

**The Economic Effects on Michigan of the
Duncan Aviation Facility Expansion Decision**

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

**University of Michigan
September 20, 2000**

Abstract

Duncan Aviation, the largest family-owned aircraft support facility in North America, is considering expanding its corporate jet aircraft servicing, painting, and manufacturing operations by adding approximately 160,000 square feet to its existing facility at the W.K. Kellogg Airport in Battle Creek, Michigan. The new facility would employ an additional 662 people by 2004. We estimate that by 2014, this expansion will have generated a total of 1,270 jobs in the state. Total state government revenues through 2014, net of MEGA costs and adjusted for inflation, would increase by \$52,094,000 (2000 dollars) due to the expansion of Duncan Aviation.

The purpose of this study is to estimate the potential economic and fiscal benefits to Michigan of Duncan Aviation, the largest family-owned aircraft support facility in North America, expanding its corporate jet aircraft servicing, painting, and manufacturing operations by adding approximately 160,000 square feet to its existing facility at the W.K. Kellogg Airport in Battle Creek, Michigan. Investment activity would take place between 2000 and 2004, with an investment of \$18.01 million. The facility would employ an additional 662 people and be at full production by 2004.

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 2000 to 2014, are shown in the attached table. The MEGA incentive package includes a tax credit to the company for the period 2000 to 2001 equal to 75 percent of the state income tax rate on the payroll (gross wages) of employees hired at the facility as a result of the project, equal to 50 percent for the period 2002 to 2006, equal to 20 percent for the period 2007 to 2013, and equal to 10 percent in 2014.

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 activity is expected to generate a total of 4 jobs in 2000, 109 jobs in 2001, 66 jobs in 2002, and 61 jobs in 2003; almost all of these jobs are temporary. In 2004, the first year of full operations, an additional 1,470 jobs are generated in the state. We estimate that by 2014, this expansion will have generated a total of 1,270 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

expansion averages 2.0 over the period 2004 to 2014. 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 Duncan Aviation were to expand in Michigan under the incentive program, state personal income in 2004 would be higher by \$73.3 million (in current dollars) than it would be without the facility, and in 2014 it would be \$97.8 million higher. Adjusted for inflation, these numbers in 2000 dollars would be \$52.3 million in 2004 and \$58.6 million in 2014.

The gain in economic activity results in higher state government revenues. We estimate that in 2004, the first year of full operations, the facility would generate \$5,864,000 in additional gross state government revenue, and that the MEGA package would provide a \$525,000 incentive to Duncan Aviation. Thus, the Duncan Aviation facility expansion would increase state government revenues in 2004 by \$5,339,000, net of MEGA incentive costs.

Over the period 2000 to 2014, gross state government revenue is projected to increase by \$83,912,000 (in current dollars) due to the expansion of Duncan Aviation. The MEGA incentive package for Duncan Aviation is forecast to cost \$4,495,000 over the period, resulting in a net increase in state government revenue of \$79,417,000. Adjusted for inflation, the total net increase in state government revenue from 2000 to 2014 would be \$52,094,000 in 2000 dollars. These calculations do not include any revenue losses due to the investment tax credit. If the costs of the tax credit 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 location and expansion decisions.

**Economic and Fiscal Effects on Michigan of the Duncan Aviation Facility Expansion
Net Benefits with the Incentive Package**

Economic/Fiscal Indicator	2000	2001	2002	2003	2004	2005	2010	2014	Total 2000-2014
Total Employment	50	584	869	1,210	1,470	1,410	1,253	1,270	—
Manufacturing	2	14	13	10	3	0	0	0	—
Nonmanufacturing	48	570	856	1,200	1,467	1,410	1,253	1,270	—
Transportation & Public Utilities	23	234	398	579	759	756	748	749	—
Retail Trade	7	74	110	150	180	166	129	129	—
Services	11	114	169	232	281	257	192	196	—
Other	7	148	179	239	247	231	184	196	—
In current dollars (thousands):									
Personal income	1,900	23,600	38,500	56,900	73,300	76,200	85,400	97,800	1,048,900
Gross state revenue	152	1,888	3,080	4,552	5,864	6,096	6,832	7,824	83,912
MEGA cost	91	214	258	388	525	544	253	147	4,495
State revenue net of MEGA cost*	61	1,674	2,822	4,164	5,339	5,552	6,579	7,677	79,417
Adjusted for inflation (thousands of 2000 dollars):									
Personal income	1,900	19,033	29,390	41,686	52,329	52,237	54,269	58,637	689,620
Gross state revenue	152	1,522	2,351	3,335	4,187	4,179	4,342	4,691	55,170
MEGA cost	91	172	197	284	375	373	161	88	3,076
State revenue net of MEGA cost*	61	1,350	2,154	3,051	3,812	3,806	4,181	4,603	52,094

*These estimates do not include any state government revenue losses due to the Investment Tax Credit.