

**Appendix J**  
**Economic and Fiscal Impacts Analysis**

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FOREIGN AFFAIRS SECURITY TRAINING CENTER

[FASTC]

*An American Recovery and Reinvestment Act of 2009 Project*



**Supplemental Draft Environmental Impact Statement for  
U.S. Department of State  
Foreign Affairs Security Training Center at  
Nottoway County, Virginia**

**Economic and Fiscal Impact Studies  
Technical Report**

October 2014

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## **ACRONYMS AND ABBREVIATIONS**

DOS	U.S. Department of State
DS	Bureau of Diplomatic Security
FASTC	Foreign Affairs Security Training Center
FTE	full-time equivalent
GSA	U.S. General Services Administration
IMPLAN	Impacts Analysis for Planning (economic modeling software)
ROI	region of influence
SDEIS	Supplemental Draft Environmental Impact Statement
U.S.	United States
VAPA	Virginia Auditor of Public Accounts

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## **EXECUTIVE SUMMARY**

The economic and fiscal impact technical studies were prepared in support of the Supplemental Draft Environmental Impact Statement (SDEIS) for the proposed construction and operations of the United States Department of State Foreign Affairs Security Training Center (FASTC) in Nottoway County, Virginia. The purpose of these studies is to provide estimates of the potential impact of the proposed project on the economic and fiscal conditions of the economic region that would be most strongly affected. This economic region consists of Nottoway County and seven surrounding counties in south-central Virginia. Analyses in the technical studies quantify the following types of impacts on the affected region:

- Economic impacts from the construction of FASTC on an eight-county economic region
- Economic impacts from the operations of FASTC on an eight-county economic region
- Fiscal impacts from the operations of FASTC on local governments in Nottoway County
- Fiscal impacts from the operations of FASTC on local governments in Chesterfield County

The technical studies do not address alternatives to the proposed action, cumulative or other impacts unrelated to the proposed action, significance of impacts, or potential mitigations. Such issues are addressed in appropriate sections of the SDEIS. The technical studies were prepared using the most current and best available data for relevant issues such as geographic origin of the necessary construction labor force and the locations of residence for expected new population, as well as the proposed project's implementation schedule. These impact analyses are essentially a snapshot in time; therefore, should ongoing planning, scheduling, and federal legislative activities result in changes to various input assumptions, the actual economic impacts may vary somewhat from the conclusions presented in this report.

Impacts are presented on a year-by-year basis. Since 2020 would be the first complete year of FASTC full-operations, estimates of impacts from operations for that year are considered steady-state impacts, meaning that the same magnitude of impacts could be expected every year during the lifetime of FASTC operations (given current planning assumptions and economic conditions). Impacts are also estimated based upon current economic conditions and dollars; all quantified dollar impacts are presented in constant 2014 dollar values. Economic conditions that may be affected by the value of currency, multi-factor productivity, and other macro-economic conditions are held constant due to the high potential for errors in projecting these variables into the future.

The economic impact technical study addresses economic impacts to the eight-county region by analyzing a combined economic region referred to as the region of influence (ROI) of the proposed action. Because the project would be located in Nottoway County, economic impacts would be expected to be concentrated there, as well as in nearby Chesterfield County, which has a relatively large and rapidly growing economy. The other six counties included in the ROI – Amelia, Brunswick, Dinwiddie, Lunenburg, Mecklenburg, and Prince Edward – would be expected to share in the residual economic impacts. The assumptions incorporated into the analysis are summarized in Attachment A.

The fiscal impact technical study addresses fiscal impacts to the two counties in the ROI expected to have fiscal conditions most strongly affected by the proposed action – Nottoway County and Chesterfield County. These two counties would be expected to accrue most of the economic benefits associated with the proposed action, and thus collect the majority of the tax and fee revenue generated by the proposed action. Additionally, these two counties are anticipated to be the home to most of the new residential population to the region and, as such, would incur the most additional government cost.

Economic Impact Summary Estimates

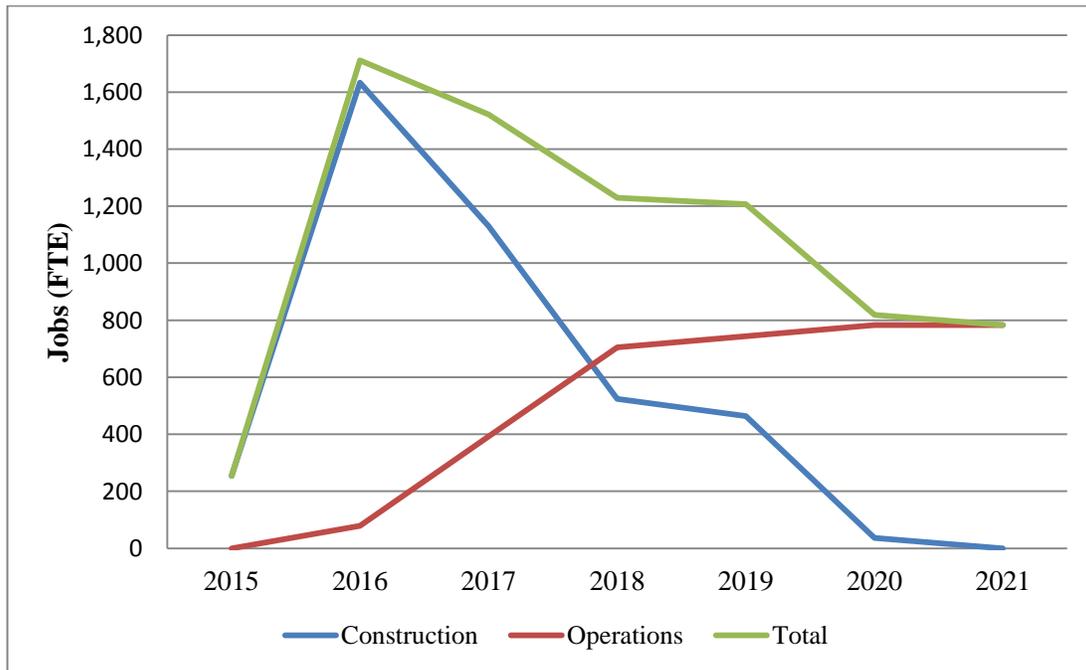
As construction would begin prior to operations, economic impacts would initially be entirely construction related. As operations ramp up (starting in 2016) and construction starts to wind down (after 2017), the generation of economic impacts becomes more related to operations. Impacts generated by operations are expected to exceed impacts generated by construction beginning in 2018.

Tables ES-1, ES-2, and ES-3 summarize economic impact estimates for the eight-county economic region. Figures ES-1, ES-2, and ES-3 illustrate those estimates along with projections for 2021 to demonstrate the nature of steady-state impacts.

**Table ES-1. Total Impact – Annual Full-time Equivalent (FTE) Jobs**

	2015	2016	2017	2018	2019	2020
Construction	254	1,633	1,130	525	463	36
Operations	0	78	392	705	744	783
Total	254	1,711	1,522	1,230	1,207	819

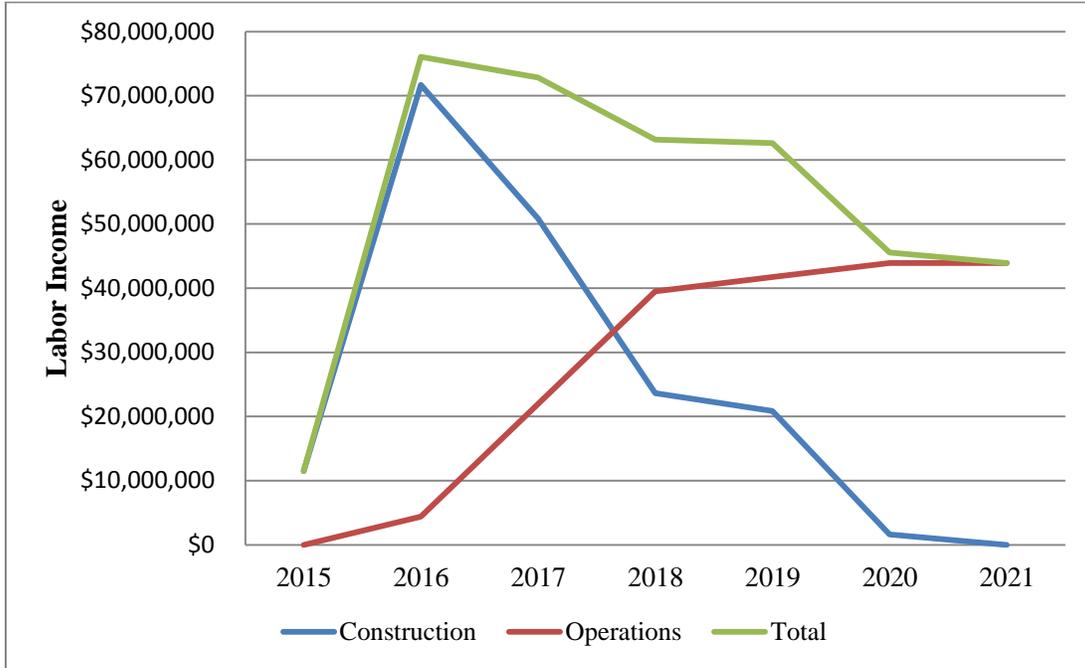
Note: Jobs directly attributed to FASTC employment plus jobs created through economic output in the region. Economic output is the total production and sales volume generated in the ROI as a result of the construction and operations of FASTC.



**Figure ES-1. FTE Jobs Impact from Combined Construction and Operations, 2015-2021**

**Table ES-2. Total Impact – Annual Labor Income (2014 Constant Dollars)**

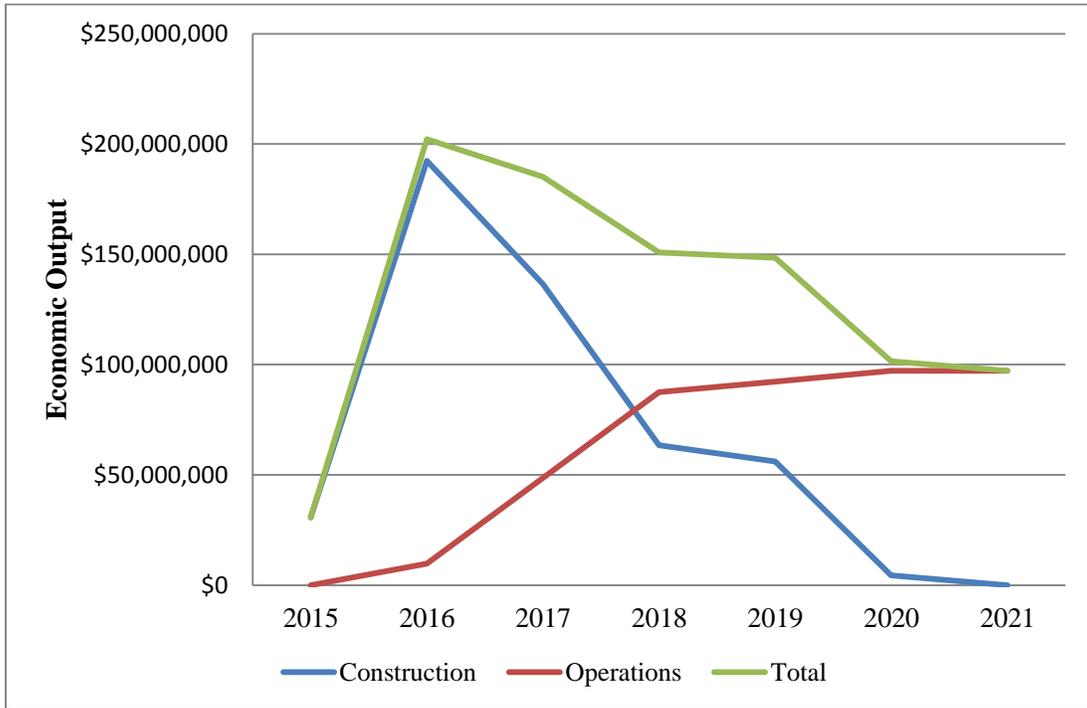
	2015	2016	2017	2018	2019	2020
Construction	\$11,478,013	\$71,683,135	\$50,883,881	\$23,627,350	\$20,877,884	\$1,632,426
Operations	\$0	\$4,392,002	\$21,957,111	\$39,522,799	\$41,718,509	\$43,914,221
Total	\$11,478,013	\$76,075,137	\$72,840,992	\$63,150,149	\$62,596,393	\$45,546,647



**Figure ES-2. Labor Income Impact from Combined Construction and Operations, 2015-2021, Constant 2014 Dollars**

**Table ES-3. Total Impact – Annual Economic Output (2014 Constant Dollars)**

	2015	2016	2017	2018	2019	2020
Construction	\$30,666,700	\$192,404,665	\$136,577,398	\$63,418,158	\$56,038,316	\$4,381,595
Operations	\$0	\$9,717,977	\$48,588,504	\$87,459,306	\$92,318,155	\$97,177,007
Total	\$30,666,700	\$202,122,642	\$185,165,902	\$150,877,464	\$148,356,471	\$101,558,602



**Figure ES-3. Economic Output Impact from Combined Construction and Operations, 2015-2021, Constant 2014 Dollars**

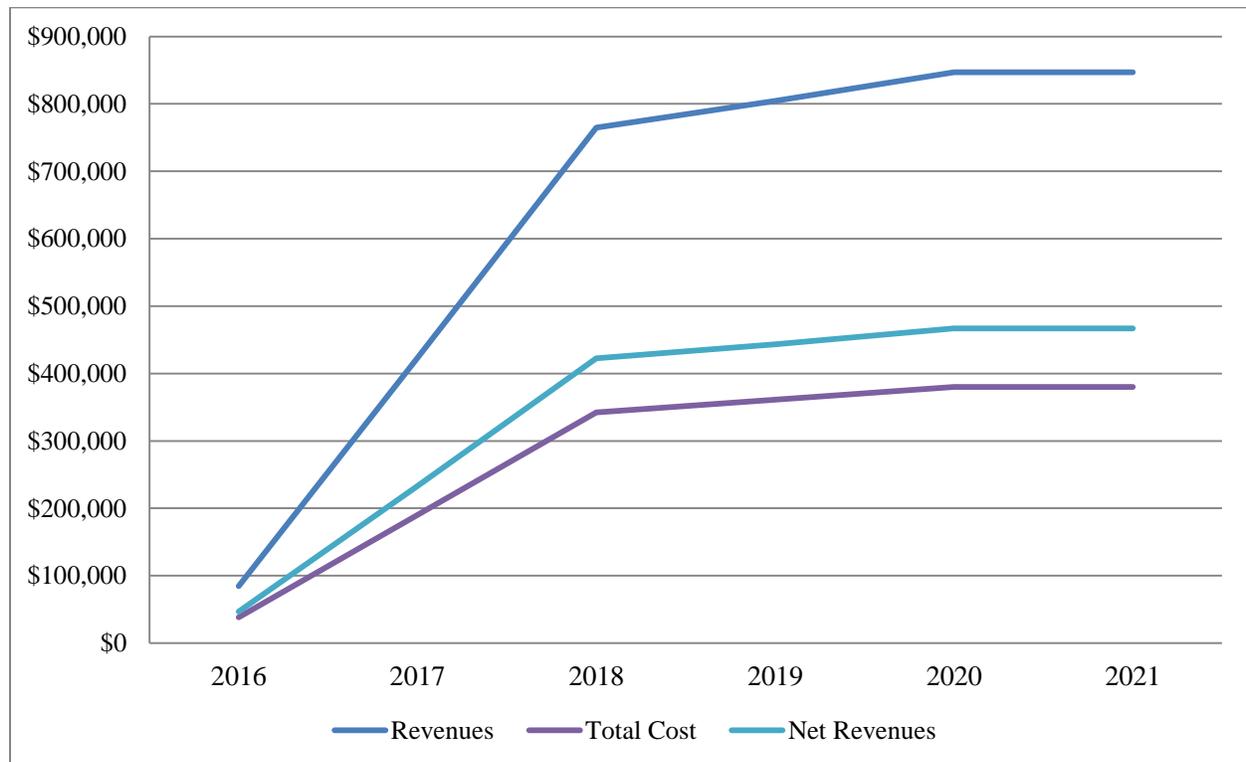
Fiscal Impact Summary Estimates

The fiscal impact technical study quantifies estimated impacts to local governments within Nottoway County and Chesterfield County. Estimates are presented in terms of net revenues (total revenues minus total costs) of these local governments. Additional qualitative analysis of potential impacts from the operations phase on the net revenues of the remaining six counties in the eight-county economic region is also provided. The small percentage of potential residents that may be added throughout the other counties is not known in sufficient detail to provide a quantitative fiscal impact analysis for those other counties. Combined, local governments in other counties in the ROI would be expected to receive less revenue, incur lower costs, and see only marginal changes in net revenue. Fiscal impacts to local governments are addressed for the operations phase only. Table ES-4 shows summary estimates for net revenues for Nottoway and Chesterfield Counties. Figures ES-4 and ES-5 illustrate those estimates along with projections for 2021, which further illustrate the nature of steady-state impacts.

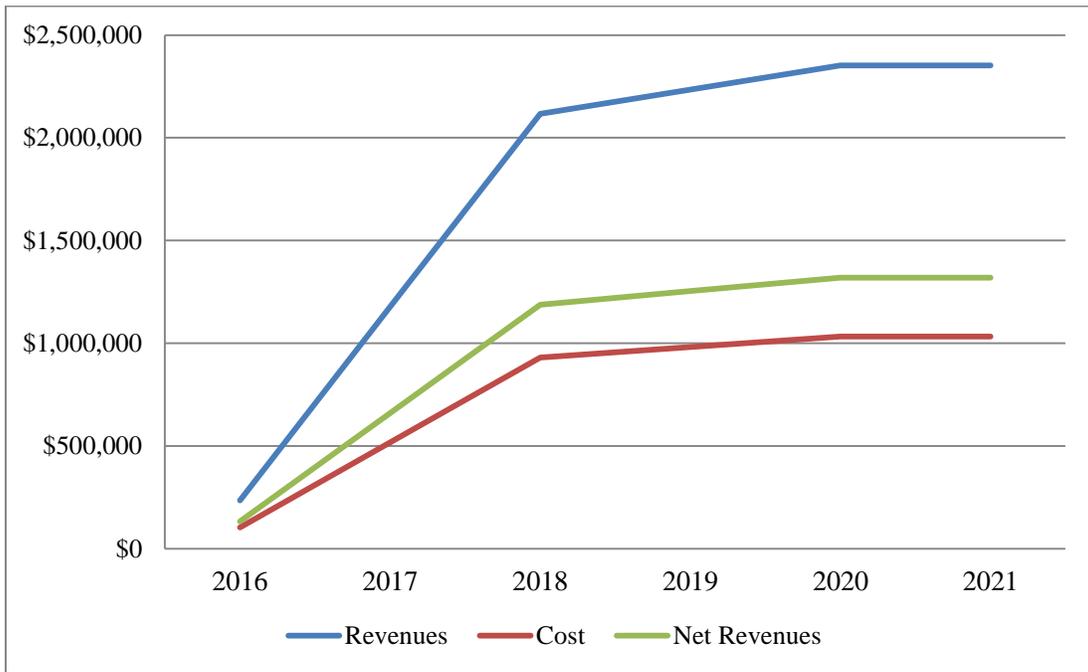
Estimates assume that most trainee lodging would take place in Chesterfield County, but if capacity in the accommodations industry in Nottoway County were to increase (e.g., if a new motel were built), then net revenues to Nottoway County would increase.

**Table ES-4. Total Impact – Net Revenues to Local Governments from FASTC Operations**

	2016	2017	2018	2019	2020
Nottoway County	\$46,619	\$233,092	\$422,539	\$443,474	\$466,783
Chesterfield County	\$131,977	\$659,884	\$1,187,791	\$1,253,778	\$1,319,766



**Figure ES-4. Nottoway County Local Government Revenue, Cost, and Net Revenue, 2016 to 2021, Constant 2014 Dollars**



**Figure ES-5. Chesterfield County Local Government Revenue, Cost, and Net Revenue, 2016 to 2021, Constant 2014 Dollars**

## **CHAPTER 1. INTRODUCTION**

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The United States (U.S.) General Services Administration (GSA) is proposing to acquire land and develop a U.S. Department of State (DOS), Bureau of Diplomatic Security (DS) Foreign Affairs Security Training Center (FASTC) in Nottoway County, Virginia. The proposed location is near the town of Blackstone and includes land parcels within the Army National Guard Maneuver Training Center Fort Pickett and Nottoway County Local Redevelopment Authority area. The development of FASTC would establish a consolidated training center from which DS may efficiently conduct hard skills training for a wide array of DS law enforcement and security disciplines to meet increased demand for well-trained personnel. Currently, DS hard skills training functions are conducted in 11 separate leased and contracted training facilities dispersed around the country. The proposed FASTC would consolidate hard skills training functions at one central facility.

The proposed FASTC project would consist of two major phases, a construction phase and an operations phase. Construction of FASTC would last about 5 years and is expected to begin in 2015 and be completed in early 2020. The operations phase would overlap with the construction phase; operations would begin in 2016 and increase in magnitude until full operations begin in 2020. FASTC full-operations would then continue for the foreseeable future.

This technical report identifies the economic and fiscal impacts associated with implementation of the proposed FASTC project. Economic impacts relate to the project's potential for generating jobs, labor income, and economic output. Fiscal impacts relate to the project's potential for generating revenues and costs to local governments. The Impact Analysis for Planning (IMPLAN) model, a standard tool used for economic impact analysis, was used to generate economic impacts. The IMPLAN model was also used to generate estimates of local government revenue impacts, while estimates of local government costs were estimated based on expected new population to the region and data on per capita local government costs.

The economic and fiscal impact studies are presented separately; Chapter 2 presents the economic impact study and Chapter 3 presents the fiscal impact study. Both Chapter 2 and Chapter 3 contain two parts – an approach to analysis section and an estimated impacts section. The approach to analysis sections address the data and methods that were used to conduct the economic and fiscal impact studies. The estimated impacts sections provide the results of the respective studies. The estimates of the economic impact analysis are presented for three economic variables – jobs, labor income, and economic output. Estimates for the fiscal impact analysis are presented for total local government revenues, costs, and net revenues.

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## **CHAPTER 2. ECONOMIC IMPACT TECHNICAL STUDY**

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### **2.1 APPROACH TO ANALYSIS OF ECONOMIC IMPACTS**

#### **2.1.1 Region of Influence**

This economic impact technical study analyzes the economic impacts of the FASTC project on the regional of influence (ROI), consisting of eight counties in south-central Virginia; all estimates are presented for the combined ROI. While the FASTC project would be located in Nottoway County, the economic effects of the project would also extend into surrounding counties through the purchase of goods and services, employee residential spending, etc. Counties in the ROI include Amelia, Brunswick, Chesterfield, Dinwiddie, Lunenburg, Mecklenburg, Nottoway, and Prince Edward. In order to conduct the analysis and present economic impact estimates for the combined ROI, eight sets of IMPLAN data – one for each county in the ROI – were combined into a single economic model.

The following Figures 2-1 and 2-2 provide information on the ROI and each of the counties within the ROI. Figure 2-1 shows the population for each county and indicates the relative size of the population for each county compared to other counties in the ROI. Figure 2-2 shows the overall size of each county economy and indicates the relative size of each county economy compared to other counties in the ROI.

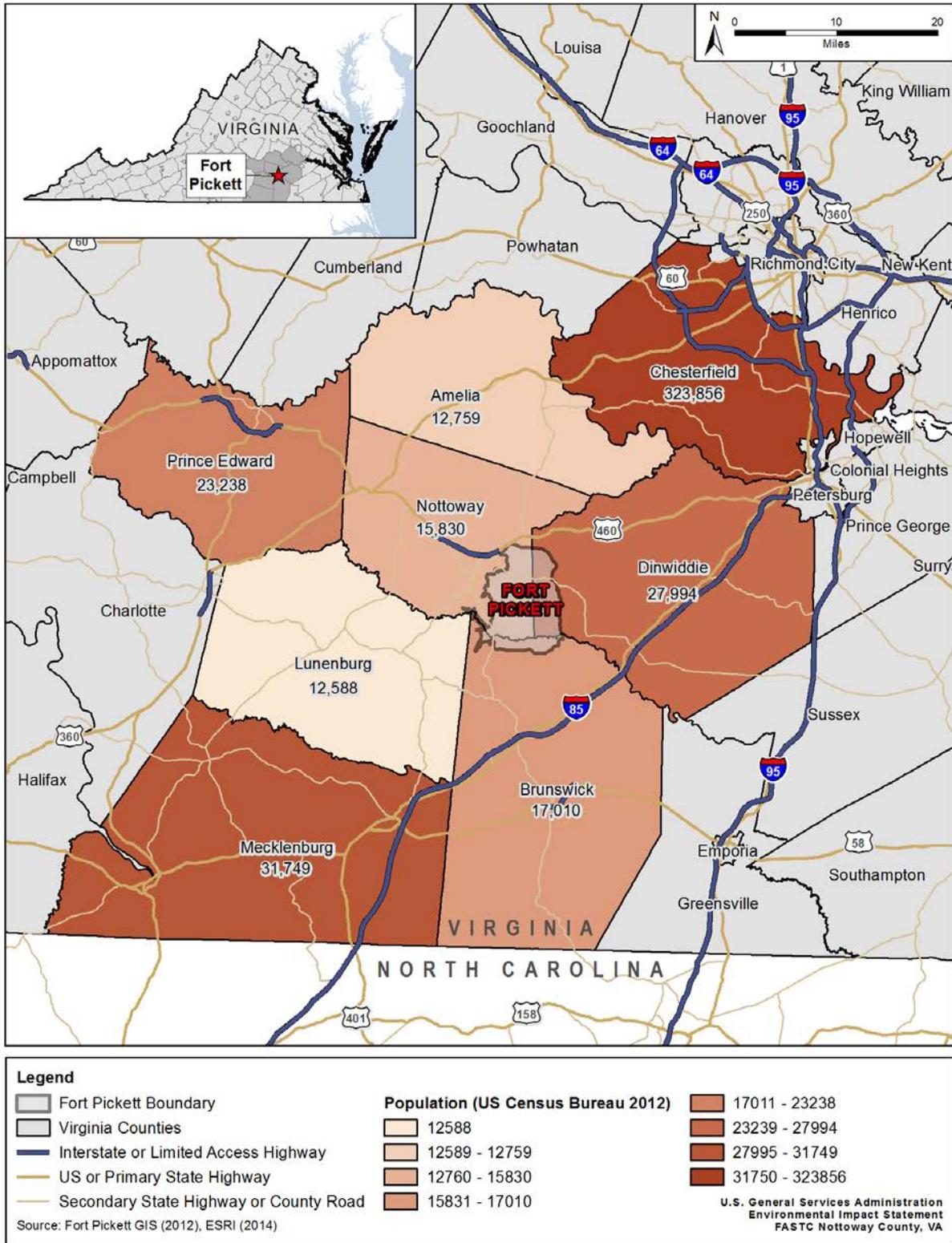


Figure 2-1. ROI Population

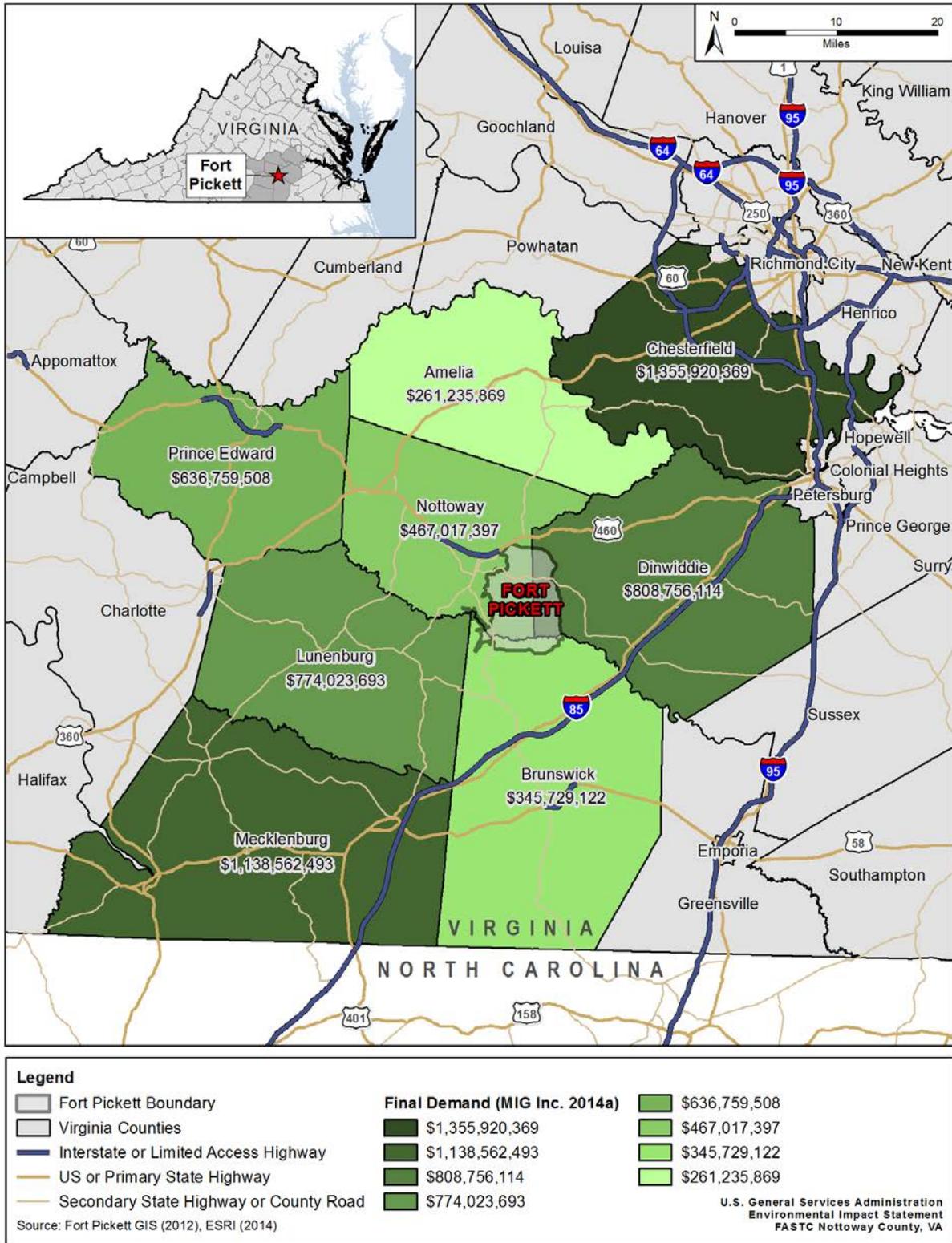


Figure 2-2. ROI Final Demand (Size of Economy)

## 2.1.2 Input Data and Modeling Procedures

Input data for the economic model were collected from GSA and DOS and are based on experience and knowledge that the agencies have gained from construction and operation of facilities with similar functions as the proposed FASTC. For analysis of the construction phase, GSA provided information on anticipated construction expenditures. For analysis of the operations phase, DOS provided data on payroll and non-payroll operational expenditures, and the projected number and length of stay for trainees. The agencies also provided a timeline for construction (provided by GSA) and operations (provided by DOS), which allowed for the analysis to be conducted on a year-by-year basis.

Some estimates were made prior to economic modeling to allow for incorporation of primary data into the IMPLAN model. Additional estimates were made post-modeling, such as conversion of IMPLAN jobs estimates to full-time equivalent (FTE), so that estimates could be presented in a consistent manner. Estimates typically used factors that were gathered from GSA or DOS, federal statistical agencies, or the private firm that has proprietorship over the IMPLAN model. In order to complete certain portions of the analyses, some assumptions were made. Attachment A provides a summary of these assumptions.

### 2.1.2.1 Construction Expenditures

In total, GSA estimated construction expenditures to be approximately \$350 million. This initial estimate was used as a basis to establish the amount of expenditures that would be made on construction occurring within the ROI. Portions of the initial estimate that relate to construction contractor contingencies and certain fees were identified in GSA estimates and were excluded from analysis because this money is estimated to be spent outside of the ROI. The initial estimate also included expenditures related to escalation, or construction cost inflation; this was also removed from analysis because the analysis was conducted in constant dollars (an analysis that assumes no changes, over time, to prices, wages, or other economic variables). After removing expenditures that would likely not impact the economy of the ROI, it was estimated that a total of \$294 million would be spent on construction over the course of the construction phase.

The construction plan established by GSA enabled the distribution of these expenditures over time on an annualized basis. Table 2-1 shows construction expenditures in the ROI spread out over the course of the construction phase. These construction expenditures were input into the IMPLAN model (IMPLAN Sector 36<sup>1</sup>) to generate estimates of economic impacts related to the construction phase.

**Table 2-1. Total Expenditures on Construction in the ROI, 2015 to 2020, Constant 2014 Dollars**

2015	2016	2017	2018	2019	2020
\$18,649,254	\$117,123,578	\$83,139,530	\$38,604,893	\$34,112,520	\$2,667,233

Source: GSA 2014a.

Note: GSA construction estimate adjusted to include only expenditures expected to be made for construction in the ROI.

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<sup>1</sup> IMPLAN sectors are representations of industries within a regional economy. Applying project-related expenditures to a particular IMPLAN sector simulates expenditures being made in a corresponding industry.

### 2.1.2.2 Operational Expenditures

There would be three major sources of local expenditures derived from operational activities at FASTC: 1) payroll; 2) purchases of goods and services that would be required to operate FASTC; and 3) purchases by trainees. Since it is expected that FASTC would maintain operations for the foreseeable future, impacts related to FASTC operations would be considered economically sustainable in comparison to the construction phase (which would be completed in early 2020). The following sections discuss the sources and magnitude of FASTC local operational expenditures.

#### Operational Payroll Expenditures

DOS provided information on total government employment and average salaries that would be associated with FASTC operations. The employment totals in Table 2-2 represent all government employees. As Table 2-2 indicates, direct operational employment related to FASTC would build up from the first year of operations in 2016 until full operations are reached in 2020. Since 2020 would be the first full year of steady-state operations, the direct operational jobs indicated in Table 2-2 would be generated every year in perpetuity, absent any unforeseen changes. These data were input into the IMPLAN model as employment in the federal government, non-military sector (IMPLAN sector 439).

**Table 2-2. Estimated Direct Operational Employment (FTE), 2016 to 2020**

2016	2017	2018	2019	2020 <sup>1</sup>
34	170	305	322	339

Source: DOS 2014.

Note: <sup>1</sup>2020 represents a steady-state. This number of jobs would be expected to continue annually for the foreseeable future.

<sup>2</sup> Average annual salary for these employees was estimated to be about \$82,000 per year (DOS 2014)

Table 2-3 shows payroll expenditures that would be associated with direct operational employment. Similar to growth in employment from 2016 to 2020, payroll expenditures would increase from the start of operations in 2016 until full operations would be reached in 2020. These data were input into the IMPLAN model as employee compensation in the federal government, non-military sector (IMPLAN sector 439).

**Table 2-3. Estimated Income of Direct Operations Workers, 2016 to 2020, Constant 2014 Dollars**

2016	2017	2018	2019	2020 <sup>1</sup>
\$2,613,759	\$13,068,796	\$23,523,832	\$24,830,711	\$26,137,591

Source: DOS 2014.

Note: <sup>1</sup>Estimate for 2020 represents steady-state payroll expenditures. This level of payroll would be expected to continue annually for the foreseeable future.

#### Non-payroll Operational Expenditures

DOS provided information on FASTC non-payroll operational expenditures. These data represent purchases of goods and services within the ROI that would be made to maintain the operations of FASTC. Because operational expenditures would be related to on-site activities, these operational

expenditures would be paid to firms in the ROI that would be contracted to provide goods and services. Table 2-4 details the types of goods and services that would be required to operate FASTC and the expected level of expenditures for each type of goods and services. Non-payroll operational expenditures would be expected to reach a steady-state in 2020, at about \$18 million per year. These expenditures were input into the IMPLAN model as industry sales in various IMPLAN sectors.

**Table 2-4. Non-payroll Operational Expenditures in the ROI, 2016 to 2020, Constant 2014 Dollars**

Expenditure Category	IMPLAN Sector	2016	2017	2018	2019	2020 <sup>1</sup>
Fleet Management/Shuttle Transportation	338	\$97,187	\$485,934	\$874,680	\$923,274	\$971,867
Training Vehicle Ops, Maintenance & Repair	414	\$200,000	\$1,000,000	\$1,800,000	\$1,900,000	\$2,000,000
Wrecker/Salvage Services	338	\$32,500	\$162,500	\$292,500	\$308,750	\$325,000
Emergency Medical Services	396	\$25,000	\$125,000	\$225,000	\$237,500	\$250,000
Technology Maintenance - Technicians	373	\$100,000	\$500,000	\$900,000	\$950,000	\$1,000,000
Facility Management Services Vehicle Fuel	326	\$1,196	\$5,980	\$10,764	\$11,362	\$11,960
Building Operations Maintenance	385	\$139,359	\$696,796	\$1,254,233	\$1,323,912	\$1,393,592
Building Custodial Services	388	\$104,735	\$523,677	\$942,619	\$994,986	\$1,047,354
Range Maintenance & Custodial Services	388	\$31,200	\$156,000	\$280,800	\$296,400	\$312,000
Landscaping/Grounds	388	\$6,480	\$32,400	\$58,320	\$61,560	\$64,800
Emergency Generator Fuel/Maintenance	331	\$240	\$1,200	\$2,160	\$2,280	\$2,400
Telecommunication/Fiber Optic	351	\$40,000	\$200,000	\$360,000	\$380,000	\$400,000
Radio Systems	351	\$1,200	\$6,000	\$10,800	\$11,400	\$12,000
Electricity	31	\$87,479	\$437,397	\$787,314	\$831,053	\$874,793
Water and Sewer	432	\$229,625	\$1,148,125	\$2,066,625	\$2,181,438	\$2,296,250
Storm water Management	388	\$5,000	\$25,000	\$45,000	\$47,500	\$50,000
Animal Management/Pest Control	388	\$8,000	\$40,000	\$72,000	\$76,000	\$80,000
Road Maintenance	338	\$5,400	\$27,000	\$48,600	\$51,300	\$54,000
Snow removal and storm cleanup	338	\$1,800	\$9,000	\$16,200	\$17,100	\$18,000
Supplies and Equipment	319	\$700,000	\$3,500,000	\$6,300,000	\$6,650,000	\$7,000,000
Operational Expenditures (Total)		\$1,816,402	\$9,082,008	\$16,347,614	\$17,255,815	\$18,164,016

Source: DOS 2014.

Notes: <sup>1</sup>Estimate for 2020 represents steady-state non-payroll operational expenditures. This level of expenditure would be expected to continue annually for the foreseeable future.

### Trainee Expenditures

The primary focus of FASTC would be to train security personnel. Trainees would be expected to spend money in the local communities within the ROI. Table 2-5 shows expected annual number of trainee-days (annual number of trainees multiplied by the average number of days each trainee would spend at FASTC) and annual trainee expenditures broken down by type of expenditure.

Trainee-days were multiplied by an estimate of daily per-trainee expenditures to yield total trainee expenditures in the ROI. Daily per-trainee expenditures were estimated based on lodging rates negotiated by DOS (DOS 2014) and per diem government travel rates. Daily per-trainee spending was estimated to be \$121 per trainee day, with \$75 per trainee day spent on lodging (which was input into

IMPLAN Sector 411), \$41 per trainee day spent on meals (IMPLAN Sector 413), and \$5 per trainee day spent on incidentals (IMPLAN Sector 325).

**Table 2-5. Annual Trainee-Days and Estimated Trainee Expenditures, 2016-2020, Constant 2014 Dollars**

	2016	2017	2018	2019	2020 <sup>1</sup>
<b>Annual Trainee-days</b>	<b>12,880</b>	<b>64,400</b>	<b>115,920</b>	<b>122,360</b>	<b>128,800</b>
<b>Annual Trainee Expenditures</b>	<b>\$1,558,480</b>	<b>\$7,792,400</b>	<b>\$14,026,320</b>	<b>\$14,805,560</b>	<b>\$15,584,800</b>
<i>Trainee Expenditures on Lodging<sup>2</sup></i>	<i>\$966,000</i>	<i>\$4,830,000</i>	<i>\$8,694,000</i>	<i>\$9,177,000</i>	<i>\$9,660,000</i>
<i>Trainee Expenditures on Meals<sup>3</sup></i>	<i>\$528,080</i>	<i>\$2,640,400</i>	<i>\$4,752,720</i>	<i>\$5,016,760</i>	<i>\$5,280,800</i>
<i>Trainee Expenditures on Incidentals</i>	<i>\$64,400</i>	<i>\$322,000</i>	<i>\$579,600</i>	<i>\$611,800</i>	<i>\$644,000</i>

Sources: DOS 2014 (for trainee-days and lodging expenditures), GSA 2014b (for meals/incidentals).

Note: <sup>1</sup>Estimate for 2020 represents steady-state trainee expenditures. This level of expenditure would be expected to continue annually for the foreseeable future.

<sup>2</sup>Trainee expenditures on lodging would be funded via federal contracts with hotels/motels within the ROI.

<sup>3</sup>Some meals would be eaten on-site during the instructional day and funded via federal contracts with food services providers.

### 2.1.3 Result Variables

Economic variables that are presented as impacts include Jobs, Labor Income, and Economic Output. Each of these variables consists of a direct and an indirect/induced element.

Direct impacts are associated with FASTC itself and include construction and operations jobs; the incomes earned by those workers; the economic output associated with initial purchases of local construction materials and supplies; and goods and services that facilitate the operations of FASTC. Additional direct impacts are generated through non-payroll expenditures and trainee expenditures.

Indirect impacts are the jobs, income, and economic output generated by the businesses that supply goods and services to FASTC. Indirect jobs include jobs at companies that supply construction materials/supplies or support jobs directly related to FASTC operations. Indirect jobs extend to include jobs related to the manufacture of products used to construct and operate the facility. Indirect labor income includes the income earned by people working indirect jobs. Indirect output includes the total sales volume related to the supply of goods and services to FASTC.

Induced impacts are the result of spending of the wages and salaries of the direct and indirect employees on items such as food, housing, transportation, and medical services. This spending creates induced employment in nearly all sectors of the economy, especially service sectors.

#### Jobs

Jobs impacts represent the number of FTE jobs that would be created or sustained within the ROI as a result of the construction and operations of FASTC. Some direct operational job estimates were provided by DOS (Table 2-2) but estimates for all other jobs were calculated by the IMPLAN model, based on expenditures. The IMPLAN model generates jobs numbers that include part-time jobs, but these jobs numbers were adjusted to FTE using conversion factors published by MIG Inc. (MIG Inc. 2014b), the developer of the IMPLAN model.

### Labor Income

Labor income impacts represent the income generated through the jobs that would be created or sustained within the ROI as a result of the construction and operations of FASTC. Some direct operational labor income estimates were provided by DOS (Table 2-3) but estimates for all other labor income were calculated by the IMPLAN model, based on expenditures.

### Economic Output

Economic output impacts represent total production and sales volume that would be generated in the ROI as a result of the construction and operations of FASTC. Economic output is generated by increases in expenditures associated with FASTC construction and operations.

## **2.2 ESTIMATED ECONOMIC IMPACTS**

This section presents estimates of economic impacts of proposed FASTC construction and operations on the economy of the ROI. Variables that are estimated include jobs, labor income, and economic output. Estimates are provided in terms of direct impacts, indirect/induced impacts, and total impacts, on an annual basis.

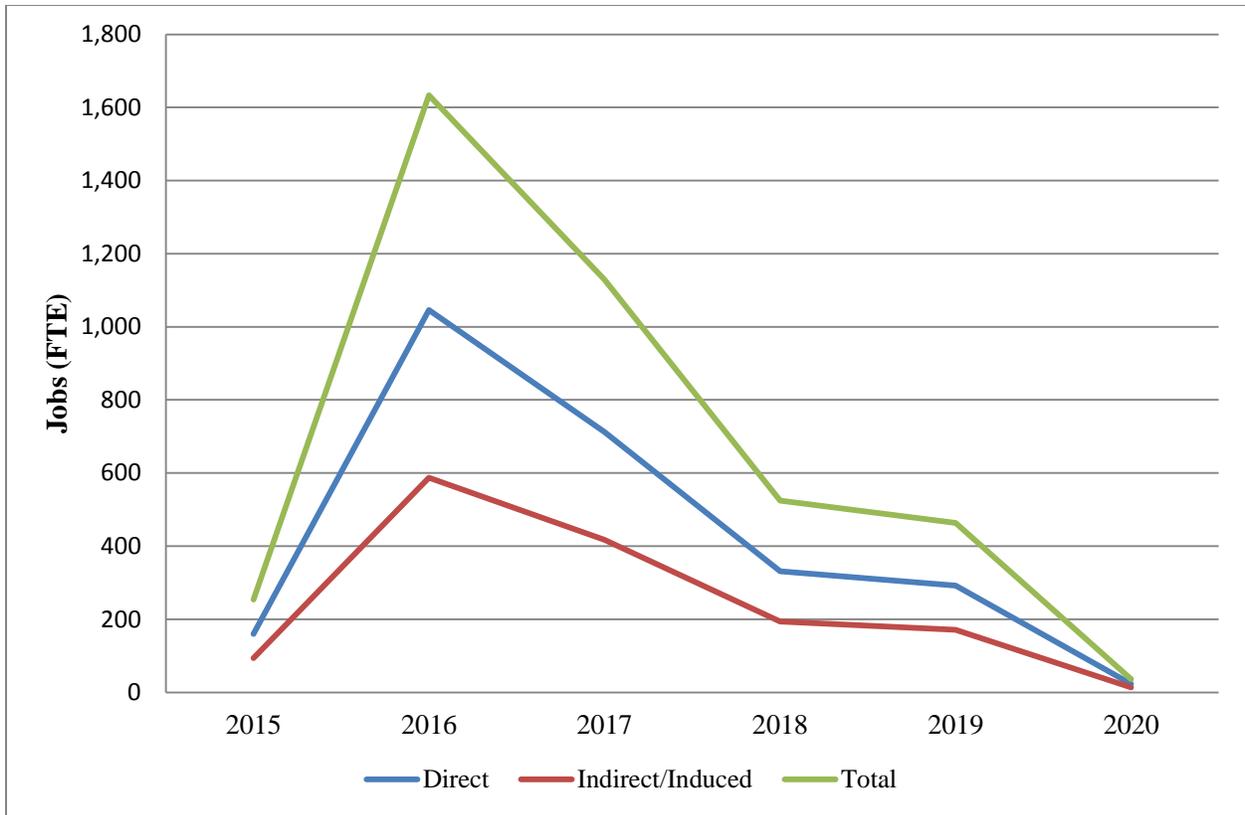
### **2.2.1 Jobs**

#### **2.2.1.1 Construction Phase**

Table 2-6 presents estimates of the number of FTE jobs that would be generated by the construction of FASTC, during the life of the construction phase, from 2015 to 2020. Construction would be expected to begin in late 2015 and build up, reaching a peak in 2016 when 1,633 FTE jobs would be generated or sustained within the ROI. After 2016, construction would begin to wind down with 1,130 FTE jobs in 2017 and about 500 FTE jobs in 2018 and 2019. Most aspects of construction would be complete by the end of 2019 and construction would conclude in the early months of 2020. Figure 2-3 illustrates the results presented in Table 2-6.

**Table 2-6. Annual FTE Jobs Impact from Construction, 2015-2020**

	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
Direct	160	1,046	713	331	292	23
Indirect/Induced	94	587	417	194	171	13
Total	254	1,633	1,130	525	463	36



**Figure 2-3. FTE Jobs Impact from Construction, 2015-2020**

**2.2.1.2 Operations Phase**

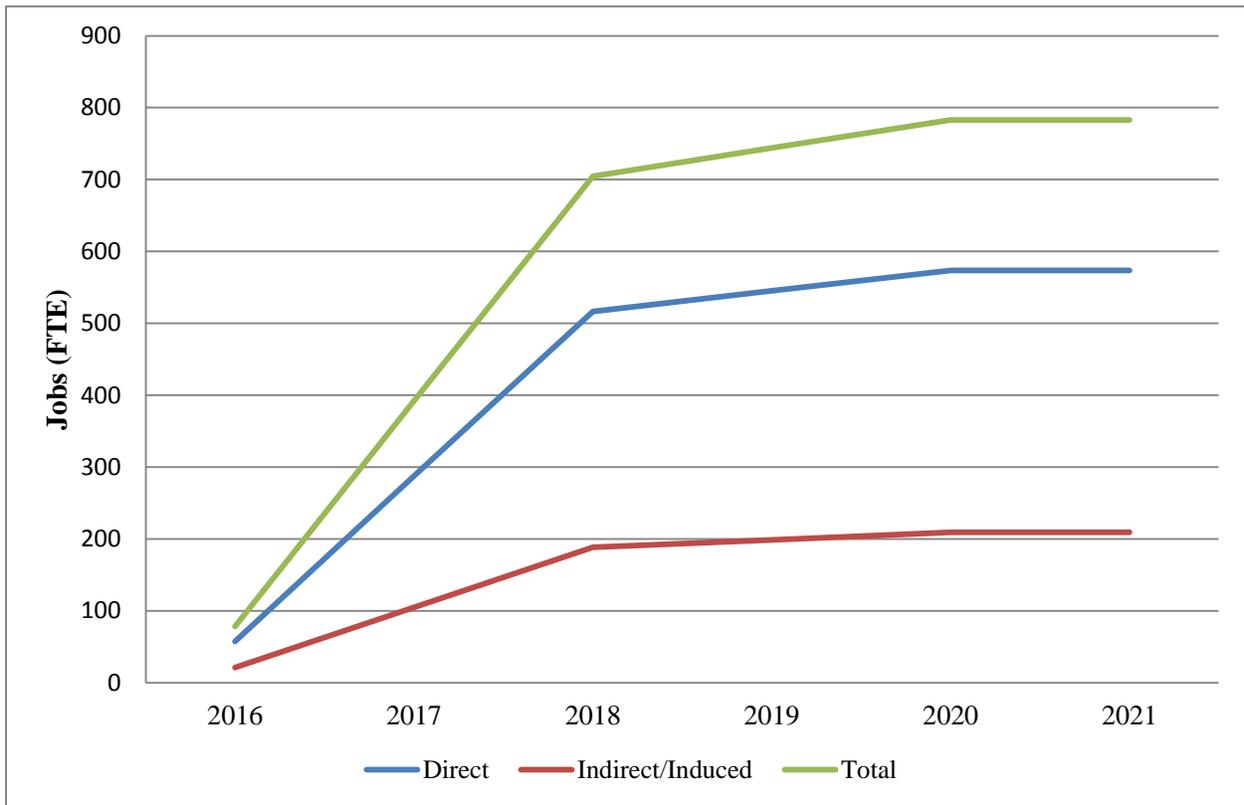
Table 2-7 presents estimates of FTE jobs that would result from the operations phase of FASTC. Operations would be expected to begin in 2016 and build up to a steady-state by 2020. At steady-state operations, 574 direct FTE jobs and 209 indirect/induced FTE jobs would be generated or sustained within the ROI. Total FTE jobs impacts would increase from 78 in 2016 to a steady-state total of 783 in 2020. Figure 2-4 illustrates the results presented in Table 2-7 along with estimates for the year 2021, which further illustrate the steady-state nature of operational impacts.

**Table 2-7. Annual FTE Jobs Impact from Operations, 2016-2020**

	2016	2017	2018	2019	2020 <sup>1</sup>
Direct <sup>2</sup>	57	287	516	545	574
Indirect/Induced	21	105	188	199	209
Total	78	392	704	744	783

Notes: <sup>1</sup> Estimate for 2020 represents steady-state operations. This level of jobs would be expected to continue annually for the foreseeable future.

<sup>2</sup> Direct operations jobs include those directly related to FASTC (see Table 2-2) and direct jobs from operational contract spending and trainee spending, which are estimates that are generated by the IMPLAN model.



**Figure 2-4. FTE Jobs Impact from Operations, 2016-2021**

Table 2-8 provides a breakdown of industries in which at least five additional jobs would occur during the steady-state period beginning in 2020. Federal government jobs (at FASTC) would bring the most additional jobs to the ROI (339). Jobs in food services and drinking places (103) and hotels and motels (82) would also be generated as a result of FASTC operations.

**Table 2-8. Industries with At Least Five Jobs Generated**

	Direct	Indirect/Induced	Total
Federal government	339	0	339
Food services and drinking places	80	23	103
Hotels and motels	82	0	82
Services to buildings and dwellings	24	7	31
Automotive repair and maintenance	23	2	25
Transportation and support activities for transportation	17	0	17
Wholesale trade businesses	5	5	10
Real estate establishments	0	10	10
Investment related activities	0	9	9
Employment services	0	9	9
Offices of physicians, dentists, and other health practitioners	0	8	8
Other state and local government enterprises	7	1	8
General merchandise stores	0	7	7
Facilities support services	6	0	6
Maintenance/repair/construction of nonresidential structures	0	6	6
Civic, social, professional, and similar organizations	0	6	6
Food and beverage stores	0	6	6
Private hospitals	0	5	5
Nursing and residential care facilities	0	5	5

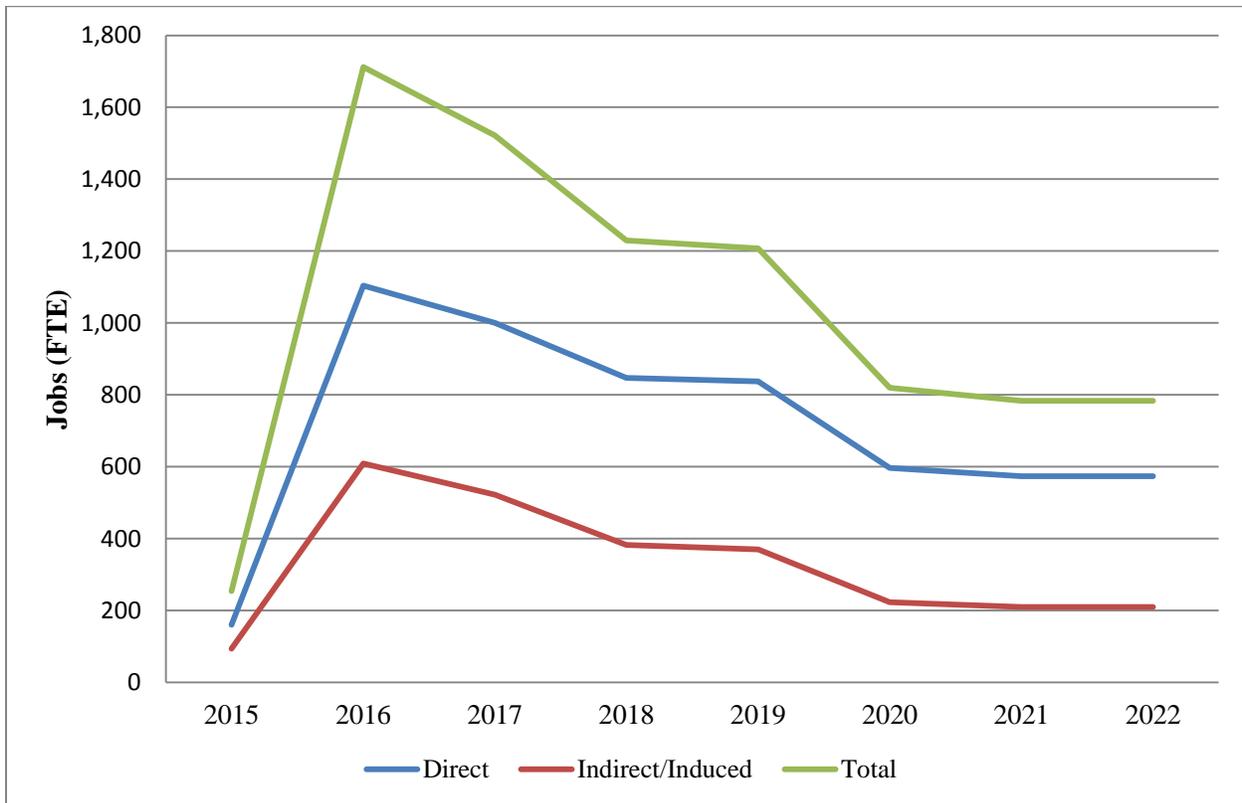
### 2.2.1.3 Combined Construction and Operations

Table 2-9 presents estimates of FTE jobs that would result from the combined construction and operations of FASTC. Construction would be expected to begin in 2015 and build up, reaching a peak in 2016. Operations would be expected to begin in 2016 and build up, reaching a steady-state by 2020. From 2016 to 2019, there would be more than 1,000 FTE jobs in the ROI associated with FASTC construction and operations. As there would be some construction work done in 2020, estimated impacts for 2021 represent the steady-state for combined impacts. Figure 2-5 illustrates the results presented in Table 2-9 along with estimates for 2022 to further illustrate the steady-state nature of operational impacts.

**Table 2-9. Annual FTE Jobs Impact from Combined Construction and Operations, 2015-2021**

	2015	2016	2017	2018	2019	2020	2021 <sup>1</sup>
Direct	160	1,103	1,000	847	837	597	574
Indirect/Induced	94	608	522	382	370	223	209
Total	254	1,711	1,522	1,229	1,207	820	783

Note: <sup>1</sup>Estimate for 2020 represents steady-state operations but some construction activity would also generate impacts. As such, 2021 represents the steady state for combined impacts. This level of jobs would be expected to continue annually for the foreseeable future.



**Figure 2-5. FTE Jobs Impact from Combined Construction and Operations, 2015-2021**

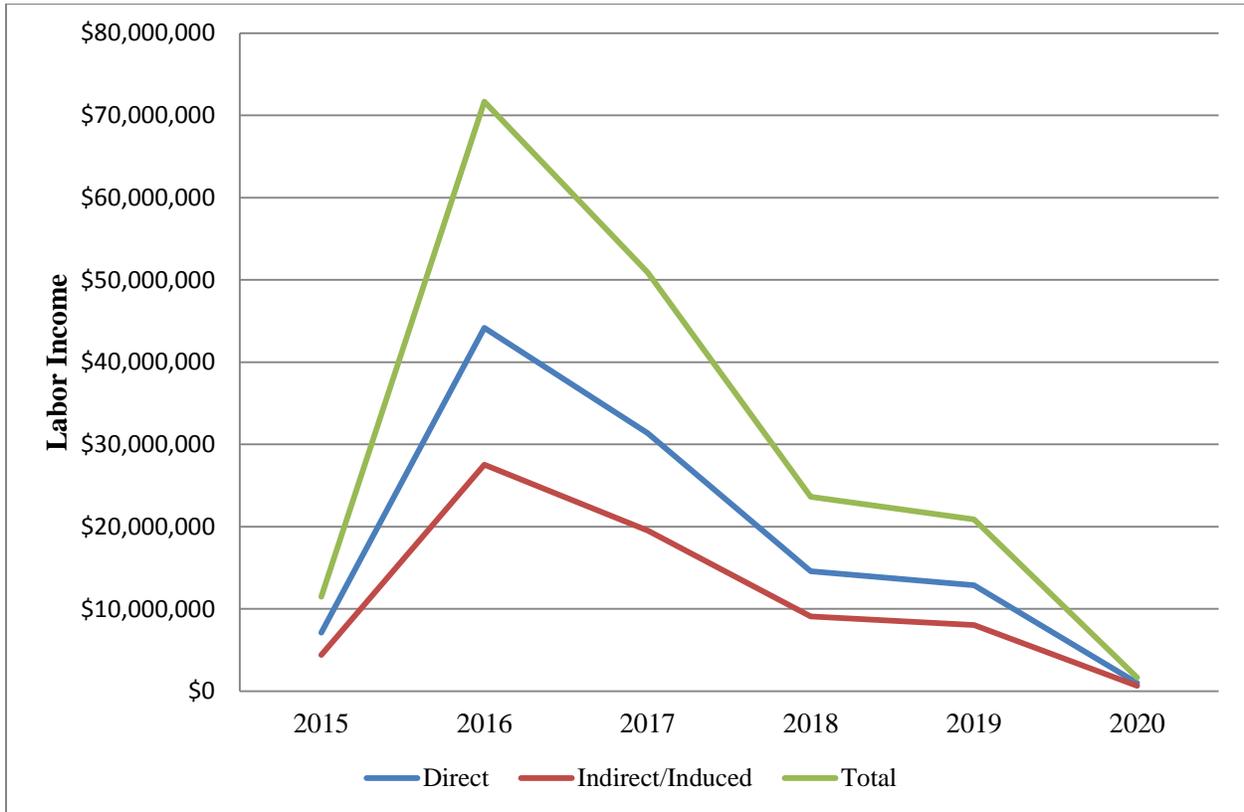
## 2.2.2 Labor Income

### 2.2.2.1 Construction Phase

Table 2-10 presents estimates of labor income that would be generated by the construction of FASTC during the life of the construction phase, from 2015 to 2020. Construction would be expected to begin in 2015 and build up, reaching a peak in 2016. At the peak of the construction phase, nearly \$72 million in labor income would be generated within the ROI. After 2016, construction would begin to wind down with about \$51 million in labor income generated in 2017 and about \$20 million in labor income generated in 2018 and 2019. Construction activities would only take place during the very early part of 2020 and would generate an estimated \$1.6 million in labor income. Figure 2-6 illustrates the results presented in Table 2-10.

**Table 2-10. Annual Labor Income Impact from Construction, 2015-2020, Constant 2014 Dollars**

	2015	2016	2017	2018	2019	2020
Direct	\$7,085,641	\$44,158,682	\$31,345,799	\$14,555,065	\$12,861,321	\$1,005,617
Indirect/Induced	\$4,392,372	\$27,524,453	\$19,538,082	\$9,072,286	\$8,016,562	\$626,809
Total	\$11,478,013	\$71,683,135	\$50,883,881	\$23,627,351	\$20,877,883	\$1,632,426



**Figure 2-6. Labor Income Impact from Construction, 2015-2020, Constant 2014 Dollars**

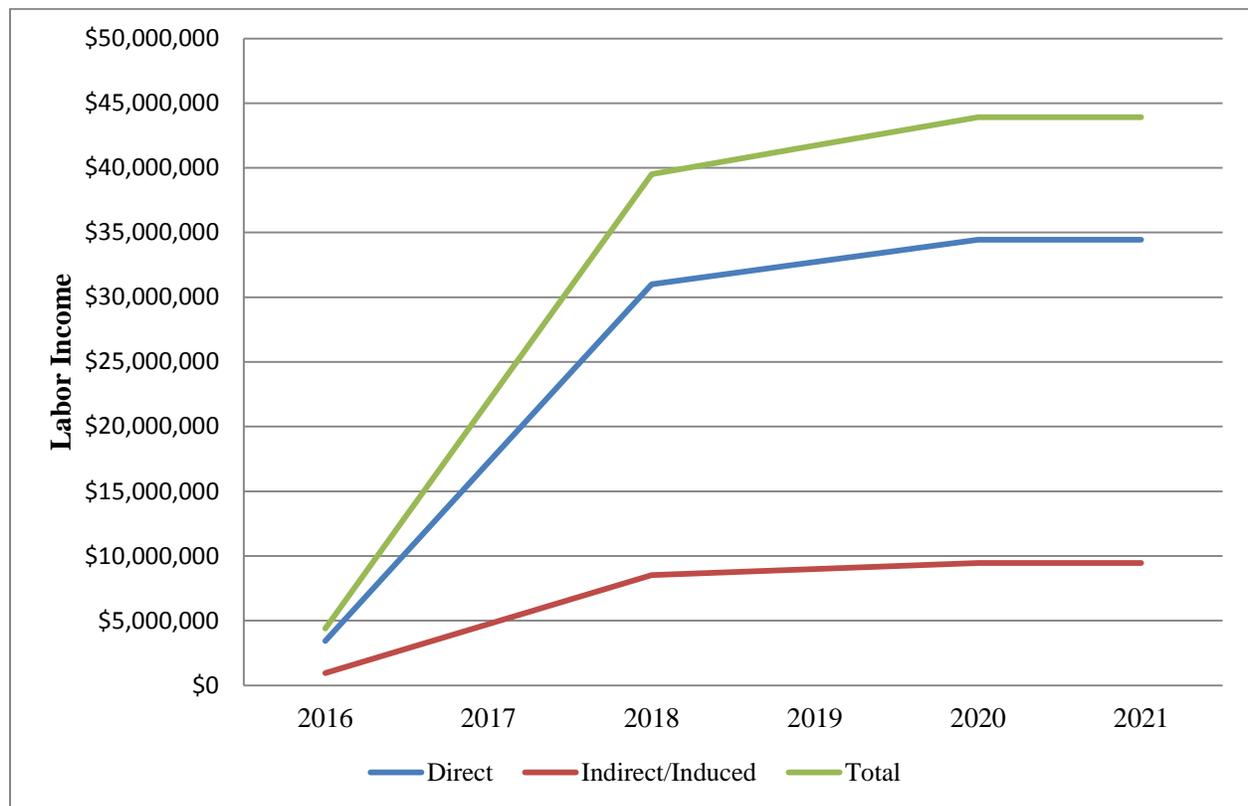
**2.2.2.2 Operations Phase**

Table 2-11 presents estimates of labor income that would result from the operation of FASTC. Operations would be expected to begin in 2016 and build up, reaching a steady-state by 2020. At steady-state operations, \$34.4 million in direct labor income and \$9.5 million in indirect/induced labor income would be generated as a result of FASTC operations. Total labor income impacts, from FASTC operations, would increase from \$4.4 million in 2016 to a steady-state total of \$43.9 million in 2020. Figure 2-7 illustrates the results presented in Table 2-11 along with estimates for 2021 that further illustrate the steady-state nature of impacts.

**Table 2-11. Annual Labor Income Impact from Operations, 2016-2020, Constant 2014 Dollars**

	2016	2017	2018	2019	2020 <sup>1</sup>
Direct	\$3,444,838	\$17,221,731	\$30,999,115	\$32,721,287	\$34,443,461
Indirect/Induced	\$947,164	\$4,735,380	\$8,523,684	\$8,997,222	\$9,470,760
Total	\$4,392,002	\$21,957,111	\$39,522,799	\$41,718,509	\$43,914,221

Notes: <sup>1</sup>Estimate for 2020 represents steady-state operations. This level of labor income would be expected to continue annually for the foreseeable future.



**Figure 2-7. Labor Income Impact from Operations, 2016-2021, Constant 2014 Dollars**

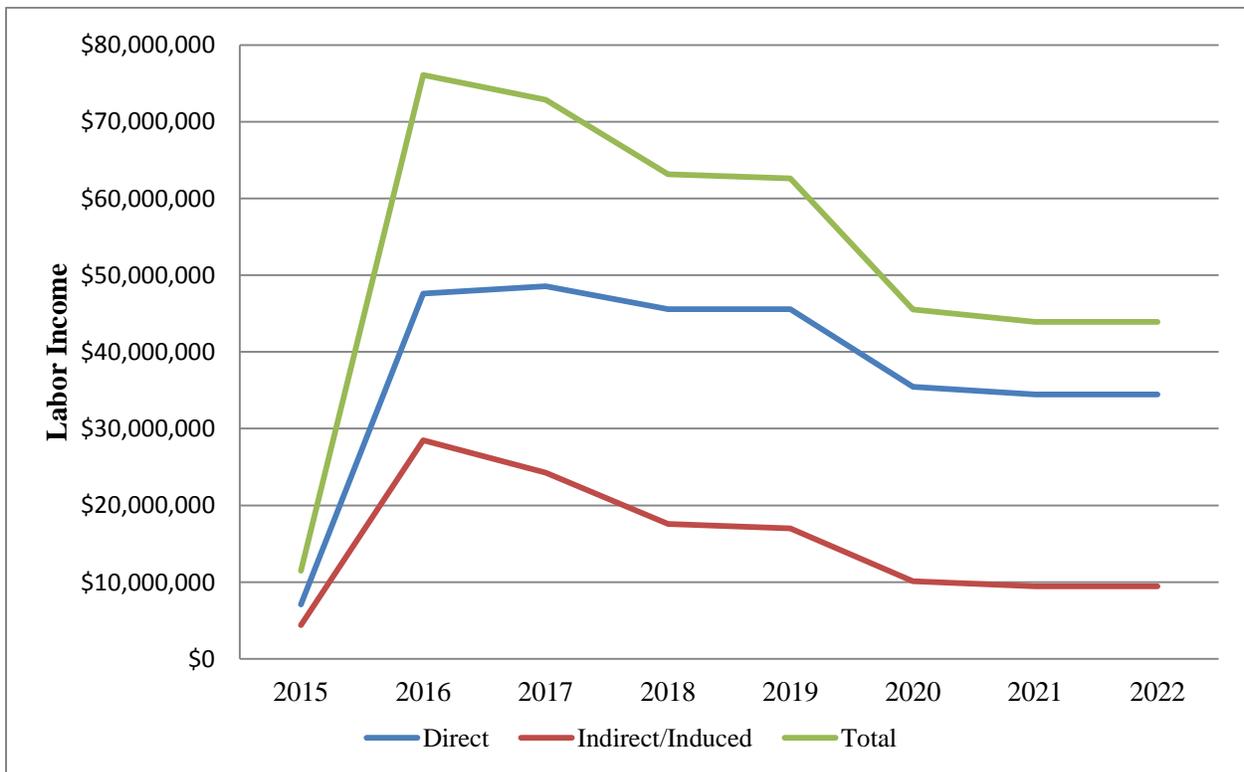
**2.2.2.3 Combined Construction and Operations**

Table 2-12 presents estimates of labor income that would result from the combined construction and operations of FASTC. Construction would be expected to begin in 2015 and build up, reaching a peak in 2016. Operations would be expected to begin in 2016 and build up, reaching a steady-state by 2020. From 2016 to 2019 combined labor income impacts would range from \$62.6 million to \$76 million per year. Then as construction concludes, steady-state operational levels, around \$44 million per year would persist for the foreseeable future. Figure 2-8 illustrates the results presented in Table 2-12.

**Table 2-12. Annual Labor Income Impact from Combined Construction and Operations, 2015-2021, Constant 2014 Dollars**

	2015	2016	2017	2018	2019	2020	2021 <sup>1</sup>
Direct	\$7,085,641	\$47,603,520	\$48,567,530	\$45,554,180	\$45,582,609	\$35,449,078	\$34,443,461
Indirect/ Induced	\$4,392,372	\$28,471,617	\$24,273,462	\$17,595,970	\$17,013,784	\$10,097,569	\$9,470,760
Total	\$11,478,013	\$76,075,137	\$72,840,992	\$63,150,150	\$62,596,393	\$45,546,647	\$43,914,221

Note: <sup>1</sup> Estimate for 2020 represents steady-state operations but some construction activity would also generate impacts. As such, 2021 represents the steady-state for combined impacts. This level of labor income would be expected to continue annually for the foreseeable future.



**Figure 2-8. Labor Income Impact from Combined Construction and Operations, 2015-2022, Constant 2014 Dollars**

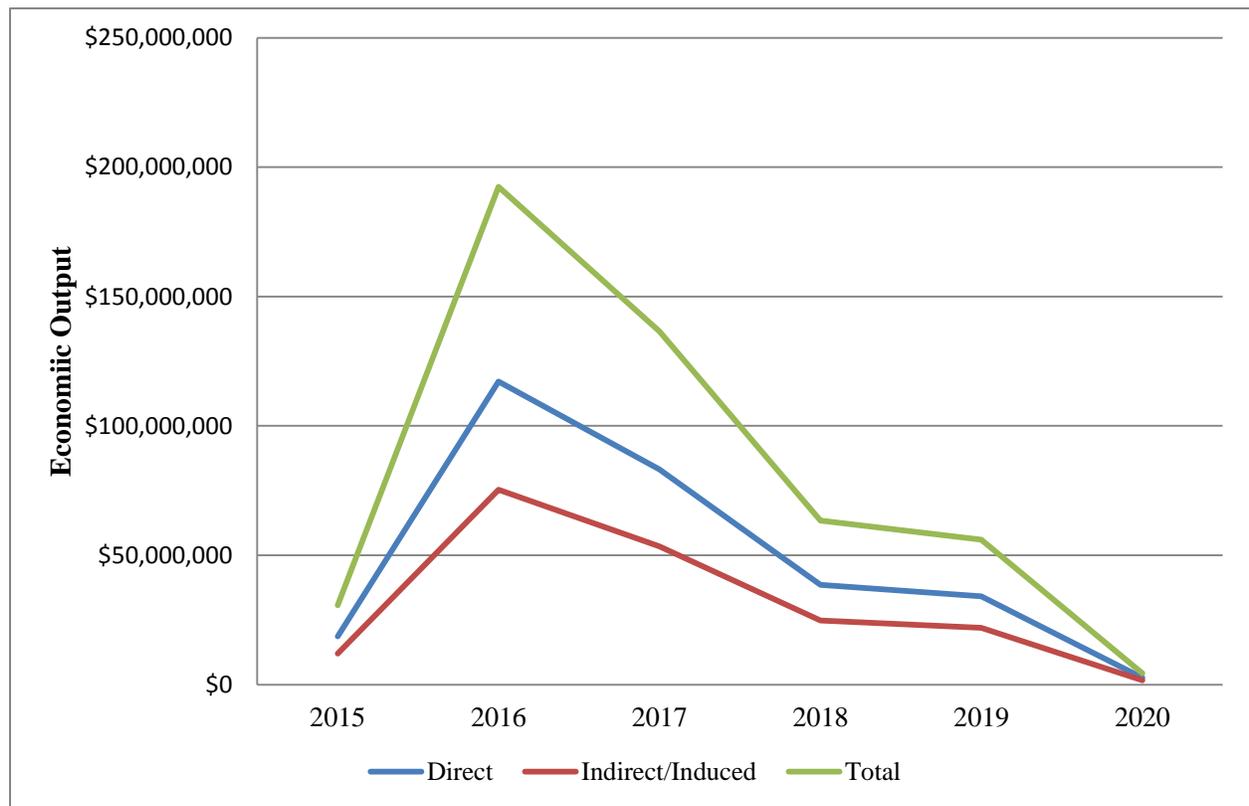
### 2.2.3 Economic Output

#### 2.2.3.1 Construction Phase

Table 2-13 shows estimates of economic output that would be generated by the construction of FASTC, from 2015 to 2020. Construction would be expected to begin in 2015 and build up, reaching a peak in 2016. Impacts to economic output would be \$30.7 million in 2015 and increase to \$192 million in 2016. Impacts to economic output would begin to decline after 2016 with economic output of \$136.6 million in 2017, \$63.4 million in 2018, \$56 million in 2019, and \$4.4 million in 2020. Figure 2-9 illustrates the results presented in Table 2-13.

**Table 2-13. Economic Output Impact from Construction, 2015-2020, Constant 2014 Dollars**

	2015	2016	2017	2018	2019	2020
Direct	\$18,649,254	\$117,123,578	\$83,139,530	\$38,604,893	\$34,112,520	\$2,667,233
Indirect/Induced	\$12,017,446	\$75,281,087	\$53,437,867	\$24,813,265	\$21,925,796	\$1,714,362
Total	\$30,666,700	\$192,404,665	\$136,577,397	\$63,418,158	\$56,038,316	\$4,381,595



**Figure 2-9. Economic Output Impact from Construction, 2015-2020, Constant 2014 Dollars**

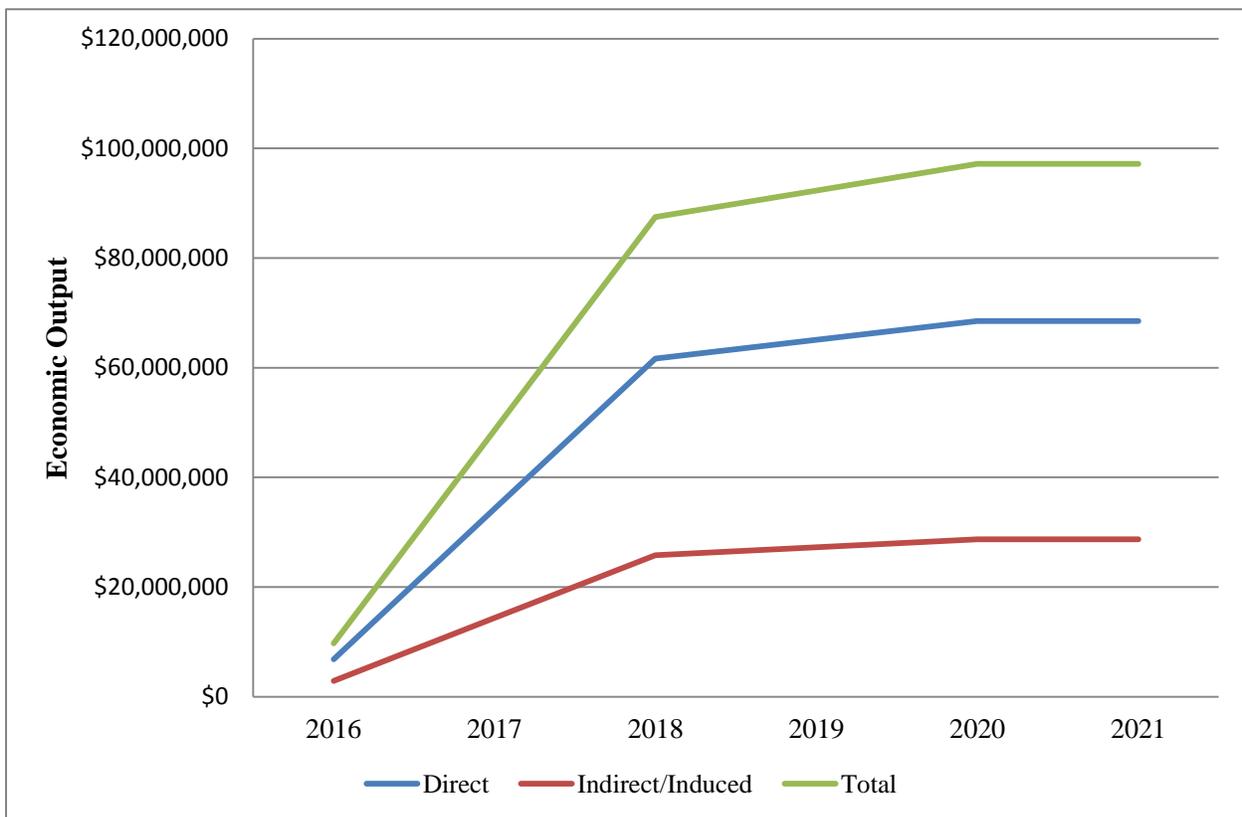
**2.2.3.2 Operations Phase**

Table 2-14 presents estimates of economic output that would result from the operations of FASTC. Operations would be expected to begin in 2016 and reach a steady-state by 2020. At steady-state operations, \$68.5 million in direct economic output and \$28.7 million in indirect/induced economic output per year would be generated by FASTC operations. Total economic output impacts would increase from \$9.7 million in 2016 to a steady-state total of \$97.2 million in 2020. Figure 2-10 illustrates the results presented in Table 2-14 along with estimates for the year 2021 that further illustrate the steady-state nature of impacts.

**Table 2-14. Annual Economic Output Impact from Operations, 2016-2020, Constant 2014 Dollars**

	2016	2017	2018	2019	2020 <sup>1</sup>
Direct	\$6,849,127	\$34,245,643	\$61,642,156	\$65,066,719	\$68,491,285
Indirect/Induced	\$2,868,849	\$14,342,861	\$25,817,150	\$27,251,436	\$28,685,722
Total	\$9,717,976	\$48,588,504	\$87,459,306	\$92,318,155	\$97,177,007

Note: <sup>1</sup>Estimate for 2020 represents steady-state operations. This level of labor income would be expected to continue annually for the foreseeable future.



**Figure 2-10. Economic Output Impact from Operations, 2016-2021, Constant 2014 Dollars**

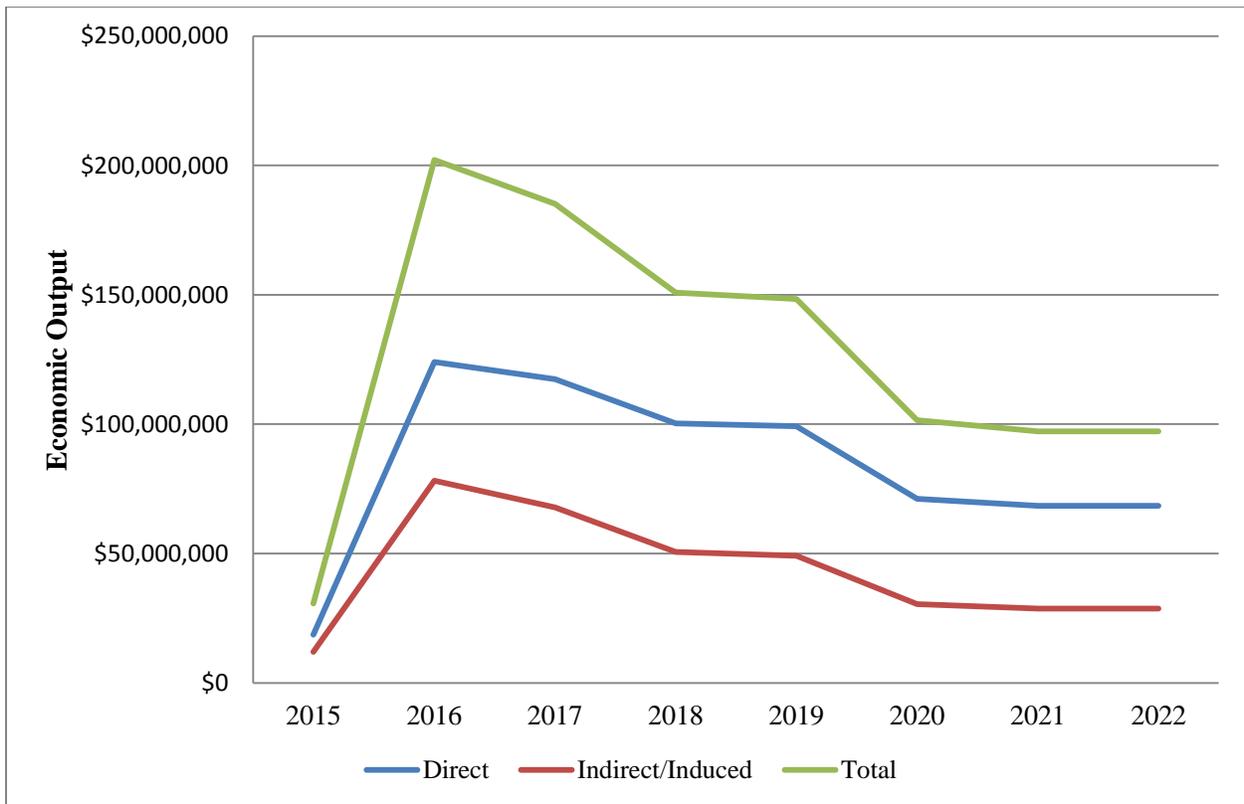
**2.2.3.3 Combined Construction and Operations**

Table 2-15 shows estimates of economic output that would be generated by the combined construction and operations of FASTC. Construction would begin in 2015 and build up, reaching a peak in 2016. Operations would begin in 2016 and build up, reaching a steady-state by 2020. From 2016 to 2019 between \$150 and \$200 million annually in economic output would be generated. The steady-state level of about \$100 million annually would extend into the foreseeable future. Figure 2-11 illustrates the results presented in Table 2-15, along with estimates for the year 2021 that further illustrate the steady-state nature of impacts.

**Table 2-15. Annual Economic Output Impact from Combined Construction and Operations, 2015-2021, Constant 2014 Dollars**

	2015	2016	2017	2018	2019	2020	2021 <sup>1</sup>
Direct	\$18,649,254	\$123,972,705	\$117,385,173	\$100,247,050	\$99,179,240	\$71,158,518	\$68,491,285
Indirect/ Induced	\$12,017,446	\$78,149,936	\$67,780,729	\$50,630,415	\$49,177,231	\$30,400,084	\$28,685,722
Total	\$30,666,700	\$202,122,641	\$185,165,902	\$150,877,465	\$148,356,471	\$101,558,602	\$97,177,007

Note: <sup>1</sup> Estimate for 2020 represents steady-state operations but some construction activity would also generate impacts. As such, 2021 represents the steady-state for combined impacts. This level of labor income would be expected to continue annually for the foreseeable future.



**Figure 2-11. Economic Output Impact from Combined Construction and Operations, 2015-2022, Constant 2014 Dollars**

## **CHAPTER 3. FISCAL IMPACT TECHNICAL STUDY**

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### **3.1 APPROACH TO ANALYSIS OF FISCAL IMPACTS**

The fiscal impact technical study assesses local government revenues and costs that would be associated with the operations phase of FASTC. It is anticipated the FASTC operations would generate government revenues via associated economic growth and would generate additional government costs caused by associated population increases. Fiscal impacts of the construction phase are not assessed because construction would be temporary and would not be expected to induce any new population to relocate to the ROI. With no additional population relocating to the ROI for the construction phase, government costs related to construction would be minimal and it would be expected that local governments would benefit fiscally.

The fiscal impact analysis focuses on the two counties where impacts would be expected to be the largest – Nottoway and Chesterfield Counties. In a survey of residential preference conducted among existing DOS employees who would likely relocate to work at FASTC, Nottoway and Chesterfield Counties were identified as the areas most likely to see an influx of residents. Therefore, the fiscal impact analysis focuses on these counties. In order to estimate fiscal impacts for these counties, estimates of population and place of residence were incorporated into the economic analysis to isolate portions of expenditures that would be relevant to the two counties being analyzed.

Estimates of local government revenue were generated by the IMPLAN model by conducting individual economic impact analysis for Nottoway and Chesterfield Counties. Additional local government revenues from the sale of land needed for FASTC that would be paid directly to Nottoway County is discussed but not included in quantitative analysis. The reason for this is that the price received from GSA for the land is assumed to be revenue neutral over time because, theoretically, in real estate valuation, the sale price of the land is equal the discounted value of monthly lease and rental fee revenue that would otherwise be paid by others to Nottoway County over time.

Local government costs were established based on two categories: costs associated with additional residential population and costs associated with direct operations:

The per-capita method (Burchell 1992) was used to estimate costs associated with additional residential population by multiplying the number of new residents to each county by the average government cost per resident.

The employment anticipation method (Burchell 1992) was used to estimate costs related to direct operations. This method uses the number of anticipated employees as a proxy for the size and scale of activities that occur at a building or facility. The size and scale of activities at a building or facility is representative of the demand that the building or facility owners and occupants would have for public services. The resulting costs would be borne by local governments who provide those services. The estimate of cost to local government service providers that would be generated by FASTC operations was calculated by multiplying the number of anticipated and relevant direct employees at FASTC (Table

2-2) by the per-employee cost of local government public safety services, which represent the only type of public services the FASTC facility would be anticipated to demand from local governments. Since direct operations would occur in Nottoway County, analysis assumed all costs would accrue to the Nottoway County government. To avoid double counting, only anticipated employees who would be non-Nottoway County residents were considered relevant for this part of the analysis as costs associated with residents are already estimated with the per-capita method.

### **3.1.1 Local Government Revenue**

Estimated local government revenue were generated by the IMPLAN model, similar to how economic impacts were generated – through operational payroll expenditures, non-payroll operational expenditures, and trainee expenditures. These expenditures were adjusted to reflect the portions of expenditures that would be expected to occur in Nottoway and Chesterfield counties, respectively.

While estimates are presented for Nottoway and Chesterfield counties, estimates are not specific to the county governments. Estimates reflect impacts to all local governments within the counties, to include city, town, or other municipal governments. As such, estimates for the town of Blackstone municipal government are included within the estimates for Nottoway County. The IMPLAN model does not provide the capability to split county revenue estimates among local town governments (i.e. the model does not report how much revenue would go to the Nottoway County government versus the town of Blackstone government). However, as a general guide, recent data show that Nottoway County has annual revenues about 2.5 times the size of the town of Blackstone’s revenues. This 2.5 to 1 ratio translates to an approximately 70% county to 30% town relationship. This implies that of the total local government revenues generated from FASTC operations within Nottoway County, the Nottoway County government would receive about 70% , and the town of Blackstone government would receive about 30%. This is not intended to imply that only 30% of taxable activity would occur in Blackstone; rather, the lower ratio takes into account that taxable activity taking place in Blackstone may be taxed by both the town and the county.

#### **3.1.1.1 Operational Payroll Expenditures**

Operational payroll expenditures would generate revenue to local governments through sales taxes and through other means such as utilities taxes, business license taxes, and miscellaneous non-tax sources associated with general increases in economic activity.

Table 3-1 shows the percentage of operational payroll expenditures that would be made by FASTC to employees, by assumed county of employee residence. The information in Table 3-1 was generated based on a survey of existing DOS employees who would likely relocate to work at FASTC. Survey results are representative of where relocating FASTC employees would likely reside and the expected place of residence was used to proxy the location of personal spending.

About 70% of FASTC employees would be expected to reside in Chesterfield County and 15% would be expected to reside in Nottoway County. The remaining 15% of FASTC employees would be expected to reside in other counties in the ROI.

**Table 3-1. Percentage of Operational Payroll Expenditures, by County of Residence**

County	% of Payroll Expenditures
Nottoway County	15%
Chesterfield County	70%
Other ROI Counties <sup>1</sup>	15%

Source: Estimated based on place of residence for new FASTC employees as determined in survey of existing DOS employees who would likely relocate.

Note: <sup>1</sup>Amelia, Brunswick, Dinwiddie, Lunenburg, Mecklenburg, and Prince Edward counties

Table 3-2 and Table 3-3 show the direct payroll expenditures that were input into the IMPLAN model to generate estimates of local government revenue in Nottoway and Chesterfield Counties. The estimates of payroll expenditures received by employees residing in Nottoway and Chesterfield counties were calculated using personal expenditures information presented in Table 2-3 in conjunction with percentages presented in Table 3-1.

**Table 3-2. Operational Payroll Expenditures by County of Residence, 2016-2020, Constant 2014 Dollars**

County	2016	2017	2018	2019	2020 <sup>1</sup>
Nottoway County	\$392,064	\$1,960,319	\$3,528,575	\$3,724,607	\$3,920,639
Chesterfield County	\$1,821,790	\$9,108,951	\$16,396,111	\$17,307,006	\$18,217,901

Note: <sup>1</sup>Estimate for 2020 represents steady-state personal expenditures. This level of expenditure would be expected to continue annually for the foreseeable future.

### 3.1.1.2 Non-payroll Expenditures

Non-payroll expenditures would be made to local firms to facilitate the operations of FASTC. These expenditures would generate local government revenue through taxes and fees. The geographic location of firms that would contract with FASTC is unknown at this time, and estimates of non-payroll expenditures, by county, shown in Table 3-4 and Table 3-5 are not certain. They are estimates based on data relating to the presence of existing business establishments that was available in the IMPLAN model (MIG Inc. 2014a).

Based on existing data related to the number and size of establishments in relevant industries, and the total amount of non-payroll expenditures (presented in Table 2-4), Table 3-3 shows estimated non-payroll expenditures for goods and services (by expenditure category) that would be expected to be made in Nottoway County to support the operations of FASTC. There is some potential that new businesses may develop in Nottoway County that would do business with FASTC, which would increase non-payroll expenditures in Nottoway County.

**Table 3-3. Non-payroll Expenditures in Nottoway County, 2016-2020, Constant 2014 Dollars<sup>1</sup>**

Expenditure Category	2016	2017	2018	2019	2020 <sup>2</sup>
Fleet Management/Shuttle Transportation	\$8,000	\$40,000	\$72,000	\$76,000	\$80,000
Training Vehicle Ops, Maintenance & Repair	\$150,000	\$750,000	\$1,350,000	\$1,425,000	\$1,500,000
Wrecker/Salvage Services	\$3,250	\$16,250	\$29,250	\$30,875	\$32,500
Emergency Medical Services	\$25,000	\$125,000	\$225,000	\$237,500	\$250,000
Technology Maintenance - Technicians	\$50,000	\$250,000	\$450,000	\$475,000	\$500,000
Facility Management Services Vehicle Fuel	\$1,196	\$5,980	\$10,764	\$11,362	\$11,960
Building Operations Maintenance	\$0	\$0	\$0	\$0	\$0
Building Custodial Services	\$52,368	\$261,839	\$471,310	\$497,493	\$523,677
Range Maintenance & Custodial Services	\$15,600	\$78,000	\$140,400	\$148,200	\$156,000
Landscaping/Grounds	\$3,240	\$16,200	\$29,160	\$30,780	\$32,400
Emergency Generator Fuel/Maintenance	\$240	\$1,200	\$2,160	\$2,280	\$2,400
Telecommunication/Fiber Optic	\$0	\$0	\$0	\$0	\$0
Radio Systems	\$0	\$0	\$0	\$0	\$0
Electricity	\$87,479	\$437,397	\$787,314	\$831,053	\$874,793
Water and Sewer	\$229,625	\$1,148,125	\$2,066,625	\$2,181,438	\$2,296,250
Stormwater Management	\$2,500	\$12,500	\$22,500	\$23,750	\$25,000
Animal Management/Pest Control	\$4,000	\$20,000	\$36,000	\$38,000	\$40,000
Road Maintenance	\$540	\$2,700	\$4,860	\$5,130	\$5,400
Snow removal and storm cleanup	\$180	\$900	\$1,620	\$1,710	\$1,800
Supplies and Equipment	\$175,000	\$875,000	\$1,575,000	\$1,662,500	\$1,750,000
Operational Expenditures (Total)	\$808,218	\$4,041,091	\$7,273,963	\$7,678,071	\$8,082,180

Notes: <sup>1</sup> Contractors to FASTC are unknown at this time; estimates are based on existing data and are not certain or binding.

<sup>2</sup> Estimate for 2020 represents steady-state non-payroll expenditures. This level of expenditures would be expected to continue annually for the foreseeable future.

Table 3-4 shows estimated non-payroll expenditures for goods and services (by expenditure category) that would be expected to be made in Chesterfield County to support the operations of FASTC.

**Table 3-4. Non-payroll Expenditures in Chesterfield County, 2016-2020, Constant 2014 Dollars<sup>1</sup>**

Expenditure Category	2016	2017	2018	2019	2020 <sup>2</sup>
Fleet Management/Shuttle Transportation	\$60,000	\$300,000	\$540,000	\$570,000	\$600,000
Training Vehicle Ops, Maintenance & Repair	\$20,000	\$100,000	\$180,000	\$190,000	\$200,000
Wrecker/Salvage Services	\$24,375	\$121,875	\$219,375	\$231,563	\$243,750
Emergency Medical Services	\$0	\$0	\$0	\$0	\$0
Technology Maintenance - Technicians	\$50,000	\$250,000	\$450,000	\$475,000	\$500,000
Facility Management Services	\$0	\$0	\$0	\$0	\$0
Vehicle Fuel	\$0	\$0	\$0	\$0	\$0
Building Operations Maintenance	\$104,519	\$522,597	\$940,675	\$992,934	\$1,045,194
Building Custodial Services	\$52,368	\$261,839	\$471,310	\$497,493	\$523,677
Range Maintenance & Custodial Services	\$15,600	\$78,000	\$140,400	\$148,200	\$156,000
Landscaping/Grounds	\$3,240	\$16,200	\$29,160	\$30,780	\$32,400
Emergency Generator Fuel/Maintenance	\$0	\$0	\$0	\$0	\$0
Telecommunication/Fiber Optic	\$40,000	\$200,000	\$360,000	\$380,000	\$400,000
Radio Systems	\$1,200	\$6,000	\$10,800	\$11,400	\$12,000
Electricity	\$0	\$0	\$0	\$0	\$0
Water and Sewer	\$0	\$0	\$0	\$0	\$0
Stormwater Management	\$2,500	\$12,500	\$22,500	\$23,750	\$25,000
Animal Management/Pest Control	\$4,000	\$20,000	\$36,000	\$38,000	\$40,000
Road Maintenance	\$4,050	\$20,250	\$36,450	\$38,475	\$40,500
Snow removal and storm cleanup	\$1,350	\$6,750	\$12,150	\$12,825	\$13,500
Supplies and Equipment	\$350,000	\$1,750,000	\$3,150,000	\$3,325,000	\$3,500,000
Operational Expenditures (Total)	\$733,202	\$3,666,011	\$6,598,820	\$6,965,420	\$7,332,021

Notes: <sup>1</sup> Contractors to FASTC are unknown at this time; estimates are based on existing data and are not certain or binding.  
<sup>2</sup> Estimate for 2020 represents steady-state non-payroll expenditures. This level of expenditures would be expected to continue annually for the foreseeable future.

Table 3-5 shows a side-by-side comparison of estimated expenditures by county during the steady-state period of operations, which would begin in 2020. The breakdown of which county where operational expenditures would be made was based on existing data relating to current employment in each industry, in each county. The general assumption was that FASTC would contract from firms nearby (in Nottoway County) when possible. However, for some industries, data showed that there was limited or no employment suggesting that Nottoway County establishments would only be able to accommodate a portion of the business or none at all. Overall, about \$8 million per year in non-payroll expenditures would be made in Nottoway County and about \$7.3 million per year would be made in Chesterfield County, during the steady-state period.

**Table 3-5. Non-payroll Expenditures in Nottoway and Chesterfield Counties, Steady-State Period, Constant 2014 Dollars**

<b>Expenditure Category</b>	<b>Nottoway County</b>	<b>Chesterfield County</b>
Fleet Management/Shuttle Transportation	\$80,000	\$600,000
Training Vehicle Ops, Maintenance & Repair	\$1,500,000	\$200,000
Wrecker/Salvage Services	\$32,500	\$243,750
Emergency Medical Services	\$250,000	\$0
Technology Maintenance - Technicians	\$500,000	\$500,000
Facility Management Services Vehicle Fuel	\$11,960	\$0
Building Operations Maintenance	\$0	\$1,045,194
Building Custodial Services	\$523,677	\$523,677
Range Maintenance & Custodial Services	\$156,000	\$156,000
Landscaping/Grounds	\$32,400	\$32,400
Emergency Generator Fuel/Maintenance	\$2,400	\$0
Telecommunication/Fiber Optic	\$0	\$400,000
Radio Systems	\$0	\$12,000
Electricity	\$874,793	\$0
Water and Sewer	\$2,296,250	\$0
Stormwater Management	\$25,000	\$25,000
Animal Management/Pest Control	\$40,000	\$40,000
Road Maintenance	\$5,400	\$40,500
Snow removal and storm cleanup	\$1,800	\$13,500
Supplies and Equipment	\$1,750,000	\$3,500,000
<b>Operational Expenditures (Total)</b>	<b>\$8,082,180</b>	<b>\$7,332,021</b>

### 3.1.1.3 Trainee Expenditures

Table 3-6 shows estimated total trainee expenditures, distributed between Nottoway and Chesterfield Counties. Trainee expenditures would generate tax revenue, primarily through local sales taxes. These expenditures were estimated under the assumption that only existing accommodations in Nottoway County would be available.

Given the number of trainee days, there would be a consistent, daily demand for about 350 hotel/motel rooms. Hotels/motels in Nottoway County do not have capacity to meet that demand and most trainee lodging is assumed to take place in Chesterfield County. If additional accommodations were to be built in Nottoway County near the FASTC facility, trainee expenditures in Nottoway County would be higher and expenditures in Chesterfield would be lower.

**Table 3-6. Trainee Expenditures by County**

County	2016	2017	2018	2019	2020 <sup>1</sup>
<b>Nottoway County</b>	<b>\$493,948</b>	<b>\$2,469,740</b>	<b>\$4,445,532</b>	<b>\$4,692,506</b>	<b>\$4,939,480</b>
<i>Trainee Expenditures on Lodging<sup>2</sup></i>	<i>\$144,900</i>	<i>\$724,500</i>	<i>\$1,304,100</i>	<i>\$1,376,550</i>	<i>\$1,449,000</i>
<i>Trainee Expenditures on Meals<sup>3</sup></i>	<i>\$316,848</i>	<i>\$1,584,240</i>	<i>\$2,851,632</i>	<i>\$3,010,056</i>	<i>\$3,168,480</i>
<i>Trainee Expenditures on Incidentals</i>	<i>\$32,200</i>	<i>\$161,000</i>	<i>\$289,800</i>	<i>\$305,900</i>	<i>\$322,000</i>
<b>Chesterfield County</b>	<b>\$967,932</b>	<b>\$4,839,660</b>	<b>\$8,711,388</b>	<b>\$9,195,354</b>	<b>\$9,679,320</b>
<i>Trainee Expenditures on Lodging<sup>2</sup></i>	<i>\$724,500</i>	<i>\$3,622,500</i>	<i>\$6,520,500</i>	<i>\$6,882,750</i>	<i>\$7,245,000</i>
<i>Trainee Expenditures on Meals</i>	<i>\$211,232</i>	<i>\$1,056,160</i>	<i>\$1,901,088</i>	<i>\$2,006,704</i>	<i>\$2,112,320</i>
<i>Trainee Expenditures on Incidentals</i>	<i>\$32,200</i>	<i>\$161,000</i>	<i>\$289,800</i>	<i>\$305,900</i>	<i>\$322,000</i>

Note: <sup>1</sup>Estimate for 2020 represents steady-state trainee expenditures. This level of expenditures would be expected to continue annually for the foreseeable future.

<sup>2</sup>Trainee expenditures on lodging would be funded via federal contracts with hotels/motels within the ROI.

<sup>3</sup>Some meals would be eaten on-site during the instructional day and funded via federal contracts with food services providers.

### 3.1.2 Local Government Costs

As explained in Section 3.1, local government costs were established based on two categories: costs associated with additional residential population and costs associated with direct operations:

The per-capita method (Burchell 1992) was used to estimate costs associated with additional residential population by multiplying the number of new residents to each county by the average government cost per resident.

The employment anticipation method (Burchell 1992) was used to estimate costs related to direct operations by multiplying the number of anticipated direct employees at FASTC (Table 2-2) by the per-employee cost of government public safety services. Since direct operations would occur in Nottoway County, this portion of the government cost analysis was only conducted for Nottoway County. Since costs associated with residents were estimated with the per-capita method, only employees that are anticipated to be non-residents of Nottoway County were used in the employment anticipation method.

Data sources used to make government cost estimates included data from DOS and the U.S. Census Bureau to estimate additional population, and location of residence for additional population, the

Virginia Auditor of Public Accounts for information on county government costs, and the Bureau of labor Statistics for information on the number of employees in Nottoway County.

**3.1.2.1 Local Government Costs Associated with Additional Residential Population**

Table 3-7 displays the number of employees who would be expected to relocate from their current residences to work at FASTC. These employees would add to the population of the ROI, primarily Chesterfield and Nottoway Counties. All other employment associated with FASTC would be expected to be filled by current residents of the ROI and would not be expected to add to population.

**Table 3-7. FASTC Transfer Employees, 2016-2020**

2016	2017	2018	2019	2020 <sup>1</sup>
21	106	191	201	212

Source: DOS 2014

Note: 12020 transfer employees represent a steady-state. This number of transfer employees would be expected to continue annually for the foreseeable future.

FASTC transfers may bring their families or other household members, which would also serve to increase population in the ROI. Table 3-8 shows the average household size for the U.S. as of the most recent decennial census. The average household size of 2.58 persons per household implies that for every employee who transfers to work at FASTC, an additional 1.58 persons (for instance, a spouse and 0.58 children on average) would also relocate to the region, adding to population.

**Table 3-8. Average Household Size, 2010 U.S. Average**

	U.S. Average
Average Household Size	2.58

Source: U.S. Census Bureau 2010

Table 3-9 shows the estimated total new population to the region resulting from FASTC operations, given the number of transfer employees and the assumed average household size. This population would be spread throughout the region, but the bulk of new population would be expected to reside in Nottoway and Chesterfield counties. The percentage breakdown of place of residence for new population provided in Table 3-1 suggests that about 70%% of new population would reside in Chesterfield County and 15% would reside in Nottoway County.

**Table 3-9. Total New Population to the Region**

2016	2017	2018	2019	2020 <sup>1</sup>
55	273	492	520	547

Note: <sup>1</sup>2020 new population represents a steady-state. This number of new population would be expected to continue annually for the foreseeable future.

Given total new population and the percentage breakdown, Table 3-10 shows the expected number of new population for Nottoway and Chesterfield counties. As shown in Table 3-10, at steady-state operations, which begin in 2020, there would be 82 new people residing in Nottoway County and 381

new people residing in Chesterfield County. Each new resident identified in Table 3-9 would receive government services and thus increase costs to local government.

**Table 3-10. New Population by County, 2016-2020**

	2016	2017	2018	2019	2020 <sup>1</sup>
Nottoway County	8	41	74	78	82
Chesterfield County	38	191	343	362	381

Note: <sup>1</sup>2020 new population represents a steady-state. This number of new population would be expected to continue annually for the foreseeable future.

Table 3-11 and Table 3-12 provide a breakdown of per capita government costs during 2013 for Nottoway County and Chesterfield County, respectively. A total of \$2,160 per person was spent by Nottoway County and \$2,710 per person was spent by Chesterfield County in 2013. The highest per capita cost items included education, public safety, and health and welfare.

**Table 3-11. Nottoway County, Per Capita Government Costs, 2013**

Expenditure Category	Per Capita Expenditure
General Government and Administration	\$70
Judicial Administration	\$41
Public Safety	\$249
Public Works	\$65
Health and Welfare	\$283
Education	\$1,386
Parks, Recreation, and Cultural Services	\$16
Community Development	\$49
Total	\$2,159

Source: VAPA 2014.

**Table 3-12. Chesterfield County, Per Capita Government Costs, 2013**

Expenditure Category	Per Capita Expenditure
General Government and Administration	\$96
Judicial Administration	\$50
Public Safety	\$537
Public Works	\$61
Health and Welfare	\$215
Education	\$1,649
Parks, Recreation, and Cultural Services	\$50
Community Development	\$53
Total	\$2,711

Source: VAPA 2014.

The per capita government costs shown in Table 3-11 and 3-12 were multiplied by the expected new populations for each county (Table 3-10) to yield estimates of local government costs attributable to FASTC operations.

**3.1.2.2 Local Government Costs Associated with FASTC Operations**

Local government costs associated with the FASTC facility are anticipated to be incurred only by Nottoway County and are estimated based on the number of direct operational employees that would be anticipated to reside outside of Nottoway County. Only those employees that are anticipated to reside outside of Nottoway County are included to avoid double counting because costs associated with employees that would reside in Nottoway County are accounted for in association with additional residential population (see Section 3.1.2.1). Table 3-13 utilizes information from Tables 2-2 and 3-1 to estimate the number of direct operational employees that would not reside in Nottoway County.

**Table 3-13. Estimated Direct Operational FASTC Employees with Residence Outside of Nottoway County**

	2016	2017	2018	2019	2020 <sup>1</sup>
Direct Operational Employees	34	170	305	322	339
% of Employees Residing Outside of Nottoway County	85%	85%	85%	85%	85%
Direct Operational Employees residing Outside of Nottoway County <sup>2</sup>	29	145	259	274	288

Note: <sup>1</sup>2020 new population represents a steady-state. This number of new population would be expected to continue annually for the foreseeable future.

<sup>2</sup>Calculated by multiplying the first row by the second row.

The number of direct operational FASTC employees with residence outside of Nottoway County was multiplied by estimated, per employee, Nottoway County expenditures on public safety services to estimate local government costs. Table 3-14 shows The amount Nottoway County spent on safety services in FY 2013, the number of employees there were in the county in 2013, and the per employee expenditure on public safety services.

**Table 3-14. Per Employee Public Safety Expenditures, Nottoway County, 2013**

	Expenditures/Employees
Expenditure on Public Safety Services	\$3,955,238
Total County Employees	5,613
Per Employee Expenditures	\$705

Sources: VAPA 2014. BLS 2014.

**3.2 ESTIMATED FISCAL IMPACTS**

Estimated fiscal impacts compare projected local government revenue to projected local government costs during the operations phase of FASTC for Nottoway and Chesterfield counties. Due to the expectation that more new population associated with FASTC would live in Chesterfield County, local government revenue and local government costs are higher there than in Nottoway County. Local governments in both counties would be expected to have positive net revenue as a result of FASTC operations.

Fiscal impacts from the construction phase are not quantified in this section (refer to Section 3.1); however, it would be expected that there would be increased government revenues in Nottoway County, Chesterfield County, and other counties in the ROI. Government costs associated with construction would be minimal in all counties of the ROI, as little to no new population would be anticipated to relocate to the area for the temporary project. Government costs associated with construction would be most likely to occur in Nottoway County; these costs would be associated with use of roads and other municipal infrastructure, but since the construction project itself would take place at Fort Pickett, costs to governments in Nottoway County would be minimal.

### 3.2.1 Nottoway County

Table 3-15 shows projected local government revenue, cost, and net revenue (revenue minus cost) for Nottoway County from 2016 to 2020. In 2020, the first year of FASTC steady-state operations, local governments in Nottoway County would collect about \$850,000 in revenue and spend about \$380,000. Steady-state total net revenue for local governments would be about \$467,000. Figure 3-1 illustrates the results presented in Table 3-12, along with estimates for 2021 that further illustrate the steady-state nature of impacts.

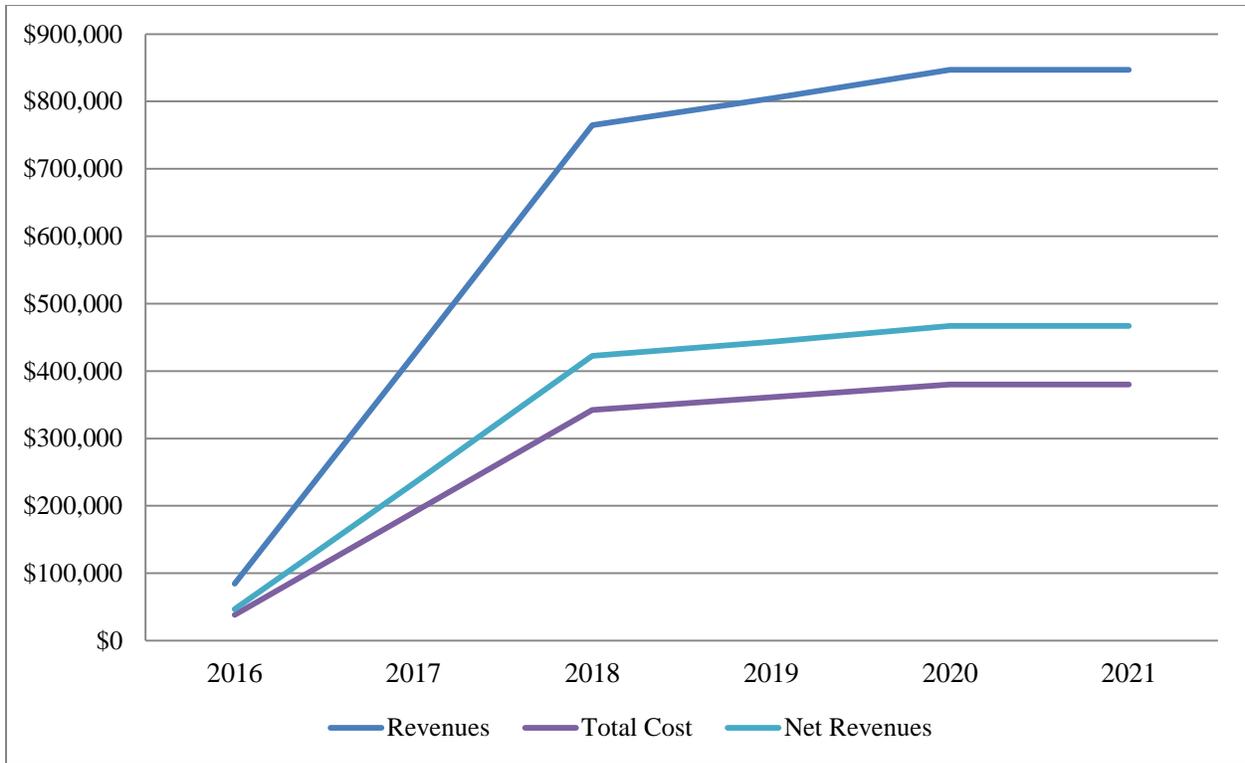
In addition to revenues presented in Table 3-15, Nottoway County would receive a one-time payment for the sale of land that would be used by FASTC. Since the amount of the payment is unknown at this time, and the payment is assumed to be net revenue neutral over the long-term, the value of the sale is not included in the fiscal analysis. (See Attachment A of this technical study for details on this assumption).

Furthermore, estimates presented in Table 3-15 assume no hotel development in Nottoway County. If a hotel were to be built and capture a large portion of trainee expenditures on accommodations, Nottoway County revenues would be substantially higher.

**Table 3-15. Annual Nottoway County Local Government Revenue, Cost, and Net Revenue, 2016 to 2020, Constant 2014 Dollars**

	2016	2017	2018	2019	2020 <sup>1</sup>
Revenue	\$84,703	\$423,512	\$764,696	\$804,673	\$847,024
Total Cost	\$38,084	\$190,420	\$342,156	\$361,199	\$380,241
Cost (Residential Population)	\$17,719	\$88,597	\$159,474	\$168,334	\$177,194
Cost (Direct Operations)	\$20,365	\$101,823	\$182,682	\$192,865	\$203,047
Net Revenue	\$46,619	\$233,092	\$422,540	\$443,474	\$466,783

Note: <sup>1</sup>2020 local government revenue, cost, and net revenue represent a steady state. These numbers would be expected to continue annually for the foreseeable future.



**Figure 3-1. Nottoway County Local Government Revenue, Cost, and Net Revenue, 2016 to 2021, Constant 2014 Dollars**

### 3.2.2 Chesterfield County

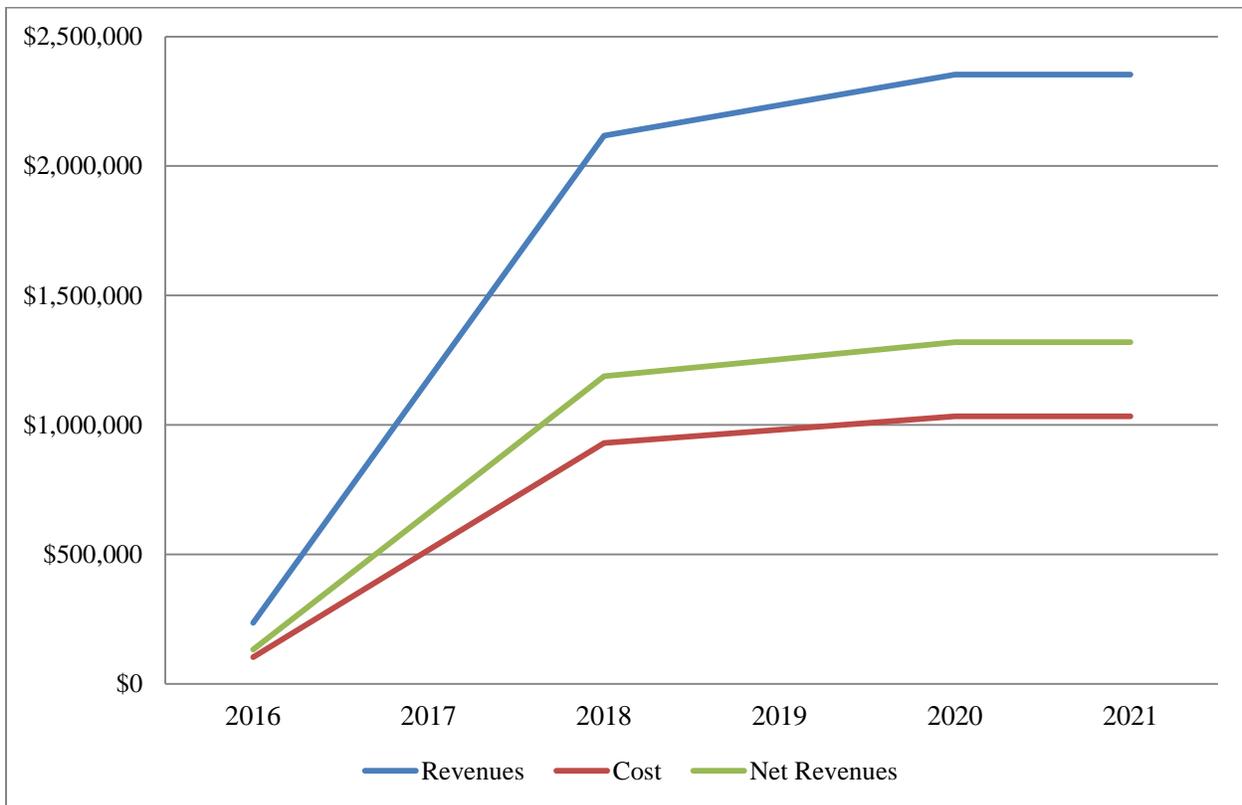
Table 3-16 shows projected local government revenue, cost, and net revenue (revenue minus cost) for Chesterfield County from 2016 to 2020. In 2020, the first year of FASTC steady-state operations, local governments in Chesterfield County would collect about \$2.4 million in revenue and spend about \$1.03 million. Net revenue for local governments would be about \$1.3 million. Figure 3-2 illustrates the results presented in Table 3-16, along with estimates for 2021 that further illustrate the steady-state nature of impacts.

**Table 3-16. Annual Chesterfield County Local Government Revenue, Cost, and Net Revenue, 2016 to 2020, Constant 2014 Dollars**

	2016	2017	2018	2019	2020 <sup>1</sup>
Revenue	\$235,289	\$1,176,445	\$2,117,600	\$2,235,243	\$2,352,887
Cost	\$103,312	\$516,561	\$929,809	\$981,465	\$1,033,121
Net Revenue	\$131,977	\$659,884	\$1,187,791	\$1,253,778	\$1,319,766

Note: <sup>1</sup>2020 local government revenue, cost, and net revenue represent a steady-state.

These numbers would be expected to continue annually for the foreseeable future.



**Figure 3-2. Chesterfield County Local Government Revenue, Cost, and Net Revenue, 2016 to 2021, Constant 2014 Dollars**

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[http://www.apa.virginia.gov/data/download/local\\_government/comparative\\_cost/Amended%20Cost%2013.xls](http://www.apa.virginia.gov/data/download/local_government/comparative_cost/Amended%20Cost%2013.xls).

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## **ATTACHMENT A: SUMMARY OF ASSUMPTIONS**

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### **Economic Impact Analysis**

- The economic effects of the project would be in Nottoway County and also extend into surrounding counties where the purchase of goods and services and employee residential locations; etc. would occur. Counties in the ROI include Amelia, Brunswick, Chesterfield, Dinwiddie, Lunenburg, Mecklenburg, Nottoway, and Prince Edward.
- Construction and operational data used in estimates were provided by GSA and DOS, respectively, based on the best available information. GSA provided information on construction, DOS provided information on operations.
- Timeline provided by GSA/DOS used in the analysis: Construction 2015-2020 (only first month or so in 2020). Operations 10% capacity in 2016, 50% in 2017, 90% in 2018, 95% in 2019, and 100% in 2020.
- Construction Expenditures: GSA estimated total construction expenditures to be approximately \$350 million. After excluding expenditures that would likely not reach the economy of the ROI (construction contractor contingencies, certain fees, and escalation or construction cost inflation), it was estimated that over the course of the construction phase a total of \$294 million would be spent on construction within the ROI.
- Operations expenditures include: local expenditures derived from operational activities associated with implementation of FASTC: 1) payroll; 2) purchases of goods and services that would be required to operate FASTC; and 3) purchases by trainees.

### **Fiscal Impact Analysis**

- Analyzes local government revenue and local government costs that would be associated with the operations phase of FASTC.
- Government costs are assumed to be the results of an increase in population caused by the project and by direct operations at the FASTC facility. A DOS employee survey identified Nottoway and Chesterfield Counties as the areas likely to receive the largest influx of population. Therefore the fiscal impact analysis focuses on these counties. Costs related to direct FASTC operations are only incurred by Nottoway County.
- The purchase of land from Nottoway County is assumed to be revenue neutral over time for the County. The sales price would theoretically be equal the discounted value of monthly lease and rental income that would have been received by the County.

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