

AECOM CONSULT

Economic Impacts - Central Florida Commuter Rail Transit Project

Final Report

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The report addresses the economic impacts of construction and operation of the 61 mile Central Florida Commuter Rail Transit Project

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1.1 Economic Impacts

This report describes the economic effects of the Central Florida Commuter Rail Transit project on the regional economy of the service area consisting of Orange, Osceola, Seminole, and Volusia counties (and the respective municipalities along the project corridor), the city of Orlando and on the broader scale the state of Florida economy. The economic effects are evaluated based on the impacts project expenditures would have on Orange, Osceola, Seminole, and Volusia counties (and the respective municipalities along the project corridor), city of Orlando and the state of Florida, in terms of increased employment and related economic effects. This report emphasizes economic stimulus effects which will directly increase numbers of jobs. Other economic aspects of the new rail transit service are covered in other reports.

1.1.1 Baseline/Existing Conditions

The construction, operation, and subsequent market response to the availability of this improved level of rail service will all influence economic activity in Orange, Osceola, Seminole, and Volusia counties, (and the respective municipalities along the project corridor), city of Orlando as well as the broader state of Florida. Building the rail facilities will expand payrolls for the duration of the project's construction cycle. The earnings of these newly-hired construction workers will translate into a proportional increase in consumer demand as these workers purchase goods and services in the region. A further increase of new employment across a variety of industrial sectors and occupational categories is expected as employers hire to meet this increase in local consumer demand. This latter hiring represents the project's indirect impact.

This report describes the anticipated output (sales by businesses), employment (jobs measured by employment of one-year's duration), earnings (income earned by local and state residents) and fiscal effects (tax revenues) of the project. The analysis focuses on the net effects generated by new investment and continuing operations in the local and state economy resulting from the 61 mile commuter rail project from Poinciana Boulevard near Kissimmee through downtown Orlando to DeLand. The two areas considered in this analysis include (1) Orange, Osceola, Seminole, and Volusia counties and the city of Orlando and (2) the state of Florida. The economic effects are estimated in terms of net output, employment, earnings, and the resulting fiscal impacts.

The economic impacts associated with construction and operations and maintenance expenditures for the Central Florida Commuter Rail Transit project are measured using regional multipliers from the Bureau of Economic Analysis (BEA) within the U.S. Department of Commerce. Derived from the Regional Input-Output Modeling System, referred to as RIMS II multipliers measure the total change (direct + indirect effects) in output, employment, and earnings that results from an incremental change to a particular industry. Two sets of multipliers are used. The first set was constructed by BEA to reflect the Orange (including city of Orlando), Osceola, Seminole, and Volusia counties economy. The second set of multipliers corresponds to state of Florida's economy. The multipliers are based on the 2006 Annual Input-Output Table for

the nation and 2006 regional accounts data; they represent the most updated version available at the time this analysis was prepared.

Fiscal impacts are quantified by applying tax rate information obtained directly from the counties and the state to the estimated changes in economic activity and tax base.

This analysis assumes that transportation network improvements included in the Volusia and Orlando Metropolitan Planning Organization's (MPO) Financially Constrained Networks also are included in the Central Florida Commuter Rail Transit project. Therefore, this section focuses only on the additional incremental economic impacts attributable to the Central Florida Commuter Rail Transit project i.e., the marginal differences between the future conditions without the Central Florida Commuter Rail Transit Project and the future conditions under implementation of a Central Florida Commuter Rail Transit project.

1.1.2 Impact Assessment

1.1.3 Output, earnings, and employment effects from capital expenditures

Construction of the project represents significant capital investment in the local economies of Orange, Osceola, Seminole, and Volusia counties (and the respective municipalities along the project corridor), and the city of Orlando. This spending will increase the employment, earnings and output for the duration of the construction project. This section describes the spending and the anticipated economic impacts.

1.1.3.1 Capital Expenditures

Construction of the Central Florida Commuter Rail Transit project is estimated to cost \$584 million in 2008 dollars for the 61 mile rail line. It must be noted that the cost figures are the **net capital expenditures** for the Central Florida Commuter Rail Transit project.

Total capital expenditures are divided into four major categories. These include:

- General Construction: guideway elements, stations, yards and shops, sitework, systems, and contingencies;
- Vehicles: vehicle manufacturing and assembly;
- Right-of-Way: all right-of-way, land and existing improvements; and
- Soft Costs: engineering and related services.

Table 1 summarizes the capital costs by major type for the Central Florida Commuter Rail Transit project.

Table 1: Summary of Capital Costs by Major Category (in thousands, 2008 dollars)

Alternative	General Construction Cost ⁽¹⁾	Vehicles	Right of Way	Soft Costs	Total ⁽²⁾
Complete 61 mile rail line	\$ 356,747	\$ 110,070	\$ 47,864	\$ 69,536	\$ 584,217

(1) Includes Contingency Costs; (2) This table lists the net capital expenditures for the Central Florida Commuter Rail Transit project. Note: Values in this table and hereafter are expressed in 2008 \$ to provide a common reference for impacts that occur in different years.

The economic impact of these expenditures will vary significantly by type and depends on the amount of locally produced goods and services embodied in the purchase. **Construction goods and services** will be purchased in the local economy. Although every building material required for the project is not produced locally, the RIMS II multipliers reflect the supplier linkages for the industry, and thus account for this leakage from the local economy. More importantly, construction is labor intensive and construction labor is generally drawn from the local area. Systems expenditures (control, communications, signals etc.) are treated separately from construction.

Vehicle purchases, by contrast, will not be purchased from the local economy. It is probable that components for the vehicles are made by Florida suppliers; these represent a share of the vehicles' cost and are included in this analysis.

The **Right-of-Way expenditures** shown above are for real property only; the transaction costs associated with these expenditures are included in the analysis

The **Soft Costs**, which consist of professional/engineering services, project management, etc., are purchased in the local economy and thus do have an impact in the local economy.

In sum, there are two types of capital expenditures that are expected to have a measurable impact on the economy: General Construction and Soft Costs. Right-of-Way expenditures will have some impact based on the transactions costs, and vehicle purchases may have a small impact at the state level.

Funding Sources

In order to isolate the potential economic effects of the project to the regional economy and the state of Florida, it is necessary to distinguish those resources that are new to the economy and that would not be invested in Orange, Osceola, Seminole, and Volusia counties but for the project, from those that would still be spent in the region with similar economic effects (for example, funds that would be allocated to other transportation construction projects in the region).

Table 2 summarizes the funding sources and amounts that are planned for the Central Florida Commuter Rail Transit project and indicates whether these funds represent new resources that are being invested in the region because of the project or whether instead they are existing funds that would have been spent on a transportation project somewhere in the region regardless of the project's construction.

Table 2: Summary of Funding Sources for the CFCR (in thousands, 2008 dollars)

Source	Amount	Funding Share	New or Existing Funding Source by Region	
			Region	Florida (Rest of state)
Federal 5309 New Starts	\$ 292,109	50.0%	New	New
Region (Orange, Osceola, Seminole, and Volusia counties, city of Orlando)	\$ 146,054	25.0%	Existing	New
Florida	\$ 146,054	25.0%	New	Existing
Total Funding	\$ 584,217	100.0%	-----	-----

New Start Federal funds originate from outside of the combined Orange, Osceola, Seminole, and Volusia county region and the State of Florida; they thus represent new resources. The funding sources that originate within the combined county region are existing revenue sources thus they are labeled “Existing” in the tables above and do not represent new resources to the region. Florida funding is regarded as a new resource to the four-county region.

There are two considerations in determining the capital cost impacts.

1. Are the expenditures of the type likely to yield impacts in the regional economy?
2. Are the funds used to make those expenditures new resources for the region?

A comparison of expenditures that impact the local economy to new resources is shown in Table 3 below. The amount of expenditures with significant local labor content that will yield impacts on the local economy is derived from the data in Table 1 and represents the sum of expenditures on General Construction, Soft Costs, and the transactions costs associated with Right-of-Way for the Central Florida Commuter Rail Transit project. The amount of funding that represents new resources for the region is derived from Table 2 and represents the sum of those sources designated as “New”.

Table 3: Comparison of New Regional Resources with Impact Generating Expenditures by Alternative (thousands of 2008 dollars)

Alternative	Expenditures That Impact Local Economy	New Resources for Orange, Osceola, Seminole, and Volusia counties, city of Orlando	New Resources for Florida
Complete 61 mile rail line	\$ 474,147	\$ 438,163	\$ 438,163

The amount of funding that represents new resources for the region is less than the total of all capital expenditures expected to impact the local economy. This means that every dollar of new resources is expected yield an impact.

Table 4 shows the RIMS II multipliers by expenditure category for the state of Florida and the four county region consisting of Orange (including city of Orlando) Osceola, Seminole, and Volusia counties.

Table 4: RIMS II Multipliers by Region by Expenditure Category

		Multiplier				
		Final Demand			Direct Effect	
Region	Expenditure Category	Output (dollars)	Earnings (dollars)	Employment (jobs)	Earnings (dollars)	Employment (jobs)
Florida	Construction	2.2331	0.7412	19.8569	1.9640	2.1474
	Systems-Control	2.0135	0.5280	13.0434	2.2582	2.4465
	Systems-Communications	1.9755	0.5232	10.3771	2.1795	3.5219
	Vehicles	1.6919	0.3776	9.1430	2.1946	2.5127
	Soft Costs: Professional,	2.0641	0.7774	19.3751	1.7228	2.0990

	scientific and technical services					
	Right-of-Way	1.6417	0.2869	11.3976	2.8234	2.0288
Four County Region	Construction	2.0686	0.6511	17.4310	1.9095	2.0862
	Vehicles	1.0000	0.0000	0.0000	0.0000	0.0000
	Systems-Control	1.9263	0.4871	11.9323	2.2367	2.4029
	Systems-Communications	1.9012	0.4893	9.5516	2.1200	3.3720
	Soft Costs: Professional, scientific and technical services	2.0254	0.7424	18.4028	1.7198	2.0602
	Right-of-Way	1.6100	0.2683	10.7700	2.7161	1.9724

Source: Bureau of Economic Analysis, U.S. Department of Commerce

The interpretation of the multipliers shown in Table 4 is as follows. The construction industry is used as an example.

The **Final Demand Output Multiplier** represents the total dollar change in output (interindustry sales) that occurs in all industries for each additional dollar of output delivered to final demand by the construction industry.

The **Final Demand Earnings Multiplier** represents the total dollar change in earnings of households employed by all industries for each additional dollar of output delivered to final demand by the construction industry.

The **Final Demand Employment Multiplier** represents the total change in number of jobs that occurs in all industries for each \$1 million of output delivered to final demand by the construction industry.

The **Direct Effect Earnings Multiplier** represents the total dollar change in earnings of households employed by all industries for each additional dollar of earnings paid directly to households employed by the construction industry.

The **Direct Effect Employment Multiplier** represents the total change in number of jobs in all industries for each additional job in the construction industry.

Applying the RIMS II Multipliers for construction, vehicles, soft costs, and right-of-way to the amount of new funding that will be used for project implementation provides estimates of the net output, earnings and employment impacts generated by the Central Florida Commuter Rail Transit project by region. The results are summarized in Table 5 below. Note that these are one-time impacts that last for the duration of the project's construction. One job is defined as a job for one person of one year's duration. As an example, a job for one person that had duration of three years would be defined as three person-year jobs.

Table 5: Net Effects of Project Implementation upon Orange (including city of Orlando), Osceola, Seminole, and Volusia counties and Florida rest-of-state

Region	Net Impact		
	Output (Ths \$ 2008)	Earnings (Ths \$ 2008)	Employment (jobs)
Four Counties	\$ 700,430	\$ 203,558	5,373
Florida rest-of-state	\$ 177,902	\$ 52,070	1,325

In the case of economic impacts generated by capital expenditures, there are no long-term effects. Construction-related impacts last for the duration of the project's construction cycle.

For Orange (including city of Orlando), Osceola, Seminole, and Volusia counties the effect of implementation of the Central Florida Commuter Rail Transit project would result in \$700 million in output (2008 dollars), over \$203 million in earnings, and 5,373 person-year jobs in Orange, Osceola, Seminole, and Volusia counties. Within the rest of the state of Florida, implementation of the Central Florida Commuter Rail Transit project will result in \$178 million in output (2008 dollars), \$52 million in earnings, and 1,325 new person-year jobs. The comparison of the four-county impacts to the state impacts indicate most of the sales among firms (output) earnings and jobs are retained in the four counties, with lesser but still substantial impacts generated in the rest of the state.

The impacts shown in Table 5 are disaggregated below in Table 6 to show output, earnings and employment for each county and the City of Orlando. The estimates in Table 6 are based on data from County Business Patterns for various job classifications.

Table 6: Net Effects of Project Implementation upon Orange, Osceola, Seminole, and Volusia counties and City of Orlando

County/City	Net Impact		
	Output (Ths \$ 2008)	Earnings (Ths \$ 2008)	Employment (jobs)
Orlando	\$155,377	\$ 44,777	1,183
Orange (except Orlando)	\$238,981	\$ 68,870	1,819
Osceola	\$ 42,679	\$ 11,972	330

Seminole	\$148,264	\$ 44,719	1,174
Volusia	\$115,128	\$ 33,221	868

1.1.4 Output, earnings, and employment effects from operating and maintenance expenditures

Project operations and maintenance represents significant recurring expenditures in the local economies of Orange, Osceola, Seminole, and Volusia counties and city of Orlando. This spending will increase the employment, earnings and output for the duration of commuter rail operations. This section describes the spending and the anticipated economic impacts for 30 years of operations.

1.1.4.1 Operations and Maintenance Expenditures

Operation and maintenance expenditures for the new commuter rail system represent an annual flow of funds into the regional transportation sector of the economy and, as with capital expenditures, will have direct employment impacts as well as indirect and induced impacts on the larger economy. Because these functions are labor intensive, these expenditures will directly produce many more jobs for the local economy. An estimated 32 percent of operating costs will be covered by farebox revenues, with the remaining costs covered by government funds.

Total operation and maintenance expenditures are estimated at \$21,727,426 in 2008 dollars.

Table 7: Net Effects of Project Operations & Maintenance upon Orange (including city of Orlando), Osceola, Seminole, and Volusia counties and Florida rest-of-state

Net Impact (30 Years-Net Present Value)			
Region	Output (Ths \$ 2008)	Earnings (Ths \$ 2008)	Employment (jobs)
Four Counties	\$ 281,109	\$ 91,726	6,150
Florida rest-of-state	\$ 10,448	\$ 10,043	660

For Orange (including city of Orlando), Osceola, Seminole, and Volusia counties the effect of 30 years of operations of the Central Florida Commuter Rail Transit project would result in \$281 million in output (2008 dollars), over \$91 million in earnings, and 6,150 person-year jobs in Orange, Osceola, Seminole, and Volusia counties. Within the rest of the state of Florida, implementation of the Central Florida Commuter Rail Transit project will result in \$10 million in output (2008 dollars), \$10 million in earnings, and 660 new person-year jobs. The output and earning extending for 30 years were discounted to reflect 2008 dollars using a 2.8 percent

discount rate as recommended by the Office of Management and Budget. The comparison of the four-county impacts to the state impacts indicates most of the jobs are retained in the four county service area.

The impacts shown in Table 7 are disaggregated below in Table 8 to show output, earnings and employment for each county and the City of Orlando. The estimates in Table 8 are based on data from County Business Patterns for various job classifications.

Table 8: Net Effects of Project Operations & Maintenance upon Orange, Osceola, Seminole, and Volusia counties and City of Orlando

Net Impact (30 Years-Net Present Value)			
County/City	Output (Ths \$ 2008)	Earnings (Ths \$ 2008)	Employment (jobs)
Orlando	\$ 88,164	\$ 28,768	1920
Orange (except Orlando)	\$135,603	\$ 44,247	2970
Osceola	\$ 14,380	\$ 4,692	330
Seminole	\$ 22,385	\$ 7,304	480
Volusia	\$ 20,576	\$ 6,714	450

1.1.5 Summary of output, earnings, and employment effects

The following tables show the combined effects of project implementation and operations and maintenance for output (sales among firms) earnings (by local and state residents) and employment (jobs for local and state residents). Table 9 shows the impacts from project implementation and operations and maintenance for the four counties (including city of Orlando) and the state of Florida rest-of-state.

Table 9: Net Effects of Project Implementation and Operations & Maintenance upon Orange (including city of Orlando), Osceola, Seminole, and Volusia counties and Florida rest-of-state

Net Impact (30 Years-Net Present Value)			
Region	Output (Ths \$ 2008)	Earnings (Ths \$ 2008)	Employment (jobs)
Four Counties	\$ 981,539	\$ 295,284	11,523
Florida rest-of-	\$ 188,350	\$ 62,113	1,985

state

For Orange (including city of Orlando), Osceola, Seminole, and Volusia counties the effect of project implementation and 30 years of operation of the Central Florida Commuter Rail Transit project would result in \$982 million in output (2008 dollars), over \$295 million in earnings, and 11,523 person-year jobs in Orange, Osceola, Seminole, and Volusia counties. Within the rest of the state of Florida, implementation and 30 years of operation of the Central Florida Commuter Rail Transit project will result in \$188 million in output (2008 dollars), \$62 million in earnings, and 1,985 new person-year jobs. The comparison of the four-county impacts to the state impacts indicate most of the sales among firms (output) earnings and jobs are retained in the four counties, with lesser but still substantial impacts generated in the rest of the state.

Table 10 provides detail by county and city of Orlando regarding the impacts of the project implementation and continuing operations.

Table 10: Net Effects of Project Implementation and Operations & Maintenance upon Orange, Osceola, Seminole, and Volusia counties and City of Orlando

Net Impact (30 Years-Net Present Value)			
County/City	Output (Ths \$ 2008)	Earnings (Ths \$ 2008)	Employment (jobs)
Orlando	\$ 243,541	\$ 73,545	3103
Orange (except Orlando)	\$ 374,584	\$113,117	4789
Osceola	\$ 57,059	\$ 16,664	660
Seminole	\$ 170,649	\$ 52,023	1654
Volusia	\$ 135,704	\$ 39,935	1318

The estimates of employment (jobs of one year's duration) are both the direct and indirect employment impacts from project implementation and 30-years of operations and maintenance. Table 11 shows how the direct employment involved in constructing and operating the Central Florida Commuter Rail Transit project creates a substantial number of indirect jobs. These indirect jobs are created from the spending of those employed in construction of the project. The indirect jobs include retail and wholesale trade, FIRE, services, health care, etc. As shown in Table 11 spending from direct employment creates 5,679 indirect jobs (0.71 indirect jobs for every 1.0 direct jobs), implying the project provides substantial economic stimulus to the four county region and the state of Florida.

Table 11: Employment from Project Implementation and 30 years Operations & Maintenance upon Orange, Osceola, Seminole, and Volusia counties and City of Orlando and Florida rest-of-state

County/City	Net Impact		
	Total Employment	Direct Employment	Indirect Employment
Orlando	3,115	1,917	1,198
Orange (except Orlando)	4,792	2,950	1,842
Osceola	645	379	266
Seminole	1,665	898	767
Volusia	1,319	719	600
Florida (rest of state)	2,015	1,009	1,006

1.1.6 Tax Revenue Effects

The creation of new jobs and earnings associated with implementation of the project and the resulting increases in income will foster greater retail spending. The state of Florida taxes retail sales at a 6.00% rate. Orange, Osceola, Seminole, and Volusia counties impose local option sales taxes at rates ranging from 0.50% to 1.00%. Corporate income taxes were estimated from profit margins on sales. Employment security taxes were estimated from employment (jobs created). Revenues estimated include the following:

- Retail sales tax
- Corporate income tax
- Employment security tax

Tax revenues are estimated for the project implementation and for 30 years of operation. Table 12 shows the estimated tax revenues for the 61 mile Central Florida Commuter Rail Transit project. These estimates are a first approximation of future tax revenues.

Table 12; State and Local Tax Revenue Attributable to Project Implementation and 30 Years of Operations (2008 \$)

JURISDICTION	Sales Tax	Corporate Income Tax	Employment Security Tax
State of Florida	\$8,071,536	\$2,980,834	\$2,553,800

Orange County	\$ 351,822	n.a.	n.a.
Osceola County	\$ 62,722	n.a.	n.a.
Seminole County	\$ 195,424	n.a.	n.a.
Volusia County	\$ 75,036	n.a.	n.a.

Most of the tax revenue accrues to the state of Florida. Each county derives additional sales tax revenue from local option taxes. The sales tax revenues are derived from earnings and include the earnings from direct and indirect jobs created during project implementation and 30 years of earnings from operations and maintenance. Corporate taxes are derived from profit margins by firms that are taxed at the rate of 5.5 percent. Employment security taxes are derived on a per job basis using a tax rate of 2.7 percent on the first \$7,000 of wages.

1.1.7 Conclusions

The construction and operation of SunRail service will have a marked stimulatory effect on the economies of the four counties the line will serve. There will also be noticeable stimulus effects for the rest of Florida. Thousands of construction and related jobs will be added during the construction period from 2009 to 2011. Labor intensive functions of operations and maintenance will add many more jobs for a long term period following the initiation of service. Given current schedule, construction can begin in 2009. This will help reduce the effects of the current recession. This report has estimated these positive economic effects of the project in terms of increased output, earnings and jobs. This major capital project arrives at a particularly favorable time for the local and state economies.

- The FTA New Starts program, which would provide about 50 percent of the funding for the Central Florida Commuter Rail Transit project, is one of a few Federal programs that generates “new money” for the Orange, Osceola, Seminole, and Volusia counties, city of Orlando and the state of Florida
- The large share of Federal funding (assumed at 50%) combined with the substantial economic and fiscal impacts generated within the state create a result whereby the project provides a “return on investment”
 - Earnings in city of Orlando, Orange, Osceola, Seminole, and Volusia counties are twice as much as the combined local share for project implementation
 - Direct employment for project construction totals 7,972 jobs, another 5,679 indirect jobs are created from the household spending of those workers involved with project construction
 - Construction and continuing operations of the Central Florida Commuter Rail Transit project generate almost \$1.2 billion in sales for Florida businesses
- The project is a strategic investment for the future growth of the region

- Provides connections to major employment locations and attractions throughout the corridor
- Provides access to major sports, entertainment and meeting facilities
- Increases the accessibility to the medical center facilities
- Uses a substantial amount of existing alignment while preserving road capacity
- Decreases the need for parking, which enables an acceleration in adaptive reuse redevelopment activities
- The project combined with the future investment in a comprehensive transit system in the region increase modal choice options
- Corridor investments provide the context for focused growth through Transit Oriented Development around and near stations