

*Study of*  
**The Northwest Toll Expressway**  
**Savannah, Georgia**



The Study of the Northwest Toll Expressway investigated the feasibility of a toll road to accommodate local truck traffic and commuter auto traffic.

The study area includes the region north of I-16, east of I-95, and west of the Savannah River. This region includes the fast-growing Port of Savannah and the Savannah-Hilton Head Airport. The study area also is situated between Effingham County and the historic district in Savannah.

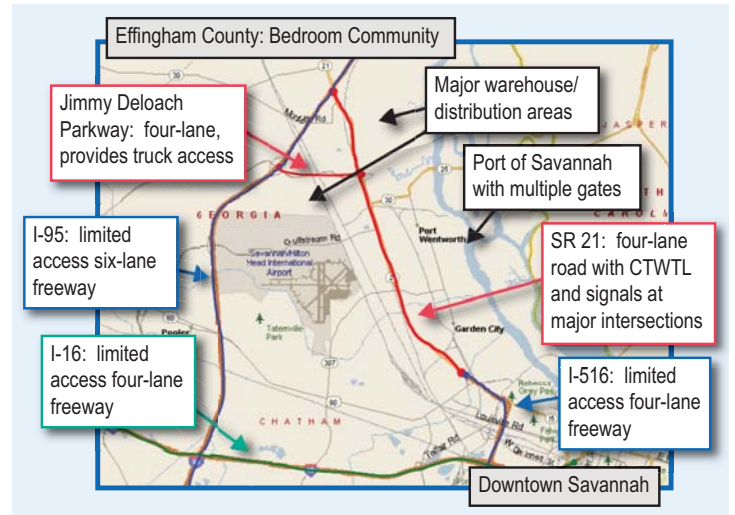


# Study of The Northwest Toll Expressway in Savannah, Georgia

## Study Goals

To investigate the feasibility of a toll road to accommodate local truck traffic and commuter auto traffic.

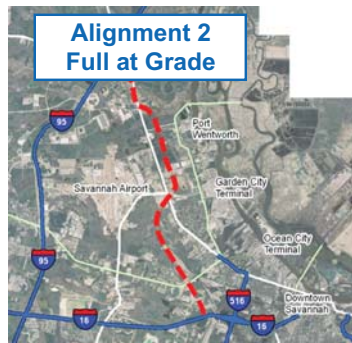
- ◆ The roadway studied is currently included in the Savannah region's long-range transportation plan.
- ◆ Existing SR 21 from I-95 to I-516 is a 7.5-mile long, four-lane signalized road with an AADT of 16,000. It is forecast to have severe congestion in 2030.
- ◆ Truck traffic is anticipated to grow along with the Port of Savannah.
- ◆ There is significant long-term regional population growth, especially in Effingham County.



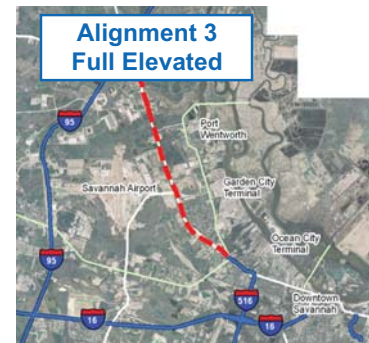
## Three Study Alignments



- ◆ At grade new road built for Port access.
- ◆ Four-lane limited access.
- ◆ Truck Only Toll (TOT) or mixed Truck and Auto.
- ◆ Total length = 4.7 miles.



- ◆ Extension of Alignment 1 to also allow for commuter auto traffic.
- ◆ Four-lane limited access for both trucks and autos with multiple interchanges.
- ◆ Total length = 10 miles.



- ◆ Four-lane limited access elevated roadway in median of SR 21.
- ◆ Mainly for auto thru traffic.
- ◆ Only one midpoint interchange.
- ◆ Total length = 7.7 miles.

## Elevated Roadway Solution

### Tampa, Florida Elevated Solution Lee Roy Selmon Crosstown Expressway

- ◆ Ten-mile reversible commuter road opened August 2006.
- ◆ Three-lane elevated toll facility in the median of four-lane expressway.
- ◆ "Six Lanes in Six Feet" cost effective segmental bridge construction method in existing Right-of-Way.
- ◆ Won numerous awards, including the 2007 IBTTA tolling project of the year.

### Motivations for Elevated Structure

- ◆ Commuters use limited access elevated roadway.
- ◆ Port traffic uses SR 21 for local access with lower speeds.
- ◆ Elevation advantage for addressing SR 21/ I-95 interchange.
- ◆ Logical connection with proposed Effingham Parkway Extension.
- ◆ Less access points allows higher design speeds.
- ◆ Less mixing of trucks and autos.
- ◆ Toll elevated structure where the time savings advantage exists.
- ◆ No toll on port activity.



# Study of The Northwest Toll Expressway in Savannah, Georgia



The following tasks were included as part of the study:

**Existing Traffic Conditions Description** – assessment of travel patterns in the corridor using truck and auto count data, travel time data, and travel demand modeling.

**Stated Preference Survey** – hundreds of interviews of auto and truck drivers to evaluate the value-of-time under various travel conditions.

**Public Outreach** – meetings with representatives of the Port of Savannah and roundtable with truck company operators that utilize the Port of Savannah to exchange ideas regarding travel options in the region.

**Site Visits** – field observations by regional and state transportation planners of similar facilities in Southern California and Tampa, Florida.

**Preliminary Conceptual Design** – development of alternative alignments, access points, and intersection/interchange layouts.

**Traffic and Revenue Analysis** – assessment of the viability of tolling and the expected revenue generated from a toll road over a long-term time frame.

**Sensitivity Tests** – “what if” testing of scenarios that included alternative toll rates, faster than expected growth at the Port of Savannah, and various values-of-time of autos and trucks.

**Capital Cost Estimation** – development of conceptual level capital cost estimates for four potential managed lane configurations.

## What did the Study Find?

### Alignment Performance

The Full Elevated Alignment benefits from reduced access points which enable it to achieve a design speed of 60 mph compared to the design speed of 45 mph achieved for the other two alignments.

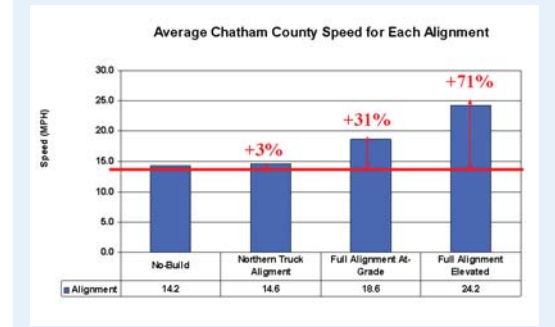
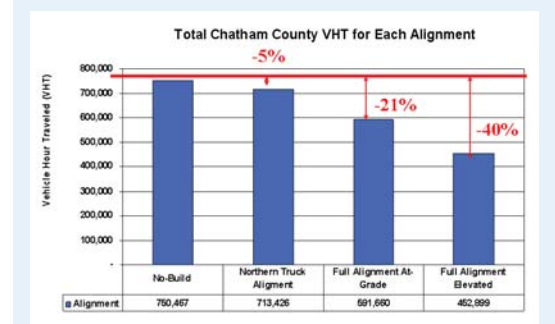
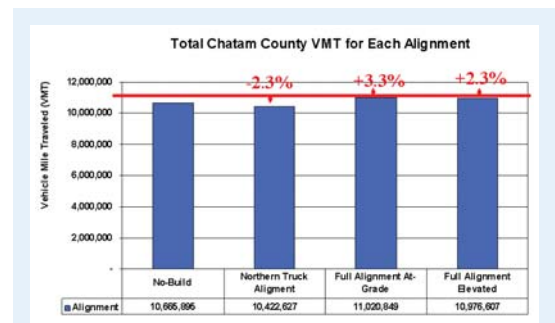
All three of the alignments reduce travel delay for autos and trucks in the county. The Full Elevated Alignment reduces delay by twice the amount of the Full At-Grade Alignment. The Full Elevated Alignment reduces delay by eight times the amount of the Northern Alignment.

Similarly, all three of the alignments increase average travel speeds in the county. The Full Elevated Alignment increases speeds by 71 percent compared to increases of 31 percent and 3 percent for the Full At-Grade Alignment and Northern Alignment respectively.

### Financial Analysis

The preliminary cost estimate for the Northern Alignment \$63 million. Its low cost is primarily attributable to its short length. The full alignments are roughly similar in terms of preliminary costs. The Full At-Grade Alignment is estimated to cost \$478 million, while the Full Elevated Alignment with one interchange is projected to cost \$546 million.

Under a 40-year revenue stream, the gross revenues collected are highest for the Full Elevated Alignment followed by the Full At-Grade Alignment and then the Northern Alignment. The toll revenues are \$400 million, \$257 million, and \$228 million respectively. Gross revenues are very preliminary and an investment grade traffic and revenue study would need to be conducted in order to determine actual bonding capacity. Beyond tolling, innovative financing options should be considered as options for funding for each of the alignments.





## Conclusions

The purpose of this study was to determine the feasibility of tolling to assist in the development of a roadway proposed in the Savannah region's long-range transportation plan.

Based on a preliminary analysis of long-term traffic patterns, design options, and financial analysis, three alternative alignments were found to have the greatest promise for addressing the region's travel needs. These alignments are the Northern Alignment, Full At-Grade Alignment, and the Full Elevated Alignment.

The Northern Alignment is focused on near-term truck traffic needs, but does not address long-term auto traffic needs. This alignment is the least expensive option, but does not provide regional traffic relief. The freight community has reservations regarding the tolling of a roadway that is aligned with the port.

The Full At-Grade Alignment addresses both truck and auto traffic needs. It will require significant right-of-way acquisitions in the region and it provides significantly less regional traffic relief relative to elevated alignment alternatives.

The Full Elevated Alignment also addresses both truck and auto traffic needs in the region. It provides improved system connectivity to I-95, I-516, and the proposed Effingham Parkway. This alignment also provides the best system benefits in terms of congestion, vehicle miles traveled, and average speed for the region. These benefits are primarily the result of increased design speeds that can be achieved using an elevated alignment with one access point in the middle of the corridor.

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[www.srta-valuepricing.net](http://www.srta-valuepricing.net)

**Visit the SRTA web site at**

[www.georgiatolls.com](http://www.georgiatolls.com)

## Moving Forward

If a decision is made to proceed with the implementation of the Northwest Toll Expressway, the following steps should occur:

- ◆ Investment-grade traffic and revenue study;
- ◆ Detailed financial analysis including consideration of alternative and innovative finance techniques;
- ◆ Detailed engineering design including the need for environmental permitting and documentation;
- ◆ Coordination of efforts between SRTA, the Georgia Department of Transportation, the Savannah Metropolitan Planning Commission, and the Federal Highway Administration regarding roadway planning in and around the study area; and
- ◆ Education and outreach to the general public in the Savannah region regarding the use of tolls in roadway development.

