STI COMMENTS ON PUBLIC AFFAIRS

FUNDING AND MANAGING SOUTH CAROLINA'S ROADS AND HIGHWAYS

by

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> "I trust the engineers to make an unbiased analysis of what the state's highest priorities are. I think that is the way it ought to be determined."
>
> Ted Hooper, DOT Board Chairman as quoted in the *Greenville (SC) News*, September 20,2007

Assumptions

The South Carolina transportation budget has passed the "opportunity cost" test, that is, the benefit from appropriated transportation funds is greater than the most favorable forgone alternative and that the benefit from the *highway portion* of the state transportation budget is greater than the most favorable forgone transportation alternative.

South Carolina has received its due share of monies from the federal Highway Trust Fund and other federal sources for highway funding,

Proposed South Carolina highway projects have met requirements set forth in environmental, economic and other mandated impact statements.

Observations

*It is well understood that engineering input when estimating the costs of highway projects is primary and vital. It, however, should not be the deciding factor in prioritizing highway projects.

The dictum, “perfection is the enemy of the good,” first enunciated by Milton Friedman, one of the great economists of the past half century, is a valid and proven concept. A highway example would be traffic controls at intersections. Constructing traffic signals, medians, and right and left turn lanes could fairly be considered “perfect solutions,” while yield signs, four way stop signs, slow signs, and flashing red and yellow lights could be considered “good solutions.” In trade off terms, how many more good solutions can be funded from monies spent on perfect solutions and with funds left over?

While no published statistics exist in South Carolina as to how many drivers run stop or fail to yield signs as contrasted with drivers running red lights, this author suspects the numbers are about even. The point is: Good drivers will benefit from good solutions while perfect solutions will hardly deter careless drivers.

*Of the approximately 600,000 bridges in the United States, about 26 percent are classified as “structurally deficient” or “functionally obsolete.” Seldom discussed,

however, is the definition of a “functionally obsolete” bridge. As a general rule, a “functionally obsolete” bridge is one that does not meet today’s standards but is otherwise safe.

Lynsie Breaux in her article “Structurally-deficient bridges are not always unsafe” quotes Richard Kerr, an engineer with excellent credentials on the subject.

“…. a bridge that does not provide 15 feet of clearance over an interstate highway is obsolete, regardless of the bridge’s strength….a bridge will also be designated as functionally obsolete if crossing the bridge requires a major reduction in speed due to horizontal or vertical curvature.” (1)

It is fair to ask the question of how many “functionally obsolete” bridges in South Carolina might be considered “good” bridge solutions.

Uncontested is that demonstrably “unsafe” bridges deserve funding priorities and that this determination is best left to highway engineers.

*In prioritizing highway projects the economic concept of cost-benefit analysis can be a valuable tool. In this regard, should it come to a choice between a project where benefits are more local, when contrasted with a project where benefits are state-wide, most would agree the state-wide project deserves priority. An example of a statewide benefit project would be roads and highways that make the

port of Charleston more efficient, which in turn is a positive location factor for firms that significantly depend on foreign imports and exports and are considering a South Carolina location.

A local benefit project would be a widened approach road, traffic signals and turn lanes into a large mall or shopping center.

Worth noting with respect to local highway/road benefits is that if a number of proposed projects within a relatively small geographic area, e.g. a county or part of a county or counties, can be bundled and worked on together, some economies of scale should be possible.

*Decision makers charged with prioritizing highway projects should give the same, if not more, attention to new sources of revenue as is given to existing revenue sources. It is axiomatic that having funds available for a highway project will change the priority of that project.

New sources of revenue for highway projects are well known. e.g., tolling new or existing state roads, tolling all or part of interstate systems within South Carolina's borders, increasing fuel taxes at the state and/or local level and increasing registration/title fees are examples of highway user taxes. These options, however, are only possible if legislation is in place that allows implementation. In South Carolina, counties and municipalities *do not* have the authority to increase fuel taxes within their jurisdictions.

Recently, the idea of turning the maintenance of some state roads over to counties was suggested. Without new revenue sources the concept will die a slow death as local authorities, the general assembly and local and state transportation officials argue over how to implement the concept within the existing highway budget.

*Based on past state and national data, officials that approve funding major highway projects should be duty bound to make the taxpayer aware of the high probability of cost overruns. The most logical approach is to allow for cost overruns in the proposed project budget, an addition that would probably change project priorities.

For those taxpayers who have never considered cost overruns in highway projects, a case in point is the Central Artery Third Harbor Tunnel Project, a project designed to relieve congestion in the city of Boston, MA. The original cost estimate was $2.5 billion, In 2004, the estimated completion date, the estimated cost was $14.5 billion and climbing. (2)

*In debating highway priorities, decision makers, often times, in frustration, inject urban mass transportation options into the mix. e.g., If a rapid transit system between Greenville, Greenville-Spartanburg International Airport, and Spartanburg existed, auto traffic between these points could be significantly reduced and tens of thousands of dollars saved on road maintenance.

Considering non highway transportation options when deciding on highway priorities is not only irrelevant but wasteful of time. The first assumption of this paper is that highway transportation funds have already met the opportunity cost test and should be debated in that context.

*Economic theory assumes that individual decision makers are rational and will make decisions in their own best interest.

Assume a highway intersection has been classified as dangerous by highway engineers because of traffic density, road width, and road curvature among other deficiencies. By their evaluation it is "an accident waiting to happen." Now consider that the rational driver alluded to above also perceives that the intersection is dangerous, and in so perceiving, exercises due caution. (3)

What criteria should be used in deciding whether a perfect, good, or no solution at all is, an efficient use of resources in prioritizing the above proposed highway project? For discussion purposes, assume that records show that the intersection in question is no more or less dangerous than similar intersections. In deciding highway priorities, not only should the physical aspects of the proposed project be considered but also that traffic accident records be given *equal* consideration, equal being the operative word.

*The management of South Carolina's highway system, like many of its roads, is in need of repair. We have a

Secretary of Transportation with nominal decision powers, highway commissioners owing allegiance to different appointing authorities, and "criteria" (written into new state law) for approving proposed projects; criteria, however, that can be ignored by a majority of commissioners.

Conclusion

In a world of limited resources, economic analysis as well as input by highway engineers is necessary to maximize benefits from limited highway budgets. In such a world, South Carolina may have to accept more good solutions rather than perfect ones.

A point that should not be overlooked is that there is a tradeoff between the number of projects to improve South Carolina's roads and highways and safe drivers. Safe drivers will do well on "good" solutions to highway needs, not necessarily "perfect" solutions. To the extent that South Carolina can increase the number of safe drivers through stricter highway laws and law enforcement, then to that extent can more good solution highway projects be funded.

When funds are limited, cost-benefit analysis can provide valuable insights in prioritizing proposed highway projects.

In the case of bridge replacements, a safe assumption is that South Carolina, as well as other states, will have to accept the fact that there always will be some "structurally deficient" and "functionally obsolete" bridges in the

highway system mix.

If South Carolina's existing highways are to be maintained in good condition and demonstrably necessary new roads funded, then decision makers must look beyond the traditional funding sources of past budgets and concentrate on *new* sources of revenue.

No matter the time and cost, the South Carolina General Assembly must revisit the subject of *efficiently* managing the state's highways and roads. The tax paying public has a right to expect better than the present system.

NOTES

(1) Breaux, Lynsie. Structually-deficient bridges are not always unsafe. *The Standard* (Macclenny, FL) August 22, 2007, p. 2.

(2) U.S. Congress, *House Report 104-631 Department of Transportation and Related Agencies Appropriation Bill 1997,* and Massachusetts Turnpike Authority, *Turnpike News,2004.*

(3) While seldom considered, a fundamental assumption made by all drivers when getting behind the wheel of their vehicle is------ *their fellow drivers want an accident free trip as much as they do*. This is nothing more than an example of the basic economic assumption that the individual is rational in making decisions. Yet thousands of accidents occur each year on the nation's highways. The question is: How to deal with the *rational* but careless driver? One approach would be to significantly increase, across the board, penalties for traffic violations. It then follows that more cautious and responsible drivers will lessen the need for perfect solutions with regard to proposed highway projects. And with better drivers good solutions will become safe solutions and the monies saved used to correct demonstrably unsafe highway conditions.