

Volusia County's Transportation Challenges

Volusia-Flagler
Higher Education Consortium

Research Results
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The Focus of This Review

Volusia County's quality of life and economic vitality is dependent upon effective and un-congested roadways. With the anticipated population growth through 2050, it is anticipated that the county will require major road expansion. However, it is evident that current transportation funding mechanisms can not keep up with necessary road maintenance and expansion as costs increase exponentially into the future as they have in the past three years. To exacerbate the problem, county residents have little perception of the enormity of the challenge, and time is of the essence since it takes ten years to purchase right of way, design and construct a typical roadway.

County officials requested the assistance of the five colleges and universities of the Volusia–Flagler Higher Education Consortium to conduct independent research initiatives to validate that the county does, indeed, have a critical problem in the future if the highway road transportation system is not properly addressed. The researchers have confirmed from complementary perspectives that the county does, indeed, have an enormous challenge in the future.

Where we started...

Embry-Riddle Aeronautical University researchers were charged to analyze and compare Volusia County transportation needs and funding with other comparable regions across the entire country. They were also charged to examine and validate the assumptions and algorithms of the County's transportation needs forecast model.

When compared with highway transportation needs in other areas, Volusia County needs are presently in adequate to good condition. But the ERAU study acknowledges that transportation needs into the future will undoubtedly present a challenge if not addressed, and that we must explore alternative funding mechanisms for the future.

The research group then suggests that in considering alternative funding mechanisms, the county staff should consider that local governments hold a

unique position in the US system of government. They are the first to feel the weight of citizen demand, the last to receive revenues raised by other levels of government, and they command a higher level of trust from their constituents. Citizen involvement in the transportation planning is essential to effective planning for funding alternatives.

The report identifies and clarifies alternative funding sources including general fund appropriations, impact fees, gas tax, vehicle registrations and inspections and tire taxes. Some possible private/public sources of funding include public-private partnerships, changing contracts (where a road is built and paid for by private means, then changes to public maintenance, or some such combination). There are funding sources from tolling: existing tolling, tolling for new construction, tolling for hot lanes, tolling during peak use times, and transit tolling. And finally there are the sources from bonding revenue and challenges with bonds are explained in detail.

The County Forecast Model...

Validation of the model could not be accomplished within the scope of this study. However, the processes of the model are widely used across the state and the across the country and are purported as acceptable for fairly determining the allocation of state and federal funding. Calculations of traffic and population densities gleaned from the Model account for over 80% of the model's forecasts.

This research group brought recommendations for improving the modeling processes:

- Compare the proposed 2025 LRTP to 2020 LRTP
- Study system performance in mass emergency events
- Bolster "growth control" and "demand management"
- Compare with other models and methodologies
- Communicate the plan to the general public
- Involve citizens to help develop plans
- Compare expenditures with similar counties

The task of the Bethune-Cookman University research was to perform a qualitative analysis of quality of life transportation issues and identify citizens' priorities for transportation as related to quality of life issues. The research actually performed both qualitative and quantitative analyses of the data and discovered that transportation tied for least important issue on the West side of the county. The East side recorded significantly greater response to the survey at a 69% response rate, for 68 completes, versus the West side that responded at only a 2% rate for 32 completes, indicating a general lack of interest in road transportation issues on the West side of the county.

The study further revealed that a majority of residents did not want to time commercial deliveries (71%), nor establish Business Routes for truck traffic

(55%), probably fearing repercussions in the local business sector. They also expressed concern about emergency evacuations (61%), especially from the beach side. Of significant but less concern to residents were the issues of the coordination of traffic signals, inconvenient travel times and public transportation.

Concerning taxes and fees for road construction, 57% were willing to pay for maintenance/repairs, 61% were willing to pay for Improvements, 78% assumed that "improvements" referred to public transportation, and if an increase in taxes were needed, 55% prefer sales tax and 33% prefer gas tax.

It was particularly interesting that 62% would be concerned if the current growth rate persisted but there were no transportation improvements. "We do not want to do anything that will sour tourists who want to come to this area to spend their recreation dollars," (resident from the Peninsula). And, "We have major traffic problems that are not being addressed I hope that you are taking this survey because the [Volusia County] Council has finally come awake and is looking at the situation," (Eastern Port Orange resident).

The task of the Stetson University research was to analyze the economic development impacts of the anticipated transportation challenges facing the county. Road transportation is perceived by Volusia County officials to be a potential problem for county economic development in the relatively near future.

This study surveyed economic development professionals in Florida and focused on state-related transportation issues. And it surveyed private manufacturers and large employers in Volusia County and focused on county transportation issues.

The researcher found that economic development professionals are not satisfied with the condition of the state highway transportation system, whereas Volusia County businesses are relatively satisfied with the current condition of the roads within the county. Volusia County businesses also indicated that good roads are the absolute top priority for their business development.

In planning for the future, it is suggested that planners take note (1) that businesses in Volusia County tend to be more satisfied with the efficiency of road transportation than do economic professionals in other counties; (2) roads are seen to be by far the most important future means of transportation for businesses; and (3) roads are seen as essential for economic development both within the county and in the state.

Daytona Beach College was charged to analyze the impacts of the impending transportation challenges on business logistics. The study begins with a S.W.O.T. analysis of the business climate that revealed *strengths* of Volusia County's transportation infrastructure in that existing roadways are durable; there are existing options for future by-pass decisions; there exist physical areas for growth in both residential and commercial sectors; there is a positive business/

government atmosphere of cooperation between state, county, city and constituent entities.

Identified weaknesses of Volusia County's transportation infrastructure include a question of the infrastructure's sustainability in light of funding constraints. Also, residential growth needs to be addressed with developers, and the expanding population and economy will need parking in high-density commercial areas.

Opportunities for the county abound, primarily in the area of multi-modal resource development. Possibilities exist to construct a rail facility for inter-modal truck/train transportation that would take a significant volume of commercial traffic off the highways. Also an inter-modal truck/truck facility would spur economic development in an ideal geographical location for Central Florida and facilitate operations of the Volusia and Flagler Counties' Foreign Trade Zone #198. The study notes as a third opportunity the enhancement of air cargo activities at Daytona Beach International Airport.

Threats to Volusia County's transportation infrastructure are primarily two. The threat of a natural disaster, and more significantly, the threat that citizens would reject thoughtful road transportation plans as unnecessary. The study does verify that proactive planning is evidenced and valid, from a commercial use perspective.

After consideration of the strengths, weaknesses, opportunities and threats, the study concludes that the economic and environmental impact of the pending transportation challenges for the near future will be minimal given that existing and planned infrastructure components will support economic development out to 2050. However, if planned infrastructure projects are cut back due to reductions in funding, future economic development will undoubtedly suffer. From a safety perspective, already commuter traffic is observed as significant and perhaps dangerous in certain locations. The bottom line is that Volusia County roadways are relatively resilient compared with roadways in other geographical areas faced with seismic activity and extreme temperature variations.

The University of Central Florida research focused on validating the 2006 County survey of public perception which revealed that

- Less than 50% of the population perceived traffic congestion as a problem in Volusia County
- Only a minority felt that traffic congestion affected their daily activities
- A large majority felt that their highways were generally in good repair

Politically, these are viewed as hurdles that must be overcome in order to meaningfully address the need for transportation funding into the future.

This study utilized a redesigned survey that incorporated the concepts of the 2006 study, but included additional items to clarify the questions and responses. This study revealed that 62% of respondents agreed that traffic congestion is a

problem, an increase from 2006. Although the study does not explain this difference, it is thought to be related to the refinement of the original questions.

Also in this survey, over 99% said that it is important to reduce traffic congestion in the future. Of those who said, “No problem” in response to the traffic congestion item, over 90% said that it is important to keep traffic congestion from becoming a problem in the future – a significant finding for this study and of a particular note to the county officials. The study also confirmed, as the other consortium research studies did, that highways in Volusia County are generally perceived by the public as being in good repair.

Transportation Challenge: A Summative Report

Volusia County has done well providing an efficient road infrastructure to date, as is evident from citizen surveys and other research both by the Consortium researchers and by earlier county research. However, some research indicates that citizens are increasingly aware that congestion is becoming a problem that must be addressed now to prevent it from becoming a crisis in the future.

The State transportation needs forecasting Model used by the County to project future needed improvements to 2050 is a credible process. It was developed by the University of Florida and other state agencies at a cost of millions of dollars and is based on a national model that is used across the nation. The state model is used across the state to determine the allocation of state and federal funding for transportation improvements. Traffic and demographic calculations produced by the Model are adjusted anywhere from 10 to 20% thru negotiations between local public officials and state and federal entities to determine the proportionate funding for any given county, town or city; therefore, empirical data of the Model accounts for over 80% of the forecasted need.

These Consortium studies collectively confirm that we are headed for a potential crisis if the transportation needs of the county are not addressed before they become a serious problem. The studies also show that it is very important to citizens that traffic congestion not become a problem.

Findings illustrate that road expansion is inevitable, expansion and maintenance costs are escalating, and current road funding mechanisms will not meet the future need of Volusia County. Because county officials recently accelerated the construction of roads with bond funding, they literally saved taxpayers millions of dollars.

Consortium survey research further confirms that citizens have a high level of satisfaction with current road conditions, but are concerned about future transportation needs. Economic professionals confirm that an efficient road system is vital to economic development, and businesses in the county indicate that a sufficient road system is of highest importance to commerce and the local

economy. From a study of counties in Florida and out of state, it is evident that high growth counties use a variety of funding models that should be examined for their applicability to the Volusia County transportation needs of the future.

So, moving forward, the next steps should include initiatives (1) to create broader awareness of the impending road crisis in Volusia County, (2) to facilitate community involvement in identifying solution alternatives, and (3) to utilize both public and private funding mechanisms to leverage appropriate funding.

The Consortium studies also recommended possible short-term solutions to address the challenges at hand. Implementing a comprehensive traffic management system for Volusia County would be significantly advantageous in addressing congestion problems before they become critical. Improving right-hand turn lanes would reduce the intersection congestion already becoming a significant problem across the county. The coordination of traffic signals could help with traffic flows, particularly in peak traffic times. And the coordination and optimization of commercial traffic flows will become increasingly important as the traffic across the county increases over the years ahead.

A Quote:

“Aside from the potential for natural calamity, the most significant threat to Volusia County’s transportation infrastructure would be a lack of planning for the future.”

Volusia-Flagler Higher Education Consortium

“Partners for economic prosperity adding value to the community in economic development, community service, cultural enrichment, and shared student opportunities in curricular and extracurricular activities.”