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Report to the Governor and the General Assembly of Virginia

Economic Development Incentives 2017

JLARC
JOINT LEGISLATIVE AUDIT
AND REVIEW COMMISSION

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WHAT WE FOUND

- Virginia spent $1.5 billion on 76 economic development incentives from FY10 to FY16 through grant awards; tax incentives, which include sales and use tax exemptions and tax credits; and loans and other financing programs.
- Through economic development tax incentives, businesses saved $852 million from FY10 to FY16.
- Businesses saved an estimated $831 million from economic development sales and use tax exemptions from FY10 to FY16. The data center exemption is the largest in terms of amount of tax savings ($222 million between FY10 and FY16).
- Economic development tax credits provided $152 million in savings to businesses from FY10 to FY16.
- Collectively, Virginia's economic development incentive grant programs awarded $714 million to 3,379 projects (FY10 to FY16).
- Completed projects receiving grant funds created about 45,000 jobs and $7.5 billion in capital investment or other spending.
- The majority of completed projects receiving grant funds met their capital investment goals, but fewer met their job creation or wage goals. Actual spending on grant projects was $86 million less than the total amount awarded because of award cancelations, reductions, or clawbacks.

WHY WE DID THIS STUDY

Through language in the Appropriation Act, the General Assembly directed the Joint Legislative Audit and Review Commission (JLARC) to review and evaluate economic development initiatives. Topics include spending on incentives and activity generated by businesses receiving incentives; the economic benefits of incentives; and the effectiveness of incentives.

JLARC releases two reports each year: a report on overall spending and business activity and an in-depth report on the effectiveness of selected individual incentives. (See Appendix A: Study mandate.) JLARC contracted with the Weldon Cooper Center for Public Service to perform the analysis for both reports.

This report is the first in the series of overall spending and business activity and focuses on incentives that were provided between FY10 and FY16.

Economic Development Incentives: 2017 FY10–FY16

Virginia provides economic development incentives to encourage businesses to locate or expand their operations in the state as part of its economic development strategy. In order to better understand the effectiveness of these incentives in stimulating business activity, the General Assembly directed the Joint Legislative Audit and Review Commission (JLARC) to review, on a continuing basis, spending on and performance of economic development incentives such as grants, tax preferences, and other assistance. (See Appendix A.) JLARC contracted with the University of Virginia's Weldon Cooper Center for Public Service to perform the evaluation.

For purposes of this report, **incentives spending** refers to (1) actual expenditures by the state in the form of grant awards or other financing and (2) tax expenditures, in the form of forgone revenue, through tax credits or sales and use tax exemptions. Actual expenditures may occur for refundable tax credits, such as the film tax credit.

This report is the first in a series of annual reports about Virginia's economic development incentives, trends in state spending on incentives, and performance of incentive programs. Every other year, starting in 2018, this report will also include information about the economic benefits of total spending on economic development incentives.

The report provides summary information on 76 economic development incentive programs, including grants, tax preferences, business loans, and gap financing. The incentive programs covered in this report are funded by the state, are actively providing incentives, and have a primary purpose of promoting economic activity through location or expansion of businesses. Businesses may also benefit from a variety of other grants, tax credits, and exemptions offered by the state for purposes other than economic development; these programs are not included in this report. Individual economic development incentives will be evaluated in depth, on a cyclical basis. The findings of the individual evaluations will be reported separately.

The **time period FY10 to FY16** was chosen for this report because it provided enough years to have a sufficient number of completed projects for reporting performance.

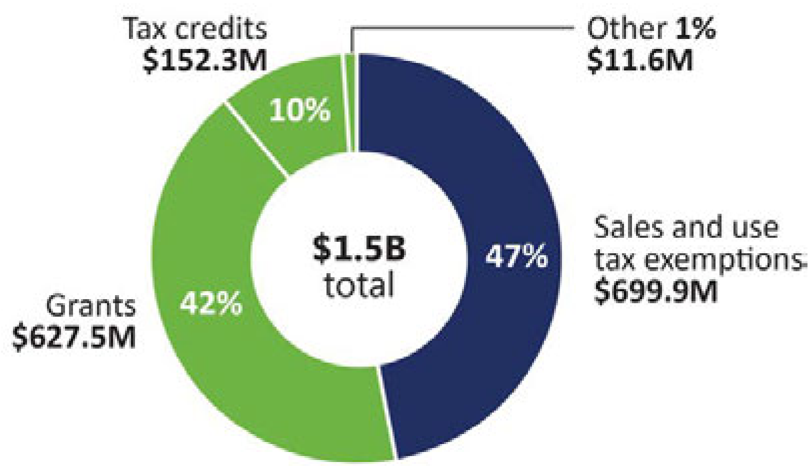
State spent $1.5 billion on incentives from FY10 to FY16

Virginia spent $1.5 billion on 76 economic development incentives over the past seven fiscal years (Figure 1), for an average of $213 million per year. Spending on these incentives represented approximately 1.4 percent of total general fund spending between FY10 and FY16. The vast majority of spending on incentives was forgone revenue from sales and use tax exemptions (47 percent) or incentive grants (42 percent).

Ten incentives accounted for two-thirds of the spending on incentives between FY10 and FY16 (Table 1). The top two—the Data Center Exemption and Railroad Common Carriers Exemption—target businesses in capital-intensive sectors that make large purchases of equipment. Because of the incentives, these purchases are exempt from the retail sales and use tax. Other top grant programs include the Tobacco Region Revitalization Commission (Tobacco Commission) Megasite Grant, which awarded 31 grants totaling $102 million for six large-scale industrial parks in the Southside and

Southwest regions, and the Commonwealth's Opportunity Fund, the state's primary "deal closing" program, which awarded $90 million for 171 projects.

FIGURE 1
Half of spending on incentives was for sales and use tax exemptions (FY10-FY16)



SOURCE: Weldon Cooper Center analysis of economic development incentive programs.
NOTE: Adjusted for canceled projects, recaptures, and award reductions. Exemptions exclude the 1% sales tax for localities and, in most cases, the additional amounts collected in Northern Virginia and Hampton Roads.

TABLE 1
Ten incentives are responsible for two-thirds of spending (FY10-FY16)

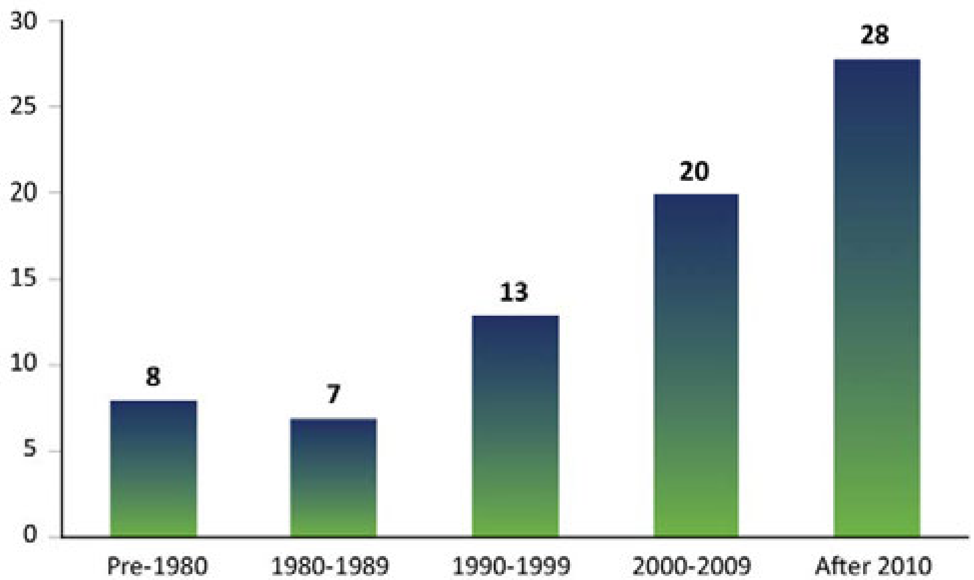
Incentive	Spending	% of spending
Data Center Exemption	$222M	15%
Railroad Common Carriers Exemption	152	10
Tobacco Commission Megasite Grant	102	7
Commonwealth's Opportunity Fund	90	6
Tobacco Region Opportunity Fund	88	6
Virginia Coal Production and Employment Incentive Tax Credit	79	5
Real Property Improvement Grant (Enterprise Zone)	72	5
Airline Common Carriers Exemption	64	4
Semiconductor Manufacturers Exemption	62	4
Virginia Jobs Investment Program	58	4
Subtotal	**$989M**	**66%**
All others	$503M	34%
TOTAL	**$1,491M**	**100%**

SOURCE: Weldon Cooper Center analysis of economic development incentives.
NOTE: Excludes several tax preferences for which data was not available. Adjusted for canceled projects, recaptures, and award reductions. Exemptions exclude the 1% sales tax for localities and, in most cases, the additional amounts collected in Northern Virginia and Hampton Roads. (See Appendix C for a description and Appendix D for spending for all incentives.)

Incentives have increased in number and spending

The number of economic development incentives offered by the state has grown over time. The oldest is the Economic Development Access Program—a grant program designed to improve transportation access for industrial sites—which was adopted in 1956. Among the newest is the Advanced Shipbuilding Production Facility Grant Program, a customized performance grant adopted in 2016 for Newport News Shipbuilding, for a new facility to manufacture a new class of nuclear ships. Half of the current incentives were adopted in 2005 or after (Figure 2).

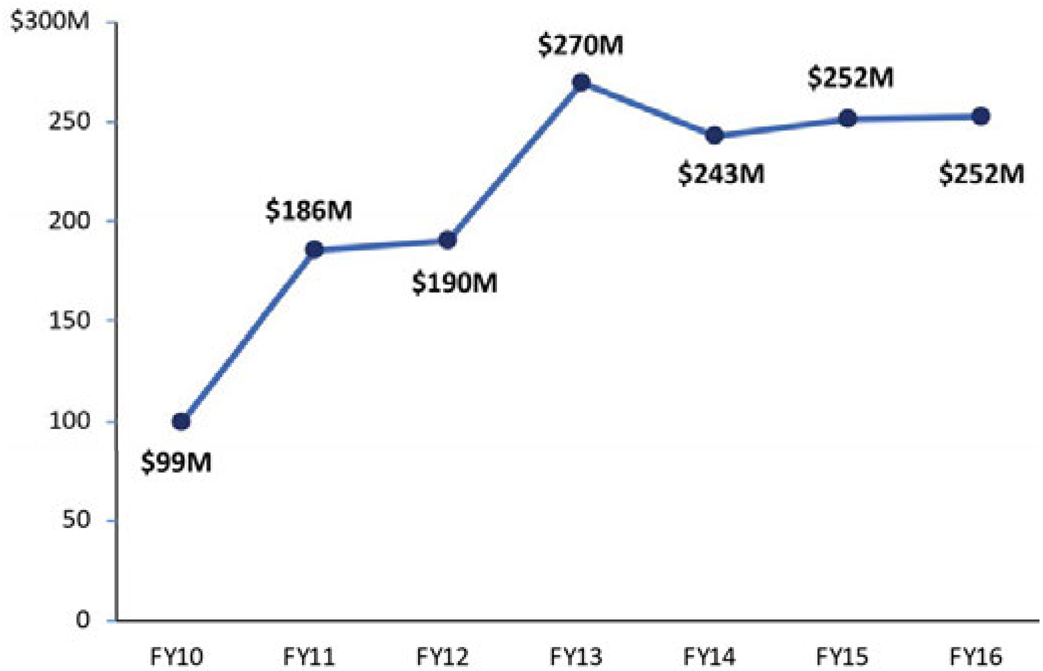
FIGURE 2
Half of current incentives were adopted in 2005 or after



SOURCE: Weldon Cooper Center analysis of economic development incentive programs.
NOTE: Excludes expired incentives.

The amount spent on economic development incentives increased significantly between FY10 and FY11, spiked in FY13, and has remained fairly constant since FY14 (Figure 3). Much of the increase after FY10 was due to a few programs. Spending increased each year after the adoption of the Data Center Exemption that began in FY11 at an estimated exempted amount of $8 million but is now estimated to be more than $60 million in exemptions. Three other programs saw sizable increases between FY10 and FY16: Commonwealth's Opportunity Fund ($18.1 million), Governor's Motion Picture Opportunity Fund ($12.3 million), Rail Common Carrier Exemption (estimated to be $9.9 million), and Tobacco Commission Megasite Grant ($9.0 million). Only a few programs experienced decreases between FY10 and FY16, but they were small. These include the Major Business Facility Job Tax Credit (−$2.4 million), the Enterprise Zone Real Property Improvement Grant (−$1.3 million), and Air Common Carrier Exemption (estimated to be −$1.2 million).

FIGURE 3
Spending on incentives has increased significantly since FY10 but has been consistent since FY14



SOURCE: Weldon Cooper Center analysis of economic development incentive programs.
NOTE: Adjusted for canceled projects, recaptures, and award reductions. Not adjusted for inflation. The trend is nearly identical if adjusted for inflation.

Economic development **grants** are financial incentives provided to businesses in return for locating in the state or expanding business activity. Some grants are discretionary, which means that the state can negotiate the terms of the grant with the business. Other grants are automatically awarded if the business meets the minimum requirements. Grants are not repaid as long as businesses meet program requirements.

Several programs that are not commonly identified as grant programs are included in this category because they provide financial assistance to businesses (or to a third party for their benefit).

More than 3,300 projects were awarded 714 million in grants from FY10 to FY16

Even though sales and use tax incentives—particularly exemptions—have a larger impact on the state budget, Virginia's grant programs are the most widely recognized economic development incentive. The grant programs—which are typically funded with general funds, with some exceptions—incentivize economic growth by encouraging businesses to expand or locate in the state. Collectively, Virginia's economic development incentive grant programs awarded $714 million to 3,348 projects between FY10 and FY16 (Table 2). Ten of the 21 grant programs provided more than $20 million in awards each during the time period.

TABLE 2
Grant programs made more than 3,300 awards totaling $714M

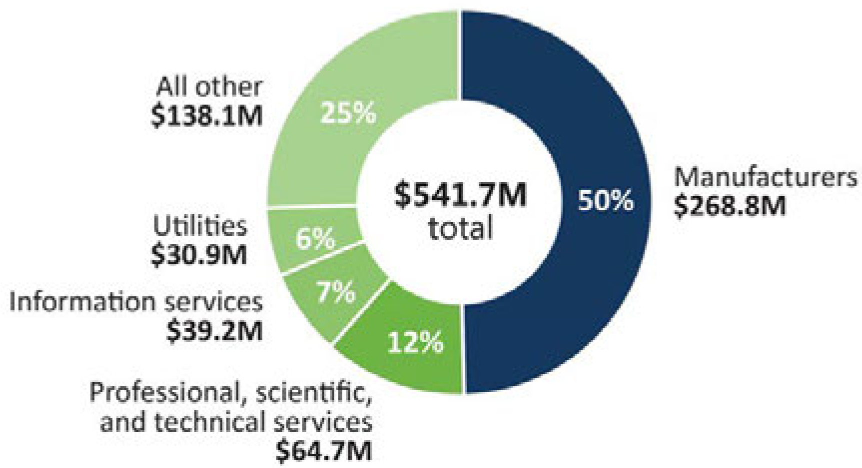
	Total FY10-FY16		Annual average	
Program	**Award amount**	**# of awards**	**Award amount**	**# of awards**
Tobacco Region Opportunity Fund	$142.7M	220	$20.4M	31
Tobacco Commission Megasite Grant	102.8	31	17.1	4
Commonwealth's Opportunity Fund	94.9	171	13.6	24
Virginia Jobs Investment Program	76.4	859	10.9	123
Real Property Investment Grant (Enterprise Zone)	72.2	1,101	10.3	157
Transportation Partnership Opportunity Fund	43.7	14	6.2	2
Virginia Investment Partnership Grant	35.5	42	5.1	6
Advanced Shipbuilding Training Facility Grant	32.8	1	5.5	<1
Virginia Economic Development Incentive Grant	26.0	5	3.7	1
Governor's Motion Picture Opportunity Fund	22.9	36	3.3	5
Job Creation Grant (Enterprise Zone)	18.6	395	2.7	56
Economic Development Access Program	14.5	25	2.1	4
Rail Industrial Access Program	9.4	28	1.3	4
Commonwealth Research Commercialization Fund	7.6	118	1.5	24
Small Business Jobs Grant Fund Program	6.6	120	0.9	17
Agriculture and Forestry Industries Devel. Grant	2.9	32	1.0	11
VALET Program	2.4	166	0.3	24
Port of Virginia Economic and Infrastructure Grant	0.8	2	0.3	1
Coalfield Regional Opportunity Fund	0.7	2	0.1	<1
Virginia Tourism Growth Fund	0.5	4	0.5	4
Small Business Investment Grant Fund	0.2	7	0.0	2
All programs	**$713.9M**	**3,379**	**$104.0M**	**492**

SOURCE: Weldon Cooper Center analysis of economic development incentive grants.
NOTE: Includes all awards and amounts *prior* to recaptures, cancelations, or reductions. For this reason, amounts for the Tobacco Region Opportunity Fund, Commonwealth's Opportunity Fund, and the Virginia Jobs Investment Program are higher than amounts shown in Table 1.

Grant funding is targeted to manufacturing sector and in Southside and Southwest Virginia

About 50 percent of grant funding was directed to businesses in the manufacturing sector (Figure 4). This sector is commonly represented because economic incentive programs generally target "basic" industry firms, which are companies that export at least half their goods or services. Targeting these businesses is desirable because they bring new revenue into the state. Another 25 percent of grant funding was directed to businesses in the professional, scientific, and technical service sectors (12 percent); information services sector (7 percent); and utilities sector (6 percent).

FIGURE 4
Half of grant funding was directed to manufacturers (FY10-FY16)



SOURCE: Weldon Cooper Center analysis of economic development incentive grants.
NOTE: Excludes $172 million in awards for which industry information was unavailable. The "all other" category includes businesses in the management of companies and real estate sectors.

Geographically, the largest amount of grant awards went to highly populated localities such as Newport News ($68 million) and Fairfax County ($49 million). Several less-populated counties—such as Greensville and Henry—also received large amounts ($37 million). Ten localities received approximately 50 percent of total awards for the period (Table 3).

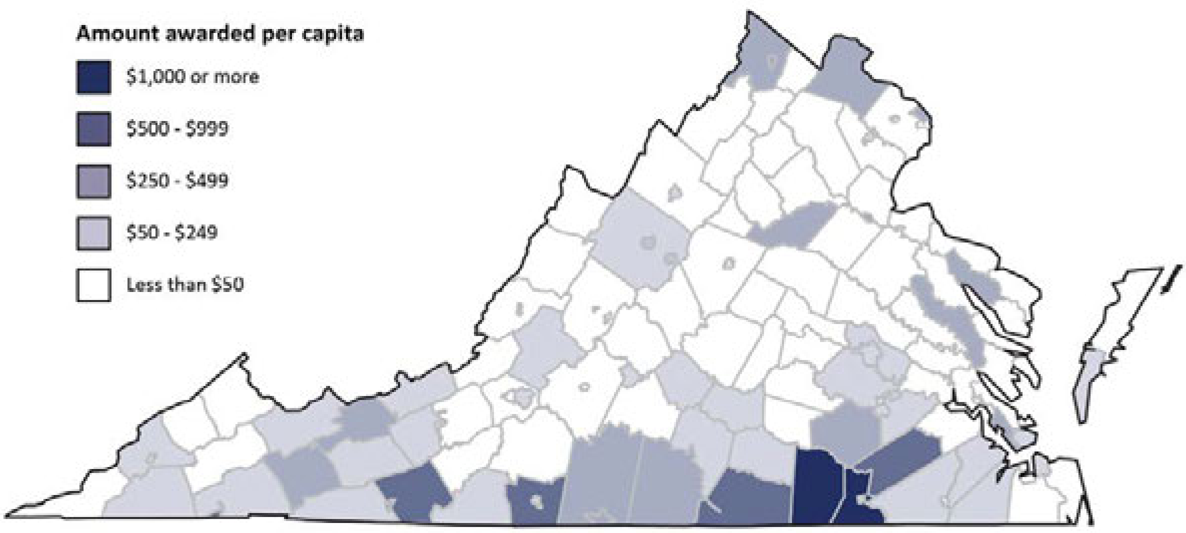
TABLE 3
Ten localities accounted for almost half of grant award amounts (FY10-FY16)

Locality	Amount awarded	% of total amount	# awards	% of total awards
Newport News City	$67.6 M	9.5%	189	5.6%
Fairfax County	48.8	6.8	222	6.6
Loudoun County	37.4	5.2	42	1.2
Greensville County	37.0	5.2	20	0.6
Henry County	36.9	5.2	69	2.0
Richmond City	31.5	4.4	260	7.7
Brunswick County	30.4	4.3	7	0.2
Mecklenburg County	22.8	3.2	25	0.7
Chesterfield County	19.1	2.7	99	2.9
Pittsylvania County	18.7	2.6	34	1.0
Subtotal	**$350.2M**	**49.0%**	**967**	**28.6%**
All others	$363.7M	51.0%	2,412	71.4%
TOTAL	**$713.9M**	**100.0%**	**3,379**	**100.0%**

SOURCE: Weldon Cooper Center analysis of economic development incentive grants.
NOTE: Localities were not assigned to 13 Governor's Motion Picture Opportunity Fund projects because filming occurred in multiple locations.

Rural localities in the southern part of the state received a large proportion of grant funding, relative to population size (Figure 5). Tobacco Region localities received approximately 42 percent of all economic development grant awards, largely due to the contributions of the Tobacco Commission's Tobacco Region Opportunity Fund and Megasite Grant programs. The highest per capita award amounts were in Greensville County ($3,161), which benefited from large awards for the Mid-Atlantic Advanced Manufacturing Center, and Brunswick County ($1,870), which was the location of a Dominion Power gas power plant that received $30 million in financial assistance. (See Appendix E for maps of the regional distribution of grant awards, overall and per capita.)

FIGURE 5
Awards are concentrated in Southside and Southwest Virginia (FY10-FY16)



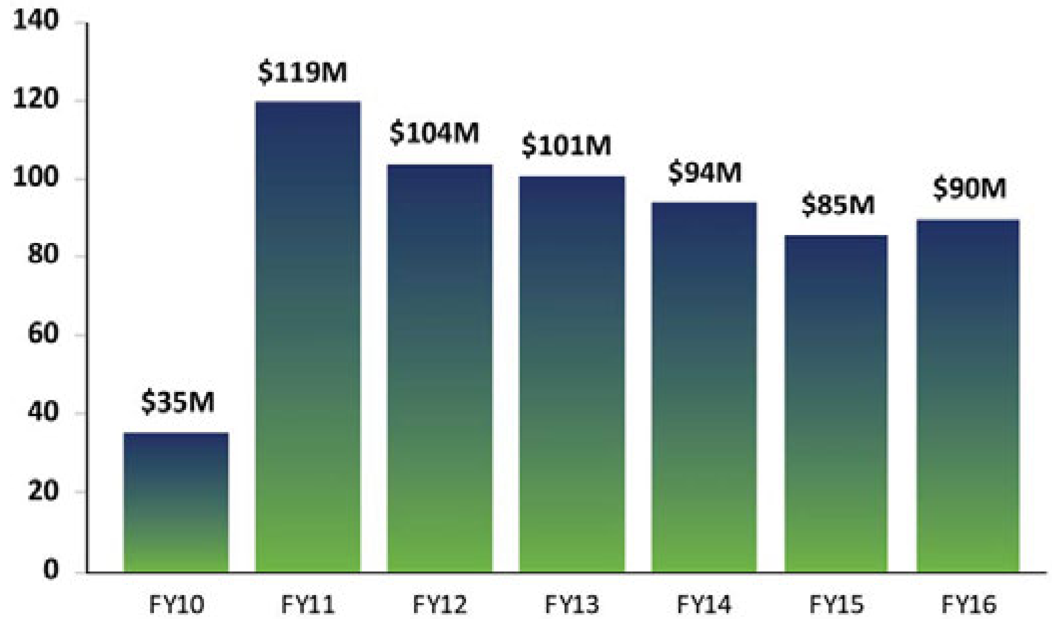
SOURCE: Weldon Cooper Center analysis of economic development incentive grants.
NOTE: Adjusted for population size.

The per capita amount awarded per locality is slightly positively associated with the 2016 local unemployment rate, indicating that more funds are generally provided to localities that are economically distressed. The number of awards per capita is even more positively correlated with the local unemployment rate.

Grant awards tripled from FY10 to FY11 but then declined

Grant awards increased dramatically between FY10 and FY11, and then declined each year until FY16 (Figure 6). Grant awards more than tripled in FY11 when two large incentive programs were introduced: the Tobacco Commission Megasite Grant, which awards $17 million in incentives per year on average, and the Advanced Shipbuilding Training Facility Grant, which made a one-time award of $30 million to Newport News Shipbuilding in FY11. Grant awards in FY10 were low because of the lingering effects of the 2008-09 recession on business activity.

FIGURE 6
Grant awards tripled between FY10 and FY11 and then declined until FY16



SOURCE: Weldon Cooper Center analysis of economic incentive grant awards.
NOTE: Adjusted for canceled projects, recaptures, and award reductions. Not adjusted for inflation. (The trend is the same if adjusted for inflation.)

Programs vary in their amount awarded per job created and level of business spending

The size of grant awards ranged widely by program (Table 4). Awards ranged from a high of $5.2 million to a low of $15,000 per project, on average (excluding the one-time custom grant award to Newport News Shipbuilding of $32.7 million under the Advanced Shipbuilding Training Facility Grant).

The size of the award in relation to project goals also varied widely by program, based on program goals, guidelines, and the types of projects targeted (Table 4). Grant programs require that projects meet certain minimum requirements in order to be eligible for grant funding. These minimum requirements vary based on the goals of the program, but the most common are job creation and some form of business investment or spending in Virginia. The average grant award per job for Virginia projects was $4,300 between FY10 and FY16, but it ranged from a high of $32,778 per job (Advanced Shipbuilding Training Facility Production Grant) to a low of $1,000 or less (Virginia Jobs Investment Program and Small Business Jobs Grant Fund). The average award per $1,000 of capital investment or additional spending was $24 and ranged from a high of $234 (Commonwealth Research Commercialization Fund) to a low of $4 (Agriculture and Forestry Industries Development Grant).

TABLE 4
Average grant awards ranged widely by program (FY10-FY16)

	Average award amount per		
Program	**Project**	**$1,000 in spending or investment in Virginia (expected)**	**Job created in Virginia (expected)**
Advanced Shipbuilding Training Facility Grant (one project)	$32,777,745	$109	$32,778
Virginia Tourism Growth Fund	114,500	32	21,810
Virginia Investment Partnership Grant	845,238	12	11,400
Transportation Partnership Opportunity Fund	3,119,667	71	9,992
Virginia Economic Development Incentive Grant	5,200,000	93	8,889
Tobacco Region Opportunity Fund	648,667	21	6,549
Coalfield Regional Opportunity Fund	325,000	56	6,190
Commonwealth’s Opportunity Fund	554,936	12	3,281
Port of Virginia Economic and Infrastructure Grant	404,500	n.a.	2,670
Agriculture and Forestry Industries Development Grant	90,756	4	1,922
Job Creation Grant (EZ)	47,021	n.a.	1,700
Virginia Jobs Investment Program	88,980	10	919
Small Business Jobs Grant Fund	54,696	23	833
Tobacco Commission Megasite Grant	3,315,210	**	**
Governor's Motion Picture Opportunity Fund	635,132	**	n.a.
Economic Development Access Program	579,860	207	n.a.
Rail Industrial Access Program	335,245	39	n.a.
Real Property Investment Grant (EZ)	65,588	38	n.a.
Commonwealth Research Commercialization Fund	64,238	234	n.a.
Small Business Investment Grant Fund	27,566	n.a.	**
VALET	14,578	n.a.	n.a.
Average, all projects	**$211,267**	**$24**	**$4,300**

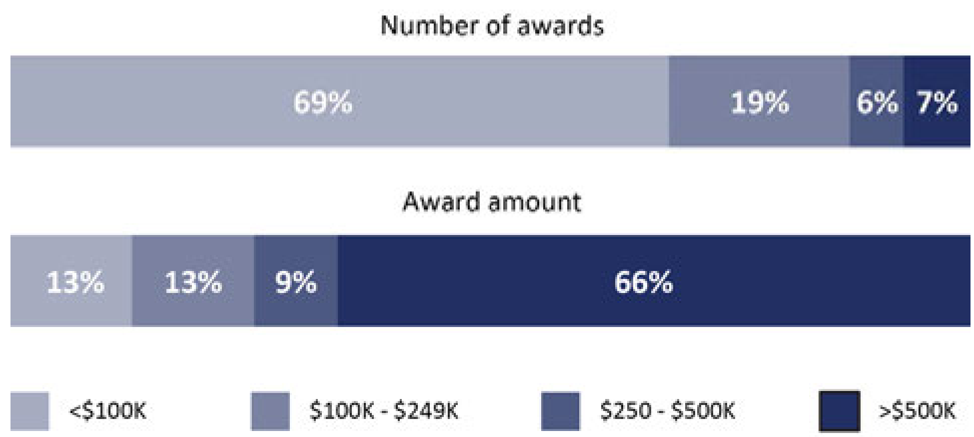
SOURCE: Weldon Cooper Center analysis of economic development incentive grants.
NOTE: EZ, Enterprise Zone. Expected jobs and spending or investment were used for programs that awarded grants prior to when project performance began. Actual jobs and spending or investment were used for programs for which performance already occurred prior to projects receiving a grant award. The goal of the VALET program is to increase a company’s international sales rather than to encourage job creation or capital investment; therefore, the average award amount per $1,000 in spending or investment or jobs created is not relevant for this program.
n.a. indicates that job creation or investment is not among the criteria considered for obtaining the grant.
** indicates that data was not provided for the program.

Completed projects represent 2,646 projects and $276.4 million in awards. Not all projects that received a grant award between FY10 and FY16 had completed their performance at the end of FY16. It is likely that the majority of the jobs and business investment or spending by completed projects would have occurred without incentives.

In 2012, JLARC reported that approximately 10 percent of location and expansion decisions, on average, are swayed by typical economic development incentives. However, the success in swaying business decisions likely varies by program (JLARC, *Review of State Economic Development Incentive Grants*, 2012).

From FY10 to FY16, only seven percent of awards were for large amounts—more than $500,000 each. However, these larger awards accounted for the majority of the grant funding (Figure 7).

FIGURE 7
Seven percent of grant awards accounted for majority of total grant funding (FY10-FY16)



SOURCE: Weldon Cooper Center analysis of economic development incentive grants.
NOTE: Number of grants awarded is 3,379. Total amount awarded is $713.9 million (not adjusted for cancelations, recaptures, and refunds).

Completed projects created nearly 45,000 jobs and $7.5 billion in business investment and spending

Projects that received grant awards between FY10 and FY16 and completed their location or expansion project collectively created an estimated 45,000 jobs and $7.5 billion in capital investment or other spending (Table 5). Completed projects that received Virginia Jobs Investment Program grants accounted for the largest share of jobs (28,934) and capital investment and other spending ($3.8 billion). The Job Creation Grant ranked second in job creation, at 10,928 jobs, and the Real Property Investment Grant ranked second in business spending, with $1.9 billion in real property investment.

TABLE 5
Completed projects created nearly 45,000 jobs and $7.5 billion in business spending or investment (FY10-FY16)

Program	# of projects	Jobs created	Spending or investment
Agriculture and Forestry Industries Development Grant	1	21	$5.4M
Commonwealth's Opportunity Fund	34	7,962	1,536.9
Commonwealth Research Commercialization Fund	83	n.a.	22.9
Economic Development Access Program	11	n.a.	22.8
Governor's Motion Picture Opportunity Fund	36	**	142.7
Job Creation Grant (Enterprise Zone)	395	10,928	n.a.
Port of Virginia Economic and Infrastructure Grant	2	303	n.a.
Rail Industrial Access Program	14	n.a.	104.7
Real Property Investment Grant (Enterprise Zone)	1,101	n/a	1,875.7
Small Business Jobs Grant Fund Program	56	1,217	**
Tobacco Commission Megasite Grant	31	450	n.a.
Tobacco Region Opportunity Fund	119	1,949	647.2
Transportation Partnership Opportunity Fund	14	63	2.8
Virginia Jobs Investment Program	659	28,934	3,779.4
	Total (duplicated):	**51,827**	**$8,140.6M**
	Total (unduplicated):	**44,923**	**$7,469.1M**

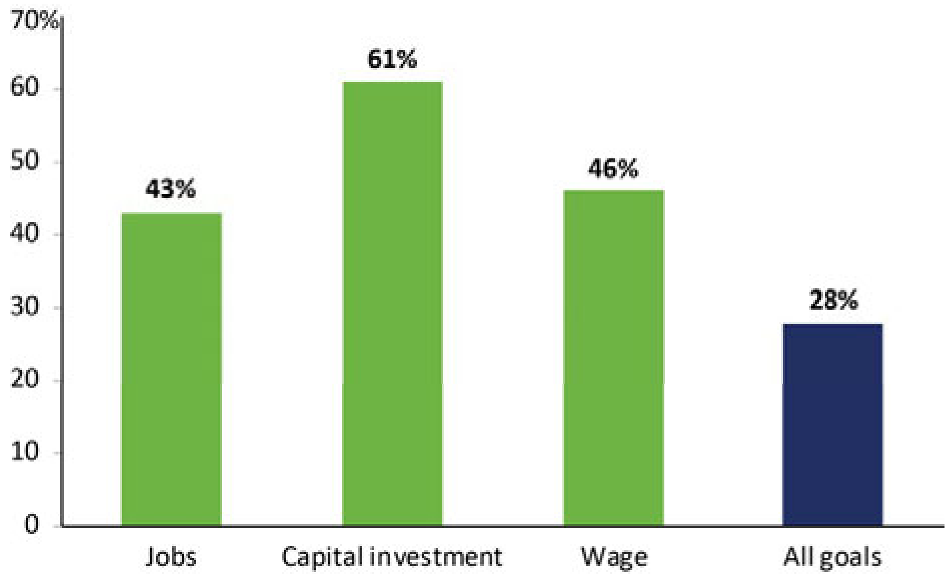
SOURCE: Weldon Cooper Center analysis of economic development incentive grants.
NOTE: Completed projects represented about $276 million in total awards across programs. Some grant programs, such as the Major Eligible Employer and Virginia Investment Partnership Grants had no completed projects during this time period. Jobs are not counted for the Governor's Motion Picture Opportunity Fund program because they are not permanent full-time jobs. Many projects receive grants from more than one program. No unique identifiers exist to easily identify projects that received grants from multiple programs. The unduplicated number of jobs and investment or spending is an estimate based on a review of projects with similar business names, locations, time periods, and other factors. VALET program (118 completed projects) is not included in the table because its goal is to increase a company's international sales, and job creation and capital investment are not reported by program participants.
n.a. indicates that job creation or investment is not one of the criteria for receiving the grant.
** indicates that data was not provided for program.

Majority of completed projects met capital investment goals, but fewer met their job creation or wage goals

Some grant programs establish an "up front" award agreement with project-specific goals. For the 10 programs that establish project-specific goals, job creation, capital investment, and average wages paid are the most common goals. Several programs use alternative goals that are more relevant to their program. For example, transportation-related programs such as the Rail Industrial Access Program and Port of Virginia Economic and Infrastructure Grant establish project-specific goals for rail car volume and Virginia port usage, respectively. (See Appendix F for project-specific goals across programs.)

Sixty-one percent of completed projects met or exceeded their project-specific goals for capital investment or other spending (Figure 8). Less than half met their average wage and job creation goals.

FIGURE 8
Majority of completed projects met their capital investment goals



SOURCE: Weldon Cooper Center analysis of economic development incentive grants.
NOTE: N=1,097 duplicated projects. Only includes projects from programs that establish project-specific goals. Some programs allow projects to attain 90 percent of specific goal(s) before award reduction or recapture is made. For simplicity of making calculations across programs, projects that exceeded 90 percent (or other established percentage) for a specific goal but did not achieve 100 percent are not included in the figure.

Completion rates for project-specific goals varied widely by program (Table 6). The Port of Virginia Economic and Infrastructure Program was the only program for which the project-specific goals for all projects were attained. The Agriculture and Forestry Industries Development Grant—a new program—only had one project that was completed between FY10 and FY16, and that project did not meet all four of its project-specific goals, but it did fully meet its job creation and capital investment goals. Goal achievement was especially low for some programs. Only four percent of the 119 completed Tobacco Region Opportunity Fund projects met all project-specific goals.

TABLE 6
Attainment of project-specific goals varied by program

		% of projects that achieved goal			
	# of projects	Job creation	Capital investment	Average wage	All goals
Agriculture and Forestry Industries Development Grant	1	100%	100%	0%	0%
Commonwealth's Opportunity Fund	34	68	74	71	56
Commonwealth Research Commercialization Fund	83	n.a.	**	n.a.	82
Economic Development Access Program	11	n.a.	40	n.a.	40
Port of Virginia Economic and Infrastructure Grant	2	100	n.a.	n.a.	100
Rail Industrial Access Grant	14	n.a.	71	n.a.	64
Small Business Jobs Grant Fund	56	16	**	**	16
Tobacco Region Opportunity Fund	119	12	15	8	4
VALET Program	118	n.a.	n.a.	n.a.	70
Virginia Jobs Investment Program	659	50	69	50	17
Total		**43%**	**61%**	**46%**	**28%**

SOURCE: Weldon Cooper Center analysis of economic development incentive grants.
NOTE: Some programs have other goals, which are reflected in the "All goals" column. The goal of the VALET program is to increase international sales, and 70 percent of the participants met or exceeded their goal for increased international sales. Some programs, such as the Commonwealth's Opportunity Fund, allow projects to attain 90 percent of specific goals before award reduction or recapture is made. For simplicity of making calculations across programs, projects that exceeded 90 percent (or other established percentage) for a specific goal but did not achieve 100 percent are not shown. For the Commonwealth's Opportunity Fund, 79 percent of projects met at least 90 percent of their job creation goal and 76 percent met at least 90 percent of their capital investment goal. The Virginia Jobs Investment Program and Small Business Jobs Grant Program do not establish project-specific goals, but they are included here because grant awards are committed based on an expected number of jobs and amount of capital, although reimbursement is established as a set amount per job actually created. This may lead to over-commitment of funding to many projects that do not create the number of jobs expected. Some projects do not collect information on average wage levels upon completion of the project.
n.a. indicates that job creation or investment is not one of the criteria for receiving the grant.
** indicates that data was not available for program.

Some grant *programs* were successful overall in achieving goals for job creation and capital investment, even though some of the *projects* funded by the programs did not achieve their project-specific goals. For example, only 68 percent of completed projects that received a Commonwealth's Opportunity Fund grant fully achieved their job creation goals. However, some projects far exceeded their job creation goal, such that collectively, all projects created 132 percent of the jobs that were expected (Table 7). This program also had overall success in achieving its capital investment and average wage goal. The Tobacco Region Opportunity Fund, however, was not successful overall in achieving its goals, with the exception of the average wage goal.

TABLE 7
Projects for half of grant programs collectively met their job creation goals (FY10-FY16)

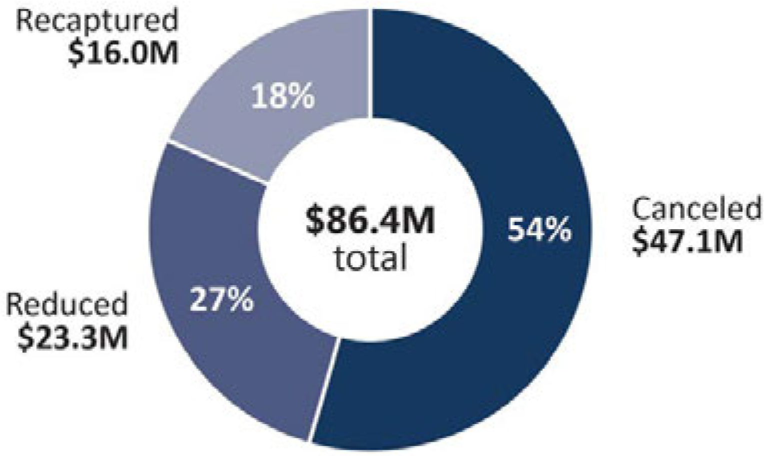
	Job creation	Spending or investment ($M)	Average wage
Agriculture and Forestry Industries Development Grant	105%	204%	**
Commonwealth's Opportunity Fund	132	106	106%
Commonwealth Research Commercialization Fund	n.a.	96	n.a.
Economic Development Access Program	n.a.	84	n.a.
Port of Virginia Economic and Infrastructure Grant	100	n.a.	n.a.
Rail Industrial Access Grant	n.a.	100	n.a.
Small Business Jobs Grant Fund	37	**	n.a.
Tobacco Region Opportunity Fund	14	26	126
Virginia Jobs Investment Program	57	71	116

SOURCE: Weldon Cooper Center analysis of economic incentive grants.
NOTE: The Virginia Jobs Investment Program and Small Business Jobs Grant Program do not establish project-specific goals like other programs. However, they are included here because grant awards are committed based on an expected number of jobs and amount of capital, although reimbursement is only set at a set amount per job actually created. This leads to over commitment of funding to many projects that do not create the number of jobs expected. Not all projects collect average wage levels upon completion of the project to calculate the percentage of projects that attained wage goals. The VALET program is excluded from the table because its goal is to increase international sales. Collectively, program participants increased international sales by 118 percent of the expected goal.
n.a. indicates that job creation or investment is not one of the criteria for receiving the grant.
** indicates that data was not provided for program.

Grant awards totaling $86 million were canceled, reduced, or recaptured because projects did not achieve goals

When projects do not go forward or do not meet their goals, the grant awards may be canceled, reduced, or recaptured. Of the total amount of grant awards paid or committed between FY10 and FY16, $86.4 million was canceled, reduced, or recaptured because projects did not go forward or did not meet their goals (Figure 9). Slightly more than half of the $86.4 million was never paid because projects did not go forward and were canceled. Another 27 percent was not paid because the award was reduced from the initial commitment because the project did not meet its goals but was still eligible for reimbursement.

FIGURE 9
Grant awards totaling $86 million were canceled, reduced, or recaptured (FY10-FY16)



SOURCE: Weldon Cooper Center analysis of economic development incentive grant awards or award commitments and program information of recaptures, reductions, and cancelations.

Just under one-fifth of this amount was recovered or recaptured because of non-performance or performance that fell below agreed to goals. Recaptures are a feature of four state programs that make up-front award payment. Each of these programs recaptured less than 10 percent of the funds they awarded:

- Tobacco Region Opportunity Fund: eight percent;
- Agriculture and Forestry Industries Development Grant: seven percent;
- Commonwealth's Opportunity Fund: five percent; and
- Commonwealth Research Commercialization Fund: one percent.

Approximately $16 million was recaptured between FY10 and FY16 from 70 projects that failed to meet their performance goals.

Through tax incentives, businesses saved $852 million from FY10 to FY16

Virginia's economic development tax incentives resulted in $852 million in tax savings to businesses between FY10 and FY16. Most (82 percent) of this amount was because of sales and use tax exemptions that provide savings to businesses on their purchases of equipment and supplies that qualify for the exemption. Ten of the 18 sales and use tax exemptions each provided more than $20 million in incentives to businesses between FY10 and FY16 (Table 8). A number of these exemptions are provided to very capital-intensive industries, such as data centers and airlines, that must make substantial purchases of equipment upon start-up or upgrading their operations.

Agencies administering grants reported **recapturing** $16 million in grant awards. In some cases, this may be less than the full amount that should have been recaptured according to grant guidelines. The upcoming in-depth reports on these incentives will provide more information about agency efforts to recapture funding when projects do not achieve their goals.

Exemptions to Virginia's **retail sales and use tax** can be claimed by businesses for qualifying purchases.

Virginia's retail sales and use tax is currently 6% of eligible purchases in Northern Virginia and Hampton Roads, and 5.3% of eligible purchases in the rest of the state. One percent is retained by the locality where the purchase is made.

The **sales tax** applies to the sales of certain goods and services purchased in the state and is collected by the merchant at the point of sale.

The **use tax** is levied on out-of-state purchases that are used in Virginia and is self-assessed and remitted to the state by the consumer.

TABLE 8
Sales and use tax exemptions provided an estimated $831 million in tax savings to businesses between FY10 and FY16

Exemption	Total savings ($M)	Average savings per year ($M)
Data Centers (Broad) Exemption	$221.90M	$31.70M
Railroad Common Carriers Exemption	151.74	21.68
Airline Common Carriers Exemption	63.62	9.09
Semiconductor Manufacturers Exemption	62.18	8.88
Ships and Vessels Exemption	52.77	7.54
Research and Development Exemption	29.18	4.17
Media Provider Equipment Exemption	29.10	4.16
Certain Printed Materials for Out-of-State Distribution Exemption	26.17	3.74
Pollution Control Equipment & Facilities Exemption	23.13	3.30
Railroad Rolling Stock Exemption	20.67	2.95
Film, Television, and Audio Production Inputs Exemption	6.19	0.88
Uniform Rental and Laundry Businesses Exemption	4.91	0.70
Out-of-State Nuclear Facility Repair Exemption	2.95	0.42
Taxi Parts and Radios Exemption	2.11	0.30
Semiconductor Wafers Exemption	1.81	0.26
Contractor Temporary Storage Exemption	0.70	0.10
Virginia Spaceport Users Exemption	0.69	0.10
Electrostatic Duplicators Exemption	0.07	0.01
Total	**$699.89M**	**$99.98M**

SOURCE: Weldon Cooper Center analysis of economic development incentives.
NOTE: Exempted amounts are estimates and exclude the 1% sales tax for localities and, in most cases, the additional amounts collected in Northern Virginia and Hampton Roads. (See Appendix B for methodology used to estimate the sales and use tax exemptions.)

Tax credits allow businesses or their owners to reduce their income tax liability, dollar for dollar, according to the amount allowed under the credit.

Economic development tax credits provided much less ($152 million) in savings to businesses relative to exemptions between FY10 and FY16 (Table 9). Only one of the 15 tax credits awarded more than $20 million in credits during this period. Many of the credits are designed to encourage businesses such as manufacturers to locate or expand in Virginia. Tax credits that have been adopted more recently are designed to incentivize businesses in other industries (film, wineries, and transportation or distribution companies) to locate or expand in Virginia.

TABLE 9
Tax credits provided more than $152 million in tax savings to businesses between FY10 and FY16

Tax credit	Total savings ($M)
Virginia Coal Production and Employment Incentive Tax Credit	$78.59M
Motion Picture Production Tax Credit	15.62
Major Business Facility Job Tax Credit	15.58
Qualified Equity and Subordinated Debt Investment Tax Credit	14.31
Research and Development Expenses Tax Credit	13.78
Recyclable Materials Processing Equipment Tax Credit	9.05
Virginia Port Volume Increase Tax Credit	2.10
Worker Retraining Tax Credit	1.06
International Trade Facility Tax Credit	0.73
Farm Wineries and Vineyards Tax Credit	0.65
Barge and Rail Usage Tax Credit	0.62
Telework Expenses Tax Credit	0.22
Green Job Creation Tax Credit	0.00
Biodiesel and Green Diesel Fuels Producers Tax Credit	0.00
Total, all tax credits	**$152.30M**

SOURCE: Weldon Cooper Center analysis of tax credit information from the Department of Taxation.
NOTE: The average tax credit award per year is not reported for tax credits because several new programs were adopted during this time period and several other programs provided too few awards for disclosure purposes.

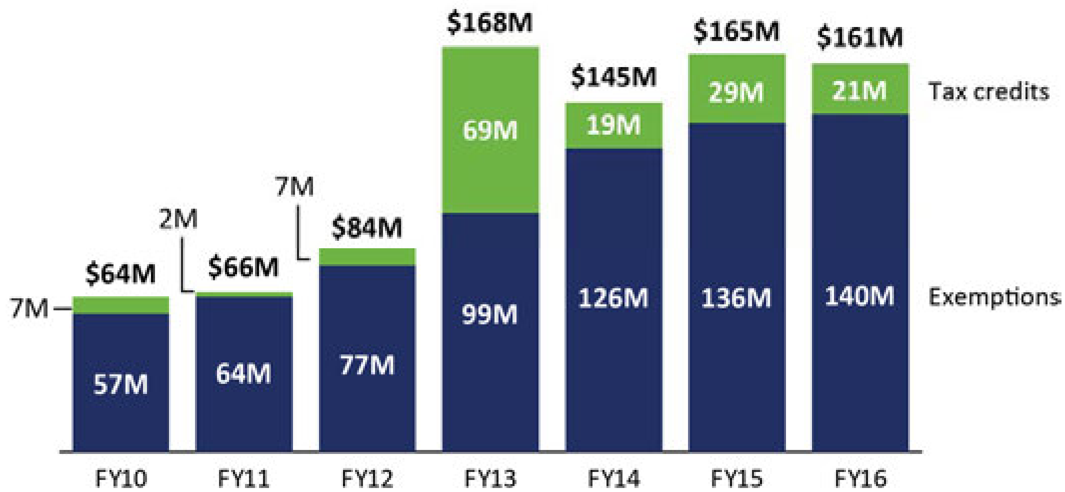
Information on **job creation, spending, and other business requirements** in return for receiving tax incentives is not readily available as it is for grants.

Performance of tax incentives will be included in upcoming reports detailing the findings of in-depth evaluations of individual incentives. As part of this effort, JLARC staff will collect performance data—which is either not currently collected or not readily available—on tax incentives.

Savings to businesses through tax incentives more than doubled between FY10 and FY16

Annual tax savings realized by businesses because of economic development tax exemptions and credits more than doubled between FY10 and FY16 (Figure 10). This occurred for several reasons. The Data Center Sales and Use Tax Exemption became effective after FY10; by FY16 the exemption had an estimated revenue impact of more than $60 million annually. Gradual improvements in the economy since FY10 also led to a recovery in business spending and investment. The increase in investment magnified the fiscal impact of sales and use tax exemptions that target capital intensive industry sectors such as rail, air, and water transportation companies. Savings from tax credits were highest in FY13 because the Virginia Coal Production and Employment Incentive Tax Credit experienced a large amount of credit redemptions ($59.5 million). According to the Department of Taxation, a large number of carryover credits were claimed in FY13.

FIGURE 10
Savings to businesses through tax incentives increased between FY10 and FY16



SOURCE: Weldon Cooper Center analysis of economic development incentives.
NOTE: Exempted amounts are estimates and exclude the one percent sales tax for localities and the additional amounts collected in Northern Virginia and Hampton Roads. Not adjusted for inflation. The trend is nearly identical if adjusted for inflation.

Through financing programs, businesses obtained $33 million in loans and gap funding from FY10 to FY16

Virginia offers five incentive programs that are designed to assist firms in securing additional debt and equity financing. The Virginia Small Business Financing Authority (VSBFA) administers four programs that provide loan assistance to eligible businesses:

- Economic Development Loan Fund provides loan financing for eligible small businesses that create permanent full-time jobs.
- Loan Guaranty Program assists small businesses to obtain loans by reducing bank credit risk.
- State Cash Collateral Program assists small businesses that lack the necessary collateral to obtain a loan.
- SWaM Loan Fund provides small loans to small businesses to use for working capital, financing accounts receivable and inventory, and other short-term financing needs.

Venture capital is financing that investors provide to startup companies and small businesses that are believed to have long-term growth potential.

Virginia also offers several gap financing programs. The Center for Innovative Technology offers gap funding through its Growth Acceleration Program, which enables high-growth potential technology firms in targeted industries to obtain additional venture capital investment. The Virginia Tourism Corporation administers the Tourism Development Financing Program to large-scale tourism projects. This program was created in 2011 and allows eligible projects to keep a portion of state sales and use taxes that are generated by the project. Only a few projects have begun receiving state funding.

These financing programs are different from grant programs, because they incentivize different types of business activity and concentrate awards in different regions. Over half of VSBFA assistance was provided to small businesses in the service industry. Growth Acceleration Program recipients were principally found in professional, scientific, and technical services and information industries where enterprises in high-tech fields such as biotechnology and software development are found. Sixteen percent of VSBFA assistance went to projects in non-metropolitan areas, whereas 35 percent of all grant funds went to projects in non-metropolitan areas. Over three-fourths of Growth Acceleration Program assistance went to firms in Northern Virginia, with over half in Fairfax County alone. A large portion of the remaining award amounts were made to firms in localities that are home to the state's major research universities.

VSBFA programs helped businesses obtain $21 million in loans and equity financing

Small businesses aided by the four VSBFA programs obtained $21 million in loan and equity financing between FY10 and FY16 (Table 10). In most cases, state appropriations were not directly used to finance the loans or provide the obligation to secure the loans. While programs may have received appropriations in the past, they are revolving loan funds, which means they utilize interest and principal payments on old loans to issue new ones, or receive funding from other self-financing programs offered by VSBFA.

The average loan or equity amount provided or secured by the four programs was $100,913, but the average varied by program. The Economic Development Loan Fund provided the greatest amount of loan assistance at $573,338 per project. The SWaM Loan Fund provided the least, at $19,846 per project.

TABLE 10
VSBFA programs helped Virginia businesses secure nearly $21.3 million in loans or equity financing

Program	Amount awarded	# of projects	Average award	# of jobs	Loan/equity assistance per job
Economic Development Loan Fund	$2.9M	5	$573,338	284	$10,094
Loan Guaranty Program	14.1	76	185,193	748	18,816
State Cash Collateral Program	1.9	8	241,250	118	16,356
SWaM Loan Fund	2.4	122	19,846	462	5,421
Total	**$21.3M**	**211**	**$100,913**	**1,612**	**$13,209**

SOURCE: Weldon Cooper Center analysis of economic development incentives.
NOTE: VSBFA programs use only a small portion of state funding to secure loan financing. Jobs reported are expected jobs.

The four programs collectively were expected to add 1,612 jobs. The average loan or equity assistance per job was $13,209, on average. This figure is not directly comparable to the average grant award per job ($4,200) because the cost of the programs to the state represents only a small portion of the total loan amount. For example, the VSBFA Loan Guaranty Program provides the financial guarantee to secure a loan provided by a private bank on behalf of an eligible business. The program would only be required to obligate funds if an eligible business were to default on its loan. The SWaM loan is a direct loan provided by VSBFA, but funding for the loan is derived from fees from other bond financing provided by VSBFA and not state appropriations.

Growth Acceleration Program provided businesses a total of $11.6 million in financing

Recipients of the Growth Acceleration Program financing received $11.6 million between FY10 and FY16 to attract venture capital investment. This program made awards to 174 projects, for an average award of $66,486. Program expenditures reached a peak of $3.5 million in total awards in FY14 but have fallen to $1.6 million in each of the past two fiscal years. All 18 of the completed projects in the Growth Acceleration Program met their financing objectives for the period, according to the Center for Innovative Technology.

Appendix A: Study mandate

2016-2018 Appropriation Act
Passed as Chapter 780 of the Acts Assembly, May 20, 2016

§ 1-11 Item 33 H

H.1. The General Assembly hereby designates the Joint Legislative Audit and Review Commission (JLARC) to conduct, on a continuing basis, a review and evaluation of economic development initiatives and policies and to make such special studies and reports as may be requested by the General Assembly, the House Appropriations Committee, or the Senate Finance Committee.

2. The areas of review and evaluation to be conducted by the Commission shall include, but are not limited to, the following: (i) spending on and performance of individual economic development incentives, including grants, tax preferences, and other assistance; (ii) economic benefits to Virginia of total spending on economic development initiatives at least biennially; (iii) effectiveness, value to taxpayers, and economic benefits to Virginia of individual economic development initiatives on a cycle approved by the Commission; and (iv) design, oversight, and accountability of economic development entities, initiatives, and policies as needed.

3. For the purpose of carrying out its duties under this authority and notwithstanding any contrary provision of law, JLARC shall have the legal authority to access the facilities, employees, information, and records, including confidential information, and the public and executive session meetings and records of the board of VEDP, involved in economic development initiatives and policies for the purpose of carrying out such duties in accordance with the established standards, processes, and practices exercised by JLARC pursuant to its statutory authority. Access shall include the right to attend such meetings for the purpose of carrying out such duties. Any non-disclosure agreement that VEDP enters into on or after July 1, 2016, for the provision of confidential and proprietary information to VEDP by a third party shall require that JLARC also be allowed access to such information for the purposes of carrying out its duties.

4. Notwithstanding the provisions of subsection A or B of § 58.1-3 or any other provision of law, unless prohibited by federal law, an agreement with a federal entity, or a court decree, the Tax Commissioner is authorized to provide to JLARC such tax information as may be necessary to conduct oversight of economic development initiatives and policies.

5. The following records shall be excluded from the provisions of the Virginia Freedom of Information Act (§ 2.2-3700 et seq.), and shall not be disclosed by JLARC:

(a) records provided by a public body as defined in § 2.2-3701, Code of Virginia, to JLARC in connection with its oversight of economic development initiatives and policies, where the records would not be subject to disclosure by the public body providing the records. The public body providing the records to JLARC shall identify the specific portion of the records to be protected and the applicable provision of the Freedom of Information Act or other provision of law that excludes the record or portions thereof from mandatory disclosure.

(b) confidential proprietary records provided by private entities pursuant to a promise of confidentiality from JLARC, used by JLARC in connection with its oversight of economic

development initiatives and policies where, if such records are made public, the financial interest of the private entity would be adversely affected.

6. By August 15 of each year, the Secretary of Commerce and Trade shall provide to JLARC all information collected pursuant to § 2.2-206.2, Code of Virginia, in a format and manner specified by JLARC to ensure that the final report to be submitted by the Secretary fulfills the intent of the General Assembly and provides the data and evaluation in a meaningful manner for decision-makers.

7. JLARC shall assist the agencies submitting information to the Secretary of Commerce and Trade pursuant to the provisions of § 2.2-206.2, Code of Virginia, to ensure that the agencies work together to effectively develop standard definitions and measures for the data required to be reported and facilitate the development of appropriate unique project identifiers to be used by the impacted agencies.

8. The Chairman of JLARC may appoint a permanent subcommittee to provide guidance and direction for ongoing review and evaluation activities, subject to the full Commission's supervision and such guidelines as the Commission itself may provide.

9. JLARC may employ on a consulting basis such professional or technical experts as may be reasonably necessary for the Commission to fulfill its responsibilities under this authority.

10. All agencies of the Commonwealth shall cooperate as requested by JLARC in the performance of its duties under this authority.

Appendix B: Research activities and methods

JLARC contracted with the University of Virginia's Weldon Cooper Center for Public Service (Weldon Cooper Center) for this review. Key research activities performed by Weldon Cooper Center for this study included

- data collection and analysis,
- estimation of sales and use tax exemptions,
- agency staff interviews, and
- review of documents and research.

Data collection and analysis

Weldon Cooper Center collected project data from 14 state agencies that administer Virginia economic development incentive programs. Data was provided for grant, tax credit, and loan or gap financing programs that have made awards. Among the data elements collected for the incentive programs were business identifiers, location, industry type, amount of grant approved and paid, and program performance metrics such as number of jobs created, average wage levels, and capital investment (Table B-1). Some programs, namely the small business loan and tax incentive programs, do not collect performance data or maintain it electronically.

TABLE B-1
Data and information was collected from 14 state agencies on incentive awards

Agencies	Information collected
Center for Innovative Technology	Business identifiers (name, federal tax identification number)
Dept. of Housing and Community Development	Industry
Department of Rail and Public Transportation	Location (locality) of project
Tobacco Region Revitalization Commission	Amount of incentive approved and paid
Virginia Coalfield Economic Development Authority	Number of jobs promised and created and timing
Virginia Department of Agriculture and Consumer Services	Capital investment promised and delivered and timing
Virginia Department of Taxation	Average wages promised and delivered and timing
Virginia Department of Transportation	Other performance metrics as specified
Virginia Department of Small Business and Supplier Diversity	
Virginia Economic Development Partnership	
Virginia Film Office	
Virginia Port Authority	
Virginia Small Business Financing Authority	
Virginia Tourism Corporation	

SOURCE: Weldon Cooper Center.

Analysis of grant programs

As in the 2012 JLARC report on economic development grants, grant programs were grouped for analysis purposes based on the date/year when awards were approved rather than paid. The approval date represents when a contract between the agency and the business is signed in the form of a memorandum of understanding or performance agreement. Payment depends on the business meeting performance goals or other program requirements specified in the agreement and availability of program funding. The period before approval and payment varies widely by program because of differing performance period lengths. Some programs make awards upon grant qualification and verification. The most common performance period for Virginia economic incentive programs is three to five years between approval and completion. Customized economic incentive grants, larger business incentives, and infrastructure supporting grants typically have longer performance periods because of the significantly larger size and complexity of the projects.

Program expenditures by fiscal year were computed as the funds paid for completed projects and grant funds still committed toward active but unfinished projects. Some programs report program milestones for the report issued by the Secretary of Commerce and Trade pursuant to § 2.2-206.2 of the Code of Virginia. However, milestone information was sometimes found to be incomplete and quality of reporting varied by agency and program. Thus, it was not used in computing program expenditures.

Grant program awards and amounts were categorized by location and industry using North American Industrial Classification System (NAICS) codes provided by the agency administering the grant or from information available from the Virginia Employment Commission (VEC). Several agencies did not provide NAICS codes. For these programs, project awards were matched with VEC unit-level ES202 records obtained under a confidentiality agreement with VEC. These grant records were matched with VEC records using firm name, address, and when available, taxpayer identification numbers. In many instances, matches could not be found (862 projects and $172.3 million in total award amount). This problem was most pronounced for the Enterprise Zone Real Property Improvement Grant program, affecting 678 projects or 79 percent of the total projects and $44.4 million in total awards for the program. In terms of financial impact, the Tobacco Commission Megasite Grant awards were most significant with $102.8 million in unassigned awards. None of the Megasite projects could be classified into a specific industry since they are made at the industrial-park level rather than at the business level.

Thirteen grant projects for a total award amount of $6.2 million were also not assigned to localities. These projects were Governor's Motion Picture Opportunity Fund awards to companies whose filming activities occurred in multiple locations throughout the state but principally in Central Virginia.

Analysis of loan programs

For the four loan programs—the Economic Development Loan Fund, Loan Guaranty Program, State Cash Collateral Program, and SWaM Loan Fund—there were no state appropriations for the programs for the FY10-FY16 period. These programs are primarily revolving loan funds or secure funding outside the legislative appropriation process, but some have received state appropriations in the past.

Since some programs have relied or continue to rely on federal funding, only those projects that could be attributed to previous state funding were included in this analysis.

Analysis of tax credits

For quantifying the revenue impact of state economic development-related tax credits, Weldon Cooper Center used corporate and individual tax credit files obtained from the Virginia Department of Taxation. These files list tax credit redemptions by fiscal year of utilization based on when the return was processed. (See Virginia Department of Taxation annual report, Table 3.1: Fiscal Year Tax Credits.)

Incentives excluded from the analysis and report

Several programs did not make awards during the period of analysis (FY10-FY16) and are not included in this report. Five grant programs have not yet made awards because they are relatively new:

- Advanced Shipbuilding Production Facility Grant Program (Newport News Shipbuilding);
- GO Virginia;
- Pulp, Paper, and Fertilizer Advanced Manufacturing Grant Program;
- Virginia Business Ready Site Program; and
- Virginia Trade Show Assistance Program.

Three grant programs have been active for over a decade but have not yet funded private business projects:

- Tobacco Commission Agribusiness Grant Program;
- Southside Economic Development Grant Program
- Tobacco Commission Southwest Economic Development Grant Program.

Four grant programs made awards that occurred earlier than FY10:

- Aerospace Engine Manufacturing Performance Grant Program (Rolls-Royce);
- Semiconductor Grant Program (Micron);
- Semiconductor Grant Program (Qimonda); and
- SRI custom grant.

Several tax incentives were also not included in this analysis. Information from the Department of Taxation based on individual and corporate tax forms could not be obtained and processed within the time frame for this report. These incentives include the

- Data Center Single Sales Factor Apportionment,
- Manufacturing Single Sales Factor Apportionment,
- Qualified Business Long-Term Capital Gain Subtraction, and
- Zero G Zero Tax Act Subtractions (Parts I and II).

The Major Research and Development Expenses Tax Credit was also not included in this analysis because this is a newly adopted credit which taxpayers were not able to claim until taxable year 2016.

Estimation of business savings from sales and use tax exemptions

Sales and use exemptions provide relief from sales and use taxes on selected taxable goods and services for businesses in targeted industries. Eligible businesses obtain a sales and use exemption certificate from the Department of Taxation (available online) and present it to merchants at the point of sale to claim the exemption. Neither the merchant nor the purchaser is required to report the tax savings to the Department of Taxation outside of an audit process. Therefore, the size of these tax savings to businesses must be estimated by other means.

For quantifying forgone revenue because of sales and use tax exemptions, Weldon Cooper Center relied on Department of Taxation fiscal impact estimates and staff-generated estimates based on IMPLAN and other data sources (Table B-2). Department of Taxation estimates are based on a variety of different approaches, including industry surveys, industry association tallies, and imputations made from secondary data sources such as federal statistical data. Some estimates rely on sales and use tax exemption estimates published as part of detailed tax expenditure studies conducted by the Department of Taxation in the early- and mid-1990s. More recent estimates are sometimes available when the Department of Taxation issues fiscal impact estimates to inform new General Assembly legislation. Weldon Cooper Center estimates were substituted for Department of Taxation estimates in three different situations:

- if the Department of Taxation estimates were based on much older estimates and credible estimates could be generated using more recent data and alternative methods,
- if Department of Taxation estimates were not available for a specific sales and use tax exemption, and
- if an alternative methodology had practical or conceptual advantages over the Department of Taxation estimates.

Weldon Cooper Center estimates for tax revenue rely primarily on IMPLAN data for the state of Virginia. IMPLAN is a commercial economic impact model produced by MIG, Inc. It is based on input-output analysis, which requires estimates of the value of intermediate input purchase for each industry. The intermediate input purchase estimates for Virginia formed the basis of the relevant sales tax base for sales and use tax revenue impact calculations. Spending on durable and leased good inputs is estimated by multiplying industry output by gross absorption coefficients for IMPLAN commodity sectors 3111-3395 and 3442-3446 using the most recent data for 536 industries and commodities. These coefficients represent the input purchases for various commodities per dollar of output. For example, the construction machinery manufacturing industry spent $0.00170 per dollar of output on commodity 362 (Railroad rolling stock). This absorption coefficient was multiplied by the output of the construction machinery equipment industry for 2015 ($122,220,940) to obtain the estimated expenditure on this input ($208,000).

Because the exemptions are sometimes more narrowly targeted than the individual IMPLAN sectors available, supplemental data from EMSI, Virginia Employment Commission, Bureau of Labor Statistics, and Bureau of Transportation Statistics was used to apportion the sector purchases to narrower industry subsets. For example, the airline common carrier exemption is available for air common carriers that provide scheduled service to Virginia airports at least once per week. Eligible purchases were imputed by apportioning IMPLAN input purchase estimates by the percentage of the air transportation industry (NAICS 481) providing scheduled service (NAICS 4811---Scheduled Air Transportation) and apportioning again based on the percentage of scheduled departures performed by airlines that provide service at least once per week based on Bureau of Transportation Statistics T-100 Air Carrier Traffic Segment data.

TABLE B-2
Estimates of business savings from sales and use tax exemptions were based on different methods and sources

Exemption	Sources used to derive estimate
Airline Common Carriers Exemption	IMPLAN, Bureau of Transportation Statistics (BTS), EMSI
Certain Printed Materials for Out-of-State Distribution Exemption	TAX (Sales and use tax study 1991)
Contractor Temporary Storage Exemption	TAX (Sales and use tax study 1995)
Data Centers (Broad) Exemption	TAX estimate, updated by Weldon Cooper Center
Electrostatic Duplicators Exemption	IMPLAN, EMSI
Film, Television, & Audio Production Inputs Exemption	IMPLAN, EMSI
Media Provider Equipment Exemption	TAX estimate (updated) for legislative proposal
Out-of-State Nuclear Facility Repair Exemption	IMPLAN, VEC, EMSI
Pollution Control Equipment & Facilities Exemption	TAX fiscal impact, HB1488 (2004)
Railroad Common Carriers Exemption	IMPLAN
Railroad Rolling Stock Exemption	IMPLAN
Research & Development Exemption	TAX estimate, updated by Weldon Cooper Center
Semiconductor Manufacturers Exemption	IMPLAN, Bureau of Labor Statistics
Semiconductor Wafers Exemption	IMPLAN
Ships and Vessels Exemption	IMPLAN
Taxi Parts & Radios Exemption	TAX fiscal impact, HB1488 (2004)
Uniform Rental & Laundry Businesses Exemption	IMPLAN, EMSI
Virginia Spaceport Users Exemption	TAX fiscal impact, HB1488 (2004)

SOURCE: Weldon Cooper Center.

The sectors targeted vary by sales and use tax exemption, as do the categories of purchases that are eligible for exemption. Generally speaking, tangible personal property purchases and leases are covered though the specific items sometimes differ. For instance, the railroad rolling stock exemption allows Virginia manufacturing firms an exemption on purchases of rolling stock. The tax base is determined by aggregating purchases of rolling stock across all Virginia manufacturing industries.

Other adjustments are needed to convert calendar years to fiscal years. IMPLAN purchases are expressed in terms of calendar years; thus fiscal year estimates were calculated by averaging two calendar years (e.g., FY12 is the average of CY11 and CY12). The last calendar year of data available from IMPLAN is 2015. Therefore, FY16 revenue estimates were calculated by inflating the FY15 estimates by the CPI consumer price index.

Agency interviews

Weldon Cooper Center and JLARC staff conducted structured interviews with state agency staff that administered and/or provided research support for economic development incentive programs. The interviewees included representatives of each of the 13 agencies that administer grants, loans, and gap financing and several staff from the Department of Taxation. Topics included the purpose of each program, criteria used in selecting award recipients and amounts, and data availability and quality for tracking program performance.

Review of documents and research

Weldon Cooper Center reviewed several sources of information, including documents, reports, and published or unpublished research. The purpose of this literature review was to understand the purpose and goals of Virginia economic development incentive programs, determine the best approach to quantify the revenue impacts of sales and use tax exemptions, and develop an approach for performance evaluation that draws on best practices from other states. Sources consulted included

- Virginia agency documents that describe economic development incentive program purpose, application requirements, award criteria, and other features;
- Virginia Legislative Information System documents describing grant and sales and use exemption statutes and Department of Taxation fiscal impact estimates;
- State economic development performance evaluations published by state agencies or their consultants in Virginia and other states.

Appendix C: Incentive program descriptions

Seventy-six economic development incentive programs are subject to this review. These include 34 grant programs, 16 tax credits, 18 tax exemptions, and 11 other programs.

Grant programs

Thirteen state agencies administer 34 economic development incentive grant programs. These programs reflect a variety of economic development goals and often target different activities including development in disadvantaged regions (Tobacco Region Opportunity Fund, Enterprise Zone, and Coalfield Regional Opportunity Fund grants), transportation enhancements for business expansion and recruitment (Economic Development Access Program and Rail Industrial Access Program grants), and small business development (Small Business Investment Grant Fund and Small Business Jobs Grant Fund Program).

Programs also target particular industries such as agriculture and forestry (Agriculture and Forestry Industries Development Grant), corporate headquarters (Virginia Economic Development Incentive Grant), motion picture production (Governor's Motion Picture Opportunity Fund), port-related industries (Port of Virginia Economic and Infrastructure Grant), and tourism (Virginia Tourism Growth Fund).

The state has also created customized grants for individual large industrial attraction and expansion projects such as Newport News Shipbuilding (Advanced Shipbuilding Training Facility Grant Program and Advanced Shipbuilding Production Facility Grant Program), and Rolls-Royce Corporation (Aerospace Engine Manufacturing Performance Grant Program). The Major Eligible Employer Grant program likewise targets large expansions; so far both Booz Allen Hamilton and Philip Morris have received awards for expanding their state footprints.

Over 70 percent of total economic incentive grants over the FY10 to FY16 period were administered by two state agencies, the Virginia Economic Development Partnership and Tobacco Region Revitalization Commission. The Department of Housing and Community Development and Department of Transportation also awarded large portions of total grant awards at 13 percent and eight percent of the total, respectively.

TABLE C-1
Thirty-four incentive grant programs are administered by 13 state agencies

State agency/program	Purpose	Description
Center for Innovative Technology		
Commonwealth Research Commercialization Fund	Promote high technology economic development through commercialization of promising research and development.	Grants are made on the basis of scientific merit and economic development potential for technology at the proof-of-concept stage or earlier in targeted high-technology industries. Funds must be matched by recipient.

State agency/program	Purpose	Description
Department of Agriculture and Consumer Services		
Agriculture and Forestry Industries Development Grant	Attract new and expanding agriculture and forestry processing value-added facilities that use Virginia-grown products.	Eligible projects must produce value added agricultural or forestry products that derive at least 30% of agricultural or forestry product inputs from Virginia. Incentive grant requests are made by the host political jurisdiction and must be locally matched.
Department of Small Business and Supplier Diversity		
Small Business Jobs Grant Fund Program	Support small business job creation and investment.	Grants are made to small businesses in targeted sectors that create at least five full-time positions paying at least 1.35 times the federal minimum wage and making a capital investment of at least $100,000 within two years. Funding ($500- $2,000) per job is based on job characteristics.
Department of Housing and Community Development		
Job Creation Grant (Enterprise Zone)	Encourage job creation in distressed communities designated as enterprise zones.	Grants are awarded to qualified businesses that create at least four permanent full-time jobs in an enterprise zone. Qualifying jobs must pay at least 1.75 times the federal minimum wage (lowered to 1.5 times for high unemployment areas) and offer health benefits.
Real Property Improvement Grant (Enterprise Zone)	Encourage private investment in distressed communities designated as enterprise zones.	Grants are awarded to investors making qualified investments in industrial, commercial, or mixed-use real property in an enterprise zone. The grant is computed as 20% of the investment amount minus a base investment with a project cap of $200,000.
GO Virginia (Virginia Growth and Opportunity Fund Grants)	Promote private sector business and employment growth through regional cooperation.	The new grant includes FY18 funds allocated to regions on the basis of population and competitive grant funds. Performance parameters of grants are still being developed.
Department of Rail and Public Transportation		
Rail Industrial Access Program	Encourage construction, reconstruction, or improvement of railroad tracks serving new or expanding industrial sites and divert truck traffic to the freight rail network.	The grant is available to businesses that seek access to a common carrier railroad. Funding is limited to 15% of the business capital investment with a cap of $450,000. The program evaluates applicants using a project scoring system.
Department of Transportation		
Economic Development Access Program	Encourage construction, improvement, or maintenance of roads serving new or expanding industrial sites.	The grant is made in support of road enhanced access for basic employers that export at least half of output outside state. Award amount is based on value of capital investment by qualifying companies who locate at the economic development site.
Transportation Partnership Opportunity Fund	Improve transportation access for business development projects.	Grants of up to $5 million are available to companies that develop transportation facilities such as on and off site road, rail, mass transit or other transportation access improvements. Projects must meet Commonwealth's Opportunity Fund or Virginia Investment Partnership Grant program criteria.

State agency/program	Purpose	Description
Small Business Financing Authority		
Small Business Investment Grant Fund	Assist small businesses obtain investment capital.	Grant for equity or subordinated debt investment in eligible small business. Grant amount equals 10% of qualified investments made in small businesses not to exceed $250,000 per investor.
Tobacco Region Revitalization Commission		
Agribusiness Grant	Promote agricultural and agribusiness growth, development and diversification in the tobacco region in order to help the agricultural industry pursue market opportunities and reduce dependence on tobacco and tobacco-related business.	Awards are made to projects likely to generate new income and investment and align with targeted categories such as applied research and education, product processing, livestock and crop demonstration, local foods, multi-purpose agriculture centers, and wholesale/retail cooperatives.
Megasite Grant	Develop large, business-ready and publicly owned industrial sites across the tobacco region to attract major employer and investment projects.	Megasite funding is only available for the eight sites that have been developed to date with Tobacco Commission support. Megasite projects are defined as those that create at least 400 jobs and $250 million in private investment.
Southside Economic Development Grant	Promote economic development in the Southside localities of the Tobacco Region.	Funds are allocated by locality. Awards fall into strategic funding categories identified as important for economic development including infrastructure improvements, workforce training, regional tourism, building industry clusters, and entrepreneurial development.
Southwest Economic Development Grant	Promote economic development in the Southwest localities of the Tobacco Region.	Awards fall into strategic funding categories identified as important for economic development including infrastructure improvements, workforce training, regional tourism, building industry clusters, and entrepreneurial development.
Tobacco Region Opportunity Fund	Attract new jobs and investments for the Tobacco Region through business attraction and expansion.	Grant requests are initiated by the host community. Grant criteria include a minimum private capital investment of $1 million and 10 jobs created within 36 months. Applications are evaluated using a ROI model with award amounts based on that analysis.
Virginia Coalfield Economic Development Authority		
Coalfield Regional Opportunity Fund	Encourage business and employment growth in the Coalfield region.	Grant program is used to assist in closing deals with private, for-profit employers that locate or expand within the region. Eligibility is based in part on the number of jobs, investment, and wage rates.

State agency/program	Purpose	Description
Virginia Economic Development Partnership		
Advanced Shipbuilding Training Facility Grant Program (Newport News)	Promote the expansion of advanced shipbuilding in Virginia. This customized performance-based grant is used to support the growth of Newport News Shipbuilding in Newport News City.	Incentive payments are based on attainment of performance milestones specified in a performance agreement between the state and the company. Performance measures include employment, capital investment, and training expenditures.
Advanced Shipbuilding Production Facility Grant Program (Newport News)	Promote the expansion of advanced shipbuilding in Virginia. This customized performance-based grant is used to support the expansion of Newport News Shipbuilding in Newport News City.	Incentive payments are based on attainment of performance milestones specified in a performance agreement between the state and the company. Performance measures include employment and capital investment.
Aerospace Engine Manufacturing Performance Grant Program (Rolls-Royce)	Attract an aerospace engine manufacturer to locate in Virginia. This customized performance-based grant is used to support the growth of the recently established Rolls-Royce turbine plant in Prince George county and industry cluster firms.	Incentive payments are based on attainment of performance milestones specified in a performance agreement between the state and the company. Performance measures include employment, capital investment, and number of trainees.
Business Ready Site Program	Encourage the development of sites and associated infrastructure for industrial and commercial uses as tools for business attraction, retention, and expansion.	Incentive grants consist of two types. Site characterization grants fund site needs assessment. Site development grants fund site development costs. Eligible sites must have at least 100 contiguous, developable acres and meet additional criteria.
Commonwealth's Opportunity Fund	Attract new businesses and support existing business expansion.	Grant program is discretionary deal closing fund for firms exporting at least half of output outside state. Funds must be matched by host locality and are used for site acquisition and improvement, infrastructure, building construction, and employee training.
Major Eligible Employer Grant	Attract new or expanding large employers to the state	The grant is targeted to major employers that make a capital investment of at least $100 million and create at least 1,000 jobs. This job threshold is reduced if high-paying jobs are created. The grant amount per job ranges from $500 to $800.
Pulp, Paper, and Fertilizer Advanced Manufacturing Grant Program	Promote the expansion of pulp, paper, and fertilizer advanced manufacturing advanced shipbuilding in Virginia. This customized performance-based grant is used to support the location and expansion of Shandong Tranlin, Inc. in Chesterfield County.	Incentive payments are based on attainment of performance milestones specified in a performance agreement between the state and the company. Performance measures include employment and capital investment. To date, no performance agreement has been executed for this program.

State agency/program	Purpose	Description
Semiconductor Custom Grant (Micron)--Semiconductor Memory or Logic Wafer Manufacturing Performance Grant	Promote and expand semiconductor product manufacturing. This customized performance-based grant was a used to support the expansion of Micron in Manassas.	Incentive payments are based on attainment of performance milestones specified in a performance agreement between the state and the company. Performance measures include employment and capital investment.
Semiconductor Custom Grant (Qimonda)--Semiconductor Memory or Logic Wafer Manufacturing Performance Grant	Promote and expand semiconductor product manufacturing. This customized performance-based grant was used to support the attraction of now defunct Qimonda semiconductor plant in Henrico County.	Incentive payments are based on attainment of performance milestones specified in a performance agreement between the state and the company. Performance measures include employment and capital investment.
SRI custom grant	Promote public-private R&D and commercialization activities to facilitate economic growth. This customized grant is used to support SRI Shenandoah Valley in the establishment of the Center for Advanced Drug Research in Rockingham County.	Incentive payments are based on attainment of performance milestones specified in a performance agreement between the state and the company. Performance measures include employment and capital investment.
Virginia Economic Development Incentive Grant	Encourage the location of significant headquarters, administrative, research and development, and basic service companies.	Grants are awarded to eligible companies based on ROI analysis, subject to the Governor's approval. Companies must agree to create a minimum number of jobs (200-400) that pay 1.5 times the local prevailing average wage and make a capital investment of $6,500 per job or more.
Virginia Investment Partnership Grant	Encourage Virginia manufacturer retention and expansion though new capital investment and R&D.	Grant is targeted to manufacturers that have operated in the state for at least 3 years, will make a capital investment of at least $25 million, and face high risk of relocating elsewhere. New job creation is not required, but current employment levels must be maintained.
Virginia Jobs Investment Program	Support private business job creation and worker training and retraining.	Grants are awarded for creating new jobs or upgrading skills for existing workers. Job creation awardees must create at least 25 new jobs and make a capital investment of at least $1 million. Training awardees must retrain 10 full-time workers and make a capital investment of $500,000.
Virginia Leaders in Export Trade (VALET) Program	Assist companies to expand their markets and encourage the export of products and services to international markets.	The VALET program provides technical assistance, training, and reimbursement for approved expenses to assist eligible businesses develop international export markets. Reimbursement is up to $30,000 per company for approved export-related expenses. Awardees must complete a two-year program.
Virginia Trade Show Assistance Program	Assist companies to expand their markets and encourage the export of products and services to international markets.	The grant reimburses company trade show attendees for up to $10,000 of the cost of trade exhibits.

State agency/program	Purpose	Description
Virginia Film Office		
Governor's Motion Picture Opportunity Fund	Support growth of the film and television industries in Virginia.	Grants are awarded to production companies that film in Virginia. Awards are made on a discretionary basis considering project expenditures in Virginia, employment, presence of any local commitment, geographic diversity, and industry or company growth potential in Virginia.
Virginia Port Authority		
Port of Virginia Economic and Infrastructure Grant	Encourage maritime companies to locate or expand to promote the growth of the Port of Virginia.	Grants are awarded to companies in maritime industries that create at least 25 permanent full-time jobs and are involved in maritime commerce or import/export industry. The award per job is scaled to the number of jobs created.
Virginia Tourism Corporation		
Virginia Tourism Growth Fund (VTGF)	Stimulate tourism in support of economic development.	The grant funds new or expanded facilities for lodging, recreation, entertainment, and destination products and services that attract tourists to the state.

Tax credits

Sixteen economic development tax credits are available to eligible applicants when filing income tax forms. The state offers three types of credits: transferable, refundable, and non-refundable and non-transferable. The economic development tax incentives in this report are the latter two types. In most cases, non-refundable and non-transferable tax credits can be credited against a company's tax liability over a designated "carryover" period. For these programs, carryover periods vary from a low of three years to a high of 15 years. Two of the economic development tax credit programs offer refundable credits: Motion Picture Production Tax Credit and Research and Development Expenses Tax Credit. A refundable tax credit allows taxpayers to be reimbursed by the difference between the credit amount and tax liability.

TABLE C-2
Sixteen economic development tax credits are available through the state corporate and individual income tax

Program	Purpose	Description
Barge and Rail Usage Tax Credit	Encourage use of rail and waterway transportation and decrease Virginia road congestion.	Tax credit for facilities engaged in port-related activities utilizing barge and rail rather than motor transportation. Credit is awarded on basis of amount of increased cargo shipped by barge and rail over previous tax year.
Biodiesel and Green Diesel Fuels Producers Tax Credit	Promote biodiesel and green diesel production.	Tax credit for biodiesel and green diesel fuel producers making up to two million gallons of fuel per year. The credit amount is $0.01 per gallon, but cannot exceed $5,000 per year.
Farm Wineries and Vineyards Tax Credit	Promote the growth of the Virginia wine industry.	Tax credit for eligible vineyards and winery qualified expenditures such as equipment and supplies used in winemaking. Credit is 25% of all qualified expenditures.
Green Job Creation Tax Credit	Promote creation of jobs in renewable and alternative energy industries.	Tax credit for creating green jobs during the taxable year. The credit amount is $500 per green full-time job created that pays at least $50,000 per year in wages.
International Trade Facility Tax Credit	Encourage port-related economic activity by increasing capital investment or new hiring connected to international trade facilities.	Tax credit for international trade facilities that show at least 5% increase in Virginia port shipments. Employee credit is equal to $3,500 per job. Capital investment credit is equal to 2 percent of capital investment.
Major Business Facility Job Tax Credit	Promote growth of company headquarters; manufacturing, agricultural, and transportation businesses; and export-oriented service industries such as legal and financial services. Retail industries are excluded.	Tax credit of $1,000 per job for creation of new, full-time jobs in excess of threshold of 50 jobs or 25 jobs for enterprise zone/economically distressed areas.
Major Research and Development Expenses Tax Credit	Promote research and development activities.	Tax credit for qualified R&D expenses greater than $5 million. Credit is based on difference between R&D expenses during taxable year and 50% of the average expenses incurred during previous 3 years.

Program	Purpose	Description
Motion Picture Production Tax Credit	Encourage motion picture production and use of Virginia resident labor and merchants in production	Tax credit for qualifying expenses of eligible productions that complete a motion picture. Tax credit is equal to 15% of qualifying expenses, with bonus rates for Virginia resident payroll and production in economically distressed areas.
Qualified Equity and Subordinated Debt Investments Tax Credit	Encourage investment in high-tech small business ventures.	Tax credit for equity or subordinated debt investment in qualified small businesses engaged in technology-related fields. Credit amount is equal to 50% of qualified investments during the taxable year but may not exceed tax liability or $50,000.
Recyclable Materials Processing Equipment Tax Credit	Encourage recycling of waste and pollution control.	Tax credit for qualifying purchases of equipment to produce items from recyclable materials. Credit is equal to 20% of the purchase price of the recycling equipment. The allowable credit cannot exceed 40% of tax liability.
Research and Development Expenses Tax Credit	Promote research and development activities.	Tax credit for qualified R&D expenses. Credit is equal to 15% of first $300,000 of expenses or 20% if conducted with Virginia higher education. Alternatively, credit may be computed as 10% of difference of expenses and 50% of previous 3 year average.
Telework Expenses Tax Credit	Encourage telework to ease road congestion.	Tax credit for eligible expenses incurred for permitting employees to telework. Credit is equal to up to $1,200 per teleworking employee or $20,000 for conducting a telework assessment. Maximum credit is $50,00 per calendar year.
Virginia Coal Production and Employment Incentive Tax Credit	Encourage use of Virginia coal by Virginia power generators to increase Virginia coal production and employment.	Tax credit for Virginia coal that is both purchased and consumed by Virginia electricity generator. Credit is equal to $3-per-ton.
Virginia Port Volume Increase Tax Credit	Promote use of state port facilities.	Tax credit for qualified agricultural, manufacturing, or mining entities that use Virginia port facilities and increase cargo volume by at least 5%. Credit is $50 per twenty-foot equivalent unit.
Worker Retraining Tax Credit	Encourage worker retraining to improve productivity and employment retention.	Tax credit for training costs of providing eligible worker retraining for qualified employees. The retraining must occur with a pre-designated program such as a noncredit course or apprenticeship. Tax credit is up to 30% of qualified training costs.

Sales and use tax exemptions

Eighteen sales and use tax exemptions reduce taxes for eligible firms that purchase or lease selected tangible personal property. Sales and use tax exemptions are realized at the point of sale when spending on eligible items. Eligible firms must complete Department of Taxation forms (Commonwealth of Virginia Sales and Use Tax Certificate of Exemption) and present them to merchants at time of sale.

TABLE C-3
Eighteen sales and use tax exemptions reduce taxes at point of sale

Exemption	Purpose	Description
Airline Common Carriers Exemption	Encourage commercial airline service to and from Virginia airports.	Tax exemption for tangible personal property sold or leased to an airline operating in intrastate, interstate or foreign commerce as a common carrier. The airline must provide scheduled air service on a continuing basis to one or more Virginia airports at least one day per week.
Certain Printed Materials for Out-of-State Distribution Exemption	Encourage out-of-state business purchases of printing materials from state firms.	Tax exemption for catalogs, letters, brochures, reports, and similar printed materials, and paper furnished to a printer for fabrication into such printed materials, when stored for 12 months or less in the Virginia and distributed outside the state.
Contractor Temporary Storage Exemption	Promote competitiveness of state construction material supply firms.	Tax exemption for personal property purchased by a contractor for use solely in another state or in a foreign country and temporarily stored in Virginia pending shipment, if such property could be similarly purchased free from sales tax in such other state or foreign country.
Data Centers Exemption	Promote the establishment of large-scale data centers.	Tax exemption for Virginia data centers and tenants meeting certain minimal investment, employment, and wage-level criteria. Exemption is for processing, storage, retrieval, and communication equipment.
Electrostatic Duplicators Exemption	Promote small-scale printing businesses by providing exemption comparable to industrial printers.	Tax exemption for high speed electrostatic duplicators or any other duplicators having a printing capacity of 4,000 impressions or more per hour purchased or leased by persons engaged primarily in the printing or photocopying of products for sale or resale.
Film, Television, & Audio Production Inputs Exemption	Promote motion picture production and sound recording industries.	Tax exemption for audiovisual works acquired for licensing, distributing, broadcasting, commercially exhibiting or reproducing or production services or fabrication connected with such production. The exemption applies to purchases and leasing of tangible personal property.
Media Provider Equipment Exemption	Promote radio and television broadcasting, cable television, and broadband media industries.	Tax exemption for broadcasting equipment, parts and accessories used by radio, television, cable, and broadband media companies. The exemption also applies to amplification, transmission, and distribution equipment used by cable television systems or other video systems.

Exemption	Purpose	Description
Out-of-State Nuclear Facility Repair Exemption	Promote nuclear maintenance and repair industry by exempting purchases of supplies used for the purpose of providing services to out-of-state buyers.	Tax exemption for tangible personal property purchased for use or consumption in the performance of maintenance and repair services at Nuclear Regulatory Commission-licensed nuclear power plants located outside the state.
Pollution Control Equipment & Facilities Exemption	Encourage business adoption of pollution control equipment and technologies by reducing capital costs.	Tax exemption for pollution control equipment and facilities used for air and water pollution abatement certified by a state certifying authority.
Railroad Common Carriers Exemption	Promote maintenance and expansion of state railroads.	Tax exemption for tangible personal property sold or leased to a public service corporation that is a common carrier of property or passengers by railway.
Railroad Rolling Stock Exemption (RRSE)	Encourage capital investment in railroad rolling stock.	Tax exemption for railroad rolling stock when sold or leased by the manufacturer.
Research & Development Exemption	Encourage research and development of new and improved products and processes.	Tax exemption for tangible personal property purchased for use or consumption directly and exclusively in basic research or research and development in the experimental or laboratory sense.
Semiconductor Manufacturers Exemption	Promote semiconductor manufacturing industry.	Tax exemption for semiconductor cleanrooms or equipment, fuel, and supplies used in the process of designing, developing, manufacturing, or testing semiconductor products or equipment.
Semiconductor Wafers Exemption	Promote semiconductor manufacturing industry.	Tax exemption for semiconductor wafers for use or consumption by a semiconductor manufacturer.
Ships and Vessels Exemption	Promote maritime shipping industries, including commercial ship building, repairing, supplying, and dredging.	Tax exemption for ships or vessels used or to be used exclusively or principally in interstate or foreign commerce. The tax exemption also applies to fuel and supplies for use or consumption aboard ships or vessels plying the high seas, either in intercoastal trade or in foreign commerce.
Taxi Parts & Radios Exemption	Encourage commercial taxi operations and prevent their further decline.	Tax exemption for parts, tires, meters, and dispatch radios sold or leased to taxicab operators for use in their services.
Uniform Rental & Laundry Businesses Exemption	Promote the commercial uniform rental industry by providing a tax exemption similar to other industrial manufacturers and processors.	Tax exemption for machinery and tools, supplies and materials used directly in maintaining and preparing textile products for renting or leasing by an industrial processor engaged in commercial leasing or renting of laundered textile products.
Virginia Spaceport Users Exemption	Promote spaceport operations at facilities owned, leased, or operated by the state and the commercial space industry.	Tax exemption for space facilities and hardware, including inputs, components and supplies such as special fuels, machinery and equipment, and other goods and services for activities undertaken at a Virginia Commercial Space Flight Authority facility.

Other incentive programs

Eleven other incentive programs included in this report fall into a "miscellaneous" category that includes tax preferences such as corporate income tax apportionment methods and income tax subtractions as well as gap and loan financing programs that are difficult to classify elsewhere. The latter programs are administered by the Virginia Small Business Financing Authority and the Center for Innovative Technology and are designed to provide alternative funding sources for business startups and established small businesses that face financing constraints.

TABLE C-4
Eleven other loan, gap financing, and tax incentives target economic development

Program	Purpose	Description
CIT Gap Fund	Promote expansion of early stage high-science and technology companies in targeted fields with rapid growth potential.	Seed-stage equity investments in Virginia-based technology, green technology, and life science companies with a high growth potential. The Center for Innovative Technology holds an ownership position in the company while the company grows operations and value.
Data Center Single Sales Factor Apportionment	Promote the establishment and growth of data centers.	This tax rule allows eligible multistate corporations that make a capital investment of at least $150 million in a data center to use the single sales factor method of apportionment to reduce tax liability. Companies that choose to use this apportionment method must enter into a MOU with VEDP.
Economic Development Loan Fund	Promote small business job creation and retention by providing gap financing.	Loans are targeted to small businesses in technology, tourism, manufacturing, and services that generate a majority of sales outside the state. Project must create permanent full-time jobs that pay a minimum of $10 per hour. Maximum loan available is 40% or $1 million, whichever is less.
Loan Guaranty Program	Promote small business capital investment.	This program assists small businesses obtain loans by reducing bank credit risk. The maximum guarantee is the lessor of $750,000 or 75% of the loan amount. The program does not have job creation requirements but considers job creation in financing decisions.
State Cash Collateral Program	Promote small business capital investment.	This program assists small businesses obtain loans by reducing bank credit risk. The maximum guarantee is the lessor of $500,000 or 40% of the loan amount. The program does not have job creation requirements but considers job creation in financing decisions.
Manufacturing Single Sales Factor Apportionment	Promote manufacturing employment growth.	This tax rule allows manufacturing companies to choose single sales factor apportionment to reduce tax liability. Companies must certify that full-time employee average wages are above the state industry average and that employment is at least 90 percent of base year employment for three years.

Program	Purpose	Description
Qualified Business Long-Term Capital Gain Subtraction	Promote high technology business investment.	Tax subtraction for income attributable to an investment in certain high technology businesses that is taxed as long-term capital gain. Qualified businesses must have gross revenues of less than $3 million and received less than $3 million in equity or debt investments.
SWaM Loan Fund	Promote small, women-owned, and minority-owned business capital investment and expansion.	This fund provides a maximum of $10,000 to eligible businesses, or $25,000 if business received counseling from a Small Business Development center. Loans are allocated on a credit score basis. Loans may be used for working capital, financing accounts receivable and inventory, and other purposes.
Tourism Development Financing Program	Promote tourism and economic development in Virginia.	The program provides gap financing for tourism development projects otherwise unable to access capital. The locality must make application, demonstrate a tourism deficiency, and provide tax incentives or regulatory flexibility for a designated tourism zone where the project occurs.
Zero G Zero Tax Act (Part I) Subtraction	Encourage the location and expansion of companies at a Virginia airport or spaceport involved in flying or training humans in suborbital flight.	Tax deduction for gains realized from the sale of launch services to space flight participants or launch services intended to provide individuals the training or experience of a launch, without performing an actual launch.
Zero G Zero Tax Act (Part II) Subtraction	Encourage the location and expansion of companies at a Virginia spaceport involved in resupplying the space station.	Tax deduction for gains realized from resupply services contracts for delivering payload entered into with the Commercial Orbital Transportation Services division of the National Aeronautics and Space Administration or other space flight entity.

Appendix D: Spending or tax expenditure by incentive

TABLE D-1
State spending on incentive grant payments ($ millions)

Incentive	FY10	FY11	FY12	FY13	FY14	FY15	FY16	Total
Advanced Shipbuilding Training Facility Grant Program	--	32.8	0.0	0.0	0.0	0.0	0.0	$32.8M
Advanced Shipbuilding Production Facility Grant Program	--	--	--	--	--	--	--	--
Aerospace Engine Manufacturing Performance Grant Program	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tobacco Commission Agribusiness Grant	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Agriculture and Forestry Industries Development Grant	--	--	--	--	1.1	0.4	1.1	2.7
Virginia Business Ready Site Program	--	--	--	--	--	--	--	--
Coalfield Regional Opportunity Fund	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.4
Commonwealth’s Opportunity Fund	4.2	8.8	12.9	7.9	9.4	24.9	22.3	90.3
Commonwealth Research Commercialization Fund	--	--	1.8	2.5	0.9	0.9	1.4	7.4
Economic Development Access Program	0.6	1.1	3.4	1.1	2.7	1.3	1.0	11.2
GO Virginia	--	--	--	--	--	--	--	--
Governor’s Motion Picture Opportunity Fund	0.3	2.1	2.4	0.6	1.7	2.9	12.5	22.5
Job Creation Grant (Enterprise Zone)	1.3	2.7	3.0	2.9	2.9	3.1	2.7	18.6
Major Eligible Employer Grant	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tobacco Commission Megasite Grant	--	25.0	27.4	21.6	12.8	6.3	9.0	102.0
Port of Virginia Economic and Infrastructure Grant	--	--	--	--	0.5	0.0	0.3	0.8
Pulp, Paper, and Fertilizer Advanced Manufacturing Grant Program	--	--	--	--	--	--	--	--
Rail Industrial Access Program	1.1	0.7	2.1	0.6	2.1	0.3	1.1	8.0
Real Property Improvement Grant (Enterprise Zone)	10.6	9.5	11.2	11.2	11.3	9.1	9.3	72.2
Semiconductor Custom Grant (Micron)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Semiconductor Custom Grant (Qimonda)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Small Business Investment Grant Fund	--	--	--	0.0	0.1	0.0	0.1	0.2
Small Business Jobs Grant Fund Program	0.0	0.2	0.4	1.4	2.4	0.4	0.0	4.7
Southside Economic Development Grant	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Southwest Economic Development Grant	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SRI custom grant	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tobacco Region Opportunity Fund	8.8	11.9	7.8	15.1	27.4	6.4	10.8	88.1

Incentive	FY10	FY11	FY12	FY13	FY14	FY15	FY16	Total
Transportation Partnership Opportunity Fund	0.0	3.3	15.3	15.2	0.7	6.0	3.0	43.5
Virginia Economic Development Incentive Grant	0.0	10.0	5.0	0.0	5.0	6.0	0.0	26.0
Virginia Investment Partnership Grant	1.1	2.8	2.3	14.2	2.3	9.7	3.3	35.5
Virginia Jobs Investment Program	7.0	8.3	8.5	6.0	10.1	7.0	10.9	57.8
VALET program	0.1	0.3	0.3	0.3	0.3	0.3	0.4	2.1
Virginia Tourism Growth Fund	--	--	--	--	--	--	0.5	0.5
Virginia Trade Show Assistance Program	--	--	--	--	--	--	--	0.0

SOURCE: Weldon Cooper Center analysis of economic development incentives.
NOTE: Adjusted for canceled projects, recaptures, and award reductions. Not adjusted for inflation. Numbers may not add due to rounding.
-- indicates no awards were made by the program in that year, either because they had not been adopted yet or because it was a custom grant that only made a one-time award.

TABLE D-2
Tax savings to businesses because of tax credits ($ millions)

Incentive	FY10	FY11	FY12	FY13	FY14	FY15	FY16	Total
Barge and Rail Usage Tax Credit	--	0.00	0.00	0.00	0.01	0.04	0.57	$0.62M
Biodiesel and Green Diesel Fuels Producers Tax Credit	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<0.01
Farm Wineries and Vineyards Tax Credit	--	0.00	0.00	0.10	0.19	0.18	0.18	0.65
Green Job Creation Tax Credit	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
International Trade Facility Tax Credit	--	0.00	0.00	0.17	0.16	0.15	0.26	0.73
Major Business Facility Job Tax Credit	3.17	-0.86	4.30	2.77	1.31	4.11	0.77	15.58
Major Research and Development Tax Credit	--	--	--	--	--	--	0.00	0.00
Motion Picture Production Tax Credit	--	0.00	0.00	0.00	2.95	7.18	5.49	15.62
Qualified Equity and Subordinated Debt Investment Tax Credit	1.86	1.62	2.06	1.93	2.36	2.10	2.38	14.31
Recyclable Materials Processing Equipment Tax Credit	1.21	0.60	0.66	2.71	1.15	0.62	2.10	9.05
Research and Development Expenses Tax Credit	--	0.00	0.00	1.48	3.41	4.21	4.67	13.78
Telework Expenses Tax Credit	--	--	0.00	0.00	0.05	0.11	0.06	0.22
Virginia Coal Production and Employment Incentive Tax Credit	0.39	0.00	0.00	59.45	6.71	8.91	3.13	78.59
Virginia Port Volume Increase Tax Credit	--	0.00	0.00	0.11	0.36	0.74	0.88	2.10
Worker Retraining Tax Credit	0.03	0.17	0.18	0.13	0.16	0.16	0.23	1.06

SOURCE: Weldon Cooper Center analysis of the Department of Taxation’s Annual Reports for Fiscal Years 2010-2016.
NOTE: Credits were claimed for the Biodiesel and Green Diesel Fuels Producers Tax Credit, but amounts were very minimal. Not adjusted for inflation. Numbers may not add due to rounding.
-- indicates no credits were claimed in that year because they had not been adopted yet.

TABLE D-3
Estimated tax savings to businesses on sales and use tax exemptions ($ millions)

Incentive	FY10	FY11	FY12	FY13	FY14	FY15	FY16	Total
Airline Common Carriers Exemption	11.96	7.09	6.67	7.76	8.63	10.72	10.79	$63.62M
Certain Printed Materials for Out-of-State Distribution Exemption	3.37	3.49	3.59	3.66	3.99	4.02	4.05	26.17
Contractor Temporary Storage Exemption	0.09	0.09	0.09	0.10	0.10	0.11	0.11	0.69
Data Centers (Broad) Exemption	0.00	8.40	15.20	30.10	48.50	58.20	61.50	221.90
Electrostatic Duplicators Exemption	0.02	0.01	0.01	0.01	0.00	0.01	0.01	0.07
Film, Television, & Audio Production Inputs Exemption	0.93	1.08	1.13	0.83	0.65	0.79	0.79	6.19
Media Provider Equipment Exemption	3.75	3.88	4.00	4.06	4.44	4.47	4.50	29.10
Out-of-State Nuclear Facility Repair Exemption	0.44	0.38	0.34	0.41	0.51	0.57	0.31	2.95
Pollution Control Equipment & Facilities Exemption	2.98	3.09	3.18	3.23	3.53	3.55	3.58	23.13
Railroad Common Carriers Exemption	15.93	17.36	21.01	21.30	24.60	25.69	25.86	151.74
Railroad Rolling Stock Exemption	1.33	1.76	2.05	1.85	2.99	5.33	5.36	20.67
Research & Development Exemption	3.76	3.89	4.01	4.08	4.45	4.48	4.51	29.18
Semiconductor Manufacturers Exemption	7.07	9.08	11.07	10.92	10.20	6.90	6.94	62.18
Semiconductor Wafers Exemption	0.17	0.23	0.31	0.37	0.35	0.19	0.19	1.81
Ships and Vessels Exemption	4.44	3.57	3.65	8.75	12.15	10.08	10.14	52.77
Taxi Parts & Radios Exemption	0.27	0.28	0.29	0.29	0.32	0.32	0.33	2.11
Uniform Rental & Laundry Businesses Exemption	0.47	0.51	0.52	0.72	0.83	0.93	0.94	4.91
Virginia Spaceport Users Exemption	0.09	0.09	0.10	0.10	0.11	0.11	0.11	0.70

SOURCE: Weldon Cooper Center analysis of economic development incentives.
NOTE: Exempted amounts exclude the one percent sales tax for localities and, in most cases, the additional amounts collected in Northern Virginia and Hampton Roads. Not adjusted for inflation. Numbers may not add due to rounding.
-- indicates exemption had not been adopted yet.

TABLE D-4
State spending on other incentives ($ millions)

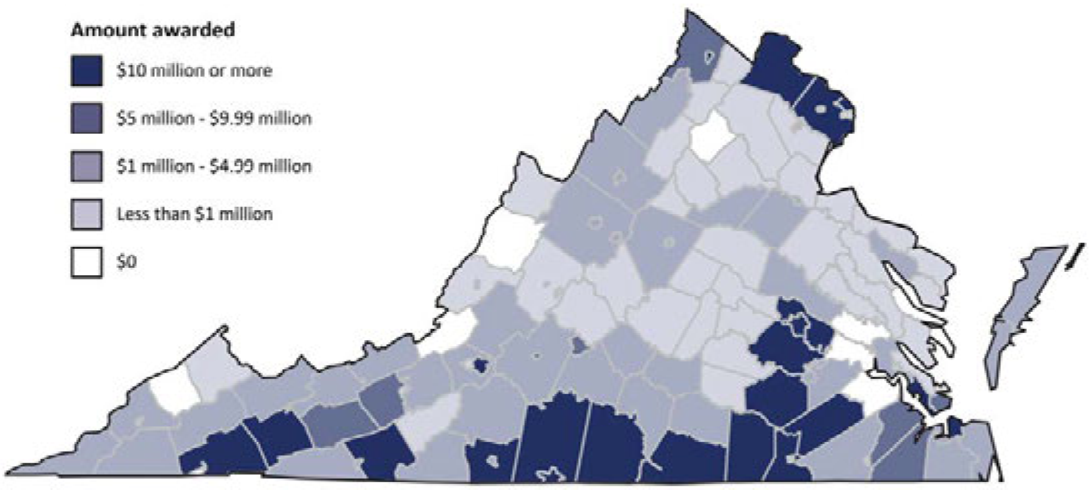
Incentive	FY10	FY11	FY12	FY13	FY14	FY15	FY16	Total
Growth Acceleration Program	0.28	0.40	2.10	2.06	3.53	1.58	1.63	$11.57M
Data Center Single Sales Factor Apportionment	No data collected; estimates will be calculated during in-depth review.							
Economic Development Loan Fund	--	0	0	0	0	0	0	0
Loan Guaranty Program			0	0	0	0	0	0
State Cash Collateral Program	--	--	--	0	0	0	0	0
Manufacturer's Single Sales Factor Apportionment	No data collected; estimates will be calculated during in-depth review.							
Qualified Business Long-Term Capital Gain Subtraction	No data collected; estimates will be calculated during in-depth review.							
SWaM Loan Fund	--	--	0	0	0	0	0	0
Tourism Development Financing Program	--	--	--	--	--	0.09	0.13	0.22
Zero G Zero Tax Act (Part I) Subtraction	No data collected; estimates will be calculated during in-depth review.							
Zero G Zero Tax Act (Part II) Subtraction	No data collected; estimates will be calculated during in-depth review.							

SOURCE: Weldon Cooper Center analysis of economic development incentives.
NOTE: Not adjusted for inflation. Virginia Small Business Financing Authority loan program amounts listed are legislative appropriations since these revolving loan program costs are not equal to the loan award amount.
-- indicates incentive had not been adopted yet.

Appendix E: Regional distribution of grant awards

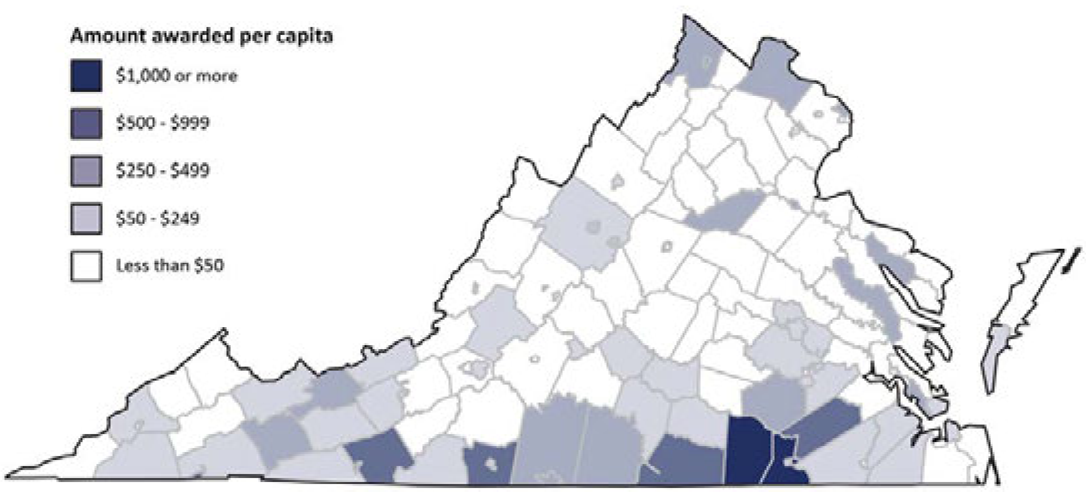
The largest amount of grant awards went to highly populated localities such as Newport News, Fairfax County, and Loudon County and to localities in the southern part of the state that make up the Tobacco Region (Figure E-1). Adjusted for population size, awards are concentrated in southern and rural localities (Figure E-2).

FIGURE E-1
Awards are concentrated in several highly populated areas and the southern region (FY10-FY16)



SOURCE: Weldon Cooper Center analysis of economic development incentives.
NOTE: Localities were not assigned to 13 Governor's Motion Picture Opportunity Fund projects because filming occurred in multiple localities.

FIGURE E-2
Awards are concentrated in southern and southwestern localities, adjusted for population size (FY10-FY16)



SOURCE: Weldon Cooper Center analysis of economic development incentives.
NOTE: Localities were not assigned to 13 Governor's Motion Picture Opportunity Fund projects because filming occurred in multiple localities.

Appendix F: Project-specific goals used by grant programs

Some programs award grants or make award commitments before projects begin. These programs require projects to achieve specific goals in order to obtain or keep the full award promised. Job creation, capital investment, and average wages paid are the most common goals, but several programs establish other goals that are more aligned with the purpose of the program.

TABLE F-1
Job creation, average wages, and capital investment are most common performance measures

Grant program	Job creation	Wages	Capital expenditures	Other
Aerospace Engine Manufacturing Performance Grant Program (Rolls-Royce)	X	X	X	
Agriculture and Forestry Industries Development Grant	X	X	X	Value of Virginia agricultural products
Advanced Shipbuilding Production Facility Grant Program (Newport News)	X		X	
Advanced Shipbuilding Training Facility Grant Program (Newport News)	X	X	X	
Commonwealth's Opportunity Fund	X	X	X	
Commonwealth Research Commercialization Fund				Capital attracted from other sources
Coalfield Region Opportunity Fund	X	X	X	
Economic Development Access Program			X	
Growth Acceleration Program				Capital attracted from other sources
Governor's Motion Picture Opportunity Fund	X			Total Virginia spending Value of advertising
Major Eligible Employer Grant	X	X	X	
Port of Virginia Economic & Infrastructure Grant	X			Port user
Pulp, Paper, and Fertilizer Advanced Manufacturing Grant Program	X		X	
Rail Industrial Access Program			X	Carloads
Small Business Investment Grant Fund	X			
Small Business Jobs Grant Fund Program	X	X	X	
Semiconductor Custom Grant (Micron)	X		X	
Semiconductor Custom Grant (Qimonda)	X	X	X	
SRI custom grant	X	X		
Tobacco Commission Megasite Grant	X			Industrial park acreage and sites
Tobacco Region Opportunity Fund	X	X		
Transportation Partnership Opportunity Fund	X		X	
VALET Program				International sales
Virginia Economic Development Incentive Grant	X	X	X	
Virginia Investment Partnership Grant	X	X	X	
Virginia Jobs Investment Program	X	X	X	
Virginia Tourism Growth Fund	X		X	

SOURCE: Weldon Cooper Center analysis of agency documents.
NOTE: Includes programs that did not make awards during the FY10 to FY16 time period.

Appendix G: Agency responses

As part of an extensive validation process, the state agencies and other entities that are subject to a JLARC assessment are given the opportunity to comment on an exposure draft of the report. JLARC staff sent an exposure draft of this report to the Virginia Economic Development Partnership, Virginia Department of Taxation, Secretary of Commerce and Trade, and Secretary of Finance.

Appropriate corrections resulting from technical and substantive comments are incorporated in this version of the report. This appendix includes a response letter from the Virginia Department of Taxation.

COMMONWEALTH of VIRGINIA

Department of Taxation

November 3, 2017

Mr. Hal E. Greer, Director
Joint Legislative Audit and Review Commission
919 East Main Street, Suite 2101
Richmond, Virginia 23219

Dear ~~Mr. Greer~~ Hal:

Thank you for the opportunity to review and comment on the exposure draft reports: *Evaluation: Film Incentives and Economic Development Incentives 2017.* We believe the reports are very well done and will be useful to the members of the General Assembly going forward. We also appreciate you incorporating our comments and suggestions into the final report drafts.

Thank you again for the opportunity to review the draft reports. Should you have any additional questions, please feel free to contact me.

Sincerely,

Craig M. Burns
Tax Commissioner

c: The Honorable Richard D. Brown, Secretary of Finance

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