP_EXP
6	4052.17	604354	34	697338818.94	1153.86
12	2412.83	648380	25	759431473.87	1171.28
9	2225.59	663199	34	875395772.04	1319.96
2	4214.19	431512	27	601363298.53	1393.62
4	3507.38	509504	37	733850723.87	1440.32
5	3303.15	1045467	48	1686167821.87	1612.84
3	4476.99	534111	34	864764026.93	1619.07
10	2491.12	1033569	44	1764961149.35	1707.64
8	4158.37	446622	29	777113750.79	1739.98
14	4092.30	307830	24	572550564.03	1859.96
7	2494.14	785504	38	1577958553.62	2008.85
13	3173.47	453624	20	929487618.39	2049.03
11	3331.60	345537	26	841097521.49	2434.17
1	5418.01	240100	15	900050232.86	3748.65

Cartography by Greg Fields, 5-19-04

On a *county* basis, the disparities are even more striking**.** For the period 1990-2003, the highest per-capita allocation is for Madison County ($16388), the lowest for Person County ($197).

Figure 2.8
NORTH CAROLINA HIGHWAY (TIP + LOOP) EXPENDITURES (1990 - 2003)
County Per Capita Expenditures vs.
Board Membership by Year (1985 - 2004) and Total Expenditures (1990-2003)



Cartography by Greg Fields, 5-19-04

Although the counties with the highest per-capita allocations tend to be in the eastern and far western areas, there are also a number of low per-capita allocation counties in those areas as well. Conversely, the counties with the lowest per-capita allocations tend to be larger metropolitan counties in the Piedmont, but many are also scattered though the east and west areas. Of course, these are not the only highway funds allocated to counties, but they are the largest allocation for most counties.

How do the funding formulas affect project selection?

The use of the present STIP and Loop selection processes affects project selection in a number of ways.

- *Constrains major projects*. The Dot regularly applies the STIP formula to geographies BELOW that specified in the law. However, application of the STIP formula BELOW the Distribution Region District (i.e., to the DOT District or County) artificially constrains the selection of major projects. Since these smaller geographies do not have the annual (or even cumulative) 'formula allocations' necessary to fund large projects, those projects are delayed. A good example is Cabarrus County, which, if it had to fund the widening of I85, would need upwards of $ 300 million, many times more than its annual county 'formula allocation'. Even large counties such as Mecklenburg have trouble funding major projects, such as completion of I485, the Charlotte Loop. This results in the use of unconventional funding means, or blatant pressure to use federal earmarks or other funds, to move otherwise worthy projects forward.

- *Limited comparisons*. Funding allocations do not depend on project data, and so projects are not compared 'head to head' even within regions, let alone between regions. The result is that less-worthy projects get funded in some regions, and good projects go unfunded in others. This results in a hodgepodge of project justifications around the state, increasing public skepticism.

- *Less attention to higher systems*. Delays for major projects result in less attention being given to the major road systems, particularly the Interstate and primary system. This delays attention to important problems such as congestion relief and economic access.

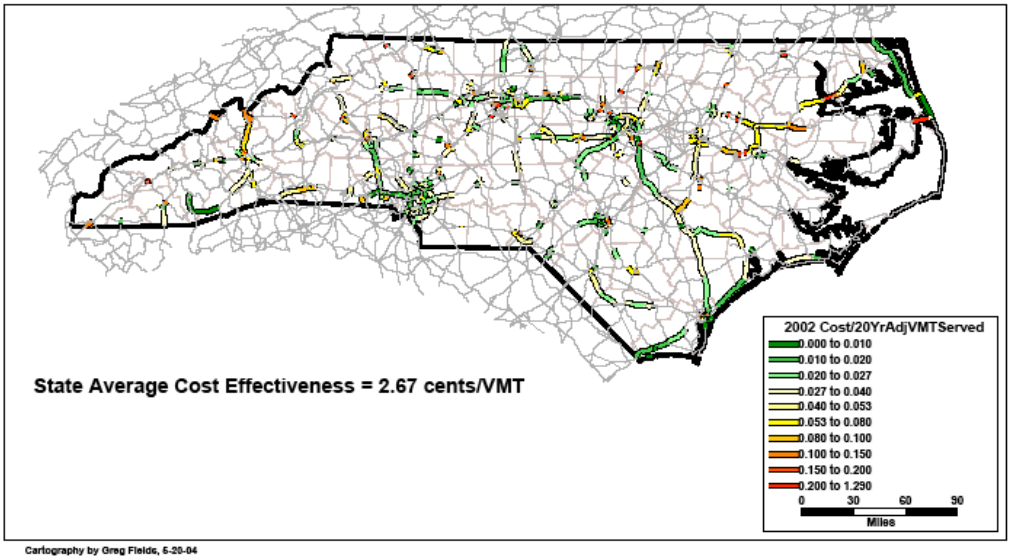
- *Appearance of favoritism*. The use of no specific measures for Loop selection increases the appearance of favoritism. The recent funding of the Fayetteville Loop, over several other loops with clearly superior measures of performance, increases public skepticism.

- *Local pressures dominate project selection*. Since projects are not compared head to head, projects are selected only within small areas, actually primarily at the county level. This limits project selection to local assessment, not necessarily the 'best' projects from a statewide perspective.

- *Encourages logrolling*. Since funds are allocated not by project by district, individual board members are left to understand the details of their projects, but not the projects of other districts. As a result, board members rely on their colleagues for the content of the STIP within each distribution region. This encourages logrolling (joint approval of entire programs). Indeed, in the last decade out of the literally thousands of individual board member votes cast for STIP projects, only a handful of individual board member votes have ever been negative.

However, this assessment should not be misconstrued to mean that all projects now being funded are unworthy. There are good projects, and bad project, all over the state. The following map shows how 346 major projects funded from 1990 to 2003 rate on a simple measure of worthiness, "cost per vehicle-mile served."

Figure 2.9
NORTH CAROLINA MAJOR HIGHWAY PROJECTS (1990 - 2003)
(349 Projects - 750 Sections)
Cost Effectiveness in 2002 Dollars



This study also found that projects costing more than 8 cents per vehicle-mile served (about 3 times the statewide average of 2.7 cents per vehicle-mile served) were concentrated in just a few types of projects, primarily new freeway exits, and new arterials. As Table 4 shows, if the most costly 15 percent of major projects were deleted, the state would save about 18 percent of its highway capital program annually.

Table 4: Potential Savings from Cost-Ineffective Projects, 1990-2003

Project Type and Description	Number of Sections	Sections with Cost-effectiveness > 8.0 Cents/veh-mile	Total Cost, $M	Cost of Sections with C/E > 8.0	Percent of Program
10. Climbing Lanes	4	0	9.9	0	**0**
6. Widen Frwy 4 to 6 lanes	39	0	340.02	0	**0**
4. Widen Frwy 4 to 8 lanes	26	0	533.42	0	**0**
9. One-Way Pairs	2	0	4.20	0	**0**
2. Widen Urban Arterial	209	17	948.77	84.76	**8.9**
5. Widen Rural Arterial	165	12	1566.62	218.74	**13.9**
3. New 4+Lane Freeway	161	42	3052.85	679.74	**22.2**
11. New 4-Lane Arterial	91	18	600.47	155.1	**25.8**
1. New 2-Lane Arterial	33	11	180.21	60.83	**33.8**
7. New Exits	20	14	99.87	69.40	**69.4**
Total/Average	**750**	**114**	**$7336.34**	**$ 1268.6**	**18.1**

So, the imposition of a cost-effectiveness criterion of about 3 times the state average (i.e. projects costing more than 8 cents per vehicle-mile would not be funded) would have resulted in less than 18 percent of the 'major projects' being deleted, if such a policy had been in place. These savings would occur throughout the State, and no region of the State would be unfairly singled out for deletion of projects.

Recent Actions

Some (but not all) of these problems have been recently addressed.

- In 2003, the North Carolina Legislature addressed the short term problem of declining funds for repairs and maintenance by authorizing diversion of funds from the State's highway capital program. The program, called Moving Ahead[i7], authorized the diversion of $630 million ($270 m in FY 2003-04 and $ 360 m in FY 2004-05) from the "cash balance of the Highway Trust Fund" for maintenance and repairs, to be allocated using the current TIP equity distribution formula. (An additional $ 70 million was allocated for transit). While the program addressed short-term highway repair needs, it did not address the structural or geographic imbalances in the program, nor did it provide for longer term solutions to funding.

- An additional problem is that the recent action expanded the diversion of highway funds to transit and other non-highway needs. This diversion, about $ 200 m annually, puts additional stress on the highway funds.

[7] North Carolina General Statute, 136-176, "An Act to Implement the North Carolina Moving Ahead Transportation Initiative", July 20, 2003.

- The Legislation also established a Commission to review highway urban needs. It found that the state was short about $ 65 Billion to meet projected needs. The recent TRIP report refers to this estimate as the basis of its needs assessment.

- In the period 2003-2008, the state has begun to experiment with other innovative funding methods, particularly toll roads and Garvee bonds. Several toll roads have been approved for implementation.

- In 2009, the Legislature authorized counties to raise local sales taxes by either ¼ or ½ cent to fund expanded transit operations. So far, no counties have implemented that provision.

- More recently (2009) Governor Perdue established another Commission to review formula allocations. The Governor also began shifting DOTs project selection process to a more numerical basis, and limiting Board Members' powers to select individual projects.

- Also in 2009, an innovative 'design-build-finance' method for financing I 485 in Charlotte was developed, which essentially transfers a portion of costs to highway contractors. Several proposals for local and state mileage taxes have also been made, and tolls have been proposed to fund the widening of I95 through the state.

These actions have helped, but not fundamentally changed, the state's transportation problems. Problems of fund magnitude and distribution remain, and are worsening as the state's economy flounders.

Recommendations

The John Locke Foundation respectfully offers the following suggestions for addressing the funding-formula issues.

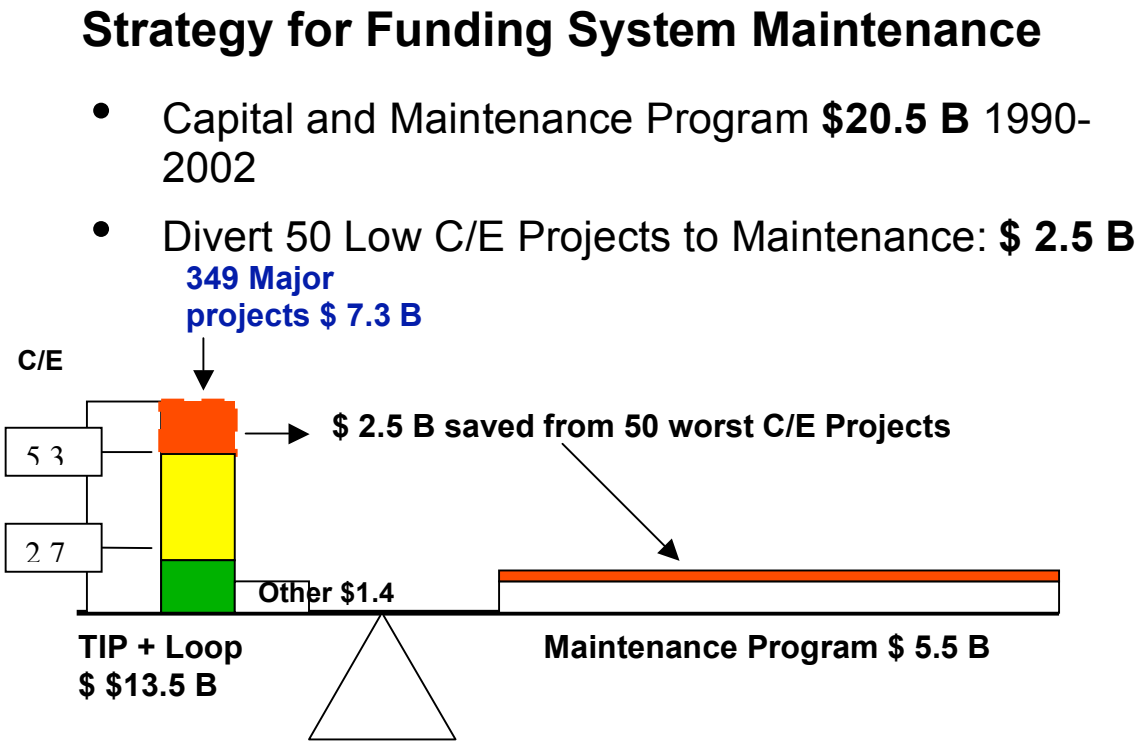
1. **Live with less, and re-focus the Highway Program on maintenance**. The events of the past several years have sharpened the State's realization that *the highway program must be re-focused on stewardship rather than ribbon-cutting. Improving, and then maintaining, system condition must be the first priority, not the last.*

   This will not be easy. Local and state officials understandably focus on major projects such as new facilities and widenings, and many of these needs are real. And the availability of federal funds for major projects but not maintenance increases the tendency to 'over-capitalize' and perhaps 'early-capitalize'. And highway maintenance funds must compete with other needs, both within transportation and in other spheres. Yet it is also clear the State must deal effectively with its highway maintenance needs.

   Instead, North Carolina should get its additional maintenance funding from shifts in priorities. The following figure summarizes the suggested strategy. This Figure suggests that *the maintenance program could have been increased*

about 40 percent by deferring or deleting the funding of highly ineffective major highway projects. This shift would have amounted to about 9 percent of the State's capital funding. In the following section we outline the procedure for selecting the worthiest projects.

Figure 6:



2. **Be very cautious about the need for additional revenue.** It is tempting to suggest that additional funds for highway maintenance should come from additional user taxes or similar. We do not believe this is wise policy. North Carolina already has one of the highest fuel taxes in the region, and further raises would hurt consumers and businesses and encourage border diversion and skip-over or avoidance by tourists, just at the time that national prices have risen rapidly. The bottom line is that *more money will not be likely forthcoming for the foreseeable future.*

   But if additional revenues are needed – AFTER other options including deleting ineffective projects have been fully implemented – the following table suggests how they might be raised.

Table 4: Potential Revenues from Major NC Transportation Sources

Tax Basis	Additional Rate	Amount Raised	Percent of Program
Gasoline	1 cent	$ 45.7 m	1.24 %
2008: 4.568 BG	2 cents	$ 91.4 m	2.47 %
	5 cents	$ 228.4 m	6.18 %
Diesel:	1 cent	$ 9.75 m	0.26%
2008: 974 MG	2 cents	19.50 m	0.53%
	5 cents	$ 48.7 m	1.32%
Sales Tax on fuel	¼ percent	$ 39.3 m	1.06%
($3.00 and $2.80/gal)	½ percent	$ 78.6 m	2.13%
	1 percent	$ 157.2 m	4.25%
VMT Tax	0.1 cent/mile ($ 15/year)	$ 100.2 m	2.72%
2008: 100.2 B	0.2 cents/mile	$ 200.4 m	5.43%
	0.5 cents/mile	$ 501.0 m	13.56%
Registration Fee	$ 5/vehicle	$ 30.1 m	0.82 %
2008: 6.03 m	$ 10/vehicle	$ 60.2 m	1.64 %

None of these options are pleasant. On balance, however, we believe that a 5-cent incremental tax on commercial truck fuel, with an exemption for pick-ups, would be the fairest method of raising modest funds. However, our surrounding states all have no diesel differential on fuel taxes (except Tennessee, which has a 3-cent diesel *advantage* (17 cents vs. 20 cents).

3. **Manage the STIP closely.**

Constrain the STIP to needed and affordable projects. Several prior reviews of the highway program in recent years have concluded that the State's TIP is too optimistic, is over-programmed, and understates future costs. Recent changes in federal rules have mandated that STIP projects be estimated for the 'year of expenditure', not current dollars; this would increase costs further. This policy (of underestimating costs) leads to inevitable funding delays and dashed local hopes as construction prices rise and funds tighten. The TIP should be a balanced document that is only slightly over-programmed accounting both for likely increases in project costs and revenue flows but also for project delays.

Review all highway fund diversions and non-pavement expenditures. An additional potential source of 'revenue' is the return of diverted funds back to the highway program. Over the past 2 decades 25-27 percent, on average, of State highway funds have been used for such purposes. In addition, a declining share of the funds being spent on highways is getting to the pavement as more revenues go into planning and other pre-construction activities. We recommend a thorough review of each of these diversions. The time has come when we must set priorities

between them and highway needs. If these activities are really important, then they should be funded from other revenue sources rather than scarce highway dollars.

Innovative financing. North Carolina should implement innovative ways of financing our transportation systems and in reducing their public costs. The State has recently moved to permit toll roads in selected situations. However, more needs to be done. In the last several years, many states, including South Carolina, have developed State Infrastructure Banks to assist local governments in road financing (thus reducing the pressure on state funds), and used GARVEE and TIFIA bonds to finance major projects. These approaches cannot solve the funding or distribution problems, but they do have their place and should be further explored.

4. **Select projects better**. This is the most critical of actions, and the least discussed and recognized. The present funding distributions, but their structure based on geography, waste both money and public trust.

   Remove geography from funding allocations, and replace it with formulas that evaluate projects rather than regions. Replace the STIP and Loop formulas with a new funding program for state highways. This should be structured into three tiers:

   1. Interstate and Primary (or perhaps National Highway System)
   2. Other state-numbered highways
   3. Other state-owned roads (generally lower level roads)

   Interstate and Primary: For the higher road system (Interstate and Primary), direct DOT to compare projects head-to-head across the state, using objective data relating to cost effectiveness, and recommend the program, which would be voted on 'en masse' by the Board (not voting on individual projects). Criteria for project selection, and recommended weights are:

   - Total savings in travel time delay (reduced congestion delay), weighted by regional values of time (30%)
   - Savings in reliability (20%)
   - Savings in operating costs (10%)
   - Savings in accident costs (10%)
   - Pavement condition (lane-miles in poor condition), (10%)
   - Increases in jobs *directly tied to project* (after construction) (10%)
   - Improvement in regional accessibility (5%)
   - Reduction in air pollution *directly* attributable to the project. (5%)

   Other potential measures of congestion include:

   - Total congestion-related delay, hours per day
   - Percent of regional VMT in 'congestion delay" (this is the federal statistic)

- Percent of Urban freeway and arterial mileage operating at a peak-hour Level of Service C or worse.

Each of these measures is available, or can be developed, for individual projects and for counties, districts, or distribution regions.

South Carolina has recently conducted a project-by-project evaluation of all projects on its STIP, with an eye to selection according to specific criteria. Its program, termed Measure One, was directed by the Legislature.

Other state-numbered highways. For other major state-numbered highways, allocate funds to the 14 DOT districts based on road mileage, population, and a measure of congestion. Further, within each region, require DOT to evaluate and select using objective criteria, similar to above. The Board would also approve the full program, not individual projects.

Other roads. For the lower road systems, use some of the current formulas (allocate to DOT districts or counties), but modify each to include some measure of need (mileage, condition, traffic).

5. **Restructure the Board of Transportation**. These actions make the DOT, not the Board, responsible for program development, but make the process open and objective, based on verifiable data.

   The Board of Transportation should be restructured, with the primary responsibility of the Board as a policy-setting group, and with significantly fewer members. About ½ the states have no Board, and those that do have generally smaller Boards, between 3 and 8 members. North Carolina has the second largest Board, behind Pennsylvania.

   Appoint Transportation Board members who are knowledgeable in transportation issues. Specifically prohibit Board Members from engaging in political fund-raising. Charge the Board with setting the state's vision for transportation, not approving projects.

6. **Apply formulas only at the legislated geography**. If the present formulas cannot be revised, for whatever reason, then as a fall-back position:

   Use the current formulas, but prohibit DOT from using a formula at a level BELOW the legislatively directed level. This can probably be done by Executive Order, since it does not require a change in the Law.

   Direct that, within each formula funding geography (e.g. Distribution Region), DOT prioritize and select projects according to worthiness, using a variety of objective and open criteria, such as those identified above. Publish the assessments and results. This could also probably be done by Executive Order.

Conclusion

North Carolina has the nation's largest state-owned road system, over 80,000 miles. Our transportation system is the backbone of our economy, providing access to jobs, schools, hospitals, airports and recreation. Without an excellent system our economic progress will be hampered, and our recovery will be stalled.

Yet we have frittered away the quality of this critical asset by not attending to its maintenance and upkeep. For years North Carolina was known as the Good Roads State, yet now that system is in danger of collapse. Although we have made progress recently, we have had to delay major projects through lack of funds, and injudicious allocation of the funds we do have. The system is under stress while we fund cost-ineffective improvements.

This situation cannot continue. Good transportation systems are critical to our economy and must provide reasonable and reliable access for all citizens everywhere. The State should act now - not later – to reverse this emerging issue. *More money is not the only issue, or even the most important issue. Spending what we have more wisely is the key, by acting to delay or delete funding for the most cost-ineffective actions and moving that money into maintenance needs.* By taking the actions suggested in this Testimony, the State can head off a significantly more serious problem in the future.

Thank you for your attention.
