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FINDING A HOME FOR ORPHAN ROADS

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Executive Summary

Many properties outside of incorporated cities in North Carolina are located on roads that are not maintained by any state or local government. Some of these roads may have no clear owner and are known as orphan roads. Buyers of properties along these roads are not always informed that they will be responsible for periodic and expensive road maintenance.

Some of the neighborhoods that use orphan roads have homeowners' associations or road maintenance agreements that describe who is responsible for maintaining the roads. But many do not, in which case homeowners may not only be surprised by the cost but may be unable to reach agreement with their neighbors on what maintenance should be done and who should pay for it.

The North Carolina Department of Transportation (NCDOT) has criteria under which it will take over maintenance of these roads. Among other things, the roads must serve a certain housing density, be built to certain minimum standards, and be in good condition. Many orphan roads don't qualify for one reason or another or may only qualify if homeowners put up the money to restore the roads to state standards.

Even if the NCDOT were to take over these roads, there is an equity problem. Significant auto traffic keeps asphalt pavement compacted, which can reduce maintenance costs. This is not the case for orphan roads, as there is not enough traffic for compaction to occur, resulting in higher than average maintenance costs. The limited traffic means that these roads also contribute very little to the gas tax funds that are NCDOT's most important sources of revenue. Thus, other auto drivers are effectively forced to subsidize rural property owners whose roads are maintained by NCDOT.

After evaluating the equity and financial feasibility of several alternative solutions, this report recommends:

1. The North Carolina Real Estate Commission, in consultation with NCDOT, should revise its real estate disclosure forms to inform potential buyers if the property is served by private roads, the condition of those roads, and what kind of maintenance the buyer can anticipate in the future.

2. The state legislature should give counties the option, if they do not already have it, of taking over maintenance of secondary and local roads within their jurisdictions, and of collecting property taxes or assessments to pay for that maintenance.

3. The state legislature should also require that owners of properties served by private roads be a part of homeowners' associations that will maintain the roads or write road maintenance agreements with the support of at least 75 percent of other property owners. This agreement should spell out what kind of up keep will be done and each property owner's expected contribution to the maintenance.

4. The state legislature should authorize NCDOT to charge assessments to property owners served by local roads that are maintained by the state. Ideally, NCDOT would be able to charge all such property owners, but it should at least be allowed to charge owners served by roads that are now private who want the state to take over maintenance of those roads.

Introduction: The Problem with Orphan Roads

Recently, a dispute between two property owners over the proper maintenance of a private road they shared resulted in one of the homeowners allegedly shooting the other.[1] While this incident happened in Vermont rather than North Carolina, it demonstrates the volatility of debates over road maintenance.

The issue is particularly severe in North Carolina, which is one of five states—the others being Alaska, Delaware, Virginia, and West Virginia—in which most local governments outside of cities do not have their own road departments. In most of the other 45 states, counties own and maintain roads, while in parts of New England, rural secondary and local roads are owned and maintained by towns, a level of rural government that is peculiar to New England. Unlike North Carolina towns, which are simply small cities, New England towns cover all rural lands in the state and function in place of county governments in many New England states.

In cities throughout the country, developers of a new subdivision commonly deed the roads to the city when the project is complete. If that

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county or town has a roads department, the maintenance responsibilities are handed to the county. So in states where rural local governments don't have road departments, it would make sense for developers to deed the roads over to the state.

This transfer is less likely to happen, however, for at least two reasons. First, when cities or counties approve new developments with the expectation that the roads in those developments will eventually be turned over to them, they are likely to insist that the roads be built to certain standards that will allow for efficient road maintenance. When counties don't expect roads to be turned over to them, they are less likely to demand high construction standards, so that when developers are done with a project, the roads may not be in good enough condition for the state to want to accept them.

Second, counties rely on a broad range of revenues, including property taxes, sales taxes, income taxes, and others. New development in the county usually results in an increase of those revenues that provide the counties with funds for road maintenance.

In contrast, state highway agencies generally rely on a narrow range of revenues. In particular, the North Carolina Department of Transportation (NCDOT) gets nearly all its revenues from federal and state fuel taxes, vehicle registration fees, and tolls. Such revenues are less likely to increase as a result of new rural development, or at least not in proportion to the rise in costs those roads could impose on the state. This means that, when NCDOT takes over new rural roads, it doesn't receive a commensurate level of new revenue to maintain those roads and must choose between letting them deteriorate or doing less maintenance elsewhere in the state highway system.

As a result, North Carolina has hundreds of miles of rural roads and streets that are not maintained by any government. While these should be considered private roads, in many cases they have been abandoned by the developers and have no clear deeded owners. Those roads are called *orphan roads*. When people buy homes located on orphan roads, they may not be aware that they will be at least partly responsible for maintenance and are shocked to find that maintenance costs can be high.

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A road is not like a backyard that needs maintenance every few weeks or a car that needs maintenance every few months. Instead, it is more like a roof that needs to be maintained or replaced only once every so many years. Most homebuyers know to ask when the roof was last replaced or maintained so that they know how long they will have before they need to spend money on it. But they may not know to ask about road conditions, and North Carolina real estate disclosure forms say very little about roads.

An asphalt street may need to be resealed every seven to 10 years. Sealing may cost about $2.50 per square foot. In a typical subdivision, the streets may be 30 feet wide and homes may have 50 to 100 feet of frontage on the streets. If there are homes on both sides of the streets, that represents a cost of $1,875 to $3,750 per homeowner. If part of the development is served by shared roads that have no homes fronting on them, then the cost of sealing those roads would also have to be divided up

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among the homeowners. If streets are neglected, then deterioration accelerates, and costs may double or quadruple when maintenance or repair finally does take place.

An NCDOT document titled ***Subdivision Roads: Minimum Construction Standards*** describes requirements for accepting roads from developers or homeowners. Roads must be of certain minimum widths, have sufficient drainage, both pavement and subsurface must be of certain minimum depths, and so forth. Just as important, the state has a density requirement of "at least two occupied residences for each one-tenth of a mile" of road and at least four occupied homes for road segments that are less than two-tenths of a mile long.[2]

Roads may remain private or be orphaned for several reasons:

- A developer may choose to build roads to lower standards than required by the state, perhaps using gravel rather than asphalt or other pavement.
- A developer may choose to design a development that has fewer than two residences per tenth of a mile of road.
- A developer may build roads to state standards but is unable to sell or goes bankrupt before selling enough homes to meet the density requirement. This happened to many developments that were in progress at the time of the 2008 financial crisis.
- A developer may build roads to state standards, but by the time enough homes are occupied to meet the density requirement, the roads have deteriorated so that they are no longer acceptable to the state.

NCDOT won't accept roads in developments that don't meet the density standards. If the road doesn't meet state construction standards, it can still be accepted if it meets the density standards, but only provided property owners first bring the roads up to state requirements. Paving gravel roads might cost $10 per square foot and thus could cost each homeowner $10,000 or more. Repaving asphalt roads that have deteriorated since they were built may cost 50 percent to 75 percent as much as new pavement, which would still create a sticker shock to homeowners who didn't realize their streets weren't being maintained by the state.

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Many homes are in neighborhoods with homeowner associations or road maintenance agreements, so each property owner should have a good idea of what costs they may be responsible for. The worst case will be developments with no homeowner associations or maintenance agreement. When the road in such a neighborhood starts to deteriorate, it may be difficult to get the property owners to reach an agreement on what maintenance is necessary and who should pay for it.

In such situations, Wake County allows property owners to petition to have the county rehabilitate the road to meet state standards and then get the road into the state system. At least 75 percent of property owners and owners of 75 percent of lineal road footage must agree to this. The county then contracts for repairs or restoration and bills the property owners for the total cost, which can be paid over time.[3]

Although this process gets the roads into the state system, it may not be fair to state auto drivers to have to pay to maintain so many local rural roads. The main causes of road damage are heavy trucks and weather. Asphalt, which is the material usually used to pave local roads and streets, can suffer from freeze-thaw and other weather damage, but this damage is partially countered by heavy use of cars and light trucks. Vehicle compaction of the aggregate in the asphalt mitigates stresses caused by weather. Local roads that are very lightly used, however, may

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not have enough vehicle traffic to benefit from this compaction, and so they deteriorate faster than, say, collector roads that serve to move traffic from local streets to arterial roads and thus see heavier traffic (but limited heavy truck traffic).

For that reason, private roads may need more maintenance, not less, than is typical for state highways. At the same time, the fuel taxes generated by the limited traffic on local roads will be low. Thus, state maintenance of these roads must be heavily subsidized by other road users.

North Carolina is one of the fastest growing states in the nation, which is partly attributable to its housing market being relatively more affordable than housing in many other states, such as California and the Northeast. With growth comes change, and with change comes stress, but that doesn't necessarily mean that growth is bad. Orphan roads are one source of stress, and the state and local governments should find ways to relieve this stress without damaging one of the reasons for the state's growth, namely its relative housing affordability.

THE HOLCOMB WOODS EXAMPLE

The state of North Carolina has an online map showing what roads it maintains and what roads are maintained by others.[4] If the roads or streets within city limits are not shown as maintained by the state, they are almost certainly under city maintenance. But outside of city limits, roads not shown as state maintained are private or orphaned roads.

Figure 1 on the following page is from an area just south of Harrisburg, a town in the northeast suburbs of Charlotte. The center of the map in Figure 1 shows that Paper Birch Drive and several nearby streets are not maintained by the state. These streets are in a new subdivision known as Holcomb Woods, and homes in this subdivision are less than five years old. To the northwest of this subdivision is an older neighborhood with street names such as Starwood, Rockwood, and Plaza Drive. They are maintained by the state. Although many of the homes in this neighborhood are more than 30 years old (indicating the streets themselves are older), the streets are in better condition than those in Holcomb Woods.

Figure 1

This image is taken from the NCDOT's map of state maintained roads and shows an area south of Harrisburg. Colored lines show roads maintained by the state; roads that are not maintained by the state are shown in white. Part of the upper left corner of the map is inside the Harrisburg city limits, but the rest of the map is outside of any city boundary.

Figure 2: Paper Birch Drive in Holcomb Woods.

SOURCE: GOOGLE STREET VIEW.

For example, Figure 2 shows a portion of Paper Birch Drive in Holcomb Woods. The pavement is heavily cracked, and the area around the utility cover has sunk. Figure 3 shows that Whittington Drive in the older neighborhood appears to have been recently sealed. It is in good condition, and there is no sign that the pavement around the utility cover is sinking.

Figure 3: Whittington Drive in an older neighborhood northwest of Holcomb Woods.

SOURCE: GOOGLE STREET VIEW.

I picked these streets entirely at random. While they seem to be typical of streets in their respective neighborhoods, they are not necessarily typical of all state-maintained vs. privately maintained roads in North Carolina. However, they illustrate the problem: If residents of Holcomb Woods want to have the state take over maintenance of their streets, they may have to pay to have the streets brought up to state standards first.

FIXING THE PROBLEM

Orphan roads in North Carolina are partly a financial problem and partly an information problem. There are several possible ways of fixing the problem that may not be mutually exclusive. Here are some alternatives with recommendations based on fairness and financial feasibility.

Improved Real Estate Disclosures

The standard real estate disclosure form required by the North Carolina Real Estate Commission asks sellers how old their roof is and follows up with whether the roof has any leakage problems. It asks what the home's heating source is and follows up with whether there are any problems, malfunctions, or defects in heating and air conditioning. It asks if the home has a septic tank and follows up with whether there is any problem, malfunction, or defect in the sewer or septic system.[5]

The only questions the form asks related to private roads is whether there is a private road adjoining the property and, if so, "is there in

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existence any owners' association or maintenance agreements dealing with the maintenance of the road or street?" The form does not ask about the condition of the road or give any hints about the cost of maintaining it. This omission is particularly significant in cases where there is no owners' association or road maintenance agreements. Even where there is a homeowners' association or road maintenance agreement, that doesn't guarantee that the association or property owners have a finance plan in place to cover long-term road maintenance costs.

The Real Estate Commission should consult with the Department of Transportation to develop follow-up questions for the disclosure form. These questions should identify if the road is paved, when it was last paved, sealed, or repaved, and what is the current condition of the road. For example, a road whose pavement has no cracks or visible deterioration might be rated "good," a road with cracks but no significant deterioration might be "fair," and a road with potholes or other signs of deterioration would be "poor."

The form should also indicate what proportion of the road maintenance costs might be assessed to the homeowner. For example, if a 30-foot-wide road is a mile long and serves 100 homes, then each homeowner would effectively be responsible for the cost of maintaining over 1,500 square feet of road. NCDOT should also prepare a flyer to accompany the form that briefly indicates what type of maintenance needs to be done for different kinds of roads (e.g., gravel, asphalt, concrete), how frequently it needs to be done, and a list of potential contractors with estimated maintenance prices.

County Road Departments

An alternative is to have the counties form road departments and take over the maintenance of local and collector roads in their jurisdictions. Most counties may not want to do so, but at least two Virginia counties have taken over maintenance of secondary and local roads.[6] These counties may believe they can offer their residents better service than the state. The North Carolina legislature may need to pass a law authorizing counties to do so.

County Mandates

The state legislature could also require the counties to take steps to reduce problems with orphan roads. These could include mandating that counties:

- Require developers to meet state road standards for all new developments
- Require developers to post bonds or pay for insurance to ensure roads are properly maintained
- Require that developers turn roads over to the state within a certain time frame so that the roads don't unnecessarily deteriorate
- Require that all new and/or existing private roads be placed under the management of a homeowners' association or road maintenance agreement

Mandates on developers may be the least desirable option considered here as they could easily increase home prices and slow North Carolina's economic growth. While mandating certain road standards or requiring developers to post bonds may sound sensible, such mandates

"Requiring that homeowners using shared private roads have road maintenance agreements would be more desirable. It would not increase the up-front costs of building or buying homes, but it would give homeowners a better understanding of what maintenance work is expected and who would do such work."

would increase home prices. They would deny people the option of buying less expensive homes and living with lower quality roads. So long as people understand the tradeoff—which is the point of improved real estate disclosures—that option should remain available.

Requiring that homeowners using shared private roads have road maintenance agreements would be more desirable. It would not increase the up-front costs of building or buying homes, but it would give homeowners a better understanding of what maintenance work is expected and who would do such work. To expedite the formation of road maintenance agreements, the state could specify that they need approval of only 75 percent of property owners using the roads.

Improved State Finances

Almost two-thirds of driving in North Carolina takes place in urban areas.[7] Since speeds in urban areas tend to be slower, and thus less fuel efficient, than in rural areas, more than two-thirds of gas taxes collected in North Carolina comes from urban drivers. Although everyone likes to believe that they are subsidizing everyone else, when it comes to urban vs. rural roads, users of urban roads tend to be subsidizing rural roads.

These cross-subsidies will tend to increase if NCDOT takes over the maintenance of streets in more rural subdivisions. Whereas the state's primary road network tends to be used by a combination of regional and local and urban and rural travelers, local neighborhood streets are used almost exclusively by the residents of those neighborhoods.

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These cross-subsidies may be particularly unjust since exurbanites moving to new rural neighborhoods tend to have higher incomes than inner-city residents. For example, the median family income for the Charlotte urban area, which includes Charlotte and its suburbs, is almost $10,000 more than the median family income for the city of Charlotte alone.[8]

The best remedy for this and a number of other problems with highway finance would be to replace the fuel tax that now funds most of NCDOT with a mileage-based user fee. Such fees would give roadway users better signals about the costs of the roads they are using and give NCDOT better signals about where new roads are needed. They would help deal with the problem of more fuel-efficient and battery electric vehicles. Cities could piggyback on the fee collection system and fund their street maintenance out of user fees rather than general funds. Mileage-based user fees that vary with traffic levels would help eliminate traffic congestion as well.

Unfortunately, the movement for mileage-based user fees is weak. While many people recognize that gas taxes aren't going to work in a world with an increasing number of electric vehicles, mileage-based user fees remain controversial. They may be the long-run solution to highway finance problems, but they are probably not going to be a short-run solution to North Carolina's orphan roads problem.

As an alternative to mileage-based user fees, the state legislature could authorize NCDOT to collect an annual fee or assessment from owners of properties served by local roads and streets maintained by the state. This assessment would not have to cover all the cost of road maintenance, as vehicle traffic on those roads uses fuel that is taxed to help pay for the roads. But an assessment covering 50 to 90 percent of the cost—the exact number should be set by the legislature in consultation with NCDOT—would help reduce the inequities of urban drivers subsidizing local rural roads. Because such assessments spread road maintenance costs evenly over a number of years, they would not impose huge one-time costs on homeowners.

Such assessments would also allow NCDOT to abandon the density standards and to reduce requirements that roads be in good condition before NCDOT takes over maintenance. Density requirements would be irrelevant because residents of a low-density area would simply be assessed more for NCDOT to maintain their roads and it would be up to the residents to decide whether to pay the assessment or to continue to maintain the roads themselves. Road construction standards would still be important, but if a road has deteriorated, NCDOT could still take it over and use the assessments to help repair it.

An important question is whether NCDOT should be allowed to charge assessments of all local property owners whose roads are maintained by the state or just new developments as NCDOT takes them over. Just charging property owners in new developments seems unfair if many previous owners whose roads are just as likely to be cross-subsidized are getting their roads maintained by NCDOT for no extra cost. But it might be politically difficult for the legislature to impose new fees or assessments on existing property owners. Either way, such assessments would make it possible for NCDOT to increase the miles of roads it maintains without overly stressing its budget.

Recommendations

The problems with orphan roads are mainly ones of transparency and finance. To fix these problems:

1. The North Carolina Real Estate Commission, in consultation with NCDOT, should revise its real estate disclosure forms to inform potential buyers of properties served by private roads of the condition those roads are in and what kind of maintenance the property owners will be expected to contribute to.

2. The state legislature should give counties the option, if they do not already have it, of taking over maintenance of secondary and local roads within their jurisdictions, and of collecting property taxes or assessments to pay for that maintenance.

3. The state legislature should also require that owners of properties served by private roads be a part of homeowners' associations that will maintain the roads or write road maintenance agreements with the support of at least 75 percent of other property owners spelling out what kind of maintenance will be done and

what proportion of the cost of such maintenance each property owner would be expected to contribute.

4. The state legislature should authorize NCDOT to charge assessments to property owners served by local roads that are maintained by the state. Ideally, NCDOT would be able to charge all such property owners, but it should at least be allowed to charge owners served by roads that are now private who want the state to take over maintenance of those roads.

Endnotes

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About the Author

Randal O'Toole is a transportation and land-use policy analyst with nearly 30 years of experience reviewing state and local transportation plans. He is the author of several books on transportation issues, including *Gridlock: Why We're Stuck in Traffic and What to Do About It* and *Romance of the Rails: Why the Passenger Trains We Love Are Not the Transportation We Need*. He was the McCluskey Conservation Fellow at Yale University in 1998 and was a visiting scholar at University of California, Berkeley in 1999 and a visiting professor at Utah State University in 2000. He is also the executive director of the Thoreau Institute, which was formed in 1975 to find better ways to protect the environment without big government.

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THE JOHN LOCKE FOUNDATION

Our History

The John Locke Foundation was created in 1990 as an independent, nonprofit think tank that would work "for truth, for freedom, for the future of North Carolina." The Foundation is named for John Locke (1632-1704), an English philosopher whose writings inspired Thomas Jefferson and the other Founders. The John Locke Foundation is a 501(c)(3) research institute and is funded by thousands of individuals, foundations, and corporations. The Foundation does not accept government funds or contributions to influence its work or the outcomes of its research.

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The John Locke Foundation envisions a North Carolina of responsible citizens, strong families, and successful communities committed to individual liberty and limited, constitutional government.

Our Mission

The John Locke Foundation employs research, journalism, and outreach programs to transform government through competition, innovation, personal freedom, and personal responsibility. Locke seeks a better balance between the public sector and private institutions of family, faith, community, and enterprise.

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