

Appendix D: Incentive program descriptions

Eighty-seven economic development incentive programs are subject to this review. These include 39 grant programs, 16 tax credits, 19 tax exemptions, and 13 other programs.

Grant programs

Ten state agencies administer 39 economic development incentive grant programs that are subject to this review. These programs reflect a variety of economic development goals and often target different activities, including development in disadvantaged regions (Tobacco Region Opportunity Fund and Enterprise Zone grants), transportation enhancements for business expansion and recruitment (Economic Development Access Program, Rail Industrial Access Program, and Transportation Partnership Opportunity Fund 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), and port-related industries (Port of Virginia Economic and Infrastructure Development Grant).

The state has also created customized grants for individual large industrial attraction and expansion projects, such as

- Amazon HQ2 (Major Headquarters Workforce Grant),
- Amazon Web Services (Special Workforce Grant Fund)
- Merck (Pharmaceutical Manufacturing Grant),
- Micron (Semiconductor Manufacturing Grant),
- Morgan Olson (Advanced Production Grant),
- Microsoft (Technology Development Grant Fund),
- Newport News Shipbuilding (Advanced Shipbuilding Training Facility Grant and Advanced Shipbuilding Production Facility Grant),
- Rolls-Royce Corporation (Aerospace Engine Manufacturing Performance Grant), and
- Volvo (Truck Manufacturing Grant Fund).

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.

Sixty-eight percent of total spending on economic incentive grants over the FY12 to FY21 period was 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 funding at 16 percent and 8 percent of the total, respectively.

TABLE D-1
Thirty-nine incentive grant programs are administered by 10 state agencies

State agency/program (year enacted)	Purpose	Description
Virginia Innovation Partnership Corporation (formerly Center for Innovative Technology)		
Commonwealth Research Commercialization Fund (2011)	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.
Department of Agriculture and Consumer Services		
Agriculture and Forestry Industries Development Grant (2012)	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 grants 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 (2010) (eliminated 2020)	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 \$50,000 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) (2005)	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 Investment Grant (Enterprise Zone) (2005)	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) site development grants (2017)	Promote private sector business and employment growth through regional cooperation.	Grant funds are allocated to cooperative business site development projects using the guidance of competitive assessments developed by the VEDP Business Ready Sites Program.

State agency/program (year enacted)	Purpose	Description
Department of Rail and Public Transportation		
Rail Industrial Access Program (1987)	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 (1956)	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 (2006)	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.
Governor's New Airline Service Incentive Fund (2020)	Provide or assist in the provision of marketing, advertising, or promotional activities by airlines in connection with the launch of new air passenger service at Virginia airports.	Grants are available for the first 12 months of service. Grant amounts vary from \$5,000 to \$25,000 for one route based on whether service is year-round or seasonal and daily or less than daily. Applicant airlines may qualify for multiple routes throughout the state and received combined grants of up to \$250,000.
Small Business Financing Authority		
Small Business Investment Grant Fund (2012)	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 Grants (2002)	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.

State agency/program (year enacted)	Purpose	Description
Megasite Grants (2010)	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 Grants (1999)	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 Grants (1999)	Promote economic development in the Southwest localities of the Tobacco Region.	Awards fall into strategic funding categories the identified as important for economic development including infrastructure improvements, workforce training, regional tourism, building industry clusters, and entrepreneurial development.
Tobacco Region Opportunity Fund (1999)	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 Economic Development Partnership		
Advanced Production Grant Program and Fund (Morgan Olson) (2020)	Promote the location of business truck manufacturing facility in the Commonwealth. This customized performance-based grant is used to support the location and expansion of Morgan Olson, LLC in Pittsylvania 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.
Advanced Shipbuilding Training Facility Grant Program (Newport News Shipbuilding) (2011)	Promote the expansion of advanced shipbuilding in the Commonwealth. 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 Shipbuilding) (2016)	Promote the expansion of advanced shipbuilding in the Commonwealth. 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.

State agency/program (year enacted)	Purpose	Description
Aerospace Engine Manufacturing Performance Grant Program (Rolls Royce) (2007)	Attract an aerospace engine manufacturer to locate in the Commonwealth. 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 Sites Program (2016)	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 (1996)	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 (1999)	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.
Major Headquarters Workforce Grant Fund (Amazon HQII) (2019)	Attract a major corporate headquarters to locate in the Commonwealth. This customized performance-based grant is used to support the establishment of the Amazon HQ2 in Arlington County.	Incentive payments are based on attainment of performance milestones specified in a performance agreement between the Commonwealth and the company. Performance measures include employment, capital investment, and average annual wages.
Pharmaceutical Manufacturing Grant Program (Merck) (2020)	Support expansion of pharmaceutical manufacturing facility in the Commonwealth. This customized performance-based grant is used to support the expansion of Merck Sharp & Dohme Corp. 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.
Semiconductor Custom Grant (Micron)--Semiconductor Memory or Logic Wafer Manufacturing Performance Grant (2004)	Promote and expand semiconductor product manufacturing. This customized performance-based grant was a used to support the expansion of Micron in Massasas.	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.

State agency/program (year enacted)	Purpose	Description
Semiconductor Manufacturing Grant Fund (Micron) (2019)	Promote and expand semiconductor product manufacturing and research. This customized performance-based grant was used to support the expansion of Micron in Manassas City.	Incentive payments are based on attainment of performance milestones specified in a performance agreement between the Commonwealth and the company. Performance measures include employment, capital investment, and average annual wages.
Special Workforce Grant Fund (Amazon Web Services) (2019)	Attract an eservices company to locate operations in the Commonwealth. This customized performance-based grant is used to establish Amazon Web Services in Fairfax County.	Incentive payments are based on attainment of performance milestones specified in a performance agreement between the Commonwealth and the company. Performance measures include employment, capital investment, and average annual wages.
SRI custom grant (2006)	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.
Technology Development Grant Fund (Microsoft) (2021)	Promote location of technology company. This customized is used to support attraction of Microsoft software development and R&D facility in Fairfax County.	Incentive payments are based on attainment of performance milestones specified in a performance agreement between the Commonwealth and the company. Performance measures include employment, capital investment, and average annual wages.
Truck Manufacturing Grant Fund (Volvo) (2021)	Promote the expansion of truck manufacturer in Pulaski County. This customized performance-based grant was used to support the expansion of Volvo Trucks in Dublin.	Incentive payments are based on attainment of performance milestones specified in a performance agreement between the Commonwealth and the company. Performance measures include employment, capital investment, and average annual wages.
Virginia Economic Development Incentive Grant (2005)	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.

State agency/program (year enacted)	Purpose	Description
Virginia Investment Partnership Grant (1999)	Encourage Virginia manufacturer retention and expansion through new capital investment and R&D.	Grant is targeted to manufacturers that have operated in the state for at least 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 (1965)	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 awarded and make a capital investment of \$500,000.
Virginia Leaders in Export Trade (VALET) Program (2002)	Assist companies to expand their markets and encourage the export of products and services to international markets.	The VALET program provides grants, technical assistance, and training to assist eligible businesses develop international export markets. Reimbursement is up to \$30,000 per company for approved export-related expenses and is competitive. Awardees must complete a two-year program.
Virginia Talent Accelerator Program (custom workforce incentive) (2019)	Expedite set-up and scale-up of new tradeable sector operations.	Provides training and recruitment services in partnership with the Virginia Community College System to qualifying competitive economic projects in the manufacturing, distribution, IT, corporate headquarters, R&D and shared service center sectors that create at least 15-50 jobs and make a significant capital investment.
Virginia Trade Show Assistance Program (2016)	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.
Virginia Film Office		
Governor's Motion Picture Opportunity Fund (1999)	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.

State agency/program (year enacted)	Purpose	Description
Virginia Port Authority		
Port of Virginia Economic and Infrastructure Grant <i>(2014)</i>	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.

Tax credits

Sixteen economic development tax credits, which are available to eligible applicants when filing income tax forms, were subject to this review (Table D-2). The state offers three types of credits: transferable, refundable, and non-refundable and non-transferable. Most economic development tax credits 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. Three of the economic development tax credit programs offer refundable credits: Coalfield Employment Enhancement Tax Credit, 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. The Virginia Port Volume Increase Tax Credit was changed from a non-refundable and non-transferable tax credit to a transferable one in 2019.

TABLE D-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 <i>(2011)</i>	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 <i>(2008)</i>	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.
Coalfield Employment Enhancement Tax Credit <i>(1996)</i> <i>(expired January 1, 2022)</i>	Encourage production of Virginia metallurgical coal and coalbed methane	Tax credit for metallurgical coal and coalbed methane producers that is based on mining method and seam thickness.

Appendixes

Program	Purpose	Description
Farm Wineries and Vineyards Tax Credit (2011)	Promote the growth of the Virginia wine industry.	Tax credit for eligible vineyards and winery qualified expenditures such as equipment and supplies used in wine-making. Credit is 25% of all qualified expenditures.
Green Job Creation Tax Credit (2010)	Promote creation of jobs in renewable and alternative energy industries.	Tax credit for creating green job 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 (2011)	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 (1995)	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 Tax Credit (2016)	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.
Motion Picture Production Tax Credit (2011)	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 bonuses rates for Virginia resident payroll and production in economically distressed areas.
Qualified Equity and Subordinated Debt Investment Tax Credit (1999)	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 (1991)	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.

Program	Purpose	Description
Research and Development Expenses Tax Credit (2011)	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 (2012) (expired January 1, 2019)	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 \$50,000 per calendar year.
Virginia Coal Production and Employment Incentive Tax Credit (2001) (expired January 1, 2022)	Encourage use of Virginia coal by Virginia power generators to increase Virginia coal production and employment.	Tax credit of \$3 per ton of Virginia mined coal purchased and consumed by qualified electricity generator or person with an economic interest in coal.
Virginia Port Volume Increase Tax Credit (2011)	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 (1999) (expired January 1, 2019)	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.
Worker Training Tax Credit (replaces Worker Retraining Tax Credit) (2019)	Encourage worker training to improve productivity and employment retention.	Tax credit in an amount equal to 35 percent of the expenses incurred for eligible worker training up to \$500 per qualified employee or \$1,000 for training related to each non-highly compensated worker. Manufacturing businesses that currently qualify for the Worker Retraining Tax Credit for conducting orientation, instruction, and training in Virginia related to its manufacturing activities are also eligible. The annual aggregate credit cap is \$1 million.

NOTE: The Worker Training Tax Credit replaced the Worker Retraining Tax Credit, and they are counted as one credit for purposes of this review.

Sales and use tax exemptions

Nineteen sales and use tax exemptions reduce taxes for eligible firms that purchase or lease selected tangible personal property (Table D-3). Sales and use tax exemptions are generally realized at the point of sale when eligible items are purchased. 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. Two exemptions require additional authorization before use. The data center exemption statutorily requires qualifying firms to meet minimum employment, capital investment, and wage requirements and enter into a memorandum of understanding with VEDP. The MOU requires data centers to provide annual reports to VEDP to demonstrate that the minimum requirements were met. Companies using the pollution control equipment and facilities exemption must first obtain certification from a state monitoring agency (i.e., Department of Environmental Quality, Department of Energy) before applying for the exemption. For these exemptions, the certificate may not have been issued at the time of eligible purchases, but the business can request a refund once the certificate is obtained.

TABLE D-3
Nineteen sales and use tax exemptions reduce taxes at point of sale

Exemption	Purpose	Description
Airline Common Carriers Exemption (1966)	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.
Aircraft Parts, Engines, and Supplies Exemption (2018)	Encourage growth of aviation sector, including unscheduled common carriers, private planes, and unmanned aviation systems.	Tax exemption for parts, engines, and supplies used for maintaining, repairing, or reconditioning aircraft.
Certain Printed Materials for Out-of-State Distribution Exemption (1976)	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 (1989)	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.

Exemption	Purpose	Description
Data Centers Exemption (2010)	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 (1986)	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 (1995)	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 (1966)	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.
Out-of-state Nuclear Facility Repair Exemption (2000)	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 (1972)	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 (1978)	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 (2007)	Encourage capital investment in railroad rolling stock.	Tax exemption for railroad rolling stock when sold or leased by the manufacturer.

Exemption	Purpose	Description
Research & Development Exemption (1966)	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 (2006)	Promote semiconductor manufacturing industry.	Tax exemption for semiconductor clean-rooms or equipment, fuel, and supplies used in process of designing, developing, manufacturing, or testing semiconductor products or equipment.
Semiconductor Wafers Exemption (2006)	Promote semiconductor manufacturing industry.	Tax exemption for semiconductor wafers for use or consumption by a semiconductor manufacturer.
Ships and Vessels Exemption (1966)	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 (1984)	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 (1980)	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 rental or leasing by an industrial processor engaged in commercial leasing or renting of laundered textile products.
Virginia Spaceport Users Exemption (1997)	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

Thirteen other incentive programs included in this report fall into a “miscellaneous” category. These incentives include 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 (Table D-4). The latter programs are administered by the Virginia Small Business Financing Authority and the Virginia Innovation Partnership Corporation (formerly the Center for Innovative Technology) and are designed to provide alternative funding sources for business startups and established small

businesses that face financing constraints. Based on current estimates, the Manufacturing Single Sales Apportionment Factor is the largest of these miscellaneous incentives. The single sales formula allows manufacturers to calculate their taxable income in Virginia based solely on the proportion of total sales that are in Virginia rather than a weighted average of sales, property, and payroll. This creates tax savings for multistate firms that have sizeable operations within the state but ship substantial amounts of products outside the state.

TABLE D-4
Thirteen other tax incentives, loan, and gap financing programs target economic development

Program	Purpose	Description
VIPC Gap Fund (2005)	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 Virginia Innovation Partnership Corporation (VIPC) holds an ownership position in the company while the company grows operations and value.
Data Center Single Sales Factor Apportionment (2017)	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 (2007)	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 minimum of \$10 per hour. Maximum loan available is 40% or \$1 million, whichever is less.
Loan Guaranty Program (1985)	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.

Program	Purpose	Description
State Cash Collateral Program (2013)	Promote small business capital investment.	This program assists small businesses obtain loans by reducing bank credit risk. The maximum guarantee is the lesser 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 (2009)	Promote the state's manufacturing industry and slow the decline of manufacturing jobs.	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.
New Company Incentive Program (2018)	Promote economic development in 51 qualified economically distressed counties	Program offers modified corporate income tax apportionment factor and consideration for grant from Commonwealth's Opportunity Fund for new traded sector companies creating minimum of 10 new jobs paying at least 1.5 times the Virginia minimum wage and \$5 million in capital investment that locate in eligible counties.
Qualified Business Long-Term Capital Gain Subtraction (2010)	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. Investment must be made between April 1, 2010 and June 30, 2020. 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 (2012)	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 credit score basis. Loans may be used for working capital, financing accounts receivable and inventory, and other purposes.

Program	Purpose	Description
Tourism Development Financing Program (2012)	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.
Venture Capital Account Subtraction (2018)	Promote investment in Virginia early stage companies	Income tax subtraction or certain income attributable to an investment in a Virginia venture capital account, defined as an investment fund that (i) invests at least 50 percent of its funds invested during the year in which the taxpayer claims a subtraction, or any of the previous five years, in qualified portfolio companies and (ii) employs at least one investor who has either at least four years of professional experience in venture capital investment or substantially equivalent experience. Investment must be made between January 1, 2018 and December 31, 2023.
Zero G Zero Tax Act (Part I) Subtraction (2009)	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 (2009)	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 E: Spending or tax expenditures by incentive

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

Incentive	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	Total
Advanced Production Grant Program and Fund (Morgan Olson)	--	--	--	--	--	--	--	--	--	0.5	\$0.5M
Advanced Shipbuilding Training Facility Grant Program (Newport News Shipbuilding)	--	5.00	5.00	8.03	7.59	7.16	--	--	--	--	32.8
Advanced Shipbuilding Production Facility Grant Program (Newport News Shipbuilding)	--	--	--	--	--	--	--	6.0	0.0	8.0	14.0
Aerospace Engine Manufacturing Performance Grant Program (Rolls Royce)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.0	0.0	11.0
Tobacco Commission Agribusiness Grant	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Agriculture and Forestry Industries Development Grant	--	0.3	0.4	0.6	0.8	1.9	1.0	1.3	0.6	0.8	7.9
Virginia Business Ready Sites Program	--	--	--	--	--	1.2	0.0	0.4	0.0	0.0	1.6
Commonwealth's Opportunity Fund	12.6	6.1	9.4	15.8	17.0	26.5	11.9	11.6	16.0	19.0	145.9
Commonwealth Research Commercialization Fund	1.9	2.6	0.9	1.0	1.5	1.3	0.9	1.3	1.9	3.3	16.7
Economic Development Access Program	3.4	1.1	1.4	0.7	0.7	3.6	3.1	1.5	2.0	2.3	19.7
GO Virginia (site development grants)	--	--	--	--	--	0.00	0.2	2.8	0.0	7.6	10.6
Governor's Motion Picture Opportunity Fund	2.4	0.6	1.7	2.9	12.1	0.8	5.8	1.4	3.0	5.5	36.2
Governor's New Airline Service Incentive Fund	--	--	--	--	--	--	--	--	--	--	0.0
Job Creation Grant (Enterprise Zone)	3.0	2.9	2.9	3.1	2.7	1.8	2.2	2.7	2.9	1.9	26.1
Major Eligible Employer Grant	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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Incentive	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	Total
Major Headquarters Workforce Grant Fund (Amazon HQII)	--	--	--	--	--	--	--	--	0.00	0.00	0.0
Tobacco Commission Megasite Grant	27.2	21.0	12.8	6.2	0.0	0.0	4.9	0.0	0.0	0.0	72.0
Pharmaceutical Manufacturing Grant Program (Merck)	--	--	--	--	--	--	--	--	--	0.0	0.0
Port of Virginia Economic and Infrastructure Grant	--	--	0.5	0.0	0.3	2.2	0.5	0.1	1.3	0.7	5.5
Rail Industrial Access Program	1.2	0.5	2.1	0.3	0.9	0.0	1.3	0.7	0.6	1.3	9.0
Real Property Investment Grant (Enterprise Zone)	11.2	11.2	11.3	9.1	9.3	10.9	10.7	10.8	11.6	12.6	108.5
Semiconductor Custom Grant (Micron)	5.40	5.40	5.40	5.40	3.80	--	--	--	--	--	25.4
Semiconductor Manufacturing Grant Fund (Micron II)	--	--	--	--	--	--	--	--	20.0	50.0	70.0
Small Business Investment Grant Fund	--	--	0.0	0.1	0.1	1.2	0.5	0.8	0.8	0.8	4.4
Small Business Jobs Grant Fund Program	0.4	0.8	1.2	0.3	0.0	0.3	0.0	0.0	--	--	3.0
Southside Economic Development Grants	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Southwest Economic Development Grants	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Special Workforce Grant Fund (Amazon Web Services)	--	--	--	--	--	--	--	--	0.00	0.0	0.0
SRI custom grant	1.00	1.00	--	--	--	--	--	--	--	--	2.0
Technology Development Grant Fund (Microsoft)	--	--	--	--	--	--	--	--	--	0.0	0.0
Tobacco Region Opportunity Fund	7.3	14.8	27.0	5.5	9.3	3.0	3.6	3.5	3.5	11.2	88.8
Transportation Partnership Opportunity Fund	10.0	10.2	0.7	6.0	0.0	0.0	0.0	11.2	0.0	1.0	39.1
Truck Manufacturing Grant Fund (Volvo)	--	--	--	--	--	--	--	--	--	2.0	2.0
Virginia Economic Development Incentive Grant	5.0	0.0	5.0	6.0	0.0	13.3	0.0	1.5	0.0	3.5	34.3
Virginia Investment Partnership Grant	2.0	11.9	0.7	9.6	6.2	1.6	4.0	3.7	4.3	8.4	52.1
Virginia Jobs Investment Program	5.2	5.6	7.4	4.1	7.2	6.5	6.8	6.2	1.8	3.0	53.9

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Incentive	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	Total
VALET Program	0.3	0.3	0.3	0.3	0.3	0.6	0.7	0.5	0.7	0.6	4.7
Virginia Talent Accelerator Program	--	--	--	--	--	--	--	--	1.5	3.3	4.8
Virginia Trade Show Assistance Program	--	--	--	--	--	0.6	0.5	0.6	0.7	0.4	2.8

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 because of rounding. -- indicates program had not been adopted or was no longer in effect.

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

Incentive	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	Total
Barge and Rail Usage Tax Credit	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	\$0.6M
Biodiesel and Green Diesel Fuels Producers Tax Credit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Coalfield Employment Enhancement Tax Credit	25.0	21.8	21.5	28.4	23.4	18.9	15.2	16.1	7.9	9.3	187.5
Farm Wineries and Vineyards Tax Credit	0.0	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	1.4
Green Job Creation Tax Credit	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2
International Trade Facility Tax Credit	0.0	0.2	0.2	0.1	0.3	0.3	0.3	0.9	0.1	0.1	2.4
Major Business Facility Job Tax Credit	4.3	2.8	1.3	4.1	0.8	6.8	1.8	1.3	6.3	2.2	31.7
Major Research and Development Tax Credit	--	--	--	--	--	--	6.1	4.8	17.2	12.0	40.1
Motion Picture Production Tax Credit	0.0	0.0	3.0	7.2	5.5	6.6	6.1	0.0	7.2	5.8	41.3
Qualified Equity and Subordinated Debt Investment Tax Credit	2.1	1.9	2.4	2.1	2.4	2.2	2.8	3.2	3.9	4.2	27.0
Recyclable Materials Processing Equipment Tax Credit	0.7	2.7	1.2	0.6	2.1	1.7	1.4	1.5	2.2	2.2	16.3
Research and Development Expenses Tax Credit	0.0	1.5	3.4	4.2	4.7	4.2	4.2	4.1	5.2	2.6	34.1
Telework Expenses Tax Credit	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.4

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Incentive	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	Total
Virginia Coal Production and Employment Incentive Tax Credit	0.0	59.4	6.7	8.9	3.1	3.7	6.8	0.5	1.3	0.6	91.1
Virginia Port Volume Increase Tax Credit	0.0	0.1	0.4	0.7	0.9	2.2	1.8	1.8	1.4	1.8	11.2
Worker Retraining Tax Credit	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.0	0.2	0.0	1.6
Worker Training Tax Credit	--	--	--	--	--	--	--	--	0.0	0.1	0.1

SOURCE: Weldon Cooper Center analysis of Virginia Tax's Annual Reports for Fiscal Years 2012–2021.

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 because of rounding.

-- indicates no credits were claimed in that year because they had not been adopted yet.

TABLE E-3

Estimated tax savings to businesses on sales and use tax exemptions (\$ millions)

Incentive	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	Total
Airline Common Carriers Exemption	6.6	7.6	8.5	10.5	11.4	11.0	11.1	10.2	9.0	9.2	\$95.1M
Aircraft Parts, Engines, and Supplies Exemption	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5	5.6	5.6	16.7
Certain Printed Materials for Out-of-State Distribution Exemption	3.6	3.7	4.0	4.0	4.0	4.1	4.2	4.3	4.4	4.5	40.8
Contractor Temporary Storage Exemption	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.1
Data Centers Exemption	26.2	80.8	81.6	97.4	73.7	86.8	144.9	140.5	165.6	116.8	1,014.4
Electrostatic Duplicators Exemption	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Film, Television, & Audio Production Inputs Exemption	1.2	0.9	0.7	0.8	1.0	1.0	2.2	3.8	4.2	4.3	20.0
Media Provider Equipment Exemption	4.0	4.1	4.4	4.5	4.5	4.6	4.7	4.8	4.9	5.0	45.3
Out-of-state Nuclear Facility Repair Exemption	0.3	0.4	0.5	0.5	0.6	0.6	0.6	0.7	0.6	0.7	5.5
Pollution Control Equipment & Facilities Exemption	2.6	3.1	2.3	4.2	4.1	3.2	3.2	3.3	3.4	3.4	32.8
Railroad Common Carriers Exemption	21.0	21.3	24.6	25.7	24.2	17.7	17.5	20.3	16.4	16.8	205.5

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Incentive	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	Total
Railroad Rolling Stock Exemption	1.8	1.9	2.1	2.1	2.3	2.4	2.4	2.5	2.6	2.6	22.7
Research & Development Exemption	3.0	3.1	3.7	3.5	2.9	3.4	5.1	5.2	5.3	5.4	40.6
Semiconductor Manufacturers Exemption	1.3	1.3	1.2	0.8	0.6	0.6	0.5	0.4	0.5	0.5	7.7
Semiconductor Wafers Exemption	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.2
Ships and Vessels Exemption	5.6	5.7	6.2	6.3	6.3	6.5	6.4	7.0	7.1	7.3	64.6
Taxi Parts & Radios Exemption	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	3.3
Uniform Rental & Laundry Businesses Exemption	0.5	0.7	0.8	0.9	1.0	1.0	1.0	0.9	0.8	0.8	8.4
Virginia Spaceport Users Exemption	0.0	0.4	0.9	0.9	0.0	0.5	1.0	1.0	1.0	1.0	6.8

SOURCE: Weldon Cooper Center analysis of economic development incentives.

NOTE: Exempted amounts exclude the 1 percent sales tax for localities and, in most cases, the additional amounts collected in localities with higher rates, such as Northern Virginia and the Historic Triangle. Numbers may not add because of rounding.

-- indicates exemption had not been adopted yet.

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

Incentive	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	Total
VIPC Gap Funds	0.8	0.8	1.3	0.6	0.6	0.8	0.8	1.0	1.2	1.3	\$9.3M
Data Center Single Sales Factor Apportionment	--	--	--	--	--	--	--	0.1	0.1	0.1	0.4
Economic Development Loan Fund	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Loan Guaranty Program	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Manufacturing single sales factor apportionment	--	--	1.9	20.9	22.3	22.7	23.3	23.7	24.1	24.7	163.6
New Company Incentive Program	--	--	--	--	--	--	0.0	0.0	0.0	0.0	0.0
Qualified Business Long-Term Capital Gain	0.0	0.2	1.7	3.0	1.5	1.9	1.2	0.8	0.9	0.9	11.9

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Incentive	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	Total
Subtraction											
State Cash Collateral Program	--	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SWaM Loan Fund	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Tobacco Region Opportunity Fund (Loan Portion)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Tourism Development Financing Program	0.3	1.3	0.0	8.4	0.0	0.9	0.6	1.8	0.0	0.0	13.4
Venture Capital Account Subtraction	--	--	--	--	--	--	0.0	0.0	0.0	0.0	0.0
Zero G Zero Tax Act (Part I) Subtraction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Zero G Zero Tax Act (Part II) Subtraction	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.6

SOURCE: Weldon Cooper Center analysis of economic development incentives.

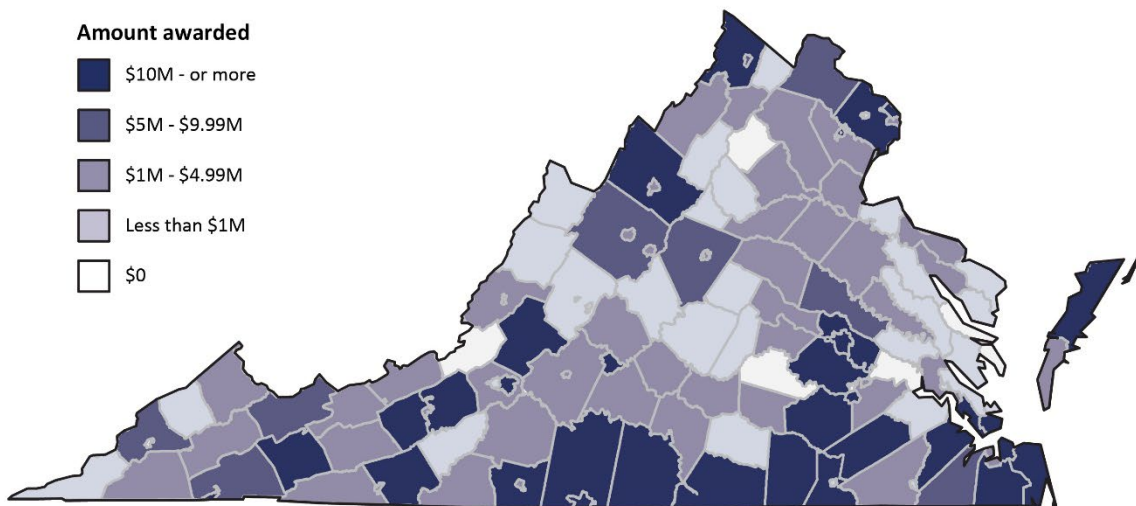
NOTE: Not adjusted for inflation. Virginia Small Business Financing Authority loan program amounts listed are legislative appropriations since these revolving loan program costs are not equal to the loan award amount.

-- indicates incentive had not been adopted yet.

Appendix F: Regional distribution of grant awards

The largest amount of grant awards went to businesses in highly populated localities such as Arlington County, Newport News City, Fairfax County, and Richmond City and to rural localities in the tobacco region and on the Eastern Shore (Figure F-1). Adjusted for population size, awards are concentrated in urbanized localities in Northern Virginia and in rural southern and Eastern Shore localities (Figure F-2).

FIGURE F-1
Awards are concentrated in several highly populated areas and the southern region (FY12–FY21)

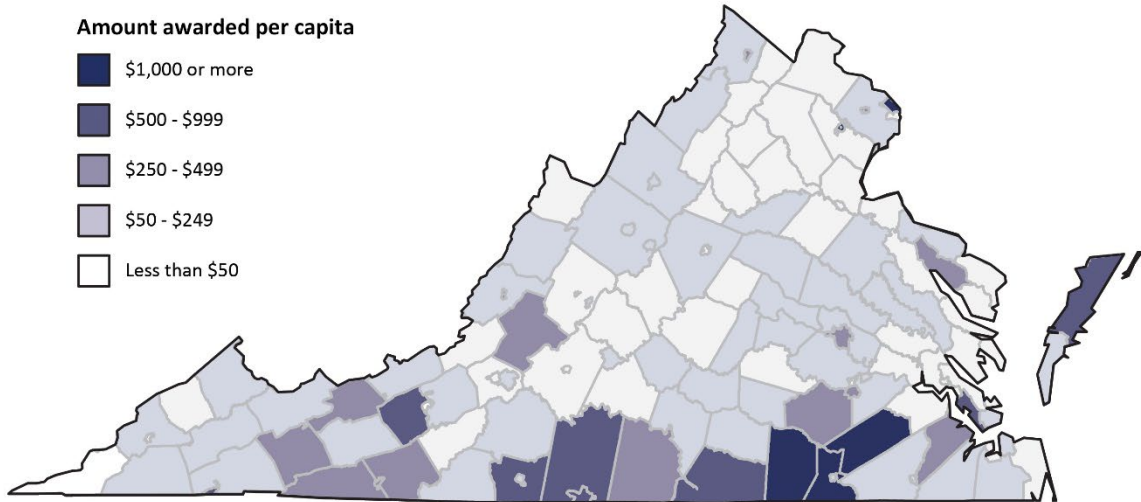


SOURCE: Weldon Cooper Center analysis of economic development incentives.

NOTE: Localities were not assigned to 16 Governor’s Motion Picture Opportunity Fund projects because filming occurred in multiple localities and one Go Virginia project because funded industrial parks were located in several counties.

FIGURE F-2

Awards are concentrated in urban areas in Northern Virginia and in rural southern and eastern shore localities, adjusted for population size (FY12–FY21)



SOURCE: Weldon Cooper Center analysis of economic development incentives.

NOTE: Localities were not assigned to 16 Governor’s Motion Picture Opportunity Fund projects because filming occurred in multiple localities and one Go Virginia project because funded industrial parks were located in several counties.

Appendix G: Average employment size of grant recipients by program

The average establishment size of a grant recipient was 185 employees across all programs. However, the average size varied widely by program (Figure G-1). The largest average sizes were for the Transportation Partnership Opportunity Fund (3,178 employees), Virginia Talent Accelerator Program (2,525), the Virginia Investment Partnership Grant (872), and the Virginia Economic Development Incentive Grant (466). The smallest average employee sizes were for finance programs for startups—the Commonwealth Research Commercialization Fund (4 employees) and the Small Business Investment Grant Fund (8).

Figure G-1

Average employment size of business location at time of award varies widely by program (FY12– FY21)



SOURCE: Weldon Cooper Center analysis of economic development incentive grants and VEC data.

NOTE: Employment records were matched with 3,048 of the 4,975 awards (60%) and \$1.317B of \$1.881B in total awards (70%). Commonwealth Research Commercialization Fund was combined with other programs in 2020 to create the Commonwealth Commercialization Fund.

Appendix H: 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 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 H-1).

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

Grant program	Job creation	Wages	Capital expenditures	Other
Advanced Production Grant Program and Fund (Morgan Olson)	X	X	X	
Advanced Shipbuilding Training Facility Grant Program (Newport News Shipbuilding)	X	X	X	Number of apprentices, training expenses
Advanced Shipbuilding Production Facility Grant Program (Newport News Shipbuilding)	X	X	X	
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
Commonwealth's Opportunity Fund	X	X	X	
Commonwealth Research Commercialization Fund				Capital attracted from other sources
Economic Development Access Program			X	
VIPC GAP Funds				Capital attracted from other sources
Go Virginia (site development grants)	X		X	
Governor's Motion Picture Opportunity Fund	X			Total Virginia spending, Value of advertising
Governor's New Airline Service Incentive Fund				Frequency of air service
Job Creation Grant	X			
Major Eligible Employer Grant	X	X	X	

Grant program	Job creation	Wages	Capital expenditures	Other
Major Headquarters Workforce Grant Fund (Amazon HQII)	X	X	X	
Pharmaceutical Manufacturing Grant Program (Merck)	X	X	X	
Port of Virginia Economic and Infrastructure Grant	X			Port user
Rail Industrial Access Program			X	Carloads
Real Property Investment Grant			X	
Semiconductor Custom Grant (Micron)	X		X	
Semiconductor Manufacturing Grant Fund (Micron)	X	X	X	Establishment of R&D facility
Small Business Investment Grant Fund	X			Private equity investment
Small Business Jobs Grant Fund Program	X	X	X	
Special Workforce Grant Fund (Amazon Web Services)	X	X	X	
SRI custom grant	X	X		
Technology Development Grant Fund (Microsoft)	X	X	X	
Tobacco Commission Megasite Grant				
Tobacco Region Opportunity Fund	X	X	X	
Transportation Partnership Opportunity Fund	X		X	
Truck Manufacturing Grant Fund (Volvo)	X	X	X	
Virginia Business Site Ready Program*				
Virginia Economic Development Incentive Grant	X	X	X	
Virginia Investment Partnership Grant	X	X	X	
Virginia Jobs Investment Program	X	X	X	Job retrainings
Virginia Leaders in Export Trade (VALET) Program				International sales
Virginia Talent Accelerator Program	X	X		
Virginia Trade Show Assistance Program				International sales

SOURCE: Weldon Cooper Center analysis of agency documents.

Appendix I: Economic and revenue impact analysis

The economic impact analysis for incentives involved modeling (1) the additional economic activity that occurred because of the incentive and (2) the simultaneous increase in taxes that was used to “pay” for the incentive. Increasing taxes has the general effect of decreasing employment and other economic activity. Thus, increasing taxes to pay for the incentive reduced the total effect of the incentive on the economy.

Economic impact modeling

Weldon Cooper Center staff conducted economic impact analyses of Virginia economic incentives using REMI PI+ (Policy Insight Plus) software. REMI PI+ is a dynamic, multi-sector regional economic simulation model used for economic forecasting and measuring the impact of public policy changes on local economies. The model combines different contemporary regional economic modeling methods such as input-output analysis, econometric forecasting, and computable general equilibrium to characterize the mechanics and path of a regional economy. The model has been extensively peer-reviewed and is widely used by state agencies elsewhere in the nation to model economic and tax revenue impacts of economic development incentive programs, including economic development incentives. The model used for this analysis was customized for the state of Virginia and includes 70 industry sectors. Outcome variables examined include total employment, state GDP, and personal income. In addition, a state tax revenue impact analysis was conducted based on a methodology described further below.

The modeling of each program was conducted differently depending on the type of economic stimulus provided by the program and available information on program outcomes (Table I-1). The most comprehensive information on establishment-level performance outcomes was available for grant programs, which typically track employment, capital investment, and other performance metrics related to the specific economic aims of the programs. Information on employment benchmarks was also available for four Small Business Financing Authority loan programs, which a previous JLARC study corroborated are in aggregate indicative of ultimate employment creation. (See *Workforce and Small Business Incentives*, JLARC 2018.) Similar information was available for the Data Center Exemption because users are required to enter into a Memorandum of Understanding with VEDP and report employment and capital investment goal attainment.

When program outcome information was not readily available, programs were generally modeled as decreasing either firm capital or production costs. Programs were modeled as decreasing firms’ costs of capital if the incentive reduced the costs of purchasing tangible personal property. They were modeled as decreasing firm production costs if the costs of labor as well as equipment and supplies were reduced by the incentive. Programs for which outcome information is not available for this report include most sales and use tax exemptions, tax credits, and other non-grant programs. This group includes programs like the GAP Funds program, port-related tax credits, and single sales apportionment for manufacturers for which outcome information was collected and used for the economic impact modeling in the in-depth evaluations of the programs but not readily available for this report. For the 2020 edition of this report, single sales apportionment for manufacturers was modeled similarly to how it was modeled in the in-depth evaluation of that incentive. Specifically, the

estimate was an extrapolation of the cohort of manufacturers that elected to use single sales apportionment in 2013 scaled to tax revenue impact estimates (2014–2016) and projections (2017–2019). Projecting the estimates further for this report resulted in very high economic impact estimates that did not seem plausible, therefore it was modeled as decreasing firm capital costs for this report.

**Table I-1
REMI policy variables**

Name of incentives	REMI model policy variables	Modeling description
Agriculture and Forestry Industries Development Grant Advanced Shipbuilding Production Facility Grant Program (Newport News Shipbuilding) Commonwealth’s Opportunity Fund Governor’s Motion Picture Opportunity Fund Job Creation Grant Major Eligible Employer Grant Port of Virginia Economic and Infrastructure Grant Small Business Investment Grant Fund Small Business Jobs Grant Fund Program Tobacco Region Opportunity Fund Virginia Economic Development Incentive Grant Virginia Investment Partnership Grant Virginia Jobs Investment Program--Job Creation Economic Development Loan Fund Loan Guaranty Program State Cash Collateral Program SWaM Loan Fund	Labor and Capital Demand >-Employment >- Firm >-Industry	Model economic impact estimate based on 10% “but for” assumption for grant programs except Governor’s Motion Picture Opportunity Fund (95%) and loan programs (31%) based on documented or projected employment increase. Assign REMI industry based on grant project industry identifiers.
Economic Development Access Program Rail Industrial Access Program Real Property Improvement Grant Megasite Grants (Tobacco Commission) Transportation Partnership Opportunity Fund	Output and Demand >- Investment Spending >- Nonresidential	Model economic impact estimate based on 10% “but for” assumption based on documented investment. Assign REMI industry based on grant project industry identifiers.
Farm Wineries and Vineyards Tax Credit Recyclable Materials Processing Equipment Tax Credit Airline Common Carriers Exemption Aircraft Parts, Engines, and Supplies Exemption Certain Printed Materials for Out-of-State Distribution Exemption	Compensation and Prices->Production Costs->Capital Costs	Model economic impact based on reduced capital cost equal to tax credit or estimated exemption tax revenue effect. Assign REMI industry based on

Name of incentives	REMI model policy variables	Modeling description
Data Center Single Sales Factor Apportionment Electrostatic Duplicators Exemption Film, Television, & Audio Production Inputs Exemption GAP Fund Commonwealth Research Commercialization Fund Manufacturing Single Sales Factor Apportionment Media Provider Equipment Exemption Pollution Control Equipment & Facilities Exemption Qualified Equity and Subordinated Debt Investments Tax Credit Qualified Business Long-Term Capital Gain Subtraction Railroad Common Carriers Exemption Railroad Rolling Stock Exemption Research & Development Exemption Semiconductor Manufacturers Exemption Semiconductor Wafers Exemption Ships and Vessels Exemption Taxi Parts & Radios Exemption Uniform Rental & Laundry Businesses Exemption Virginia Spaceport Users Exemption Zero G Zero Tax Act (Part I and II)		industry(ies) affected based on program descriptions
Barge and Rail Usage Tax Credit Biodiesel and Green Diesel Fuels Producers Tax Credit Green Job Creation Tax Credit International Trade Facility Tax Credit Major Business Facility Job Tax Credit Motion Picture Production Tax Credit Telework Expenses Tax Credit Virginia Coal Production and Employment Incentive Tax Credit Virginia Port Volume Increase Tax Credit Worker Retraining Tax Credit	Compensation and Prices- >Production Costs- >Production Costs	Model economic impact estimate based on reduced production cost. Assign REMI industry based on industry(ies) affected based on program descriptions and corporate tax credit records matched with VEC employment records.

Name of incentives	REMI model policy variables	Modeling description
Data Centers Exemption	(1) Labor and Capital Demand>-Employment>- Firm >-Industry (Exogenous Production, Nullify Investment); (2) Output and Demand>-Industry Sales (Exogenous Production)>- Power and Communication Structures; (3) Output and Demand>-Industry Sales (Exogenous Production)>- Wholesale Trade	Model economic impact estimate based on 90% "but for" assumption. Employment assigned to industry. Tangible personal property capital investment assigned to wholesale trade using margin of 28.7%.
Virginia Jobs Investment Program (VJIP)--Training	(1) Output and Demand>- Investment Spending>- Equipment, (2) Output and Demand>-Real Disposable Income>-Compensation (Adjust compensation by amount of training related wage increase). (3) Output and Demand>-Output (Adjust by ratio of value-added to training related wage increase)	Model economic impact estimate based on 1.5% wage and salary increase with associated output increase. Also, capital investment based on 10% "but for" factor. Assign to industries based on grant project records.
Virginia Trade Show Assistance Program Contractor Temporary Storage Exemption Out-of-state Nuclear Facility Repair Exemption	Output and Demand>- Industry Sales (Exogenous Production)>	Model economic impact as increased sales of (a) advertising, public relations and related services, (b) warehousing and storage, and (c) construction.
VALET	Output and Demand>- Industry Sales (International Exports)	Model economic impact as increased international sales for industry based on grant project records. "But for" effect is estimated as 11.78% of firm reported sales increase from firm entry and exit surveys based on Cooper Center firm economic incentive survey. Change in sales assigned to REMI industries based on NAICS codes of firms for completed grants.

Name of incentives	REMI model policy variables	Modeling description
Research and Development Expenses Tax Credit Major Research and Development Tax Credit	Output and Demand>- Investment Demand>- Private investment in Research and Development	Model R&D tax credit investment impact as 1.75X the tax credit utilization and Major R&D tax credit as 1.25X the tax credit utilization. Investment is assigned to private investment in research and development based on REMI industry of tax credit utilization.

Source: Weldon Cooper Center.

When employment, capital investment, and other documented performance metrics were modeled (grant and loan programs), only a small portion of the program documented outcomes were attributed to the effect of the incentive. In no instance are estimated program employment levels equal to program reported metric attainment. Even though the success of incentives in swaying business decisions varies by program (and by project), general assumptions are made by program type. For grants, the assumption was made that 10 percent of grant employment creation is attributable to the programs, with one exception (the Governor’s Motion Picture Opportunity Fund). The 10 percent effect for grant programs is derived from the 10 to 15 percent consensus value range commonly recommended for use in economic incentive evaluations (Bartik 2018; Peters and Fisher 2004) and is the same estimate used in two previous analyses of state economic incentive economic impacts. (See *Review of Economic Development Incentive Grants*, JLARC 2012.) For the Governor’s Motion Picture Opportunity Fund (film grant), 95 percent of film activity (job creation and Virginia spending) is attributed to the grant program based on a previous film industry evaluation study. (See *Evaluation: Film Incentives*, JLARC 2017). Film project employment was also converted to motion picture and sound recording industries full-time-equivalents because of the preponderance of part-time and seasonal employees in grant-supported film and television productions. For loan programs, 31 percent of loan program employment benchmarks were established as the program effects of the loan programs based on a previous analysis of loan program effects. (See *Workforce and Small Business Incentives*, JLARC 2018). Higher percentages are used for the film grant and loan programs because most film incentive evaluations attribute all or a high portion of film activity to film incentives and prior research indicates that higher percentages of job creation and other outcomes can reasonably be attributed to loan programs that target small, credit-constrained businesses.

Some REMI policy variables require industry level data aggregated into 70 REMI industry categories. Since NAICS codes were obtained or assigned and then cross-walked to REMI industry categories. NAICS-level industry information was obtained for grant projects as described in Appendix B. Tax credit projects were assigned NAICS codes based on available corporate tax filer industry characteristics when corporate users made up a large portion of filers or other information was not available. Thus, industries of corporate filers are assumed to be similar to other pass-through entities that file through the individual income tax system. Most sales and use tax exemptions are fairly narrowly targeted to individual industries, and industry assignment was relatively straightforward. In some instances, secondary data was used. For the Pollution Control Equipment exemption, utilization

was assigned to industries using industry information from the U.S. Census Bureau's Pollution Abatement Costs and Expenditures: 2005 survey (issued in 2008) on pollution abatement capital expenditures for the state of Virginia (Table 8 of the survey report). For the Research and Development Exemption, industry information was drawn from the National Science Foundation Business Research and Innovation: 2013 on corporate R&D expenditures by industry (Table 30 of that report).

Table I-2
REMI industry assignments for modeling impacts of tax credits and sales and use tax exemptions

Programs	Industries
Tax credit programs	
Barge and Rail Usage Tax Credit	Corporate tax credit utilization files from s
Biodiesel and Green Diesel Fuels Producers Tax Credit	Chemical manufacturing
Coalfield Employment Enhancement Tax Credit	Mining
Farm Wineries and Vineyards Tax Credit	Beverage and tobacco product manufacturing
Green Job Creation Tax Credit	Construction
International Trade Facility Tax Credit	Corporate tax credit utilization files from Virginia Tax
Major Business Facility Job Tax Credit	Not applicable
Motion Picture Production Tax Credit	Motion picture and sound recording industries
Qualified Equity and Subordinated Debt Investment Tax Credit	Corporate tax credit firm beneficiary files from Virginia Tax for TY2017-TY2020
Recyclable Materials Processing Equipment Tax Credit	Corporate tax credit utilization files from Virginia Tax
Research and Development Expenses Tax Credit	Not applicable
Telework Expenses Tax Credit	Corporate tax credit utilization files from Virginia Tax
Virginia Coal Production and Employment Incentive Tax Credit	Corporate tax credit utilization files from Virginia Tax
Virginia Port Volume Increase Tax Credit	Corporate tax credit utilization files from Virginia Tax
Worker Retraining Tax Credit	Corporate tax credit utilization files from Virginia Tax
Sales and use tax exemptions	
Airline Common Carriers Exemption	Air transportation
Aircraft Parts, Engines, and Supplies Exemption	Air transportation
Certain Printed Materials for Out-of-State Distribution Exemption	Printing and related support activities
Contractor Temporary Storage Exemption	Warehousing and storage
Data Centers Exemption	Internet publishing and broadcasting; ISPs, search portals, and data processing; Other information services and Telecommunications (50%)

Programs	Industries
Electrostatic Duplicators Exemption	Administrative and support services
Film, Television, & Audio Production Inputs Exemption	Motion picture and sound recording industries
Media Provider Equipment Exemption	Broadcasting except internet
Out-of-state Nuclear Facility Repair Exemption	Construction
Pollution Control Equipment & Facilities Exemption	U.S. Census Bureau PACE Survey
Railroad Common Carriers Exemption	Rail transportation
Railroad Rolling Stock Exemption	31% Mining (4), 21% Chemical manufacturing (26), 20% Wholesale Trade (28), and remainder to other railroad rolling stock using industries.
Research & Development Exemption	National Science Foundation Business Research and Innovation
Semiconductor Manufacturers Exemption	Computer and electronic product manufacturing
Semiconductor Wafers Exemption	Computer and electronic product manufacturing
Ships and Vessels Exemption	Water transportation
Taxi Parts & Radios Exemption	Transit and ground transportation
Uniform Rental & Laundry Businesses Exemption	Personal and laundry services
Virginia Spaceport Users Exemption	Air transportation
Other incentives	
Data Center Single Sales Factor Apportionment	Internet publishing and broadcasting; ISPs, search portals, and data processing; Other information services
Manufacturing Single Sales Factor Apportionment	Manufacturing (REMI industry aggregation)
Qualified Business Long-Term Capital Gain Subtraction	Corporate tax credit firm beneficiary files for Qualified Equity and Subordinated Debt Investment Tax Credit from Virginia Tax for TY2017-TY2020
Zero G Zero Tax Act (Part II) Subtraction	Air transportation

SOURCE: Weldon Cooper Center.

For the purposes of the economic impact analysis, only completed grant and other incentive projects (i.e., loans, gap funding) were counted. Outcomes and expenditures were grouped for analysis purposes based on the date/year when awards were completed.

When modeling firm employment increases, the REMI firm employment option is used. This option assumes that firm sales associated with incentivized job creation may displace to various degrees the sales of other Virginia-based firms in the same industry based on industry market-area characteristics.

To generate input data to capture the effect of firm retraining for the Virginia Jobs Investment Program, data for wages and salaries and value-added by industry were obtained from the Virginia REMI PI+ model. Ratios of value-added per wages were formed for each REMI industry. These ratios were then multiplied by estimated wage increases (1.5 percent) that resulted from firm retraining for the firms that were assumed to have been incentivized by the VJIP retraining grant.

The results by year were assigned to the REMI policy variables “Industry Sales/Exogenous Production” by REMI industry. Estimated wage increases were assigned to the compensation policy variable. This method is the same as used in an intensive review of the VJIP program. (See Workforce and Small Business Incentives, JLARC 2018.)

Two sales and use tax exemptions affect the Virginia economy through reducing the costs of goods sold to out-of-state buyers rather than Virginia-based firms. Thus, the sales tax exemption was modeled as an increase in sales for the Virginia warehousing and storage industry (Contractor Temporary Storage Exemption) and construction industry (Out-of-state Nuclear Facility Repair Exemption) caused by the de-facto price reduction. Industry demand for the production inputs was assumed to be relatively inelastic (.5).

The Data Center Exemption was modeled using employment and capital investment information from VEDP MOUs. Based on analysis included in an in-depth review (Data Centers and Manufacturing Incentives, JLARC 2019), approximately 90 percent of data center economic activity was attributed to the existence of the sales and use exemption. Data center employment was modeled as equally split between the telecommunications sector and internet publishing and broadcasting; ISPs search portals and data processing; and other information services. In addition to the employment and capital investment figures estimated using information from VEDP MOU data, it was assumed that 22.3 percent of capital investment costs were building and equipment and 77.7 percent sales and use tax exemption eligible equipment based on the expenditure pattern of a standard data center. These expenditures are represented as sales to the construction and wholesale trade sectors (wholesale margins only for the latter). Full-build out of data center employment and investment occurs over a three-year period. Allowance is made for an equipment refresh cycle of every five years, which is modeled as generating sales for the wholesale trade sector (again, only wholesale margin spending occurs in the state).

For each economic impact analysis, the opportunity cost of state funds was accounted for by raising personal income taxes. Personal income taxes are the largest source of tax revenue for the general fund, and thus seemed appropriate as a source for offsetting the cost of the incentive programs.

REMI PI+ discontinued tax revenue estimation as part of its base package beginning with the 2.0 version and moved improved revenue modeling capabilities into its new REMI Tax PI model. To conduct tax revenue analysis, this study scaled revenues to economic outputs using the procedure described in Regional Economic Models, Inc. (2012). State tax revenues were derived from the Census of Government’s State and Local Government Finance and Annual Survey of State Tax Collections. Revenue estimates are calculated by multiplying state revenue rates by the corresponding base quantity, which included state-level demand for selected industries (general sales tax, selective sales tax, license taxes), state-level personal income less transfer payments (individual income tax), corporate income tax (gross domestic product), and personal income (other taxes). The tax revenue impact analysis does not include the effect of economic development incentives on other revenues, including non-general revenues. Nor does it estimate the effect on local tax revenues. Lastly, it does not estimate the effect of economic development incentives on government expenditures at the state or local level.

Economic impact estimates

Tables I-3 through I-12 provide estimates of the total economic activity induced by each group of incentives (i.e., grants, sales and use tax exemptions, tax credits, and other incentives), and the net impact (total activity adjusted for the reduction). Economic activity reported in the tables is defined as follows:

- Total employment – private and public employment,
- Private employment – private non-farm employment,
- Virginia GDP – Gross domestic product for Virginia (the market value of goods and services produced by labor and property in Virginia), and
- Personal income – received by persons from all sources.

TABLE I-3
Impact of economic development grant programs to the Virginia economy

Impact	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21
Economic activity induced by grant program										
Total employment	1,117	1,197	1,832	2,569	4,035	5,894	7,365	8,832	9,879	10,946
Private employment	1,073	1,120	1,709	2,387	3,750	5,447	6,763	8,078	8,981	9,909
Virginia GDP	\$119,938,737	\$172,544,793	\$268,656,982	\$379,272,088	\$629,722,238	\$971,200,526	\$1,293,350,343	\$1,574,814,575	\$1,878,248,479	\$2,154,595,697
Personal income	\$71,772,481	\$85,545,545	\$135,971,282	\$192,251,731	\$315,439,942	\$485,082,657	\$643,311,894	\$811,385,677	\$981,547,916	\$1,146,813,884
Reduction in economic activity because of the tax increase to fund grant program costs										
Total employment	(142)	(228)	(489)	(420)	(408)	(686)	(363)	(242)	(397)	(311)
Private employment	(134)	(213)	(456)	(382)	(367)	(629)	(313)	(201)	(351)	(267)
Virginia GDP	-\$13,779,707	-\$24,534,867	-\$53,538,330	-\$50,575,352	-\$50,000,390	-\$82,517,778	-\$50,681,591	-\$33,519,854	-\$51,544,264	-\$43,773,790
Personal income	-\$9,591,729	-\$16,380,423	-\$35,516,202	-\$33,542,793	-\$35,455,670	-\$59,018,585	-\$38,668,567	-\$31,405,921	-\$45,818,707	-\$40,575,119
Net economic impact of grant program										
Total employment	975	969	1,343	2,149	3,627	5,208	7,003	8,590	9,482	10,635
Private employment	939	908	1,254	2,005	3,383	4,819	6,450	7,877	8,630	9,642
Virginia GDP	\$106,159,030	\$148,009,926	\$215,118,651	\$328,696,737	\$579,721,849	\$888,682,749	\$1,242,668,752	\$1,541,294,721	\$1,826,704,214	\$2,110,821,907
Personal income	\$62,180,752	\$69,165,122	\$100,455,080	\$158,708,939	\$279,984,272	\$426,064,072	\$604,643,327	\$779,979,756	\$935,729,209	\$1,106,238,766

TABLE I-4
Revenue collections from economic development grant programs and their return in revenue

Impact	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21
Revenue tax collections induced by economic development grant programs										
General sales tax	\$1,730,224	\$2,331,479	\$2,856,321	\$4,519,458	\$6,507,391	\$9,847,740	\$11,717,807	\$17,866,871	\$23,203,875	\$26,592,577
Selective sales tax	\$1,177,465	\$1,561,875	\$1,985,396	\$3,219,168	\$4,879,544	\$7,307,334	\$8,653,495	\$10,272,749	\$17,630,843	\$21,151,572
License taxes	\$177,738	\$246,028	\$305,610	\$473,394	\$645,820	\$1,009,033	\$1,207,694	\$1,388,034	\$1,786,502	\$1,777,747
Individual income tax	\$2,096,507	\$2,673,451	\$4,033,716	\$5,946,607	\$9,776,573	\$15,368,680	\$20,948,835	\$26,889,545	\$32,063,805	\$36,529,116
Corporate income tax	\$217,907	\$280,302	\$411,959	\$623,402	\$929,095	\$1,525,083	\$2,019,703	\$2,541,614	\$4,498,369	\$5,611,414
Other taxes	\$79,986	\$109,247	\$152,296	\$213,981	\$360,139	\$566,498	\$725,772	\$1,589,484	\$1,211,146	\$1,877,297
Total revenue	\$5,479,828	\$7,202,381	\$9,745,299	\$14,996,010	\$23,098,561	\$35,624,369	\$45,273,305	\$60,548,297	\$80,394,540	\$93,539,725
Program cost	\$17,325,255	\$25,753,824	\$54,227,360	\$41,568,432	\$42,014,939	\$82,382,899	\$37,763,593	\$28,421,890	\$58,616,855	\$46,318,650
Net revenue	-\$11,845,427	-\$18,551,443	-\$44,482,061	-\$26,572,422	-\$18,916,378	-\$46,758,530	\$7,509,712	\$32,126,406	\$21,777,685	\$47,221,075
Return on investment										
Return per \$1 spent	\$0.32	\$0.28	\$0.18	\$0.36	\$0.55	\$0.43	\$1.20	\$2.13	\$1.37	\$2.02

TABLE I-5
Impact of economic development tax credits to the Virginia economy

Impact	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21
Economic activity induced by the tax credit program										
Total employment	207	981	584	697	526	519	480	273	441	325
Private employment	196	930	532	639	472	466	429	231	396	284
Virginia GDP	\$2,244,585	-\$8,607,264	\$50,332,556	\$49,219,289	\$47,574,824	\$43,126,390	\$41,565,268	\$32,424,927	\$45,879,834	\$38,034,536
Personal income	\$13,506,397	\$62,870,087	\$42,387,886	\$53,509,025	\$45,348,433	\$47,683,244	\$47,221,202	\$33,708,876	\$49,062,250	\$40,856,966
Reduction in economic activity because of the tax increase to fund tax credit										
Total employment	-263	-764	-464	-562	-433	-406	-374	-257	-350	-268
Private employment	-249	-718	-418	-508	-382	-356	-325	-214	-305	-226
Virginia GDP	-\$25,587,315	-\$79,853,763	-\$57,221,034	-\$65,892,499	-\$54,366,531	-\$51,092,576	-\$47,940,773	-\$34,576,165	-\$45,248,946	-\$36,987,283
Personal income	-\$17,810,907	-\$53,728,339	-\$36,903,135	-\$46,653,858	-\$40,531,555	-\$41,150,491	-\$40,966,834	-\$33,742,898	-\$43,014,545	-\$37,533,818
Net economic impact of tax credit program										
Total employment	-56	217	119	135	93	112	107	15	90	57
Private employment	-53	213	114	130	90	109	105	16	91	59
Virginia GDP	-\$23,342,729	-\$88,461,028	-\$6,888,478	-\$16,673,210	-\$6,791,708	-\$7,966,185	-\$6,375,505	-\$2,151,237	\$630,888	\$1,047,253
Personal income	-\$4,304,510	\$9,141,748	\$5,484,751	\$6,855,167	\$4,816,878	\$6,532,754	\$6,254,367	-\$34,023	\$6,047,705	\$3,323,149

TABLE I-6
Revenue collections from economic development tax credits and their return in revenue

Impact	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21
Revenue tax collections induced by tax credit program										
General sales tax	\$87,292	\$334,024	\$581,789	\$653,882	\$598,253	\$520,438	\$523,671	\$498,181	\$704,741	\$618,817
Selective sales tax	\$59,405	\$223,765	\$404,395	\$465,754	\$448,598	\$386,182	\$386,726	\$286,435	\$535,479	\$492,204
License taxes	\$8,967	\$35,248	\$62,248	\$68,491	\$59,373	\$53,326	\$53,972	\$38,703	\$54,259	\$41,369
Individual income tax	\$393,728	\$1,990,846	\$1,229,762	\$1,621,503	\$1,346,794	\$1,436,806	\$1,450,479	\$1,004,459	\$1,505,535	\$1,194,994
Corporate income tax	\$4,078	-\$13,983	\$77,180	\$80,901	\$70,192	\$67,722	\$64,909	\$52,331	\$109,881	\$99,057
Other taxes	\$15,052	\$80,289	\$47,477	\$59,557	\$51,775	\$55,686	\$53,274	\$66,035	\$60,539	\$66,882
Total revenue	\$568,522	\$2,650,190	\$2,402,852	\$2,950,088	\$2,574,984	\$2,520,159	\$2,533,030	\$1,946,143	\$2,970,434	\$2,513,322
Program cost	\$32,170,868	\$90,694,123	\$40,295,087	\$56,868,837	\$44,145,808	\$46,958,185	\$47,130,867	\$34,545,450	\$53,027,156	\$41,092,270
Net revenue	-\$31,602,346	-\$88,043,934	-\$37,892,235	-\$53,918,749	-\$41,570,825	-\$44,438,026	-\$44,597,837	-\$32,599,307	-\$50,056,722	-\$38,578,949
Return on investment										
Return per \$1 spent	\$0.02	\$0.03	\$0.06	\$0.05	\$0.06	\$0.05	\$0.05	\$0.06	\$0.06	\$0.06

TABLE I-7
Impact of economic development sales and use tax exemptions to the Virginia economy

Impact	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21
Economic activity induced by the exemptions										
Total employment	3,238	7,493	8,637	10,409	9,402	10,308	12,990	14,077	16,041	15,373
Private employment	3,081	7,069	8,012	9,587	8,495	9,292	11,768	12,664	14,402	13,614
Virginia GDP	\$374,183,757	\$993,128,679	\$1,263,182,481	\$1,607,892,034	\$1,599,580,261	\$1,837,208,375	\$2,400,394,139	\$2,771,972,680	\$3,308,060,890	\$3,424,328,307
Personal income	\$206,437,598	\$506,047,889	\$610,553,607	\$775,116,052	\$755,728,502	\$871,134,936	\$1,133,816,000	\$1,289,337,103	\$1,542,197,210	\$1,575,143,438
Reduction in economic activity because of the tax increase to fund the exemptions										
Total employment	(641)	(1,182)	(1,387)	(1,575)	(1,341)	(1,281)	(1,642)	(1,645)	(1,713)	(1,342)
Private employment	(607)	(1,105)	(1,277)	(1,438)	(1,200)	(1,136)	(1,474)	(1,464)	(1,518)	(1,157)
Virginia GDP	-\$62,350,811	-\$126,181,026	-\$158,258,134	-\$184,851,408	-\$166,282,551	-\$161,244,038	-\$206,093,028	-\$216,427,596	-\$231,371,165	-\$191,470,378
Personal income	-\$43,402,737	-\$84,431,336	-\$104,429,396	-\$125,864,132	-\$118,749,213	-\$123,002,264	-\$159,282,527	-\$170,898,336	-\$189,792,298	-\$168,896,742
Net economic impact of the exemptions										
Total employment	2,597	6,311	7,250	8,833	8,060	9,027	11,348	12,432	14,328	14,031
Private employment	2,475	5,964	6,735	8,149	7,295	8,156	10,294	11,201	12,884	12,456
Virginia GDP	\$311,832,946	\$866,947,653	\$1,104,924,347	\$1,423,040,626	\$1,433,297,710	\$1,675,964,336	\$2,194,301,110	\$2,555,545,084	\$3,076,689,724	\$3,232,857,929
Personal income	\$163,034,861	\$421,616,553	\$506,124,211	\$649,251,920	\$636,979,290	\$748,132,673	\$974,533,473	\$1,118,438,767	\$1,352,404,912	\$1,406,246,696

TABLE I-8
Revenue collections from the economic development sales and use tax exemptions and their return in revenue

Impact	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21
Revenue tax collections induced by exemptions										
General sales tax	\$2,379,859	\$6,779,591	\$8,349,485	\$10,786,031	\$11,283,311	\$12,161,565	\$14,777,045	\$22,188,120	\$27,837,717	\$29,270,375
Selective sales tax	\$1,619,560	\$4,541,698	\$5,803,631	\$7,682,790	\$8,460,751	\$9,024,265	\$10,912,715	\$12,757,297	\$21,151,743	\$23,281,476
License taxes	\$244,472	\$715,414	\$893,348	\$1,129,792	\$1,119,802	\$1,246,115	\$1,522,994	\$1,723,741	\$2,143,269	\$1,956,761
Individual income tax	\$6,015,066	\$15,841,359	\$18,028,518	\$23,800,452	\$22,949,755	\$26,913,381	\$36,173,024	\$41,810,436	\$49,404,633	\$48,957,726
Corporate income tax	\$679,824	\$1,613,353	\$1,936,968	\$2,642,861	\$2,360,028	\$2,884,981	\$3,748,469	\$4,473,724	\$7,922,743	\$8,918,297
Other taxes	\$230,062	\$646,257	\$683,857	\$862,722	\$862,819	\$1,017,345	\$1,279,149	\$2,525,778	\$1,902,938	\$2,578,459
Total revenue	\$11,168,843	\$30,137,671	\$35,695,807	\$46,904,648	\$47,036,466	\$53,247,653	\$68,413,396	\$85,479,096	\$110,363,043	\$114,963,094
Program cost	\$78,392,631	\$135,486,616	\$142,349,742	\$162,910,644	\$137,008,753	\$143,835,664	\$205,343,477	\$210,950,630	\$231,924,303	\$184,469,285
Net revenue	-\$67,223,788	-\$105,348,945	-\$106,653,935	-\$116,005,996	-\$89,972,287	-\$90,588,011	-\$136,930,081	-\$125,471,534	-\$121,561,259	-\$69,506,191
Return on investment										
Return per \$1 spent	\$0.14	\$0.22	\$0.25	\$0.29	\$0.34	\$0.37	\$0.33	\$0.41	\$0.48	\$0.62

TABLE I-9
Impact of other incentives (loan, gap financing, manufacturing single sale apportionment, and income tax subtractions) to the Virginia economy

Impact	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21
Economic activity induced by other incentives										
Total employment	\$0.15	\$26.49	\$53.05	\$174.49	239	313	370	411	438	468
Private employment	\$0.14	\$24.95	\$49.46	\$163.80	221	288	338	372	393	419
Virginia GDP	-\$11,409.18	\$4,426,470.37	\$5,031,670.24	\$5,226,327.28	\$17,954,150	\$31,783,564	\$45,211,238	\$59,805,382	\$65,993,024	\$75,539,429
Personal income	\$9,417.80	\$1,830,051.25	\$3,740,388.08	\$12,460,597.16	\$18,171,971	\$25,294,097	\$31,963,087	\$37,683,434	\$42,680,729	\$47,732,439
Reduction in economic activity because of the tax increase to fund costs of other incentives										
Total employment	-\$0.22	-\$1.72	-\$31.25	-\$201.39	-222	-232	-222	-210	-200	-187
Private employment	-\$0.21	-\$1.63	-\$29.58	-\$190.29	-205	-212	-200	-187	-177	-163
Virginia GDP	-\$21,775.90	-\$176,120.39	-\$3,268,710.96	-\$21,789,174	-\$26,633,620	-\$29,074,799	-\$28,951,938	-\$28,201,369	-\$27,592,986	-\$26,465,639
Personal income	-\$15,157.51	-\$119,236.10	-\$2,166,877.38	-\$14,341,856	-\$17,175,957	-\$19,664,572	-\$20,635,736	-\$21,329,476	-\$22,210,086	-\$22,403,015
Net economic impact of other incentives										
Total employment	-\$0.08	\$24.76	\$21.81	-\$27	17	81	148	201	237	281
Private employment	-\$0.07	\$23.32	\$19.88	-\$26	16	76	138	185	216	255
Virginia GDP	-\$33,185.08	\$4,250,349.98	\$1,762,959.28	-\$16,562,846	-\$8,679,470	\$2,708,765	\$16,259,299	\$31,604,013	\$38,400,038	\$49,073,790
Personal income	-\$5,739.71	\$1,710,815.15	\$1,573,510.70	-\$1,881,259	\$996,014	\$5,629,525	\$11,327,351	\$16,353,958	\$20,470,643	\$25,329,424

TABLE I-10
Revenue collections from other incentives and their return in revenue

Impact	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21
Revenue tax collections induced by other incentives										
General sales tax	-\$179.57	\$27,987.99	\$7,614.75	-\$208,113.29	-\$122,046	-\$24,237	\$61,028	\$225,421	\$315,246	\$399,493
Selective sales tax	-\$122.20	\$18,749.36	\$5,292.92	-\$148,237.17	-\$91,516	-\$17,984	\$45,069	\$129,608	\$239,531	\$317,754
License taxes	-\$18.45	\$2,953.42	\$814.74	-\$21,799.00	-\$12,112	-\$2,483	\$6,290	\$17,512	\$24,271	\$26,707
Individual income tax	\$274.22	\$57,779.37	\$111,625.00	\$389,213.98	\$561,899	\$794,273	\$1,028,074	\$1,229,328	\$1,366,646	\$1,489,591
Corporate income tax	-\$20.73	\$7,190.87	\$7,715.58	\$8,590.41	\$26,490	\$49,910	\$70,602	\$96,521	\$158,052	\$196,734
Other taxes	\$10.50	\$2,337.10	\$4,189.46	\$13,868.93	\$20,747	\$29,539	\$36,060	\$73,821	\$52,664	\$78,136
Total revenue	-\$56.23	\$116,998.10	\$137,252.45	\$33,523.86	\$383,462	\$829,018	\$1,247,123	\$1,772,211	\$2,156,411	\$2,508,416
Program cost	\$27,379.00	\$212,401.76	\$3,762,426.68	\$24,205,575.23	\$24,007,133	\$25,221,696	\$24,881,171	\$25,112,226	\$26,123,547	\$26,086,785
Net revenue	-\$27,435.23	-\$95,403.66	-\$3,625,174.23	-\$24,172,051.37	-\$23,623,671	-\$24,392,679	-\$23,634,048	-\$23,340,016	-\$23,967,137	-\$23,578,369
Return on investment										
Return per \$1 spent	\$0.00	--	\$0.04	\$0.00	\$0.02	\$0.03	\$0.05	\$0.07	\$0.08	\$0.10

TABLE I-11
Impact of all economic development incentives to the Virginia economy

Appendixes

Impact	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21
Economic activity induced by all incentives										
Total employment	4,562	9,698	11,106	13,848	14,201	17,034	21,207	23,594	26,798	27,112
Private employment	4,351	9,144	10,303	12,776	12,938	15,493	19,298	21,345	24,172	24,225
Virginia GDP	496,355,670	1,161,492,678	1,587,203,689	2,041,609,739	2,294,831,473	2,883,318,856	3,780,520,987	4,439,017,564	5,298,182,226	5,692,497,969
Personal income	291,725,895	656,293,573	792,653,162	1,033,337,405	1,134,688,848	1,429,194,935	1,856,312,183	2,172,115,090	2,615,488,105	2,810,546,728
Reduction in economic activity because of the tax increase to fund the costs of all incentives										
Total employment	(1,046)	(2,176)	(2,372)	(2,758)	(2,405)	(2,606)	(2,601)	(2,355)	(2,661)	(2,107)
Private employment	(990)	(2,037)	(2,180)	(2,519)	(2,154)	(2,333)	(2,312)	(2,066)	(2,351)	(1,813)
Virginia GDP	(101,739,609)	(230,745,777)	(272,286,209)	(323,108,432)	(297,283,092)	(323,929,191)	(333,667,331)	(312,724,983)	(355,757,362)	(298,697,090)
Personal income	(70,820,531)	(154,659,335)	(179,015,611)	(220,402,638)	(211,912,394)	(242,835,911)	(259,553,664)	(257,376,632)	(300,835,636)	(269,408,693)
Net economic impact of all incentives										
Total employment	3,516	7,522	8,734	11,090	11,797	14,428	18,606	21,238	24,137	25,005
Private employment	3,361	7,108	8,123	10,257	10,784	13,160	16,986	19,279	21,821	22,412
Virginia GDP	394,616,062	930,746,901	1,314,917,479	1,718,501,307	1,997,548,381	2,559,389,665	3,446,853,656	4,126,292,580	4,942,424,865	5,393,800,879
Personal income	220,905,363	501,634,238	613,637,552	812,934,767	922,776,454	1,186,359,024	1,596,758,519	1,914,738,458	2,314,652,468	2,541,138,034

TABLE I-12
Revenue collections from all economic development incentives and their return in revenue

Impact	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21
Revenue tax collections induced by all incentives										
General sales tax	\$4,197,195	\$9,473,082	\$11,795,209	\$15,751,258	\$18,266,909	\$22,505,507	\$27,079,550	\$40,778,593	\$52,061,579	\$56,881,263
Selective sales tax	\$2,856,308	\$6,346,087	\$8,198,715	\$11,219,476	\$13,697,376	\$16,699,797	\$19,998,004	\$23,446,089	\$39,557,596	\$45,243,006
License taxes	\$431,159	\$999,643	\$1,262,021	\$1,649,878	\$1,812,882	\$2,305,990	\$2,790,950	\$3,167,990	\$4,008,302	\$3,802,583
Individual income tax	\$8,505,575	\$20,563,435	\$23,403,622	\$31,757,775	\$34,635,021	\$44,513,140	\$59,600,412	\$70,933,767	\$84,340,619	\$88,171,428
Corporate income tax	\$901,788	\$1,886,863	\$2,433,823	\$3,355,754	\$3,385,805	\$4,527,696	\$5,903,683	\$7,164,190	\$12,689,046	\$14,825,503
Other taxes	\$325,110	\$838,130	\$887,820	\$1,150,128	\$1,295,480	\$1,669,069	\$2,094,255	\$4,255,117	\$3,227,287	\$4,600,774
Total revenue	\$17,217,136	\$40,107,241	\$47,981,210	\$64,884,270	\$73,093,473	\$92,221,199	\$117,466,854	\$149,745,747	\$195,884,428	\$213,524,557
Program cost	\$127,916,133	\$252,146,965	\$240,634,615	\$285,553,488	\$247,176,634	\$298,398,444	\$315,119,108	\$299,030,197	\$369,691,862	\$297,966,990
Net revenue	-\$110,698,997	-\$212,039,725	-\$192,653,405	-\$220,669,218	-\$174,083,161	-\$206,177,245	-\$197,652,254	-\$149,284,450	-\$173,807,433	-\$84,442,433
Return on investment										
Return per \$1 spent	\$0.13	\$0.16	\$0.20	\$0.23	\$0.30	\$0.31	\$0.37	\$0.50	\$0.53	\$0.72