

The Effect of the Proposed TSPLOST on Residents of Muscogee County
Extended Report

January 24, 2012

Prepared by
Benjamin F. Blair*

* Director of the Butler Center for Business and Economic
Research and Associate Professor of Economics at Columbus State
University. (706) 507-8173; blair_benjamin@columbusstate.edu



TURNER
COLLEGE OF BUSINESS
COLUMBUS STATE UNIVERSITY

What is the TSPLOST?

The TSPLOST is a special purpose local option sales tax whose revenues are specifically designated for transportation projects. The tax is part of The Transportation Investment Act which established 12 special tax districts along the same boundaries of Georgia's existing 12 regional development commissions. As specified in the Act, representatives from each of these special districts have developed an approved list of transportation projects within each district. In the River Valley region, which includes Muscogee County, 24 projects have been approved in the final investment list. Table 1 describes the eight projects on the approved list designated for Muscogee County.¹

Table 1. Final TSPLOST Investment List for Muscogee County

Project ID	Project Name	Project Cost
RC08-000052	Buena Vista Road I-185 Interchange	\$47,670,000
RC08-000054	Columbus River Walk	\$10,000,000
RC08-000055	Cusseta and Old Cusseta Road Improvements	\$58,269,412
RC08-000056	Intercity Express Bus Park-N-Ride Service	\$22,400,000
RC08-000057	Intersection Improvements along Buena Vista Road (Columbus Spider Web Network)	\$40,000,000
RC08-000058	South Lumpkin Multi-Use Facility	\$3,500,000
RC08-000060	SR 219 Passing Lanes from Luther Land Bridge to Happy Hollow Road Improvements	\$17,690,438
RC08-000062	US 27/Custer Road Interchange Reconstruction/Modification at Fort Benning	\$20,000,000
		TOTAL \$219,529,850

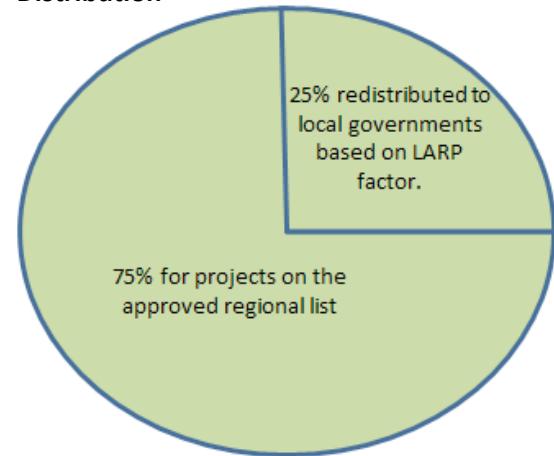
Later this year² voters in each region will have the opportunity to approve a 1% TSPLOST that will be used to fund the approved transportation projects. Approval of the tax will be based on majority vote within each region as a whole and is not conditional on each individual county's vote. For example, in the case of Muscogee County, if the majority of voters in the 16 county River Valley region approve the tax but Muscogee County residents do not, the tax will still be imposed on Muscogee county residents.

If approved, the tax will be in effect for ten years or until the tax has raised its estimated net proceeds.

As shown in Figure 1, 75% of the tax will be used to fund projects on the approved list, the remaining 25% of the tax will be distributed to local governments within the region based upon their "LARP factor"³ and can be used only for transportation projects or matching funds for state transportation projects and grants.

For regions that approve the tax, a 10% match rate will be required for local maintenance and improvement grants by the Georgia Department of Transportation. Regions which reject the tax will be required to provide a 30% match. If the tax is rejected, voters must wait at least 24 months before reconsidering.

Figure 1. Regional TSPLOST Revenue Distribution



¹ A list of all of the final approved projects in the region can be found at <http://www.it3.ga.gov/Documents/FinalList/RiverValley-FinalInvestmentList.pdf>

² Currently scheduled for the July 31, 2012 primary election.

³ The LARP (Local Assistance Road Program) factor for a local jurisdiction in a region is equal to $0.2 * (\text{local population}/\text{region population}) + 0.8 * (\text{local paved and unpaved miles}/\text{region paved and unpaved miles})$. For Muscogee County the LARP factor is 0.231137676 (<http://www.rivervalleyrc.org/HB277/Local%20Governments%2025Percent%20Allocation.pdf>)

Table 2 describes the types of transactions that are exempt from the proposed tax. The TSPLOST is exempted from the 2% cap on local sales and use taxes.⁴

Table 2. TSPLOST Exemptions

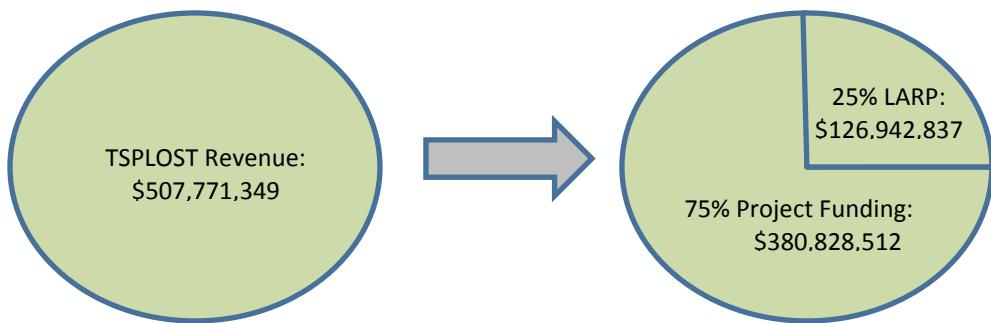
Energy used in manufacturing	Jet fuel at qualified airport
Fuel used in off-road equipment	Motor fuel
Fuel used in public transit	Sales of automobiles after the first \$5,000

How does the TSPLOST affect Muscogee County?

The analysis presented below attempts to determine the costs and benefits associated with the TSPLOST for Muscogee County residents only. The estimates are for the entire ten year lifespan of the tax and are presented in inflation adjusted 2011 dollars.

The Georgia State Fiscal Economist's office has forecasted that over the ten year life of the tax, the 1% TSPLOST will generate \$507,771,349 in the River Valley region.⁵ Based on the 75/25 percentage split described above, \$380,828,512 will be devoted to regional projects on the approved list and \$126,942,837 will be redistributed to local governments as shown in Figure 2.

Figure 2. River Valley TSPLOST Revenue Forecast and Distribution



As described in Table 1, Muscogee County will be the beneficiary of transportation projects costing an estimated \$219,529,850 and will receive a LARP distribution of \$29,341,272. Use of the LARP funds as a 10% match for state transportation grants through the Local Maintenance and Improvement Grant (LMIG) Program is estimated to add an additional \$10,678,360 over the ten years.⁶ Adding each of these three components together results in a total of \$259,549,482 for transportation uses in Muscogee County over the 10 year TSPLOST lifespan. This is taken to be the benefit to Muscogee County of the TSPLOST and is described in Figure 3.⁷

⁴ Local taxes for education and other specific purposes are also exempt from the 2% cap.

⁵ <http://www.it3.ga.gov/Documents/RevenueProjections-061411.pdf>

⁶ The amount of local government funding from the LMIG program that is available to be matched is determined annually by multiplying the amount of the motor fuel tax appropriated by the state to the program (between 10% and 20%) by the local government's "LG" factor. The LG factor is calculated as (LG population/State population)*(1/3) + (LG roadway miles/State roadway miles)*(2/3). The LG factor for Muscogee County is 0.012416699 which resulted in \$1,067,836 as possible LMIG matching funds in FY2011. We assume that this amount remains constant for the 10 year TSPLOST lifespan and that the county is successful in capturing its fully allocated amount.

⁷ Benefits associated with the construction, reduced congestion and drive time are not included due to data limitations.

Figure 3. Transportation Funding Flowing to Muscogee County from the TSPLOST



The cost of the TSPLOST to Muscogee County residents is estimated by the amount of the tax that they will pay. This has two parts. First, the amount of the tax revenue generated in the county and second, the amount of this paid by Muscogee county residents.⁸ Based on historical tax revenue data for each of the 16 counties within the region,⁹ we estimate that approximately 66.26% of the region's TSPLOST revenue (\$336,469,076) would be generated in Muscogee County.¹⁰

In order to estimate how much of this is paid by Muscogee county residents and how much is collected from shoppers who live outside of the county we examine the relationship between tax revenue and personal income.¹¹ Using Bureau of Economic Analysis estimates of county personal income and the 1% LOST sales tax revenue for each of the 159 counties in Georgia, we calculate the revenue per dollar of personal income for each county for each year 1997-2010. We then create a statewide average for each year. An "expected" tax revenue per county per year is then estimated by multiplying the statewide average times the county personal income. The formula for this calculation is presented below.

$$\text{Expected Tax Revenue in County X} = \left(\frac{\text{Average Tax Revenue per \$ Personal Income Across all Georgia Counties}}{\text{Personal Income in County X}} \right)$$

A comparison of the expected tax revenue with the actual tax revenue provides us with an estimate of the amount of tax revenue generated within a county that is paid by residents in the county. If a county's expected revenue is less than the actual revenue we assume that the difference is due to in-shopping, i.e., sales tax revenue that is generated by residents of other counties. If a county's expected revenue is greater than the actual revenue, we assume that the difference is due to out-shopping, i.e., residents of the county doing some of their shopping and paying sales taxes in other counties. Based on this analysis, we estimate that Muscogee county residents are responsible for an average of 86.59% of the tax revenue generated in the county.¹² This implies that, residents of

⁸ We do not consider the amount of TSPLOST tax that Muscogee County residents would pay as a result of purchases outside the county.

⁹ Data are from the maximum yield 1% local option sales and use tax (LOST) imposed in each of the 16 counties for the period 1997-2010. Data excludes Webster county in 1997 and 1998 when no LOST was in effect.

http://www.gmanet.com/Assets/PDF/tia_historical_20110614.pdf

¹⁰ For each year, 1997-2010, the tax revenue generated from a 1% LOST in each of the 16 counties in the region was added together. The Muscogee county percentage of this total was then calculated. This percentage was then averaged over the time span to give the final estimate of 66.26%. The Muscogee county percentage was fairly constant throughout the time period ranging from a low of 64.27% in 2008 to a high of 67.25% in 1998.

¹¹ Personal income is the most widely used measure with which to forecast sales tax revenue and it is what was used by the State in order to forecast the TSPLOST revenues.

¹² This is an average of the expected tax revenue/actual tax revenue for each year 1997-2010. The remaining 13.41% of the tax revenue is paid by shoppers who live in counties other than Muscogee county. Since our focus is

Muscogee county would pay \$291,348,573 of the estimated \$336,469,076 that would be generated by the TSPLOST over 10 years in Muscogee county. This is assumed to be the cost of the TSPLOST.¹³

Comparing the Estimated Costs and Benefits.

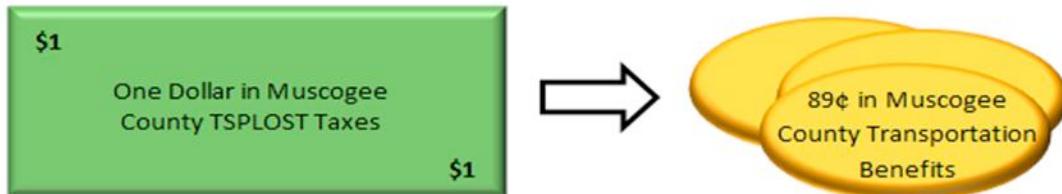
We can now compare the estimated costs and benefits of the proposed TSPLOST to Muscogee County residents in a variety of ways. First, by subtracting the estimated costs from the benefits, we estimate that the net benefit to Muscogee County residents is -\$31,799,091. This is illustrated in Figure 4.

Figure 4. Net Benefit of the TSPLOST to Muscogee County Residents



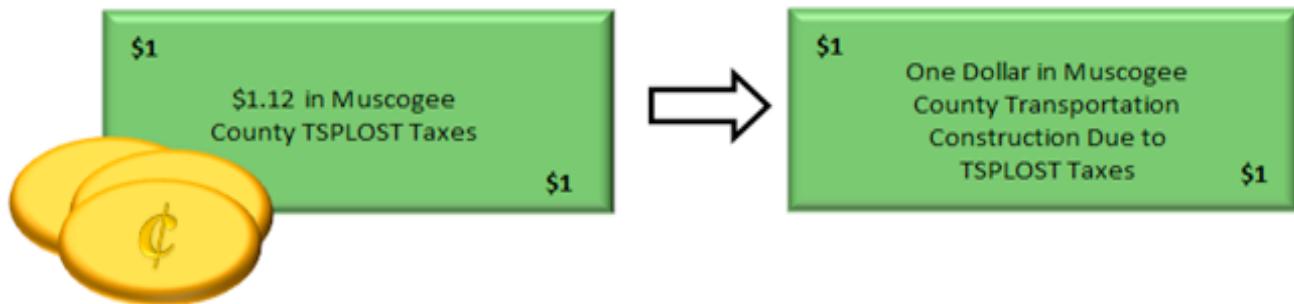
Second, by dividing the estimated benefits by the cost, we estimate that every dollar paid by Muscogee County residents as a result of the TSPLOST results in 89¢ in benefits to the County in the form of transportation projects. This is illustrated in Figure 5

Figure 5. Benefits per Dollar of TSPLOST Paid by Muscogee County Residents



Finally, Figure 6 illustrates that Muscogee County residents pay \$1.12 as a result of the TSPLOST in order to receive one dollar of the TSPLOST benefits.

Figure 6. Cost to Muscogee County Residents of One Dollar in TSPLOST Benefits



on Muscogee county, no estimation was made as to how much of this is due to residents within the River Valley region, residents of Alabama, or elsewhere.

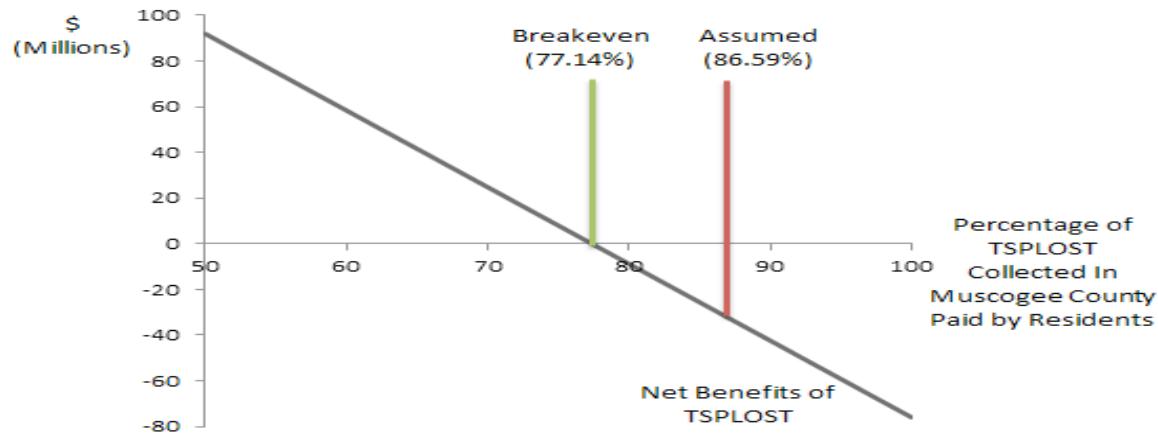
¹³ Implicit costs associated with a possible reduction in total sales activity due to the imposition of the additional 1% sales tax are not included.

How sensitive are these results to the underlying assumptions?

The benefit/cost analysis presented above relies on several underlying assumptions. At the outset, we base our sales tax revenue forecasts on the regional forecasts provided by the Georgia State Fiscal Economist's office.¹⁴ These regional forecasts make assumptions regarding the growth of personal income in the region and the relationship between personal income and sales tax revenue and are discussed in more detail in their report. In order to estimate the impact of the TSPLOST on Muscogee County alone, we made the following additional assumptions:

- (1) Muscogee County benefits only from the transportation projects proposed for completion within the county.
- (2) The dollar value of the transportation projects represents the benefits of the projects. Benefits from reduced congestion and drive time are not included.
- (3) The cost of the TSPLOST to Muscogee County residents is the amount of the tax that they pay within the county. Taxes that they pay outside the county are not included. We also do not include the possibility that other tax revenues to the county might fall due to the imposition of an additional sales tax.
- (4) If the 1% TSPLOST were imposed in the River Valley region, 66.26% of the revenue would be generated in Muscogee County.
- (5) Muscogee County residents pay 86.59% of the sales tax generated in Muscogee County. The remaining 13.41% of the revenue is generated by shoppers who reside outside the county.

Of these assumptions, the last one is the most questionable. While the value of 86.59% is based on historical averages, a more thorough analysis would have based the value on an analysis of shopping behavior in Muscogee County. Due to budget and time limitations this was not within the scope of this study. However, even though we do not have explicit data on shopping behavior, we can examine how the results presented above depend upon this assumption. The graph below illustrates how the net benefit of the TSPLOST is affected by changing the percentage of the sales tax paid by Muscogee County residents.



As shown in the figure, if the actual percentage is 77.14% then the estimated benefits of the TSPLOST are equal to the estimated costs. If the actual percentage is less than this, then the TSPLOST results in positive net benefits to the county. If the actual percentage is above this, then the TSPLOST has negative net benefits.

¹⁴ <http://www.it3.ga.gov/Documents/RevenueProjections-061411.pdf>

How does a countywide 1% SPLOST compare to the proposed regional 1% TSPLOST?

While an equivalent special purpose local option sales tax, or SPLOST, and a TSPLOST would both increase sales taxes by the same percentage, they differ in some key respects.

- Revenue from the TSPLOST can only be used to fund transportation projects. SPLOST revenue is designated for particular purposes which may include, but are not limited to, transportation uses.
- Only voters within Muscogee County would determine whether a SPLOST passes. Passage of the TSPLOST is determined by voters in the entire region.
- A SPLOST is not subject to the same exemptions as the TSPLOST.
- If the TSPLOST is not passed, a 30% matching rate will be required when applying for LMIG grants. Based on the assumptions above, this would require matching funds to increase from \$1,186,484 to \$3,559,453 over the 10 year period.

A 1% SPLOST imposed in Muscogee County over the same span of time as the proposed TSPLOST is estimated to raise \$373,982,705.¹⁵ Of this we estimate that Muscogee County residents pay \$323,831,624. Compared to the TSPLOST an equivalent SPLOST would increase the tax burden on Muscogee County residents by approximately \$3.25 million per year.¹⁶ However, while the TSPLOST results in \$259,549,482 flowing back to the County in the form of transportation projects, the equivalent SPLOST results in a total of \$373,982,705 in revenue, an additional \$114,433,223 (\$11.4 million per year) over the same time span.¹⁷ These results are summarized in Table 2.

Table 2. A Comparison of SPLOST and TSPLOST Costs and Benefits to Muscogee County Residents.

	SPLOST	TSPLOST	Comparison of SPLOST to TSPLOST
Costs	\$323,831,624	\$291,348,573	Additional \$3.25 million/year tax burden
Benefits	\$373,982,705	\$259,549,482	Additional \$11.4 million/year benefits
Net Benefits	\$50,151,081	-\$31,799,091	Additional \$8.15 million/year net benefits

Using LMIG matching funds, the County could fund the same transportation projects as under the TSPLOST with an excess of \$150,893,402 in revenue over the 10 years. Alternatively, a SPLOST designated for transportation purposes imposed for 7 years could generate the same transportation revenues as the proposed 10 year TSPLOST.

The values in the table above are derived using the assumption that county residents pay 86.59% of the sales tax. However, since the countywide SPLOST would keep all revenue within the county, it will generate greater net benefits regardless of this assumption.

Summary

We estimated that the proposed TSPLOST will result in negative net benefits for Muscogee County residents. We then presented a sensitivity analysis of the model's assumptions. A key assumption is the percentage of tax revenue paid by Muscogee County residents (86.59%). We showed that residents could receive positive net benefits from the TSPLOST if the actual percentage is below 77.14%. We also provided a comparison between the TSPLOST and an equivalent SPLOST.

¹⁵ Based on historical 1% LOST tax collections in the county and the growth rate assumed by the State for its regional TSPLOST revenue estimates.

¹⁶ Due to the lack of exemptions.

¹⁷ Since all revenue stays within the county.