HOW DO WE GET THERE? A Roadmap for North Carolina’s Transportation Future
The Southern Environmental Law Center is a non-profit organization dedicated to protecting natural resources and public health in the South. SELC works with more than 100 local, state and national groups, providing legal and policy expertise on issues related to transportation, land use, air quality, water quality, forests and wetlands. This report is part of SELC’s Land and Community Project, which promotes smart growth, transportation choice, community revitalization, open space conservation and reduction of motor vehicle pollution, including greenhouse gas emissions. For additional copies of this report, or for more information about SELC, please visit our website or contact:

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North Carolina, touted in the 1930’s as the “Good Roads State,” finds itself at a critical transportation crossroads as we close out the first decade of a new century. The path we choose for the future will have a profound impact on our economy, environment and overall quality of life in the coming years, and for future generations.

The North Carolina Department of Transportation has a budget of $4 billion a year, making it our second largest state agency. NC DOT maintains the second largest state road network in the country, just smaller than in Texas. For the average family, transportation is the second biggest expense after housing, consuming about 20% of the family budget—even more for low income households. How we meet our mobility needs clearly is one of our most important public policy issues.

Transportation has been in the spotlight recently, with the October 2007 release of a $2.5 million study by McKinsey and Co. highlighting several serious deficiencies in NC DOT’s operations. This came as no surprise to the public, as agency scandals garnered extensive media coverage, ranging from the I-40 repaving fiasco to DOT board member resignations in the face of allegations of improper political influence. A major funding shortfall, estimated at tens of billions of dollars, looms larger and larger as gas tax revenues decline and construction costs go up. In late 2008, the 21st Century Transportation Committee, a “blue ribbon” panel charged to study revenue and policy solutions, issued its report. In January 2009, newly elected Governor Perdue pledged to reform DOT and the Congress is providing an infusion of economic stimulus funds for transportation projects.

Beyond these headlines, several important trends point to the need for a new approach to transportation policy in North Carolina. For an economically and environmentally sustainable future, we must give up on the old notion that we can simply pave our way out of our problems by building more and more highway supply. A much better choice is to provide greater mobility options and start to look to “demand side” solutions in line with emerging demographic trends and consumer preferences.

First, we must come to grips with the fact that North Carolina is expected to grow by a staggering four million additional residents by 2030, one of the fastest rates in the country. This 50% increase in population will move us from the 11th to 7th largest state, surpassing Michigan, Ohio, New Jersey and Georgia. The I-85/I-40 corridor between Charlotte and the Triangle is part of the emerging Piedmont Atlantic “mega-region,” the fastest growing such area in the country. Our choice of transportation investments to accommodate this growth will profoundly influence development patterns and determine whether we can address our mobility needs for the long haul.

Second, we must acknowledge our focus on highway construction as a “one size fits all” solution has fueled a never-ending cycle of sprawl. NC DOT estimates that there are about $120 billion worth of construction projects in its 25 year plan, but only about half that amount in anticipated funds. With rapidly escalating construction costs, which have doubled since 2002, and declining gas tax revenues, this funding gap will continue to widen. Clearly, the current approach is not sustainable even from a narrow fiscal perspective. The recent economic downturn underscores the need to be making better investment choices.

Third, larger political and economic forces outside of the control of North Carolinians will shape our transportation future. New federal energy policies designed to lessen reliance on foreign oil, conserve energy and reduce greenhouse gas emissions, about one-third of which come from transportation, are on the horizon. To meet these new realities, we cannot continue to pursue transportation policies that encourage ever greater reliance on auto travel, result in ever-longer commutes and take even more of
the family budget. The public is already taking action, driving less, using public transit more and increasingly preferring closer in, mixed-use communities to far-flung suburbs and exurbs.

Related issues that must be addressed include providing affordable housing, including in gentrifying urban neighborhoods; ensuring reasonable access to jobs for all citizens; and providing mobility options for our rapidly aging population, those with special needs and those without access to a car. Equally important, we must ensure that we protect our air and water quality, and promote public health. Lack of biking and walking opportunities alone created by our infrastructure choices shortens our lives and creates a time bomb of future health care costs.

THE TRANSPORTATION CHALLENGE

We can continue with the status quo, looking solely for new revenue sources to support an out-of-date approach. Or, before we dig the hole any deeper, we can adopt new strategies that will better serve our needs for the long term. There are five identified major problem areas, and five suggested solutions, to North Carolina’s most pressing transportation challenges. Each will require some form of statutory or administrative policy reform. These include:

1. **Project Prioritization**
   We must develop an objective, transparent system to prioritize spending of limited transportation dollars based on demonstrated ability to meet established criteria for mobility, economic development and environmental stewardship. We can no longer afford to let politics influence the project selection process.

2. **Fix-It-First**
   We must set aside adequate funds, before we build even more highways, to meet the long-term maintenance and repair needs of our transportation system. This includes our vast network of crumbling highways and thousands of aging bridges.

3. **Transportation Choice**
   We must provide a multimodal transportation system with options including transit, bike and pedestrian facilities. For intercity transport, investment in additional passenger and freight rail capacity is needed.

4. **Link to Land Use**
   We must better harness the close causal relationship between transportation infrastructure investments and land development outcomes. We have huge untapped potential to increase overall mobility and improve our communities by fostering better coordinated planning.

5. **DOT Reform**
   We must ensure the effective overhaul of the DOT board structure and agency operations to improve efficiency, reduce waste and broaden approaches to mobility.

Further discussion of each of these five priorities, including common sense solutions that have been adopted in other states, is contained in the following pages.
The Problem: An Outdated Agenda to Build New Highways Where We Do Not Need Them

Double Trouble — Highway Trust Fund and “Equity” Formula

In 1989, when gas prices and construction costs were a fraction of what they are today, North Carolina established the Highway Trust Fund law, mandating that we build a massive network of urban loops, bypasses of smaller cities and four-lane roads in rural areas. This law, which has grown to include ten urban beltways and dozens of major highway expansions in less developed areas, skews our transportation investments toward a “one size fits all” approach. No comprehensive study has ever been completed, however, to justify from a traffic engineering, economic development or environmental perspective the construction of this extremely expensive highway capacity spread all over the state. In fact, this scattershot approach runs counter to the basic fact that 7% of our highway system carries 45% of our traffic and over 80% of our state’s economic activity occurs in its metro areas.

Nearly twenty years after designating a 3,600-mile highway network and ten outer beltways, the original goals of the Trust Fund law have not been realized. Instead, about 223 miles, or nearly 60%, of the outer beltway projects remain un-built and the various metro areas continue to squabble who should get the next loop segment. Also, the DOT has yet to build 900 miles, or nearly a quarter, of the so-called intrastate highway network. The Department estimates that finishing these projects would cost nearly $13 billion, and take until the year 2050. Even these estimates are likely to be optimistic given that construction costs will continue to rise over time.

Compounding the distortion in transportation planning created by the Trust Fund law, our scarce tax dollars must be spread around the state based on the so-called “Equity Formula.” This arcane system is based on the political goal to distribute funding broadly across the state, rather than prioritizing our most important needs on a statewide basis. In fact, some rural areas receive over twice the funding of major metro areas on a per capita basis, wasting money on what many consider “pork barrel” projects, while relatively starving our most congested urban areas where the vast majority of our commerce occurs.

There is no getting around the fact that the Trust Fund and Equity Formula add up to an official policy of disproportionate spending of scarce public funds on lower priority projects and promoting sprawl, and the state’s rural areas have not been shown to benefit significantly from bypassing their towns, which produces few local construction jobs and contributes to the shuttering of main streets. We must develop far more effective economic strategies to serve the needs of our economically-challenged rural communities, such as broadband access, and quit pretending that a four-lane road is the best answer, or one that we can afford.

The state’s transportation policies have contributed to urban sprawl, and the status quo solution of new revenue sources for the same types of projects will only bring more of the same. This means more congestion and more taxes for more roads, water and sewer extensions, new schools and other services. This also means more time and money spent driving or stuck in traffic, longer work commutes, and greater distances between homes, schools, shopping, and other amenities. Low-income residents, in particular, are forced to live further and further away from higher paying jobs. This pattern of development makes North Carolina’s economy more vulnerable to gasoline
price spikes, and leaves the health of over half our citizens vulnerable to the harmful effects of smog. It is also largely responsible for our rapid loss of forest, farms and natural areas, and water quality and supply problems exacerbated by polluted runoff from impervious surfaces.

In fact, a continued disproportionate investment in beltways and bypasses, to encourage even more driving, flies in the face of current demographic trends. Residents of our state, like all Americans, are now driving less. Since November of 2007, cumulative vehicle miles traveled in North Carolina have declined every month. In August of 2008 alone, North Carolina drivers logged 634 million fewer miles than the year before, a 7.1% decline. More recent national data shows that (temporarily) lower gasoline prices have not reversed the downward trend. The decline in driving, along with more fuel efficient cars, means less gasoline tax revenues to finance the construction and repair of existing roads. The Department of Transportation has acknowledged that its bridge maintenance budget already cannot keep up with the rate at which bridges are deteriorating. New highway construction only adds to these future maintenance and repair liabilities, as discussed in the next section.

Given rising energy costs, challenging economic realities, and shifting consumer demand resulting in part from a changing population, North Carolina can no longer afford the bypass and beltway approach to transportation spending. Nor can it afford to continue to spend limited, declining revenue on anything other than the highest priority projects, as measured through an objective and transparent project selection process set out in law. As both the 2007 McKinsey study and 21st Century Transportation Committee concluded, North Carolina should develop an objective system to prioritize our most important transportation investments using measurable transparent criteria.

The Solution: Objective Criteria and a Transparent Process for Directing Transportation Funding

North Carolina must replace its current system, which is skewed by the Highway Trust Fund and Equity Formula, with clear criteria to guide decision-making about how our transportation dollars get spent. This means evaluating potential projects on the basis of tangible costs and benefits, just like any business would. The evaluation process should be linked to important stated goals, such
as reducing per-capita vehicle travel (and overall carbon emissions), promoting vibrant communities, preserving farms and forests, moving freight from highways to rail, providing mobility options, job access and affordable housing and increasing economic competitiveness. Factors to be considered should include engineering criteria such as traffic congestion relief and demonstrated safety concerns, as well as documented economic development potential, compatibility with local land use goals and environmental impacts to air, water and other natural resources. While the DOT staff is already working on a new prioritization process following the release of the McKinsey recommendations, it is important that it be embedded in state law to provide a uniform tool for the DOT staff, as well as Metropolitan Planning Organizations, or “MPOs”, across the state in developing local project lists.

One important element of an effective prioritization scheme would be to include a life-cycle cost analysis of proposed infrastructure projects. This means accounting for future maintenance and repair expenses as well as initial outlays, a practice that would have helped to avoid the current severe maintenance backlog. The congestion relief criterion should be formulated to evaluate long-term relief potential, to break out of the cycle of new capacity breeding more sprawl and merely moving bottlenecks a few miles down the road. The evaluation of project costs and benefits should consider a sufficient range of alternatives to promote carefully targeted improvements such as turn lanes, access control, improved connectivity and signal synchronization, which are far less expensive and often more effective than adding lane-miles of new highway.

We do not have to reinvent the wheel to develop a sound prioritization system. Washington state law, for example, requires that spending be directed “according to factual need and an evaluation of life cycle costs and benefits,” and to “ensure the preservation of the existing state highway system, relieve congestion, provide mobility for people and goods, support the state's economy, and promote environmental protection and energy conservation.” Closer to home, South Carolina’s 2007 comprehensive transportation reform law includes a life-cycle analysis of project costs, and also considers factors such as potential for economic development, traffic volume and congestion, and consistency with local land use plans. Similar approaches have taken root in other states.

To be effective and have the full confidence of the public, the prioritization process must be transparent and allow for meaningful public participation. With a new system in place, we will no longer be reading media accounts suggesting that approval of funding for projects like the planned Fayetteville beltway, or intersection improvements in Jacksonville, reflect the interests of those with connections rather than the interests of the state’s residents as a whole.

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Beltway Sprawl

In the 1990’s Atlanta’s beltway building approach to traffic congestion reached a dead end. Continuing its aggressive highway construction program in the face of a severe smog problem led to litigation and sanctions under the Clean Air Act. This included a cutoff of federal funding for all new highway capacity. Local officials then agreed to conduct a study which cast serious doubt on a long-planned 70-mile outer beltway segment called the Northern Arc. The study concluded that building the multi-billion dollar beltway was not the best solution for easing traffic congestion, cleaning the air, or stewarding taxpayer dollars. Instead, better connectivity on the existing road network, and better coordination with local land use planning was a triple winner on cost, public health and less time stuck in traffic. The beltway project was shelved and eventually removed from Georgia’s long-range transportation plan.

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Annual Hours Wasted in Traffic per Driver, Triangle Area

Numbers for both cities come from Texas Transportation institute, 2004 Urban Mobility Study, Table 4
The Problem: The Push for New Highways Robs Needed Maintenance and Safety Funding

North Carolina’s large highway system relative to other states creates huge challenges. One is the massive backlog of unmet maintenance and repair needs for our roads and bridges, which has earned us a “D” grade from the American Society of Engineers.\(^\text{18}\) Political pressure to deliver capacity-increasing projects, which create “ribbon cutting opportunities,” makes it harder to make maintenance and repair a top DOT priority. As North Carolina’s Long-Range Statewide Multi-modal Transportation Plan recognizes, we must shift our focus away from new highway capacity, which drains away funds that could be better used for preservation and modernization.

Over 34% of North Carolina’s roads are in poor or mediocre condition,\(^\text{19}\) and over 40% of North Carolina’s bridges are structurally deficient or functionally obsolete.\(^\text{20}\) The Federal Highway Administration estimates that inadequate maintenance and repair of bridges and roads factor into 30% of all fatal highway accidents.\(^\text{21}\) Poor roads also cost North Carolina drivers an estimated $1.7 billion each year in extra vehicle repairs and operating costs—far more than would be spent for an adequate highway maintenance budget.\(^\text{22}\) And by failing to address our critical safety needs, North Carolina runs the risk of a true infrastructure catastrophe, as occurred in Minneapolis in 2007.

The backlog of needed repairs has grown at an alarming rate in recent years. The percentage of functionally obsolete or structurally deficient bridges skyrocketed from 31% in 2005 to 41% in 2008.\(^\text{23}\) North Carolina’s 2500 structurally deficient bridges have earned it a 41st place ranking in a national survey of bridge conditions.\(^\text{24}\) Yet in order for DOT to reduce the total number of bridge deficiencies, the Department estimates that it would need to replace 400 bridges annually—more than three times the number in its current plans.\(^\text{25}\) This growing liability comes as no surprise to anyone familiar with DOT’s distorted spending priorities compared to many other states. For example, under Virginia’s “Fix-It-First” law,\(^\text{26}\) that state’s DOT spends over 70% more on “road maintenance” than on “highway systems construction.”\(^\text{27}\) In contrast, North Carolina spent roughly 70% more on new highway construction than it did on highway maintenance in 2007-2008.\(^\text{28}\)
While the cost to fix all of North Carolina’s deficient bridges is estimated at over $8 billion, the 2009-2015 Transportation Improvement Plan designates only about $170 million annually for bridge replacements. Ignoring the problem will only make it worse, as delay ultimately brings heavy costs to the taxpaying public. For example, for many years North Carolina has put off replacing the Yadkin River Bridge along I-85, a critical avenue of commerce between Charlotte and the Triad and Triangle areas. In the meantime, the price tag for replacing the bridge has ballooned from $175 million to close to $400 million. Officials even refused to pursue a federal “earmark” for the project, because of the distortion created by North Carolina’s arcane “Equity Formula.” Although the Yadkin project is a top state priority, the required state funds needed to match any federal earmark would be counted against the district’s share, diminishing the funding available to address local priorities.

**The Solution:** **Require Sufficient Funds Set Aside for Maintenance and Repair**

North Carolina should follow the recent recommendation of the 21st Century Transportation Committee to adopt a “Fix-It-First” policy. “Fix-It-First” does not mean that no new capacity can be built until the state’s entire maintenance backlog is eliminated. It simply means that we should reprioritize transportation dollars to ensure that we allocate sufficient funds over time to protect our investment in the existing resource base.

Obviously, the maintenance backlog cannot be eliminated overnight. As an initial step, the 21st Century Transportation Committee recommends designating $300 million annually to bridge replacement alone. North Carolina law already requires the Department to issue a “qualitative and quantitative description” of the road system every two years. For the long term, the 21st Century Transportation Committee recommends that this be expanded to include a comprehensive system-wide preservation and maintenance program. This new approach will allow informed allocations of maintenance and repair funding to ensure the preservation and safety of the existing highway system as top priority.

There are two basic models that North Carolina can look to for a “Fix-It-First” policy. Since 1982, Michigan’s Padden Amendment has directed a fixed percentage of transportation funding to road preservation as opposed to construction. This emphasis on preventive maintenance has saved Michigan an estimated $100 million per year in avoided repair costs. Similarly, Virginia state law requires that an identified minimum percentage of transportation funds be devoted to maintenance and repair.

The other approach used in some states is performance-focused. For example, Florida requires 80% of roads and 90% of bridge pavement to meet state DOT standards at any given time. And New Jersey’s Congestion Relief and Transportation Trust Fund Renewal Act directs the DOT to reduce the number of deficient bridges and roads by at least one half. Other states, including California, Massachusetts, and Pennsylvania, are also pursuing innovative “Fix-It-First” strategies. North Carolina might consider a hybrid approach, requiring a certain percentage of funding until a defined standard has been achieved.

“Fix-It-first” does not mean sacrificing local economic benefits that flow from transportation spending. Dollar for dollar, maintenance and repair fuels more job creation than new road construction. Part of this benefit comes from the fact that the state does not have to purchase right-of-way for such projects, an expensive and sometimes controversial aspect of highway construction that generates no economic activity and removes productive land from the tax base.
While North Carolina’s explosive growth certainly creates transportation challenges, it also provides an important opportunity to look to new approaches for moving people and goods more efficiently and safely. While the state as a whole is expected to grow 50% by 2030, some of our largest metro areas are expected to double in size. In this rapidly changing landscape, it’s time to rethink our practice of relying almost exclusively on highways for our transportation needs. For our economic future and quality of life, North Carolina should dramatically increase its investment in transit, including light rail and bus, intercity passenger rail and rail freight options.

With demand for public transportation growing nationwide, 48 of our 50 largest metro areas are currently planning to build or expand their transit systems. Passenger rail is also undergoing a renaissance in corridors across the country. Spurred by rising fuel costs, rail freight is steadily increasing too, and is expected to more than double in the next 25 years. Investment in these modes will save energy, lower transportation costs, provide access to jobs, reduce congestion, cut greenhouse gas emissions, preserve natural resources and help create vibrant communities.

Backed by the strong recommendation of the 21st Century Transportation Committee, in the spring of 2008 a comprehensive bill was introduced in the North Carolina General Assembly to provide enhanced funding for transit, intercity passenger rail and rail freight across the state. While the bill did not move out of committee in the session, there is another opportunity in the 2009 session with another set of comprehensive intermodal bills, H 148 and S 151. We can not afford to delay any longer in providing mobility options that will help us remain economically competitive and address our growth challenges.

### TRANSIT

While over 70% of North Carolinians want us to invest in public transportation according to a recent statewide poll, currently it only accounts for about 3% of DOT’s budget. While the goal in North Carolina’s Long Range Transportation Plan is to increase this figure to 12% by the year 2030, we lack a financial commitment, or even a plan, to get there. In fact, local bus service in many areas is experiencing cutbacks due to inadequate funding, despite the fact that demand is surging. Lack of transit options in both urban and rural areas has a disproportionate impact on many of our elderly, disabled and low-income citizens who have no other choice. The percentage of the population that consists of these “needs-based riders” far exceeds the percentage of transportation funds we currently spend on transit. When the percentage of potential riders who would use transit if it were conveniently available is added, this “mobility gap” becomes a gaping chasm in our funding mix.

The vast majority of North Carolina’s growth is concentrated in our largest urban regions, making transit expansion an attractive option here. During this decade 66% of the projected population growth will occur in the 15 urban counties surrounding Charlotte, the Triangle, and the Triad. Under our current approach, this rapid urban area growth greatly taxes resources, drives up the cost to local governments of providing public services and contributes to our rising congestion.

At this time only the Charlotte metro area is moving forward with construction of a light rail system and other major transit investments, including bus feeder lines, to serve five major corridors. In 1997 Charlotte voters passed a half-cent sales tax to make this possible, which was resoundingly reaffirmed by referendum in 2007 with 70% citizen support. The initial “Blue Line” of the Charlotte Lynx system has been hugely successful, already exceeding

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The “MOBILITY GAP”

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<th>DOT 2008 Funding Allocation</th>
<th>Percentage of NC Residents</th>
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<td>Current DOT Spending on Transit</td>
<td>Estimate of Needs-Based Riders*</td>
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<tr>
<td>Potential Choice-Based Riders**</td>
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* Source: 2000 US Census data of North Carolina households without access to a car and 2009 Harris Interactive Poll of elderly and disabled respondents who report inadequate access to transportation.
** Source: Elon University Poll. Public attitudes vary on solutions to traffic woes (2008)
projected ridership for the year 2025. In addition, public investment in the first line has so far attracted about $1.8 billion in private real estate investment activity.

Meanwhile, efforts to bring light rail to the Triangle have sputtered amid changed federal guidelines and other funding challenges. The Triad and other metro areas are starting to plan for improved transit, but the legislature has yet to take final action to boost these efforts. It is past time for North Carolina’s other metro areas to follow Charlotte’s successful example and embrace public transportation expansion. To be successful, this must include not only light rail, but also a robust feeder system of buses, as well as bicycle and pedestrian options. Transit funding for metro areas should be linked to meeting related goals including appropriate land use planning and the provision of affordable housing. In addition, rural areas should be provided funding mechanisms to expand commuter buses and para-transit capacity.

The transit bills introduced this year, H 148 and S 151, provide a mechanism for approval of local funding for expanding transit across the state. A comprehensive bill for transit should be adopted this year to address the compelling need for light rail and other transit improvements in what will soon be the seventh largest state. We simply cannot afford to be the only one without this choice for our citizens and businesses. And we will be leaving more and more federal dollars on the table the longer we delay, as shown by the reduced percentage of potentially available stimulus funds that came to North Carolina for transit projects.

INTERCITY PASSENGER RAIL

Intercity passenger rail has proven to be an increasingly popular alternative to highway and air travel, especially in congested areas. Passenger rail also offers direct access to downtowns, providing a degree of convenience not found in other transportation modes. Geographically, North Carolina is well suited to take advantage of passenger rail opportunities. The “piedmont crescent” cities along Interstate 85 provide a natural corridor. Service should also be extended to the mountains and the coast. Fortunately, we have existing rail lines across the state used for freight and limited passenger rail, or that are currently out of service, but preserved. And we have the State-owned North Carolina Railroad, which is poised for expansion to meet increased passenger and freight rail needs.

North Carolina’s three largest metro areas, along with dozens of smaller piedmont cities in between, form part of a “mega-region” along this interstate corridor. There are about a dozen such regional conglomerations emerging as our nation’s new economic centers. The Piedmont Atlantic Mega-region, which includes all of piedmont North Carolina, parts of South Carolina and stretches to Atlanta, is the country’s fastest growing mega-region. Despite the obvious benefits of intercity rail linking these mega-region cities, and this mega-region with the rest of the state, we have yet to take full advantage of the tremendous opportunities here. This potential is enhanced further by the prospect of high speed rail in the southeast linking us to Atlanta and Washington, DC.

Our current passenger rail system already serves counties that include 50% of our total population. If planned expansions and adjacent counties, which could be connected by feeder bus lines, are added to current rail service counties, fully 91% of our citizens could be served. By improving connectivity, we can make jobs in urban centers more accessible and create other business opportunities in rural areas, helping to address unemployment and related problems.

The intermodal bills introduced in 2009 propose increased funding to support expansion of intercity passenger rail service throughout our state. North Carolina should adopt legislation that will allow us to increase the frequency of existing service and number of cities served.
RAIL FREIGHT

As with our transit and passenger rail systems, North Carolina has underinvested in rail freight. Increasing capacity would save businesses and consumers money by reducing shipping costs. It would also reduce the burden on taxpayers for road construction by freeing up capacity currently used by trucks. Because large trucks cause the vast majority of wear and tear on our highways, it would also dramatically reduce the amount we need to spend on maintenance and repair, not to mention making our highways safer and more enjoyable to use. Because our rail freight system is largely privately owned, strategic public investment here can pay especially large dividends.

With our ports and major metro area transportation hubs, North Carolina has tremendous untapped potential to move more freight from trucks to rail, and rail freight is less expensive for longer trips and far better for the environment. Every ton-mile of freight that moves by rail instead of long-haul truck reduces greenhouse gas emissions by at least two-thirds.56

“After years of downsizing, the railroads face a capacity shortage because of the growth in rail freight demand. This is especially true for rail intermodal freight which has been growing at 4.6 percent per year, and is forecast to more than double by 2035 provided there is adequate additional track capacity.”57

As found by the 21st Century Transportation Committee, “rail freight plays a vital role in economic development throughout the State. The 2006 Mid-Cycle Update to the North Carolina Statewide Intermodal Transportation Plan identified $799 million in freight rail needs over the next 25 years, including maintenance and preservation, modernization, and expansion.”58 As congestion increases on our highways and fuel cost prices remain unstable, North Carolina should expand our existing State-owned rail capacity and partner with our private freight rail carriers to increase capacity to meet these identified needs. Grants from a fund such as proposed in the 2009 intermodal legislation would assist in strengthening our rail freight network.59
The Problem: Transportation and Land Use Planning are Not Effectively Coordinated, Resulting in Sprawl and the Waste of Taxpayer Funds

For too long North Carolina policymakers have treated highway construction as a panacea, largely ignoring the dynamic interplay between transportation investments and development patterns. Conventional wisdom has it that new roads will both solve congestion and lead to economic growth by spurring development. Beyond the obvious tension between these two very different goals, our “one size fits all” approach is inconsistent with meeting the needs of diverse communities. When new highway capacity is the best solution, it must be planned in a way to help foster cohesive communities, make efficient use of taxpayer dollars and preserve our natural resources.

There are two essential pieces: (1) transportation planning must be coordinated with land use planning, and (2) this linkage must occur across entire metro regions. Our antiquated, patchwork approach fails to meet either of these planning objectives. And by “failing to plan,” we can only be “planning to fail.” Quite simply, we lack an effective mechanism to ensure that we will allocate our transportation dollars in a coherent way that can help to guide where and how we want to grow. As illustrated by the North Carolina Smart Growth Commission Report of almost a decade ago, there are many available strategies that could be employed to achieve better outcomes.

Federal law assigns the responsibility for transportation planning in our metro areas to Metropolitan Planning Organizations, or “MPOs.” The MPOs develop project lists that are incorporated into the State-wide Transportation Improvement Program, and the state funds the “TIP” according to the archaic mandates of the Highway Trust Fund and Equity Formula as discussed previously. Meanwhile, zoning and regulation of land use is controlled by the various individual municipalities within a given MPO area. While a few municipal officials serve as representatives on the MPO board, the TIP project list is developed with a focus on specific transportation goals, irrespective of local land use planning objectives. This dysfunctional structure produces transportation and land use plans that work against each other. Land use decisions—ranging from the number of curb cuts for development along a new road, to the approval of subdivisions, to the required degree of connectivity within the local road network—undermine the ability of expensive new capacity investments to serve their intended purpose. And transportation decisions, such as the design of state roads solely on the basis of highway engineering considerations, fail to take into account local needs and preferences. The ensuing sprawl cycle is all too familiar. A new highway, typically on the fringes of one of our growing metro areas, spurs an avalanche of new development and puts overwhelming pressure on local officials to revise land use plans and zoning.

This sprawl cycle reflects a second major impediment as well: the failure to coordinate at the regional level. Our MPO boundaries are significantly out of date. Because they do not encompass our greatly expanded metro regions, comprehensive transportation planning must yield to narrower interests. For example, in the greater Charlotte region there are four different MPOs, covering five counties, and transportation planning in outlying areas is conducted by numerous Rural Planning Organizations, which have very limited capacity for these efforts. Similarly, the Triangle area has Raleigh and Durham in two separate MPOs, that fail to include many parts of what
is now a nine-county region, and the Triad area has four MPOs and multiple RPOs that conduct transportation planning over a region that now encompasses ten counties.

The problem goes beyond North Carolina’s larger metropolitan areas, to its smaller cities and even the most rural reaches of the state. In fact, rural areas experience some of the harshest consequences from the failure to link land use and transportation planning. In these areas especially, North Carolina policy too often treats highways as goals unto themselves. The accompanying hodgepodge of development mars traditional landscapes, undermines efforts to revitalize towns and villages, and can make it difficult to sustain traditional uses like farming and timbering. Rural Planning Organizations have the potential to better align land use and transportation objectives but, like their counterparts in urban areas, they need better guidance and increased support to ensure regional coordination.

The disconnect between transportation and land use planning across North Carolina has encouraged ever-spreading low density, auto-dependent development. This sprawl results in “induced demand” that often absorbs new highway capacity investments within only a few years. Even before the unprecedented economic crisis, the state faced a $65 billion shortfall in meeting its projected long-term transportation infrastructure needs. North Carolina simply cannot afford to continue funding this short-sighted approach to transportation and land use planning, which is devouring our landscape at a rate far greater than our population growth.

The Solution: Coordinate Transportation on a Regional Level, and Link Transportation And Land-Use Planning

The problem that North Carolina faces is not unique. Other states have made local land use plans an explicit and important part of their criteria for allocating state transportation funding. These states understand that scarce transportation dollars should support land use outcomes that are consistent with local needs, not undermine them. Infrastructure investments should focus on areas that desire more intensive development, and funding should be prohibited for projects that are inconsistent with local land use plans.

Equally important, the law should require that funding for new capacity be conditioned on effective land use planning by local governments. The state has tremendous unexercised power of the purse here. North Carolina law already requires Metropolitan Planning Organizations to submit comprehensive development plans to the Department of Transportation. State lawmakers should build on this by requiring a long-term focus, extending 25 to 30 years into the future. As a first step, the North Carolina Climate Change Action Plan Advisory Group suggests that local governments develop “greenprints” of critical and irreplaceable resources where development should not be encouraged through transportation investments. The plans should also be required to identify needs for coordination across jurisdictional lines, and define strategies for achieving sensible development goals.

In large urban areas, funding should be conditioned on effective planning that encourages strategies such as centers and corridors focus, transit-oriented and mixed use development and highway corridor preservation by limiting curb cuts. The McKinsey consulting firm found that Georgia transportation authorities could generate tens of billions of dollars in economic benefits over the next 30 years by simply matching transportation infrastructure investment with local land use planning. And North Carolina’s Climate Change Advisory Group found that more transportation options combined with better land use planning was the single most effective strategy to address the one-third of our carbon footprint.
emissions that comes from the transportation sector.\(^{67}\) This approach would also greatly help reduce the smog problem that results in over half our citizens breathing unhealthy air, and puts the metro areas where they reside at risk of losing federal highway funding as a sanction under the Clean Air Act.

At the metro region level, it is time to expand the geographic reach of the MPOs. The four MPOs in the Charlotte area were forced to coordinate after smog pollution in the city grew to levels that exceeded federal air quality standards. As a result, the MPOs developed tools which have enabled planners to take a systemic approach to transportation planning and avoid wasting money on new capacity that simply relocates the traffic jam a few miles away.\(^{68}\) Unfortunately, such regional approaches are the exception. More often, fragmented local authorities clamor to put their favorite transportation projects on the “wish list” of state funded projects. Establishing a single MPO for entire metropolitan areas like Charlotte, the Triad, and the Triangle, would ensure that transportation plans reflect regional needs. Fortunately, North Carolina law was recently changed to allow a hybrid MPO structure, which would allow existing MPO areas to retain decision-making authority as to local priorities.\(^{69}\)

Regional oversight bodies should be required to review major development projects to ensure that they are compatible with regional goals like air quality, congestion relief and open space preservation. The North Carolina Environmental Policy Act already gives cities, counties, and towns the ability to adopt ordinances that require developers to detail a project’s regional impacts prior to its approval.\(^{70}\) Local governments, however, have little incentive to pursue policies in the region’s best interest when neighboring cities, counties, and towns are not similarly committed. Turning the option to adopt these ordinances into a requirement would fix the problem. North Carolina policymakers should also take steps to create intergovernmental regional agencies that can adopt regional impact ordinances in order to effectively coordinate land use and transportation planning.
The Problem: A Dysfunctional Board Structure and Staff Culture Lead to Poor Stewardship of Taxpayer Dollars

Beyond the specific funding and policy suggestions described on the preceding pages, there is a consensus that a pressing need exists to reform the overall structure and culture at DOT. One only needs to skim the recent headlines to see that there are serious deficiencies from top to bottom. From botched repaving jobs because the supervisors just wouldn’t listen, to the scathing comprehensive critique of operations contained in the infamous 2007 McKinsey report, to recent board member resignations in the face of alleged conflicts of interests, the signals are loud and clear. DOT needs nothing short of a structural overhaul.

Problems at the Board Level

Unfortunately, some of the problems at the DOT board level are built into current state law. North Carolina requires that 14 of the 19 board members be appointed by the Governor to represent the 14 different highway divisions across the state. According to the language of the statute, these members are required to “direct their primary effort to developing transportation policy and addressing transportation problems in the region they represent.” Not surprisingly, they each see their number one job as maximizing highway funding to their individual districts, regardless of overall state needs. In fact, these board members actually have control of discretionary funds to spend on specific projects in their districts.

In addition to the 14 district representatives, there are five “at-large” board members. These members, also appointed by the Governor, must have expertise in various categories including environment, ports and aviation, rural transportation, mass transit and government finance. Only this minority contingent of board members is charged by law with “addressing transportation problems with a statewide perspective.” Under this structure, 14 sets of regional priorities trump statewide benefit. This also fosters a culture of not questioning projects in someone else’s district. The door is left open for politics to influence funding decisions that bring dollars to pet projects. Overall, the board is simply too large and too balkanized to be an effective policy-setting entity.

To make matters worse, the delineation of board districts made over 30 years ago is hopelessly out of date even as a means to deliver local project priorities. Board districts divide metro areas such as the Triangle, the Triad and Charlotte so that various portions are represented by multiple board members. The accompanying map shows a district structure that is more suited for governing feudal England than modern North Carolina.
Beyond these built-in problems with current state law, there has been a long history of using board appointments as a political reward for top fundraisers in gubernatorial campaigns. A report by Democracy North Carolina when then Governor Mike Easley named his first Board of Transportation in 2001 showed that a majority of his appointments went to reward campaign contributors. Nine of the fourteen district seats were filled by persons who individually, or through their families, were among the top donors in each of their districts for Governor Easley’s 2000 campaign.76

This structure helps foster a climate in which political influence and unethical behavior can thrive. After a series of DOT political scandals in the 1990s, the legislature enacted stricter conflict-of-interest provisions, but they have not solved the problem. For example, in January of 2008, board member Tom Betts of Rocky Mount, NC resigned in the face of allegations of improper fundraising for the Perdue campaign. Betts had secured contributions from individuals who had benefited from DOT economic development funds.77 Only months after Tom Betts’ fiasco, another major scandal erupted when DOT board member Louis Sewell resigned after voting in favor of highway improvements in his district that would directly benefit adjacent property and businesses owned by Sewell and his son.78 Unfortunately, such stories are likely to repeat themselves so long as district representation remains in place.

Agency Level Problems

Beyond the DOT board, the agency’s dysfunctional internal operations also have been subject to much publicity lately. In 2006, tens of millions of dollars were required to repair a section of I-40 after contractors botched the paving job, ignoring staff warnings of an inadequate approach.79 Despite all the bad press and assurances of agency improvements, a similar paving fiasco occurred in January 2009 for a stretch of highway near Rocky Mount.80 In November of 2008, $25 million in funds pegged for distribution to rural public transportation programs were withheld from the state DOT due to the Department’s failure to comply with the Federal Transportation Agency guidelines.81 And in the twilight days of the last administration, tens of millions were quickly allocated to jump the Fayetteville Bypass to the head of the line for loop projects, to the home district of outgoing DOT Secretary Lyndo Tippett.

These recent events are all the more discouraging insofar as most occurred well after the October 2007 multi-million dollar critique of DOT by McKinsey. Problems documented in that report include a lack of clear goals and effective procedures, a structure and culture that keep DOT divisions from working well with each other, and difficulties in recruiting and keeping talent.


The Solution: A Retooled Board Structure and Agency Culture

Board Reform

The DOT board structure should be revised to eliminate district representation by board members. State law should be amended to refocus the efforts of board members toward setting and overseeing transportation policy on a state-wide basis. Many other states have clear mandates along these lines. North Carolina law should articulate clear overarching transportation goals to guide the board that reflect current realities, such as the need to provide mobility options, to ensure system safety and maintenance, and to foster economic development and environmental stewardship. The project selection process should be left in the hands of trained professional employees, not political appointees, who can freely apply objective, defined criteria to fund a project mix to implement these stated policy goals.

It makes sense to have a broad cross section of areas of expertise represented on the DOT board. The five “at large” designations under current law provide a good starting point. In order to set transportation policy in the 21st century, board members must evaluate a wide range of issue areas. A reformed DOT board might include experts on areas such as land use, economic development, housing, public health and special needs communities.

In connection with eliminating board districts based on the current division structure, it will also be possible to reduce the size of the board. This would help to promote a focus on setting state policy rather than project selection. Many other states, including more populous states, have much smaller transportation boards than North Carolina. In contrast to our 19-member board, Georgia has 13, Florida has nine and Michigan has only six. Even California only has 11 members on its transportation board. The NC DOT board could be reduced to less than half its current size, with the exact number determined by the appropriate areas of expertise to be represented.

Ethics laws should be further tightened for board members to ensure full confidence that DOT operations are free from political influence. On January 12, 2009, Governor Perdue signed Executive Order Number 2, effectively removing the power of DOT board members to vote on specific construction projects. While this is an admirable attempt to begin to address the problem, it would also be prudent to eliminate all political fundraising activities by board members. This will help to ensure the selection of a board based on relevant expertise rather than fundraising prowess. Specific prohibitions that have been adopted by other states to prevent conflicts of interest should be considered.

Staff-Level Reform

It is essential that the recommendations of the McKinsey report be fully implemented to reshape the Department. Window dressing will not serve the state in the long term. McKinsey should be invited back to give a progress report and provide independent confirmation that the problems have been addressed in an effective manner. While this would not be inexpensive, failing to address the issues will be much more costly in the long run.

Key among the concerns, the silo mentality must be ended and the department restructured to place a higher value on planning and policy implementation, as opposed to engineering proficiency. The non-highway divisions must be elevated to an equal footing within the Department, not just on the organization chart, but in the organizational culture. For example, the current budget of the Bike and Pedestrian Division is only $6 million, a tremendously short-sighted allocation given the relative costs and benefits of providing this mobility option.

It is also time to recognize that the DOT does not exist in a vacuum and its activities must be much more closely coordinated with other agencies at both the state and local level. Transportation decision-making must be better coordinated with other public infrastructure investments, land use planning, housing, education, economic development, social services, energy policy and other related government activities. For example, enhancing rail freight opportunities should be closely coordinated between DOT and the Department of Commerce. Transportation projects should be developed not only with transportation needs in mind, but as part of a comprehensive effort to build vibrant communities and competitive businesses with mobility choices and access to opportunity for all citizens. New functions should be created in the Department with responsibility for coordination with these other agencies. Only through this integrated approach can we ensure that our limited transportation dollars will be spent most effectively to meet our current and future mobility needs and also further other important policies.
North Carolina can no longer afford a $4 billion agency, whose decisions influence our lives in so many ways, mired in past ways of doing things. No matter how many new additional funding sources we identify, this approach will only have us falling further and further behind in meeting mobility needs in our rapidly growing state. With pressing challenges on transportation finance, a changing landscape on energy and climate policy, and new demographics, the time is right for comprehensive legislation to reform NC DOT.

Each of the five key solutions set out below is valuable on its own. In combination, they set a synergistic course for efficient, sustainable and economically competitive transportation policy.

### SET PROJECT PRIORITIES

Establish in law an objective, transparent system to prioritize transportation spending based on performance-based criteria tied to important state policies.

- Replace the Highway Trust Fund and Equity Formula with an objective system for project selection to prioritize our most compelling statewide needs.

- Potential highway capacity project costs should be evaluated based on a “life-cycle” approach, including future maintenance and repair expenses.

- Congestion relief, safety, economic development and other project rationales should be approached based on a demonstration of long-term, system-wide results and evaluation of long-term environmental costs, breaking the cycle of sprawl.

### FIX-IT-FIRST

Ensure by law that adequate funds are set aside, before building more highways, to meet the maintenance and repair needs of North Carolina’s roads and bridges.

- One approach would require that a set percentage of annual funding be set aside to ensure that our maintenance needs are met.

- Alternatively, or in tandem, establish performance-based goals to be met in transportation budgeting to ensure that a minimum percentage of our highway system is in good repair.
PROMOTE TRANSPORTATION CHOICE

Establish by law an adequate funding mechanism for a multimodal transportation system including transit, bike and pedestrian mobility options. For intercity transport, require increased investment in passenger and freight rail.

• In metro areas, relieve congestion, create jobs and improve the jobs/housing balance through expanding transit including light rail and expanded local bus systems. Develop a funding stream to cover capital costs, operations and maintenance.

• Expand intercity passenger rail to serve both urban and rural areas across our state.

• Encourage expansion of rail freight to increase economic competitiveness, unclog our highways and reduce wear and tear.

LINK LAND USE AND TRANSPORTATION

Improve mobility and development outcomes by creating mechanisms in law to encourage closer coordination of transportation and land use planning. Require local jurisdictions through land use planning to protect the integrity of transportation investments and require DOT to respect local planning goals.

• Prioritize transportation funding to areas that have effective local land use plans that do not promote increased vehicle travel and appropriately protect important natural resources.

• Reward sound land use planning that best leverages transportation capacity investments through appropriate densities, mixes of uses, increased connectivity and road corridor preservation.

• Require a regional approach to transportation planning by revamping the MPO structure to reflect current realities of our much larger metro areas and mandate review of major projects that have regional impact.

REFORM DOT BOARD AND AGENCY OPERATIONS

Reduce board size and eliminate district representation to retool to policy-setting body rather than a project delivery body. Overhaul agency operations to embrace a multi-modal approach, reduce the current silo mentality and maximize cooperation both within the agency and with other state agencies.

• Reduce the size of the DOT board, replace the district system with at-large appointments based on relevant areas of expertise, and reinforce state policy focus.

• Prohibit political fundraising by board members and strengthen ethics requirements related to conflicts of interest.

• Revamp the agency to reduce focus on engineering increased highway capacity. Create structures that encourage innovation and efficiency, including new ways of approaching mobility needs.

• Increase coordination between DOT and state agencies involved with economic development, housing, social services and other related government functions.
ENDNOTES

1 See S.L. 1989-692.


4 See id.

5 See NCDOT, “Trust Fund Progress Through FY 2007.”

6 See e.g., Editorial, “Loop-de-Loop: Fayetteville’s outer loop highway gets a sudden cash infusion, and the timing suggests special treatment from the top.” News & Observer (November 22, 2008).

7 See “Trust Fund Progress Through FY 2007,” supra note 5.


11 See Jackson, supra note 8.


13 Rev. Code Wash. (ARCW) § 47.05.010.


15 See “Loop-de-Loop,” supra note 6.

16 Dan Kan and Benjamin Niulet, “Road work enhanced official’s property.” News & Observer (September 21, 2008).


19 See id.


21 See ASCE Report Card, supra note 18.

22 Id.


25 Id.

26 VAC 33.1-23.1.


29 21st CTC Report, supra note 24.

30 See NCDOT “Finance & Budget,” supra note 2.


32 Id. (quoting Lindo Tippett, Secretary of Transportation).

33 21st CTC Report, supra note 24, p. 10.

34 N.C. Gen. Stat. § 136-44.3.


38 VAC 33.1-23.1


41 Assembly Bill 857 (2002).


44 See Surface Transportation Policy Partnership, an analysis of the Federal Highways Administration JOBMOD computer model, developed in conjunction with Boston University and Battelle Memorial Institute (2004).


46 Rep. James L. Oberstar, Chairman Transportation Infrastructure Committee, Statement before Subcommittee on Railroads, Pipelines, And Hazardous Materials, on Markup for the “Passenger Rail Investment and Improvement Act of 2008.” (May 22, 2008). “Today, we are in the midst of a national ‘renaissance’ for intercity passenger rail. Amtrak’s FY2007 ridership was at record levels for the fifth year in a row, exceeding 25.8 million passengers. Ticket revenues rose 11% to more than $1.5 billion, the third straight year of revenue growth. This record of achievement is even more impressive considering that for the past eight years Amtrak has contended with an Administration committed to its bankruptcy and Congressional action that has been inconsistent, largely keeping it on life support.”


52 Id.

53 Transportation for Tomorrow: Report of the National Surface Transportation Policy and Revenue Study Commission (December 2007).


See, e.g., N.J. Stat. § 27:1B-21.19 (mandating “planning technique that embraces a collaborative, interdisciplinary process and recognizes the uniqueness of he community in planning transportation projects.”); Md. STATE FINANCE AND PROCUREMENT Code Ann. § 5-7A-02 (designating areas that are protected from development by the regulation of funding for any federal or state funded project); Wis. Stat. § 1.13(2)(b) (providing incentives for “neighborhood designs that support a range of transportation choices”).

State of Georgia. “IT3 Scenario Results and Implications: Discussion Document” (November 13, 2008).


