

ECONOMIC IMPACT OF VOLKSWAGEN'S CHATTANOOGA EXPANSION PLAN

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INTRODUCTION

In July 2014, Volkswagen announced plans to expand its manufacturing facility in Chattanooga, Tennessee in order to produce a new midsize SUV for the American market. Figure 1 highlights the location of Volkswagen’s expansion in Tennessee. The plant expansion will add over one-half million square feet to its current production facility, and add 1,800 new employees. As part of the expansion strategy Volkswagen will also establish The North American Engineering and Planning Center in Chattanooga, which will create an additional 200 engineering jobs. This will be the first automotive R&D center located in the U.S. southeast region.

Construction for the expansion project is currently underway, and completion is scheduled for the summer of 2016. During the construction and development phase Volkswagen will invest \$704.4 million worldwide to build and equip the new facilities. Production of the new SUV is scheduled to begin near the end of 2016, and new employees will likely be added throughout a five to eight year period. Currently, Volkswagen’s Chattanooga facility employs 2,358 employees. Therefore the planned expansion will nearly double Volkswagen’s workforce in Chattanooga.

This study estimates the employment and earnings impacts from the construction and development of Volkswagen’s expansion in Chattanooga as well as the economic impact from direct operations of the expansion plant and R&D center once these facilities are in full operation and all 2,000 new employees have been hired. We also examine the economic impact generated from Volkswagen’s suppliers and the resulting effects through the broader economy.

Figure 1: Volkswagen is Expanding Operations in Hamilton County, Tennessee



SUMMARY OF BENEFITS

The economic impact generated by Volkswagen’s Chattanooga expansion occurs in two phases. First, during the construction and development phase, spending will focus on construction, equipment, and tools. Then, during the operations phase, the economic impact will arise from Volkswagen’s spending on inputs to the production process for automobiles (labor, supplies, etc.).

Assuming that 65 percent of Volkswagen’s spending on construction, equipment, and tools is made in Tennessee, we estimate that the construction and development phase will create 5,391 full time equivalent jobs for a year and generate \$217.0 million in new income for Tennesseans. We also find that state and local governments will see a one-time increase in total tax revenues equal to \$20.5 million.

During the operations phase, the Volkswagen plant expansion and R&D center will create 9,799 new, full time equivalent permanent jobs in Tennessee and will be responsible for \$372.6 million in new income annually, once fully operational. Additionally, we find that state and local governments will enjoy an injection of \$35.1 million of new tax revenue per year as a result of Volkswagen’s expanded operations.

In 2013 the Center for Business and Economic Research at the University of Tennessee prepared an economic impact report focused on the earnings and employment impact from the direct operation of Volkswagen’s current assembly plant in Chattanooga. At the time (2012) Volkswagen had 2,415 direct employees and spent \$159.2 million annually in direct income for its employees. The study found that Volkswagen Chattanooga operations created 12,400 full time equivalent jobs in Tennessee and was responsible for \$643.1 million in annual income. In addition, operations of the facility increased state and local tax revenues by a total of \$53.5 million. The analysis in this report is in addition to the findings of the earlier analysis.

The remainder of the report is organized as follows: sections three and four examine the economic impacts associated with Volkswagen’s expansion in Chattanooga. In particular, section three focuses on the income effects and section four highlights job creation. Finally, in section five we discuss some qualitative benefits associated with the Volkswagen manufacturing facility.

Table 1: Summary of Total Benefits Associated with Planned Expansion

	Construction & Development	Operations
Income effect	\$217.0	\$372.6
Employment effect	5,391	9,799
Jobs at VW expansion plant	--	2,000
Sales tax revenue	\$10.6	\$18.2
Other tax revenue	\$9.9	\$17.0
Total tax revenue	\$20.5	\$35.1

Dollar values in millions.

Estimated benefits of construction & development are one-time benefits to occur over the course of the construction & development period.

Estimated benefits of operations assume that the plant continues in full operation and will reoccur every year.

INCOME BENEFITS

Volkswagen's expansion in Chattanooga generates income through several avenues: a construction and development phase and an operations phase.

Construction and Development Phase

During the construction and development phase we estimate that Volkswagen will spend \$457.8 million in Tennessee plus significant spending outside the state. This money will go towards hiring contractors to carry out the construction work as well as purchasing equipment and tools from suppliers. We refer to any incomes created through Tennessee contractors and suppliers as indirect income since it is earned through companies working for VW but not by VW employees. Furthermore, when Volkswagen hires contractors who are located in Tennessee or buys equipment and tools from Tennessee suppliers, a portion of this money will then be respent in the state on day-to-day purchases including food, clothing, cars, and movies. As a result, additional jobs and income are created through the multiplier effect, whereby each dollar spent by Volkswagen can generate more than one dollar of economic activity. Generally, the multiplier effect will be larger when spending is focused around hiring workers as these workers will then go out and spend more money in the economy. However, during the construction and development phase spending is largely directed towards construction, equipment purchases and tooling the factory. Therefore the estimated multiplier effect of the construction and development phase is smaller compared to that of the operations phase. Specifically, we estimate that spending during the construction and development phase will generate \$217.0 million in income for Tennessee. Thus, every dollar spent on construction and development leads to \$0.47 of income for Tennessee.

Operation Phase

Volkswagen will directly hire 2,000 employees once the expansion plant and R&D center are fully operational. Volkswagen will pay \$100.9 million in salaries to its new employees, not including fringe benefits. Additionally, Volkswagen will purchase more production inputs directly from Tennessee suppliers for parts and other inputs related to the production of the new midsize SUVs. On an annual basis, we estimate that operations from the Volkswagen expansion plant and R&D center will generate \$372.6 million in new income earned in Tennessee once the expansion is fully operational. Of this income, \$271.7 million will come from a combination of new purchases from Tennessee suppliers (the indirect effect), and the multiplier effect. Thus, every dollar spent on operations (i.e. production and R&D) leads to \$3.69 of income for Tennessee.

Table 2: Summary of Income Benefits

	Construction & Development	Operations
Volkswagen Spending in TN	\$457.8	\$100.9*
Indirect/multiplier effects	--	\$271.7
Total income benefits	\$217.0	\$372.6

Dollar values in millions

Estimated benefits of construction & development are one-time benefits to occur over the course of the construction & development period.

Estimated benefits of operations assume that the plant continues in full operation and will reoccur every year.

* Direct labor expenditures by Volkswagen.

EMPLOYMENT GAINS

The Chattanooga expansion creates employment through the same sources as it did for income: direct, indirect, and multiplier effects. Figure 2 illustrates Volkswagen’s current hiring projections over the next five years including current employees and effects of the expansion. There are currently 2,358 employees working directly for Volkswagen in Chattanooga. Over the course of the expansion process, Volkswagen expects to hire 2,000 new workers for its production and R&D facilities, creating a total workforce of 4,358 employees by 2019. We estimate that an additional 7,799 new jobs will be created in Tennessee as a result of Volkswagen-related spending associated with the 2,000 new hires. Some of these new jobs will be with Volkswagen suppliers, while others will be associated with the multiplier effect and will be jobs in many industries, such as grocery stores, restaurants, shopping malls, and construction. Combining the new jobs added directly by Volkswagen with the jobs created through the indirect and multiplier effects, operation of the Chattanooga plant expansion and R&D center will be responsible for 9,799 new, full time equivalent jobs in Tennessee.

Figure 2: Projected Annual Employment for Operations at Volkswagen’s Chattanooga Facility

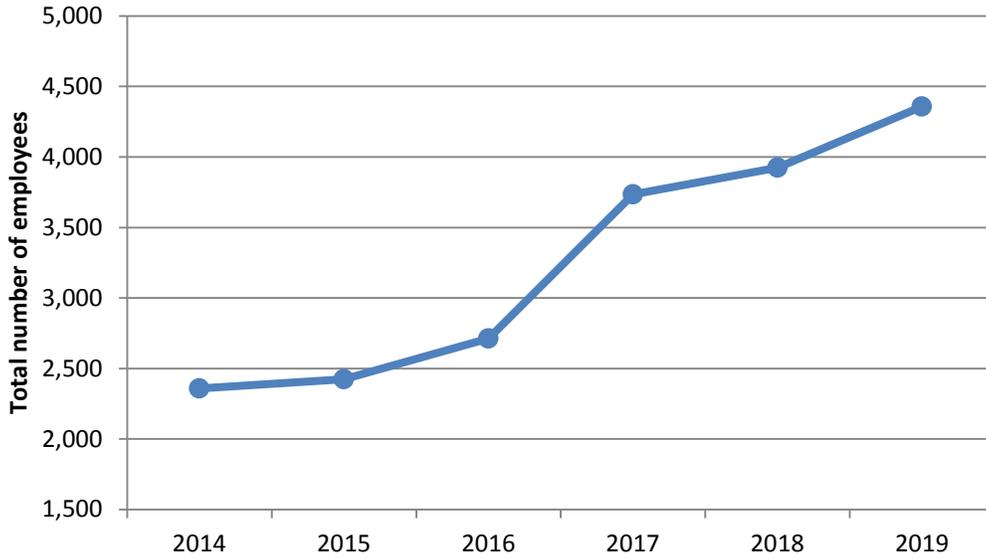


Table 3: Summary of Employment Benefits

	Construction & Development	Operations
Jobs at VW Expansion Plant	--	2,000
Indirect/multiplier effects	5,391	7,799
Total employment benefits	5,391	9,799

Estimated benefits of construction & development are one-time benefits to occur over the course of the construction & development period.

Estimated benefits of operations assume that the plant continues in full operation and will reoccur every year.

STATE AND LOCAL TAX REVENUES

Volkswagen’s expansion will also generate significant tax revenue for Tennessee state and local governments. Sales tax revenues are generated when Volkswagen employees spend a portion of their earned income on sales-taxable items, and when a portion of the indirect income generated by Volkswagen suppliers is spent on sales-taxable items. Some of Volkswagen’s purchases will also be subject to sales tax, as will be the case with supplier firms and firms benefiting from the ripple effects of the multiplier. In addition, businesses and people who benefit from Volkswagen’s expansion will pay property, franchise and excise, and the entire range of Tennessee taxes.

We estimate that once the plant expansion and R&D center are in full operation, an additional \$18.2 million in sales tax revenue will be collected every year because of the expenditures taking place

throughout the economy. Other tax revenue, which includes all other state and local taxes besides the general sales tax, such as the property tax, gasoline tax, and alcohol and tobacco taxes, will increase by \$17.0 million per year from operations. As a result, we estimate that state and local tax revenues will increase by a total of \$35.1 million annually once the plant is fully operational.

In addition, we estimate that the construction and development phase of the Chattanooga expansion will lead to a one-time boost in tax revenue of \$20.5 million, of which \$10.6 million will come from increased sales tax revenues and \$9.9 million from other state and local tax sources.

Table 4: Summary of Tax Benefits

	Construction & Development	Operations
Sales tax revenue	\$10.6	\$18.2
Other tax revenue	\$9.9	\$17.0
Total tax revenue	\$20.5	\$35.1

Dollar values in millions.
 Estimated benefits of construction & development are one-time benefits to occur over the course of the construction & development period.
 Estimated benefits of operations assume that the plant continues in full operation and will reoccur every year.

INTANGIBLE BENEFITS

Volkswagen also provides a number of important qualitative benefits to Chattanooga and Tennessee that stretch well beyond the direct creation of jobs and income to enhance the quality of life for people across the state. As an example, Volkswagen has made a commitment to investing in statewide education as evidenced by more than \$5 million contributed to its Partners in Education. Partners include the University of Tennessee, Chattanooga; the University of Tennessee, Knoxville; Oak Ridge National Laboratory; University of Memphis; Tennessee State University; Fisk University; and Hamilton County Public Schools.

Volkswagen is also a supporter of many charities. Both the company and employees donate regularly to national charities such as United Way and the American Cancer Society, as well as to local organizations such as the Tennessee Aquarium, Chattanooga Area Food Bank, and Chattanooga Regional Homeless Coalition.

VW employees and managers provide important leadership to long run community growth, economic development, and other aspects of making Tennessee and Chattanooga great places to live, work and prosper. VW managers sit on the boards of such organizations as the Tennessee Chamber of Commerce, Chattanooga Chamber of Commerce, United Way, Boys and Girls Club, University of

Tennessee Chattanooga, Chattanooga Symphony and Orchestra, and many other organizations integral to community and business life in Tennessee.

VW is also committed to diversity in its supplier purchases, helping to expand the beneficiaries of the growing economic impact. A significant share of purchases is purposely made from businesses that represent the broad diversity of Tennessee.