

AECOM CONSULT

Economic Impacts- FEC Rail Corridor Program

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The report addresses the economic impacts of implementation and operation of the FEC Rail Corridor Program

Contents

1.1	Economic Impacts	2
1.1.1	Baseline/Existing Conditions.....	2
1.1.2	Impact Assessment.....	2
1.1.3	Output, earnings, and employment effects from capital expenditures	2
1.1.4	Output, earnings, and employment effects from operating and maintenance expenditures.....	6
1.1.5	Summary of output, earnings, and employment effects	7
1.1.6	Sales Tax Revenues.....	9
1.1.7	Conclusions	9

1.1 Economic Impacts

This report describes the economic effects of the FEC Rail Corridor program on the regional economy of the service area consisting of Duval, St. John's, Flagler, Volusia, Brevard, Indian River, St. Lucie, Martin, and Palm Beach counties and on the broader scale the state of Florida economy. The economic effects are evaluated based on the impacts project expenditures would have on Duval, St. John's, Flagler, Volusia, Brevard, Indian River, St. Lucie, Martin, and Palm Beach counties and the state of Florida, in terms of increased employment and related economic effects.

1.1.1 Baseline/Existing Conditions

This report describes the anticipated output (sales by businesses), employment (jobs measured by full-time equivalent employment, FTE), and earnings (income earned by local and state residents) attributable to the program. The analysis focuses on the net effects generated by new investment and continuing operations in the local and state economy. The two areas considered in this analysis include (1) Duval, St. John's, Flagler, Volusia, Brevard, Indian River, St. Lucie, Martin, and Palm Beach counties and (2) the state of Florida. The economic effects are estimated in terms of net output, employment, and earnings.

The economic impacts associated with implementation and operations and maintenance expenditures for the FEC Rail Corridor program 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 Duval, St. John's, Flagler, Volusia, Brevard, Indian River, St. Lucie, Martin, and Palm Beach 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.

This analysis assumes that transportation network improvements included in the corridor also are included in the FEC Rail Corridor program. Therefore, this report focuses only on the additional incremental economic impacts attributable to the FEC Rail Corridor program i.e., the marginal differences between the future conditions without the FEC Rail Corridor program and the future conditions under implementation of the FEC Rail Corridor program.

1.1.2 Impact Assessment

1.1.3 Output, earnings, and employment effects from capital expenditures

Implementation of the project represents capital investment in the local economies of Duval, St. John's, Flagler, Volusia, Brevard, Indian River, St. Lucie, Martin, and Palm Beach counties. This

spending will increase the employment, earnings and output during project implementation. This section describes the spending and the anticipated economic impacts.

1.1.3.1 Capital Expenditures

Investment in the FEC Rail Corridor program is estimated to cost \$141.2 million. It must be noted that the cost figures are the *net capital expenditures* for the FEC Rail Corridor program.

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

- General Implementation: guideway elements, stations, yards and shops, sitework, systems, and contingencies;
- Vehicles: production/sourcing of components, 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 FEC Rail Corridor program.

Table 1: Summary of Capital Costs by Major Category (in thousands, 2009 dollars)

Alternative	General Implementation Cost	Vehicles	Right of Way	Soft Costs	Total ⁽¹⁾
FEC Rail Corridor Program	\$ 60,800		\$ 68,400	\$ 12,000	\$ 141,200

(1) This table lists the net capital expenditures for the FEC Rail Corridor program. Note: Values in this table and hereafter are expressed in 2009 \$ 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.

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 Duval, St. John’s, Flagler, Volusia, Brevard, Indian River, St. Lucie, Martin, and Palm Beach 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 implementation projects in the region).

Table 2 summarizes the funding sources and amounts that are planned for the FEC Rail Corridor program 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 implementation.

Table 2: Summary of Funding Sources for the FEC Rail Corridor Program (in thousands, 2009 dollars)

Source	Amount	Funding Share	New or Existing Funding Source by Region	
			Region	Florida (Rest of state)
Federal Stimulus Funds	\$ 141,200	100.0%	New	New
Region (Duval, St. John's, Flagler, Volusia, Brevard, Indian River, St. Lucie, Martin, and Palm Beach counties)	\$ 0			
Florida	\$ 0			
Total Funding	\$ 141,200	100.0%	-----	-----

Federal Stimulus funds originate from outside of the combined Duval, St. John's, Flagler, Volusia, Brevard, Indian River, St. Lucie, Martin, and Palm Beach county region and the State of Florida; they thus represent new resources. 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 for the FEC Rail Corridor program. 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 2009 dollars)

Alternative	Expenditures That Impact Local Economy	New Resources for Duval, St. John's, Flagler, Volusia, Brevard, Indian River, St. Lucie, Martin, and Palm Beach counties	New Resources for Florida
FEC Rail Corridor	\$ 141,200	\$ 141,200	\$ 141,200

The amount of funding that represents new resources for the region is equal to 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.

Impacts are derived by application of the RIMS II that provides multipliers to show direct and indirect effects of project expenditures. The RIMS II multipliers are applied to project expenditures to show the following effects.

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 implementation 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 implementation 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 implementation 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 implementation industry.

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

Applying the RIMS II Multipliers 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 FEC Rail Corridor program by region. The results are summarized in Table 4 below. Note that these are one-time impacts that last for the duration of the project's

implementation. One job is defined as a job for one person of one year’s duration, also referred to full time equivalent (FTE).

Table 4: Net Effects of Project Implementation upon Duval, St. John’s, Flagler, Volusia, Brevard, Indian River, St. Lucie, Martin, and Palm Beach and Florida rest-of-state

Region	Net Impact		
	Output (Ths \$ 2009)	Earnings (Ths \$ 2009)	Employment (jobs)
Nine Counties	\$ 232,190	\$ 49,710	1,353
Florida rest-of-state	\$ 36,510	\$ 19,270	550

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

For Duval, St. John’s, Flagler, Volusia, Brevard, Indian River, St. Lucie, Martin, and Palm Beach counties the effect of implementation of the FEC Rail Corridor program would result in \$232 million in output (2009 dollars), over \$49 million in earnings, and 1,353 person-year jobs (FTE) in Duval, St. John’s, Flagler, Volusia, Brevard, Indian River, St. Lucie, Martin, and Palm Beach counties. Within the rest of the state of Florida, implementation of the FEC Rail Corridor program will result in 550 new person-year jobs (FTE). The comparison of the nine-county impacts to the state impacts indicate most of the sales among firms (output) earnings and jobs are retained in the nine counties, with lesser impacts generated in the rest of the state.

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 Duval, St. John’s, Flagler, Volusia, Brevard, Indian River, St. Lucie, Martin, and Palm Beach counties. Operations and maintenance expenditures for the first and fifth year are estimated at \$23 million. This spending will increase the employment, earnings and output for the duration of FEC Rail Corridor operations. This section describes the spending and the anticipated economic impacts with specific estimates for the first full year of operation and the fifth full year of operation.

1.1.4.1 Operations and Maintenance Expenditures

Operation and maintenance expenditures for the new service 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.

Table 5: Net Effects of Project Operations & Maintenance upon Duval, St. John’s, Flagler, Volusia, Brevard, Indian River, St. Lucie, Martin, and Palm Beach counties and Florida rest-of-state

Region	Net Impact		
	Output (Ths \$ 2009)	Earnings (Ths \$ 2009)	Employment (jobs)
Nine Counties	\$ 40,020	\$ 9,910	201
Florida rest-of-state	\$ 1,410	\$ 580	24

For Duval, St. John’s, Flagler, Volusia, Brevard, Indian River, St. Lucie, Martin, and Palm Beach counties the FEC Rail Corridor service would result in \$40 million in output (2009 dollars), almost \$10 million in earnings, and 201 FTE jobs in Duval, St. John’s, Flagler, Volusia, Brevard, Indian River, St. Lucie, Martin, and Palm Beach counties. The comparison of the nine-county impacts to the state impacts indicates most of the jobs are retained in the nine-county service area. Of the 201 jobs created in the nine counties, 146 are direct employment that creates a stimulus effect of an additional 55 jobs. All employment is measured on a full time equivalent (FTE) basis. By contrast the Florida rest-of-state adds 24 jobs as measured by FTE. These impacts are for both the first and fifth year of operations as service levels are currently assumed to be same for the five year time period.

1.1.5 Summary of output, earnings, and employment effects

The following tables show the combined effects of program 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 6 shows the impacts from program implementation and operations and maintenance for the nine counties and the state of Florida rest-of-state.

Table 6: Net Effects of Program Implementation and Operations & Maintenance upon Duval, St. John’s, Flagler, Volusia, Brevard, Indian River, St. Lucie, Martin, and Palm Beach counties and Florida rest-of-state

Region	Net Impact		
	Output (Ths \$ 2009)	Earnings (Ths \$ 2009)	Employment (jobs)
Nine Counties	\$ 272,210	\$ 59,620	1,554
Florida rest-of-state	\$ 37,920	\$ 19,850	573

The FEC Rail Corridor program is responsible for creating 1,554 person-year jobs (FTE) in Duval, St. John’s, Flagler, Volusia, Brevard, Indian River, St. Lucie, Martin, and Palm Beach counties. Within the rest of the state of Florida, implementation and operation of the FEC Rail Corridor program will result in 573 new person-year jobs (FTE). The comparison of the nine-county impacts to the state impacts indicate most of the sales among firms (output) earnings and jobs are retained in the nine counties, with lesser impacts generated in the rest of the state.

The estimates of FTE employment are both the direct and indirect employment impacts from project implementation and operations and maintenance. Table 7 shows how the direct employment involved in implementing and operating the FEC Rail Corridor program creates a substantial number of indirect jobs. These indirect jobs are created from the spending of those employed as a result of the project. The indirect jobs include retail and wholesale trade, FIRE, services, health care, etc. As shown in Table 7 spending from direct employment creates 1079 indirect jobs (1.03 indirect jobs for every 1.0 direct job), implying the program provides substantial economic stimulus to the nine county region and the state of Florida.

Table 7: Employment from Implementation and Operations & Maintenance upon Duval, St. John’s, Flagler, Volusia, Brevard, Indian River, St. Lucie, Martin, and Palm Beach counties and Florida rest-of-state

Region	Net Impact		
	Total Employment	Direct Employment	Indirect Employment
Nine Counties	1,554	793	761
Florida rest-of-state	573	255	318

1.1.6 Sales Tax Revenues

The FEC Rail Corridor program generates substantial gains in jobs and earnings and in so doing expands consumer spending in the nine-counties and the state of Florida. Through analysis of the Consumer Spending Survey it was estimated that Florida residents spend about 47.5 percent of earnings on taxable items. The state sales rate currently is 6.0 percent. Seven of the nine-counties in the FEC Rail Corridor impose local option sales taxes of 0.5 percent or 1.0 percent. Table 8 shows the sales tax revenues from implementation of rail service and continuing operations and maintenance. The estimates include direct, indirect and induced impacts from the activities.

Table 8: Sales Tax Revenues

	STATE OF FLORIDA	NINE-COUNTIES
Implementation of Rail Service (1)	\$ 1,965,930	\$ 298,965
Operations and Maintenance (2)	\$ 171,036	\$ 28,701

(1) Sales tax revenues from project implementation activities accrue from FD to beginning of revenue operations. (2) Sales tax revenues from operations and maintenance would accrue on an annual basis for the first, fifth and tenth year of operations.

1.1.7 Conclusions

- The Federal Stimulus program, which would provide 100 percent of the funding for the FEC Rail Corridor program, is one of a few Federal programs that generate “new money” for Duval, St. John’s, Flagler, Volusia, Brevard, Indian River, St. Lucie, Martin, and Palm Beach counties, and the state of Florida.
- Direct employment for implementation and continuing operations totals 1048 jobs; another 1079 indirect jobs are created from the household spending of those workers involved with program implementation and rail operations and maintenance. This indicates a leveraging of 103 percent with regard to the stimulus of jobs created.
- The program 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 existing alignment while preserving road capacity

- Decreases the need for parking, which enables an acceleration in adaptive reuse redevelopment
- The project combined with the future investment in a comprehensive transit system in the region increase modal choice options
- Rail investment provides the context for focused growth along the corridor