

# THE AUTOMOBILE INDUSTRY IN TENNESSEE

## Overview

In mid-June 2003, the much-awaited and closely-watched *Harbour Report* on manufacturing efficiency in North America's automobile plants was released. According to this report, the Smyrna, Tennessee, plant that manufactures Nissan's Altima sedan was deemed the most efficient in North America. (Leading the nation's automakers in efficiency, Tennessee's Nissan plant also secured this honor in the 2002 *Harbor Report*.<sup>170</sup>) While this impressive achievement serves as concrete evidence of the automaker's formidable turnaround in recent years, it also amplified the strength of the Tennessee plant and its workers. Since 1977, when Nissan officials first considered Tennessee as a potential site for its first U.S. assembly plant, the state has clearly emerged as a major force in the domestic production of automobiles, ranking 8<sup>th</sup> in the nation in combined car and light truck production and only trailing Kentucky (3<sup>rd</sup> in the nation) among Southern states.<sup>171</sup> Along with the Nissan production facility in Tennessee, the state is also home to a Saturn production facility; in addition, the state harbors hundreds of other companies that manufacture and distribute parts to the automobile industry, a distinct automotive cluster. In fact, these automotive parts companies supply manufacturers beyond the borders of Tennessee to practically the entire North American continent.

According to information provided by the Tennessee Department of Economic Development and Community Affairs in March 2003, the three automotive assembly plants in the state (Nissan, Saturn and Peterbilt [manufacturer of heavy-duty trucks] and hundreds of automotive suppliers employ tens of thousands of workers. Approximately 38 percent of the state's manufacturing employment roster is linked to the automobile sector, and employment in Tennessee's automotive industry can be found in 16 of the state's 20 manufacturing sectors and three non-manufacturing sectors. Not only has the state's automotive sector forged ahead in the past decade or so, it has contributed significantly to overall U.S. production levels of cars and light trucks. Ttable 32 provides this information for the 1984 to 2002 period.



## State Facts

Percent of Total Workforce	8
Direct Employment	32,600
Auto-Related Employment	95,900
Auto-Dependent Employment	229,000
Wages	\$8 Billion
New Vehicle Dealerships	420
Dealership Annual Sales	\$13 Billion
Production Facilities	2
Vehicles Produced	501,418
New Registrations	300,472
Registered Vehicles	4,819,799
Publicly-Owned Vehicles	90,110
Licensed Drivers	4,251,000
Total Miles Driven	65.7 Billion

Source: 2002 *Ward's Motor Vehicle Facts & Figures*

**Tennessee Production of Light Cars and Trucks  
1984 to 2001**

Year	Total Production	Percent of U.S. Production
2002	643,146	5.2
2001	501,418	4.4
2000	552,583	4.3
1999	561,280	4.3
1998	552,813	4.6
1997	669,779	5.7
1996	728,352	6.2
1995	767,884	6.5
1990	225,758	2.5
1985	151,232	1.4
1984	100,510	0.9

Source: Tennessee Department of Economic Development and Community Affairs

In addition to the assembly plants currently operating in the state, Tennessee continues to aggressively pursue other firms to locate within its borders. For instance, news reports in the early part of 2003, indicated that Mitsubishi Motors America had contacted Tennessee officials seeking information on possible economic incentives available if the company chose to build a plant in the state.<sup>172</sup> The Japanese automaker, currently with a manufacturing plant in Normal, Illinois, is mulling over expanding its Illinois plant or setting up an assembly plant in another location. While the company's Normal plant reached its full capacity of 260,000 vehicles last year, company sources indicate that they intend to boost production to about 600,000 vehicles by 2007.

Then, in March 2003, the recently-inaugurated Bredeben Administration made its first major economic development announcement unveiling Toyota Motor Corporations' plans to build a state-of-the-art facility in Jackson, Tennessee.<sup>173</sup> The new \$124 million engine block plant is expected to generate 200 new, high quality jobs with site preparation and plant construction scheduled to commence later on this year and production starting in late 2005.

### **Tennessee's Assembly Plants**

As indicated previously, there are three automobile assembly plants in the state, and information on these operations, including economic impact details, follows.

» *Nissan North America, Inc.*

After a six-year search that was reputed to have extended to some 34 states, Nissan finally decided to locate its third overseas production facility outside Japan (the other two being in Australia and Mexico) and its first North American facility in Smyrna, Tennessee.<sup>174</sup> This plant represented the company's single largest investment (an investment value of \$660 million) and was intended to produce Nissan trucks. While Nissan's site selection was announced in April 1980, production of vehicles at the facility began some three years later, in June 1983. The plant currently manufactures one of its best selling vehicles, the Altima, the Xterra SUV and the Frontier pickup truck. In terms of incentives, according to the department, the state provided \$22.2 million to assist in industrial training and an additional \$22.4 million to the department of transportation to construct roads.

Professor William Fox at the University of Tennessee hypothesizes that there were five factors that remained pivotal in Nissan's calculations before deciding to locate an assembly plant in Tennessee. He lists these factors as the state's proximity to a region of the country where a majority of light trucks are purchased; the labor force's work ethic; lower wage rates compared to other states; lower unionization of employees; and stronger bedrock surface and its ability to withstand the heavy equipment involved.

In terms of the plant's economic impact, data contained in Professor Fox's 1988 report remains instructive for the plant's initial years. Some of the conclusions reached in this report include:

- » The plant had the obvious benefit of providing employment during the construction phase and continuing employment during the operations phase. While the plant was scheduled to employ 2,200 persons, by 1987, the size and expectations of the plant expanded rapidly and employment reached 3,300 with the facility operating two shifts. While more than 85 percent of those jobs have gone to Tennesseans, these jobs pay considerably higher than the state average and are highly desirable. (In fact, the department interviewed 52,000 applicants for the 700 positions that opened up at the plant with the introduction of the second shift.)

- » The economic benefits flowing from the increasing number of automotive parts suppliers to the Nissan plant locating in the area surrounding Smyrna was another point stressed by the report.

The department also provides a breakdown of Nissan’s investment flows in the state for the period between 1980 and 2000; this information is presented in table 33. As noted, Nissan has invested almost \$3 billion (\$2.96 billion) during its involvement in the state and created 8,365 jobs during the review period. Currently, the plant employs 5,451 persons.

<b>Nissan Investments in Tennessee 1980 to 2000</b>			
<b>Type of Activity</b>	<b>New Jobs</b>	<b>Investment</b>	<b>Year</b>
» New Project	2,200	\$500,000,000	1980
» Expansion	450	Confidential	1981
» Expansion	0	\$4800,000	1982
» Expansion	850	Confidential	1984
» Expansion	0	Confidential	1985
» Expansion	0	Confidential	1986
» Expansion	0	Confidential	1988
» Expansion	2,000	\$490,000,000	1989
» Expansion	250	\$25,000,000	1990
» Expansion	1,295	Confidential	1992
» Expansion	0	\$108,100,000	1993
» Expansion	164	Confidential	1994
» Expansion	0	Confidential	1995
» Expansion	0	Confidential	1996
» Expansion	156	Confidential	1997
» Expansion	0	Confidential	1998
» Expansion	0	Confidential	1999
» Expansion	1,000	\$500,000,000	2000
» Expansion	950	\$250,000,000	2003
	<b>9,315</b>	<b>\$3,202,158,037</b>	

Source: Tennessee Department of Economic Development and Community Affairs

Note: Investment total includes amounts not listed in table

According to Nissan, which also opened an engine and transmission production facility in Decherd, Tennessee, in May 1997, global production levels at its Smyrna facility have been increasing steadily in the past few years.<sup>175</sup> For instance, this facility produced 352,927 units in the company’s fiscal year 2001 (April 1, 2000 to March 31, 2001), 363,366 in fiscal year 2002, and, finally, 392,587 in fiscal year 2003, certainly impressive achievements at a time when the U.S. economy was in the throes of the current economic malaise. In terms of Nissan’s sales specifics, the Altima produced at this facility fared the most impressively, recording seven straight months of record sales in early 2003.

» **Saturn Corporation**

In early January 1985, General Motors (GM) formed the Saturn Corporation and began the complicated process of identifying a suitable U.S. location for a manufacturing facility.<sup>176</sup> This prompted an intense competition among states to secure this production facility within their borders, and it is reputed that 38 states competed (with over 20 governors visiting GM’s offices in Detroit to woo the company) aggressively for this project, one of the most sought after projects in the history of industrial recruitment. An important goal of the Saturn project was GM’s decision to depart from the traditional corporate culture found among U.S. automakers and engender a cooperative spirit between labor and management. After an exhaustive process, GM announced its decision in July 1985, that its Saturn plant would be located in

Spring Hill, Tennessee, a small community approximately 30 miles south of Nashville.

In terms of incentives, Tennessee secured the Saturn project even though there were other states that offered the company substantially more in financial incentives. In fact, Professor Fox notes that the Saturn experience in Tennessee supports the view that tax concessions and expenditure give-away programs remain of limited consequence in location decisions; in the Saturn example, geographic considerations and transportation considerations were of greater significance. Even though no tax concessions were provided to secure the Saturn project, the state of Tennessee did provide assistance to the company. This came in the form of the construction of an interstate quality road to the site from existing I-65 (totaling about \$29.3 million) and state funded industrial job training (totaling about \$21.7 million), a total of about \$50 million.

According to the Tennessee Department of Economic Development and Community Affairs, Saturn's investments at its Spring Hill facility have taken the following pattern between 1985 and 2002.

<b>Saturn's Investments in Tennessee 1985 to 2002</b>			
<b>Type of Activity</b>	<b>New Jobs</b>	<b>Investment</b>	<b>Year</b>
» New Project	3,000	\$1,750,000,000	1985
» Expansion	2,600	\$150,000,000	1992
» Expansion	0	Confidential	1994
» Expansion	50	\$190,000,000	1996
» Expansion	0	Confidential	1997
» Expansion	1,000	Confidential	1998
» Expansion	0	Confidential	1999
» Expansion	0	Confidential	2000
» Expansion	210	Confidential	2001
» Expansion	0	Confidential	2002
	<b>6,860</b>	<b>\$3,887,557,891</b>	

Source: Tennessee Department of Economic Development and Community Affairs  
 Note: Investment total includes amounts not listed in table

As documented in table 34, Saturn's almost \$4 billion investment (\$3.9 billion to be exact) in the 17-year period between 1985 and 2002 is substantially more than the financial outlays made by the state of Tennessee and probably accounts for the intense competition that unfurled among the states back in early 1985. Furthermore, the plant created 6,860 new jobs over the review period.

According to Saturn, the facility in Spring Hill operated with 5,761 hourly employees and 913 salaried employees.<sup>177</sup> In terms of production, in 2001, this plant manufactured 171,909 Saturn S-Series and 3,284 Saturn Vue vehicles, both in 2001; in 2002, the facility manufactured 34,489 Saturn Ion and 110,968 Saturn S-Series vehicles.

In terms of the plant's economic impact, the results are quite impressive. As noted by Stuart C. Gilbert, who published an article on the Saturn plant in the fall of 1994, Saturn's economic benefits percolated down to direct, indirect and intangible economic benefits. While his analysis focused on the direct benefits, the other benefits he lists were significant as well. Specifically,

- » Saturn's presence resulted in 40 suppliers locating in Tennessee, with 26 of them situated in middle Tennessee. In the first four years of operations, these Saturn suppliers carried out purchases that

amounted to \$303.9 million in 1990, \$201.8 million in 1991, \$277 million in 1992, and \$325 million in 1993.

- » Another area of direct economic impact was payroll and the increased economic growth related to the positive effect of Saturn's payroll activities. In this regard, once again, for the first four years of operation, total gross wages related to the Saturn plant amounted to \$137 million in 1990; \$253 million in 1991; \$341 million in 1992; and \$425 million in 1993. In addition, Gilbert concludes that personal income in Maury County, the county housing the Saturn plant, grew by 16 percent in 1988/89, and 13 percent in 1990/91, and that these increases were directly related to Saturn construction activity and high Saturn wages.
- » On the employment front, in 1989, with the start-up of production at the Saturn plant, unemployment rates for Maury County dipped below state and U.S. averages for the first time during the 1980s, a development attributable to the new facility. In June 1994, there were 8,100 plant employees with 47 percent of this workforce living in Maury County. Approximately, 80 percent of all the new single family housing units built in Maury County have been attributed to the Saturn plant.
- » Sales tax revenues related to Saturn activity have altered the distribution of local revenue sources. For instance, in 1985, prior to the opening of the Saturn plant, total sales taxes collected by Maury County amounted to \$16.5 million; in 1989, with all other variables being held equal, sales tax collections leapt to \$28.4 million and \$32.3 million in 1990. (In 1991, it was \$28 million and \$26.5 million in 1992.) Even though these sales tax numbers are based on fiscal activity for the entire county and not just Saturn, the increase in sales tax is predominantly from Saturn construction and the increase in retail sales prompted by the added payrolls.
- » **Peterbilt Motors Company**  
 Since the company's founding in 1939, Peterbilt has remained a premium quality heavy-duty truck manufacturer in the country. Currently headquartered in Denton, Texas, Peterbilt opened a manufacturing facility in Madison, Tennessee (near Nashville), in 1969. As reported by the Tennessee Department of Economic and Community Development in March 2003, the company had 764 employees. The following information pertains to the company's activities in the last decade or so.

<b>Peterbilt's Investments in Tennessee</b>			
<b>Type of Activity</b>	<b>New Jobs</b>	<b>Investment</b>	<b>Year</b>
• Expansion	0	Confidential	1992
• Expansion	172	\$1,845,550	1993
• Expansion	275	Confidential	1994
• Expansion	105	Confidential	1995
• Expansion	0	Confidential	1998
• Expansion	0	Confidential	2000
	552	\$31,092,351	

Source: Tennessee Department of Economic Development and Community Affairs  
 Note: Investment total includes amounts not listed in table

» **Tennessee's Automotive Suppliers**

A report prepared for the Tennessee Department of Economic and Community Development notes that understanding the factors that have shaped the automobile industry's growth remained crucial for the long-term sustainability of the industry both in the state and in the region.<sup>178</sup> In this regard, the focus of this particular report was the location determinants of automobile manufacturers and the role played by the presence of an automotive cluster, or host of automotive suppliers, to facilitate just-in-time (JIT) manufacturing capabilities. As the report's findings suggests, the shortened distance to the closest assembler positively affects the location of suppliers and vice-versa.

According to the aforementioned report, on average, automotive supplier operations in Tennessee maintained about 150 employees with an average annual salary of \$56,412. A majority of these firms provided employees with health and dental insurance, tuition reimbursement, training programs and 401-K retirement plans. Importantly, even though the firms were identified as automotive suppliers, on average only 39.4 percent of their total output is sold specifically to the automotive industry, an indication of a substantial level of market diversity. In addition, nearly 70 percent of the output from these firms is exported outside the state, while a large proportion of what remains in Tennessee is likely to be exported when contained in the final automobile.

More recently, September 2003, the Tennessee Department of Economic and Community Development provided an extensive list containing several key pieces of information on the state's automotive suppliers for the period 1980 to 2003. Table 36 contains an analysis of this information.

<b>Automotive Supplier Operations in Tennessee 1980-2003</b>					
<b>Year</b>	<b>Number of Firms</b>			<b>Total New Jobs Created in Year</b>	<b>Total Investment in Year</b>
	<b>New</b>	<b>Expansions</b>	<b>Total</b>		
1980	8	14	22	3,735	\$783,275,000
1981	9	27	36	1,995	\$168,405,000
1982	8	22	30	1,826	\$203,245,000
1983	14	33	47	3,098	\$236,063,507
1984	11	50	61	4,075	\$221,770,000
1985	15	37	52	5,762	\$1,973,426,000
1986	22	31	53	2,420	\$3,554,325,000
1987	19	32	51	3,903	\$336,553,650
1988	14	38	52	3,595	\$399,921,000
1989	21	153	174	8,180	\$1,415,926,209
1990	15	157	172	4,045	\$472,020,237
1991	8	106	114	4,266	\$283,373,937
1992	10	214	224	7,926	\$699,560,512
1993	11	207	218	5,922	\$760,379,349
1994	20	250	270	7,765	\$1,194,999,221
1995	18	223	241	4,567	\$886,961,698
1996	26	194	220	6,659	\$1,233,191,628
1997	22	253	275	5,499	\$996,348,461
1998	14	342	356	7,663	\$1,214,882,343
1999	14	274	288	8,050	\$1,212,067,407
2000	8	275	283	7,796	\$2,204,041,657
2001	13	187	200	5,598	\$1,781,126,825
2002	12	187	199	4,442	\$1,096,600,864
2003*	6	35	41	3,908	\$563,143,086
<b>Total</b>	<b>338</b>	<b>3,341</b>	<b>3,679</b>	<b>122,695</b>	<b>\$23,891,607,591</b>

Source: Tennessee Department of Economic Development and Community Affairs

\* 2003 contains information for only part of the year.

As demonstrated in table 36, automotive supplier operations in Tennessee over an almost 23-year period have been very impressive: 3,679 firms (new and expansions) creating 122,695 new jobs while ploughing in the gargantuan amount of \$23.9 billion as investments. In terms of some of the specifics, table 36 indicates that 1998 saw the most number of supplier firms either setting up new operations or expanding their operations in the state (356). This was followed by 288 firms in 1999, and 283 firms in 2000. Interestingly, there were 342 firms expanding in 1998 (the highest number for the review period), while the years with second and third highest number of firm expansions were 275 and 274 in 2000 and 1999, respectively. In terms of new firms, 1996 saw the greatest number of new firms (26) locating in the state, followed by the 22 firms that relocated in both 1986 and 1997.

For the review period, 1989 was the year when Tennessee saw the most new jobs created in the automotive suppliers sector (8,180 new positions), with the 8,050 new positions in 1999, and 7,796 in 2000 ranking second and third, respectively. Finally, in terms of total investment by these supplier firms, 1986 was the year when the highest level flowed in, \$3.6 billion. This was followed by the \$2.2 billion that was invested in the state in 2000, and the \$1.8 billion that was invested in 2001.

In sum, Tennessee's automotive suppliers have coalesced to create a vibrant automotive cluster in the state, supplying both the assembly plants in the state and numerous other automotive manufacturers outside the state. From the NN Ball & Roller, Inc. producing bearing components in Mountain City, to the Franklin Electrofluid Company manufacturing fluid power systems since 1969 in Memphis, to the Precision Cable producing control cables and wiring harnesses in Portland since 1965, the state of Tennessee continues to attract and retain a wide variety of automotive suppliers. In fact, in April 2003, Governor Bredesden announced the establishment of an \$11 million auto parts manufacturing plant that will generate 170 jobs by 2006, in Dickson, about 40 miles southwest of Nashville. This facility will make shock-absorbent pads and interior cushions for Honda, Toyota and Nissan vehicles, with plant construction set to be completed by March 2004.<sup>192</sup>