

**The Economic Effects on Michigan
of the Robert Bosch Corporation Facility Location Decision**

**George A. Fulton
Peter Nicolas
Donald R. Grimes**

**University of Michigan
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Abstract

Robert Bosch Corporation is considering locating a new research and development facility that would headquarter its recently acquired Braking Division in Farmington Hills, Michigan. The new facility would employ 475 people by 2002. We estimate that by 2013, this location will have generated a total of 826 jobs in the state. Total state government revenues through 2013, net of MEGA costs and adjusted for inflation, would increase by \$55,521,000 (1998 dollars) due to the location of Robert Bosch Corporation.

The purpose of this study is to estimate the potential economic and fiscal benefits to Michigan of Robert Bosch Corporation's location of a new research and development facility that would headquarter its recently acquired Braking Division in Farmington Hills, Michigan (SIC 3714). Investment activity would take place between 1998 and 1999, with an investment of \$37.1 million, and operations would begin in August 1999. The new facility would employ 475 people by 2002.

The estimates of the benefits include the total number of jobs created in Michigan (by major industry, including spin-off jobs), and the associated personal income and state government revenue. Benefits net of the MEGA incentive package, from 1998 to 2013, are shown in the attached table. The MEGA incentive package includes relief from 50 percent of the single business tax for the period 1999 to 2001, and relief from 100 percent of the single business tax for the years 2002 and 2003. The MEGA incentive package also includes a tax credit to the company for the period 1999 to 2013 equal to 4.4 percent of the payroll (gross wages) of employees hired at the facility as a result of the project. The payroll tax credit represents 100 percent of the maximum employment credit available to a company.

The total employment effects, reported in the first line of the table, include the direct jobs created at the facility itself plus spin-off jobs. The spin-off jobs are generated from two sources, increased purchases from Michigan suppliers and spending by people who receive income due to the increased economic activity. The construction of the facility is expected to generate a total of 304 jobs in 1998 and 298 jobs in 1999; almost all of these jobs are temporary. In 2002, the first year of full operations, an additional 968 jobs are generated in the state. We estimate that by 2013 this facility will have generated a total of 826 additional jobs in the state. The total number of jobs created (direct plus spin-off) for every direct job introduced constitutes the "employment multiplier." The employment multiplier for the location averages 1.8 over the period 2002-2013. Sectoral detail on the employment gains is also shown in the table.

Personal income is shown in the next section of the table. Personal income is defined as the income of Michigan residents from all sources, after deduction of contributions to social insurance programs but before deduction of income tax and other personal taxes. As shown in the table, if Robert Bosch Corporation were to locate in Michigan under the incentive program, state personal income in 2002 would be higher by \$79.5 million (in current dollars) than it would be without the facility, and in 2013 it would be \$120.2 million higher. Adjusted for inflation, these numbers in 1998 dollars would be \$63.6 million in 2002 and \$71.9 million in 2013.

The gain in economic activity results in higher state government revenues. We estimate that in 2002, the first year of full operations, the facility would generate \$6,360,000 in additional gross state government revenue, and that the MEGA package would provide a \$2,602,000 incentive to Robert Bosch Corporation. Thus, the Robert Bosch Corporation facility location would increase state government revenues in 2002 by \$3,758,000, net of MEGA incentive costs.

Over the period 1998-2013, gross state government revenue is projected to increase by \$108,288,000 (in current dollars) due to the location of Robert Bosch Corporation. The MEGA incentive package for Robert Bosch Corporation is forecast to cost \$29,371,000 over the period, resulting in a net increase in state government revenue of \$78,917,000. Adjusted for inflation, the total net increase in state government revenue from 1998 to 2013 would be \$55,521,000 in 1998 dollars. These calculations do not include any revenue losses due to the property tax abatement. If the cost of the abatement were included, the net revenue gain to state government would be slightly less.

None of these estimates include the nonmeasurable effects that would produce additional economic and fiscal benefits for Michigan, such as the intangible advantages of influencing other expansion and location decisions.

**Economic and Fiscal Effects on Michigan of the Robert Bosch Corporation Facility Location
Net Benefits with the Incentive Package**

Economic/Fiscal Indicator	1998	1999	2000	2001	2002	2005	2010	2013	Total 1998-2013
Total Employment	565	784	516	630	968	870	813	826	—
Manufacturing	124	230	252	314	475	475	475	475	—
Nonmanufacturing	441	554	264	316	493	395	338	351	—
Retail Trade	86	128	97	118	182	161	150	151	—
Services	114	162	105	128	205	157	136	144	—
Other	241	264	62	70	106	77	52	56	—
In current dollars (thousands):									
Personal income	27,300	45,300	40,900	51,600	79,500	90,300	107,100	120,200	1,353,600
Gross state revenue	2,184	3,624	3,272	4,128	6,360	7,224	8,568	9,616	108,288
MEGA cost	0	943	1,163	1,436	2,602	1,802	2,144	2,388	29,371
State revenue net of MEGA cost*	2,184	2,681	2,109	2,692	3,758	5,422	6,424	7,228	78,917
Adjusted for inflation (thousands of 1998 dollars):									
Personal income	27,300	40,563	35,311	42,966	63,625	65,284	69,027	71,860	954,315
Gross state revenue	2,184	3,245	2,825	3,438	5,090	5,223	5,522	5,749	76,345
MEGA cost	0	845	1,004	1,196	2,082	1,303	1,382	1,428	20,824
State revenue net of MEGA cost*	2,184	2,400	1,821	2,242	3,008	3,920	4,140	4,321	55,521

*These estimates do not include any state government revenue losses due to the property tax abatement.