



UMASS DONAHUE INSTITUTE



Businesses and Organizations Located in Devens, Massachusetts

Profile and Economic Contributions

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Summary of Key Findings

As home to a thriving community of high-tech and related businesses, Devens, Massachusetts, is a significant employment center and contributor to the Commonwealth's high-tech economy.¹

Advanced Manufacturing, Professional Scientific and Technical Services, Wholesale Trade, and Transportation and Warehousing are all strongly represented in Devens. In 2016, 4,977 people were employed in Devens, and the economic activities of private firms and nonprofit organizations in Devens support employment of another 5,857 people in Massachusetts. An estimated \$1.5 billion in direct economic activity by private and nonprofit organizations in Devens supports additional spending of \$1 billion in local supply chains for a total contribution of nearly \$2.5 billion to the Massachusetts economy in 2016.²

Business Profile

- Of the 102 Devens establishments, 76 percent are private businesses, 18 percent are nonprofits, and the remainder are government entities.
- Devens businesses and organizations employ 4,977 people in 2016, an increase of 24 percent over the comparable 2014 figure of 4,030.³ Most of this growth occurred in the private sector in Manufacturing, Transportation and Warehousing, and Professional Scientific and Technical Services.

¹ This report accounts for the spending activities of the commercial, nonprofit, and government entities located in Devens. This report does not include the spending of recreational visitors to Devens, spending associated with residential development, or military spending associated with Fort Devens.

² Following standard practice, government expenditures (transfers) are not modeled as economic contributions in this report.

³ University of Massachusetts Donahue Institute. *Business and Organizations Located in Devens, Massachusetts: Profile and Economic Contributions*, 2014. http://www.donahue.umassp.edu/documents/Devens_Massachusetts_Profile_and_Economic_Contributions.pdf.

- Devens hosts a diverse group of businesses, with the top three industries as follows:
 - Manufacturing (20 businesses)
 - Professional, Scientific and Technical Services (16 businesses)
 - Transportation and Warehousing (six businesses)
- Of the 4,977 people that businesses, nonprofits, and government organizations in Devens employ, the private sector employs 3,972, or nearly 80 percent of the total. The five most significant individual employers in Devens are Quiet Logistics (high-tech order fulfillment services), Bristol-Myers Squibb (biologics manufacturing), the Federal Medical Center (a facility housing prisoners in need of medical care), Johnson Matthey Pharma Services (specialized chemistry for drug development), and SMC Ltd. (a medical-device manufacturer).
- Total estimated annual employee wages in Devens topped \$415.8 million in 2014, the most recent year of annual data available.
- Due to the mix of firms and organizations in Devens, average wages there are high relative to the Commonwealth: \$83,545 versus \$64,094.

Devens Establishments: Employment, Total Wages, and Average Annual Wages

Type	Total Employment	Percent of Total Employment	Total Wages	Average Annual Wages
Government	653	13%	\$51,747,175	\$79,245
Nonprofit	352	7%	\$18,341,924	\$52,108
Private	3,972	80%	\$345,713,268	\$87,038
Total	4,977	100%	\$415,802,367	\$83,545

Sources: Dun & Bradstreet, MassDevelopment, and Massachusetts Executive Office of Labor and Workforce Development (MA EOLWD), ES-202.

Note: Total Wages as of annual 2014 (most recent available from MA EOLWD) and reported in nominal 2014 dollars. Total Average Annual Wages reflects the total amount of wages divided by the total jobs.

Economic Contributions

- Devens private sector and nonprofit establishments had estimated combined sales of more than \$1.4 billion and employed 4,324 people.⁴
- Spending by Devens private and nonprofit entities supported an additional estimated \$1 billion in spending throughout Massachusetts supply chains and an additional estimated 5,857 Massachusetts employees.
- Private firms in Devens paid an estimated \$7.4 million in state corporate profits tax.
- Employees of private and nonprofit firms in Devens paid an estimated \$23 million in personal income tax.

Devens Private and Nonprofit Economic and Employment Contributions in Massachusetts

	Direct Contributions	Indirect and Induced Contributions	Total Contributions
Output	\$1,461,778,968	\$1,035,246,531	\$2,497,025,499
Employment	4,324	5,857	10,181

Sources: Dun & Bradstreet, MassDevelopment, and MIG, Inc. IMPLAN System.

⁴ Following standard practice for economic contribution analyses, government entities were not included in the economic contribution analysis based on the assumption that these contributions would be more likely to continue in the form of alternate economic activity if the specific government entities left Devens. We assume that if a government entity were not spending the money on services in Devens, then that government entity would likely spend the money elsewhere.

Introduction

Devens, a 4,400-acre community managed by MassDevelopment, is an important center for commercial, industrial, and residential activities in north-central Massachusetts. MassDevelopment has commissioned the University of Massachusetts Donahue Institute to study the employment and economic contributions of Devens businesses, nonprofits, and government entities. This report includes analysis of Devens establishments, employment, and estimated wages by sector type (private, nonprofit, and government) as well as by industry. It also analyzes the indirect and induced economic effects on the rest of Massachusetts that can be attributed to the effects of the direct economic activities in Devens. Organizations in Devens operate largely in the private sector, although 6 percent of Devens employees work for regional, state, or federal government or MassDevelopment (a quasi-governmental authority). The Manufacturing, Transportation and Warehousing, Public Administration, Professional Scientific and Technical Services, and Educational Services industries employ the most workers in Devens.

This report accounts for the spending activities of the commercial, nonprofit, and government entities in Devens. It excludes the spending of recreational visitors to Devens, spending associated with residential development, and military spending associated with Fort Devens. The most recent study, based on FY13 data, showed Fort Devens supported 3,027 direct, indirect, and induced jobs and its operation contributed \$183,691,626 in direct, indirect and induced economic activity in Massachusetts.⁵

⁵ See http://www.massdevelopment.com/assets/pdfs/annual-reports/Massachusetts_Military_Installations_122015.pdf.

Profile and Contributions

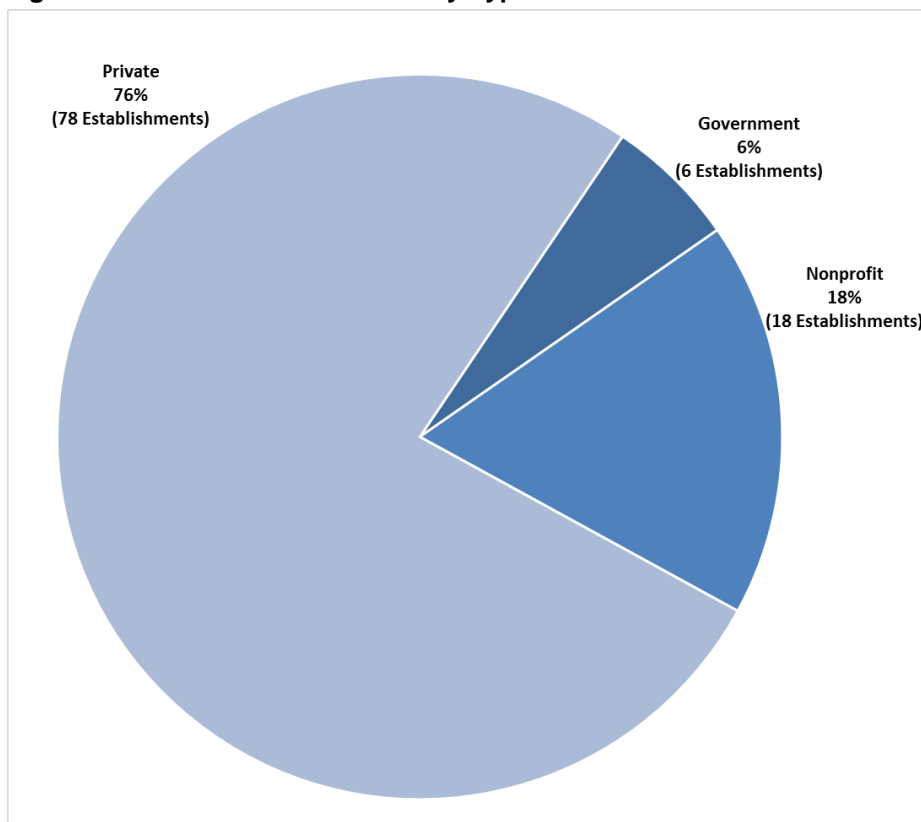
Overview and Profile of Businesses and Organizations

Aggregate Business Profile Analysis

Establishment Type and Count

Of the 102 Devens establishments, 76 percent are in the private sector, 18 percent are nonprofits, and 6 percent are government entities. A complete list of businesses and organizations appears in Appendix B (alphabetical) and Appendix C (by industry type/NAICS code).

Figure 1. Devens Establishments by Type



Sources: Dun & Bradstreet and MassDevelopment.

Aggregate Employment and Wages

Devens businesses and organizations employ 4,977 people, with the private sector employing 3,972, nearly 80 percent of the total. Total estimated employee wages in Devens top \$415 million. Due to the mix of firms and organizations, estimated average wages in Devens are high relative to those in the Commonwealth: \$83,545 versus \$64,094. In Devens, the estimated average annual employee wage in the private sector is more than \$87,000; in government, more than \$79,000; and in nonprofit organizations, more than \$52,000.

Table 1. Devens Establishments: Employment, Total Wages, and Average Annual Wages

Type	Total Employment	Percent of Total Employment	Total Wages	Average Annual Wages
Government	653	13%	\$51,747,175	\$79,245
Nonprofit	352	7%	\$18,341,924	\$52,108
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Sources: Dun & Bradstreet, MassDevelopment, and Massachusetts Executive Office of Labor and Workforce Development (MA EOLWD), ES-202.

Note: Total Wages as of annual 2014 (most recent available from MA EOLWD) and reported in nominal 2014 dollars. Total Average Annual Wages reflects the total amount of wages divided by the total jobs.

Aggregate Industry Analysis

Devens' mix of industries influences the community's economic and employment effects, with many of the strongest industries in Devens overrepresented compared to the Massachusetts economy as a whole: Manufacturing (makes up 19.6 percent of Devens establishments, compared to 3 percent statewide); Professional, Scientific and Technical Services (17.6 percent versus 13.4 percent); and Transportation and Warehousing (6.9 percent versus 1.9 percent). Public Administration, including both government and nonprofit entities, is also overrepresented in Devens (5.9 percent versus 1.7 percent). Business types with a lower concentration in Devens include Retail (3.9 percent of Devens

establishments versus 10.3 percent in Massachusetts) and Construction (2 percent versus 8.4 percent).⁶

Table 2. Establishments and Wages in Devens and Massachusetts, by Industry

Industry Description	Devens			Massachusetts		
	Establishments	Percent of Establishments	Average Annual Wages	Establishments	Percent of Establishments	Average Annual Wages
Manufacturing	20	19.6%	\$104,808	7,044	3.0%	\$83,364
Professional, Scientific, and Technical Services	18	17.6%	\$125,878	31,400	13.4%	\$113,600
Transportation and Warehousing	7	6.9%	\$64,037	4,415	1.9%	\$50,542
Accommodation and Food Services	6	5.9%	\$28,236	16,543	7.0%	\$21,191
Educational Services	6	5.9%	\$56,193	4,366	1.9%	\$56,899
Other Services (except Public Administration)	6	5.9%	\$42,027	20,905	8.9%	\$34,343
Public Administration	6	5.9%	\$79,409	4,015	1.7%	\$69,786
Arts, Entertainment, and Recreation	5	4.9%	\$22,946	3,744	1.6%	\$35,324
Wholesale Trade	5	4.9%	\$88,882	14,486	6.2%	\$88,213
Health Care and Social Assistance	4	3.9%	\$25,446	47,473	20.2%	\$53,188
Administrative and Support and Waste Management and Remediation Services	4	3.9%	\$60,247	12,282	5.2%	\$42,290
Retail Trade	4	3.9%	\$31,182	24,081	10.3%	\$30,047
Real Estate and Rental and Leasing	3	2.9%	\$65,734	6,606	2.8%	\$72,788
Construction	2	2.0%	\$69,581	19,660	8.4%	\$68,161
Finance and Insurance	2	2.0%	\$94,384	9,908	4.2%	\$137,840
Utilities	2	2.0%	\$78,550	473	0.2%	\$99,772
Agriculture, Forestry, Fishing & Hunting	1	1.0%	\$41,484	1,004	0.4%	\$53,971
Information	1	1.0%	\$32,753	4,830	2.1%	\$98,691
Management of Companies and Enterprises	N/A	N/A	N/A	1,365	0.6%	\$126,494
Mining, Quarrying, and Oil and Gas Extraction	N/A	N/A	N/A	95	0.0%	\$62,237
Total	102	100.0%	\$83,545	234,695	100.0%	\$64,094

Sources: Dun & Bradstreet, MassDevelopment, and Massachusetts Executive Office of Labor and Workforce Development (MA EOLWD), ES-202.

Note: Total Average Annual Wages reflects the total amount of wages divided by the total jobs.

Manufacturing is a significant force in Devens, with 20 establishments and 1,900 employees, the largest number of people employed by any one industry in the community. The largest Manufacturing employers in Devens are Bristol-Myers Squibb (biologics manufacturing), SMC Ltd. (medical-device manufacturing), Parker Hannifin Corp. (Nichols Aircraft Division; aircraft

⁶ Industries are those defined by the North American Industrial Classification System, or NAICS. NAICS is the standard coding system used by federal statistical agencies, including the Bureau of Labor Statistics, in classifying business establishments for collecting, analyzing, and publishing data related to the U.S. economy.

component manufacturing), and AMSC (also known as American Superconductor Corporation, which designs and manufactures power systems and superconducting wire). The Professional, Scientific, and Technical Services industry includes 18 businesses that employ 338 people. The largest Professional, Scientific, and Technical Services employers are Johnson Matthey Pharma Services (specialized chemical development) and MagneMotion (engineering services). Quiet Logistics, in the Transportation and Warehousing industry, has grown to become Devens' single largest private-sector business, employing 850 people. While the majority of businesses and employment in Devens are in the private sector (discussed in detail in the next section), the Federal Medical Center (FMC) Devens falls under Public Administration and is the third-largest employer in Devens, ranking behind Quiet Logistics and Bristol-Myers Squibb.

Table 3. Total Establishments, Employment, and Wages in Devens by Industry

Industry Description	Total Employment	Establishments	Total Wages
Manufacturing	1,903	20	\$199,449,258
Transportation and Warehousing	903	7	\$57,825,039
Public Administration	651	6	\$51,695,268
Professional, Scientific, and Technical Services	338	18	\$42,546,693
Educational Services	275	6	\$15,453,152
Wholesale Trade	248	5	\$22,042,790
Retail Trade	157	4	\$4,895,607
Accommodation and Food Services	154	6	\$4,348,281
Construction	102	2	\$7,097,304
Arts, Entertainment, and Recreation	70	5	\$1,606,236
Health Care and Social Assistance	55	4	\$1,399,507
Real Estate and Rental and Leasing	34	3	\$2,234,969
Administrative and Support and Waste Management and Remediation Services	34	4	\$2,048,385
Other Services (except Public Administration)	15	6	\$630,401
Finance and Insurance	12	2	\$1,132,610
Agriculture, Forestry, Fishing & Hunting	10	1	\$414,843
Utilities	10	2	\$785,504
Information	6	1	\$196,518
Total	4,977	102	\$415,802,367

Sources: Dun & Bradstreet, MassDevelopment, and Massachusetts Executive Office of Labor and Workforce Development (MA EOLWD), ES-202.

Note: Total Wages as of annual 2014 (most recent available from MA EOLWD) and reported in nominal 2014 dollars.

Analysis of Private Establishments

More than three-quarters of both the establishments and employees in Devens are in the private sector. Devens particularly appeals to companies focused on technology-based manufacturing, medical and biological product manufacturing, professional and technical services, consulting, transportation-related services, wholesale trade, and accommodation and food services.

Employment, Wages, and Sales

Private companies in Devens account for nearly 80 percent of the jobs there (almost 4,000 employees). Estimated average annual wages in this sector exceed \$87,000. Together, these companies account for estimated annual sales of more than \$1.4 billion.

Table 4. Devens' Private Sector: Establishments, Employment, Sales, and Wages

Establishments	78
Employment	3,972
Sales	\$1,429,725,153
Total Wages	\$345,713,268
Average Annual Wages	\$87,038

Sources: Dun & Bradstreet, MassDevelopment, Massachusetts Executive Office of Labor and Workforce Development (MA EOLWD), ES-202, and MIG, Inc. IMPLAN System.

Note: Total Wages as of annual 2014 (most recent available from MA EOLWD) and reported in nominal 2014 dollars. Total Average Annual Wages reflects the total amount of wages divided by the total jobs.

Industry Analysis

More than 38 percent of employment in Devens comes from its 20 manufacturers. Manufacturing employment in Devens has grown from 906 employees in 2010 to a peak of 1,903 employees in 2016, driven by Bristol-Myers Squibb, SMC Ltd., and Parker-Hannifin Corporation.

Quiet Logistics drove almost all employment growth in the Transportation and Warehousing sector. Transportation and Warehousing businesses now employ 903 people in Devens, with 94 percent working at Quiet Logistics.

Devens' 16 private Professional, Scientific, and Technical Services firms employ 334 people at larger companies like Johnson Matthey Pharma Services and MagneMotion, as well as at smaller firms and start-ups. The largest employers in Wholesale Trade include Patterson Veterinarian Supply and Integra Companies.

Industries that typically employ high-skill workers and pay high wages dominate the Devens private sector: Manufacturing has average annual wages of more than \$104,000 while Professional, Scientific, and Technical Services have average wages of more than \$125,000. The lowest average annual wages among Devens industries are in Accommodations and Food Services (\$28,236); Educational Services (\$24,732); and Arts, Entertainment, and Recreation (\$22,267). Together, the private businesses in Devens in industries with an average wage less than the statewide average of \$64,094 account for only 140 employees, or 3.5 percent of private sector employment in Devens.

Table 5. Private Establishments, Employment, Sales, and Wages in Devens by Industry

Industry Description	Employment	Establishments	Sales	Total Wages	Average Annual Wages
Manufacturing	1,903	20	\$1,072,528,633	\$199,449,258	\$104,808
Transportation and Warehousing	899	6	\$139,896,695	\$57,622,872	\$64,097
Professional, Scientific, and Technical Services	336	17	\$85,079,071	\$42,310,778	\$125,925
Wholesale Trade	248	5	\$63,865,683	\$22,042,790	\$88,882
Retail Trade	157	4	\$3,397,467	\$4,895,607	\$31,182
Accommodation and Food Services	154	6	\$15,848,409	\$4,348,281	\$28,236
Construction	102	2	\$16,834,484	\$7,097,304	\$69,581
Arts, Entertainment, and Recreation	67	4	\$4,348,402	\$1,491,885	\$22,267
Real Estate and Rental and Leasing	34	3	\$9,189,272	\$2,234,969	\$65,734
Administrative and Support and Waste Management and Remediation Services	33	3	\$7,278,458	\$1,976,882	\$59,906
Agriculture, Forestry, Fishing & Hunting	10	1	\$730,017	\$414,843	\$41,484
Utilities	10	2	\$6,921,369	\$785,504	\$78,550
Finance and Insurance	7	1	\$2,056,648	\$660,689	\$94,384
Information	6	1	\$1,351,290	\$196,518	\$32,753
Other Services (except Public Administration)	4	2	\$315,144	\$135,623	\$33,906
Educational Services	2	1	\$84,110	\$49,464	\$24,732
Total	3,972	78	\$1,429,725,153	\$345,713,268	\$87,038

Sources: Dun & Bradstreet, MassDevelopment, Massachusetts Executive Office of Labor and Workforce Development (MA EOLWD), ES-202, and MIG, Inc. IMPLAN System.

Note: Total Wages as of annual 2014 (most recent available from MA EOLWD) and reported in nominal 2014 dollars. Total Average Annual Wages reflects the total amount of wages divided by the total jobs.

Analysis of Government Establishments

Devens government-related entities include large federal organizations and other organizations that provide public services to Devens residents and businesses, such as those provided by MassDevelopment and the U.S. Postal Service.

Employment and Wages

Devens' six government entities account for 653 employees. Average annual wages exceeded \$79,000, with total annual wages topping \$51 million.

Table 6. Devens' Government Sector: Establishments, Employment, and Wages

Establishments	6
Employment	653
Total Wages	\$51,747,175
Average Annual Wages	\$79,245

Sources: Dun & Bradstreet, MassDevelopment, and Massachusetts Executive Office of Labor and Workforce Development (MA EOLWD), ES-202.

Note: Total Wages as of annual 2014 (most recent available from MA EOLWD) and reported in nominal 2014 dollars. Total Average Annual Wages reflects the total amount of wages divided by the total jobs.

Industry Analysis

Government employment is largely categorized in Public Administration (649 employees in Devens), except in the case of the U.S. Postal Service. Public Administration establishments in Devens include the Federal Medical Center, MassDevelopment and the Massachusetts State Police. The vast majority of Devens' public-sector employees work at the Federal Medical Center (530 employees, or about 81 percent of total government employment in Devens). Average annual wages for the industries represented in Devens' government sector are \$79,245, well above the state average.

Table 7. Government Establishments, Employment, and Wages in Devens by Industry

Industry Description	Establishments	Employment	Total Wages	Average Annual Wages
Public Administration	5	649	\$51,545,008	\$79,422
Transportation and Warehousing	1	4	\$202,167	\$50,542
Total	6	653	\$51,747,175	\$79,245

Sources: Dun & Bradstreet, MassDevelopment, and Massachusetts Executive Office of Labor and Workforce Development (MA EOLWD), ES-202.

Note: Total Wages as of annual 2014 (most recent available from MA EOLWD) and reported in nominal 2014 dollars. Total Average Annual Wages reflects the total amount of wages divided by the total jobs.

Analysis of Nonprofit Establishments

Nearly one in five entities in Devens is a nonprofit organization, with educational and social assistance organizations most common. Devens educational organizations include child care centers, private and charter schools, a community college, and graduate schools. Additionally, social service providers, a museum, and a credit union are part of this sub-sector.

Employment and Wages

The 18 nonprofit sector entities in Devens employ workers with an annual average wage of more than \$52,000 and total annual wages of more than \$18 million.

Table 8. Devens' Nonprofit Sector: Establishments, Employment, Sales, and Wages

Establishments	18
Employment	352
Sales	\$32,053,814
Total Wages	\$18,341,924
Average Annual Wages	\$52,108

Sources: Dun & Bradstreet, MassDevelopment, and Massachusetts Executive Office of Labor and Workforce Development (MA EOLWD), ES-202.

Note: Total Wages as of annual 2014 (most recent available from MA EOLWD) and reported in nominal 2014 dollars. Total Average Annual Wages reflects the total amount of wages divided by the total jobs.

Industry Analysis

Educational services organizations are home to more than three-quarters of total nonprofit employment in Devens and include the Shriver Job Corps, Francis W. Parker Charter Essential School,

and R3 Education Inc., which includes Saba University and the Medical University of the Americas. Social service organizations such as Seven Hills Family Services, Guild of St. Agnes Day Care, and Transitions at Devens round out this sector. Average annual wages for the industries represented in the Devens nonprofit sector are \$52,108, largely due to the mix of industries represented, with average annual wages of \$56,424 in Educational Services and \$25,446 in Health Care and Social Assistance.

Table 9. Nonprofit Establishments, Employment, Sales, and Wages in Devens by Industry

Industry Description	Establishments	Employment	Sales	Total Wages	Average Annual Wages
Educational Services	5	273	\$25,337,821	\$15,403,688	\$56,424
Health Care and Social Assistance	4	55	\$2,466,920	\$1,399,507	\$25,446
Other Services (except Public Administration)	4	11	\$2,085,521	\$494,778	\$44,980
Administrative and Support and Waste Management and Remediation Services	1	1	\$211,840	\$71,503	\$71,503
Arts, Entertainment, and Recreation	1	3	\$265,577	\$114,351	\$38,117
Finance and Insurance	1	5	\$1,469,034	\$471,921	\$94,384
Professional, Scientific, and Technical Services	1	2	\$217,102	\$235,916	\$117,958
Public Administration	1	2	\$0	\$150,259	\$75,130
Total	18	352	\$32,053,814	\$18,341,924	\$52,108

Sources: Dun & Bradstreet, MassDevelopment, and Massachusetts Executive Office of Labor and Workforce Development (MA EOLWD), ES-202.

Note: Total Wages as of annual 2014 (most recent available from MA EOLWD) and reported in nominal 2014 dollars. Total Average Annual Wages reflects the total amount of wages divided by the total jobs.

Economic Contributions of Commercial and Nonprofit Activities

The research team calculated economic contributions for private and nonprofit organizations in Devens. Following standard practice for economic contribution analyses, government entities were not included in the analysis based on the assumption that their contributions would be more likely to continue in the form of alternate economic activity if the specific government entities left Devens. We assume that if a government entity were not spending money on services in Devens, then it would likely spend that money elsewhere.

This analysis estimates economic contributions in two major categories. The first, direct contributions, or the estimated total expenditures of Devens entities, includes organizations' and their employees' spending on goods and services and the resulting support of related industries and services. The second, indirect and induced contributions, represents entities' support of Massachusetts businesses via spending for goods and services and employees' spending in the local economy. Researchers estimated economic contributions using the well-regarded IMPLAN proprietary data and software, basing contributions for private-sector and nonprofit firms on employment figures for those firms.

While the induced effects of visitors' spending is not explicitly included in the economic model, IMPLAN data implicitly capture the habits and trends of all types of spending that occur in Massachusetts, including tourism. Devens has two large hotels, the Hilton Garden Inn and the

SpringHill Suites by Marriott, which have 118 and 119 guest rooms, respectively.⁷ The Hilton Garden Inn features its own lobby bar and restaurant.

Total Economic Contributions

Devens firms' estimated direct spending of \$1.46 billion supports an additional estimated \$1 billion in spending in Massachusetts for a total economic contribution of nearly \$2.5 billion, 98 percent of which comes from private-sector firms. More than \$59 million of the total economic contribution came from nonprofit firms.

Table 10. Economic Contributions of Devens' Private and Nonprofit Firms

Type	Direct Contribution	Indirect and Induced Contributions	Total Contributions
Private Sector	\$1,429,725,153	\$1,007,812,581	\$2,437,537,734
Nonprofit	\$32,053,814	\$27,433,951	\$59,487,765
Total	\$1,461,778,968	\$1,035,246,531	\$2,497,025,499

Sources: Dun & Bradstreet, MassDevelopment, and MIG, Inc. IMPLAN System.

Employment Contributions

The private-sector and nonprofit entities in Devens employ 4,324 people, and their spending supports an additional 5,857 workers for a total employment contribution to the Massachusetts economy of 10,181. Of the total supported employment, spending of private-sector entities supports 9,657 employees, and spending of nonprofit entities supports 524 employees.

Table 11. Employment Contributions of Devens' Private and Nonprofit Firms

Type	Direct Employment	Indirect and Induced Employment	Total Employment
Private Sector	3,972	5,685	9,657
Nonprofit	352	172	524
Total	4,324	5,857	10,181

Sources: Dun & Bradstreet, MassDevelopment, and MIG, Inc. IMPLAN System.

⁷ Information on the number of rooms and restaurants at the hotels was obtained through telephone conversations with the hotel personnel on June 29, 2016.

Private Sector Detailed Economic Contributions

Spending by Devens' private-sector firms and their employees supports a wide array of other industries in Massachusetts that supply goods and services to Devens firms. The indirect and induced economic contributions of private sector firms in Devens to the Massachusetts economy include: more than \$130 million in Wholesale Trade; \$91 million in Professional, Scientific and Technical Services; \$88 million in Finance and Insurance; \$83 million in Health Care and Social Assistance; and almost \$73 million in Manufacturing.

Table 12. Top Ten Industries Supported by Spending of Devens' Private Firms

Industry	Indirect and Induced Contributions to Sector
Wholesale Trade	\$130,068,950
Professional, Scientific, and Technical Services	\$91,064,229
Finance and Insurance	\$88,910,587
Health Care and Social Assistance	\$83,084,950
Manufacturing	\$72,818,522
Real Estate and Rental and Leasing	\$72,324,421
Management of Companies and Enterprises	\$70,201,933
Transportation and Warehousing	\$63,669,768
Information	\$59,368,157
Retail Trade	\$40,041,280

Sources: Dun & Bradstreet, MassDevelopment, and MIG, Inc. IMPLAN System.

Nonprofit Sector Detailed Economic Contributions

The indirect and induced economic contributions of Devens nonprofit entities to the Massachusetts economy include: \$4 million for Real Estate and Rental and Leasing Activities; \$3.2 million for Health Care and Social Assistance; \$3.1 million for Finance and Insurance; \$2.1 million for Information; and \$1.8 million for Professional, Scientific and Technical Services.

Table 13. Top Ten Industries Supported by Spending of Devens' Nonprofit Firms

Industry	Indirect and Induced Contributions to Sector
Real Estate and Rental and Leasing	\$3,978,875
Health Care and Social Assistance	\$3,175,310
Finance and Insurance	\$3,133,001
Information	\$2,077,995
Professional, Scientific, and Technical Services	\$1,770,459
Retail Trade	\$1,360,669
Wholesale Trade	\$1,340,805
Accommodation and Food Services	\$1,115,189
Administrative and Support and Waste Management and Remediation Services	\$1,059,526
Utilities	\$1,039,296

Sources: Dun & Bradstreet, MassDevelopment, and MIG, Inc. IMPLAN System.

Tax Contributions of Private and Nonprofit Firms

In addition to supporting the Commonwealth's economy through spending, Devens firms and their employees pay state corporate profit and personal income taxes. Corporate profit and personal income taxes were also estimated using the IMPLAN software.

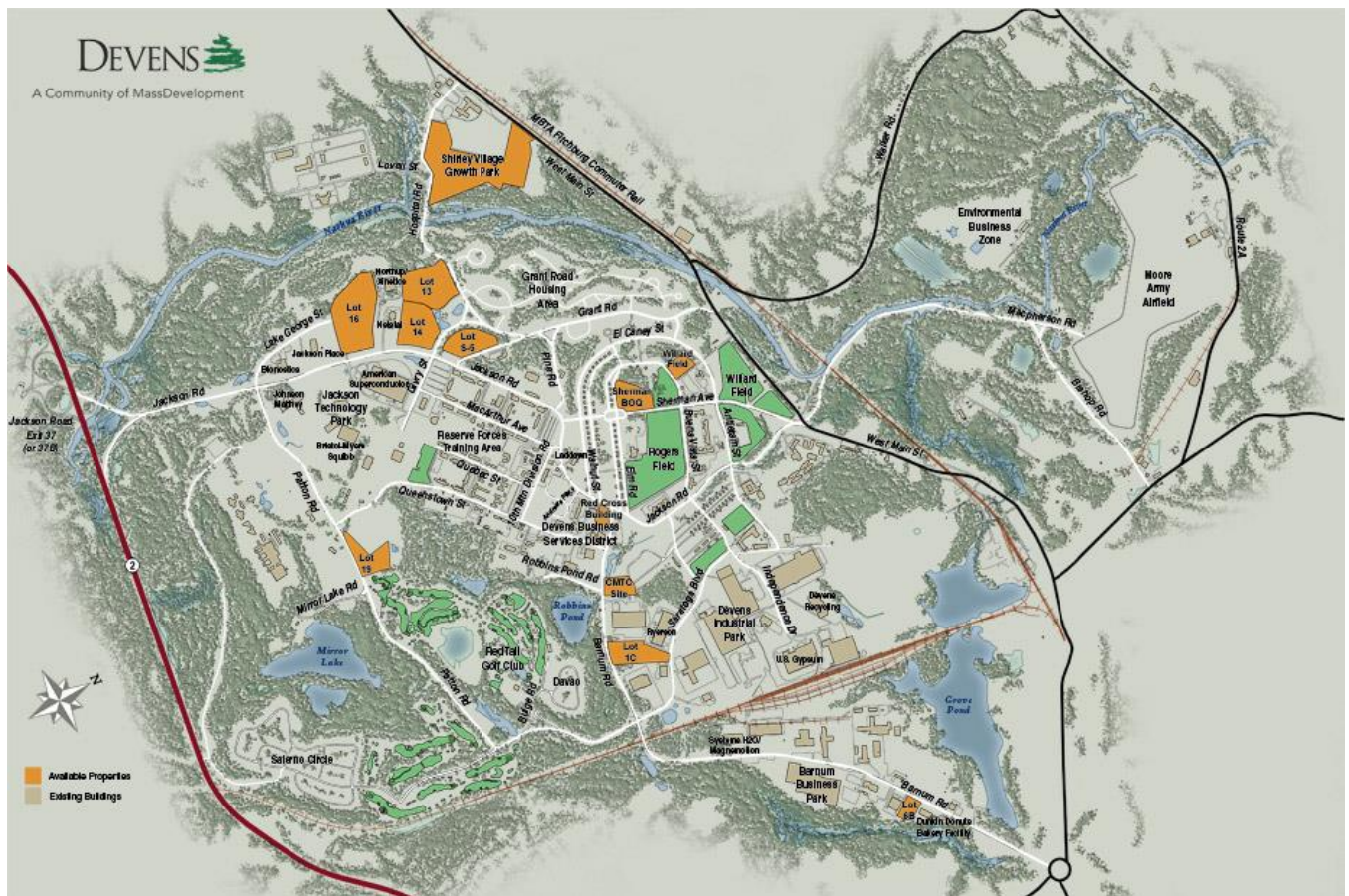
Private firms in Devens are expected to pay an estimated \$7.4 million in corporate profits tax in 2016, while their employees will pay an estimated \$22.2 million in personal income tax to Massachusetts. Additionally, nonprofit firm employees in Devens will pay an estimated \$844,264 in state personal income tax.

Table 14. State Corporate Profits Tax and State Personal Income Tax Generated by Private and Nonprofit Firms in Devens

Type	Corporate Profits Tax	Personal Income Tax	Employees	Tax Per Employee
Private	\$7,382,579	\$22,176,952	3,972	\$5,583
Nonprofit	N/A	\$844,264	352	\$2,398
Total	\$7,382,579	\$23,021,216	4,324	\$5,324

Sources: Dun & Bradstreet, MassDevelopment, and MIG, Inc. IMPLAN System.

Appendix A: Map of Devens



Source: Devens Community Website (<http://www.devenscommunity.com/business-industry/master-plan/>).

Appendix B: Devens Businesses and Organizations

Company Name	Address
Accel-RF Instruments	94 Jackson Road
Acorn Technology Systems	94 Jackson Road
AMSC (American Superconductor Corporation)	64 Jackson Road
Anytime Fitness	20 Andrews Parkway
AOA Xinetics	53 Jackson Road
B13 Studio Web Design	<i>address unlisted</i>
Bioprotection Systems	94 Jackson Road
Bio-Techne	7 Jackson Road
Bristol-Myers Squibb	38 Jackson Road
Christine M Deguglielmo	25 Walnut St
Comrex	19 Pine Street
Cynthia Thomas, C.P.A.	94 Jackson Road
DCS Corp.	67 Buena Vista Street
Devens Common Center	31 Andrews Parkway
Devens Day Spa	12 Andrews Parkway
Devens Dry Cleaners	22 Andrews Parkway
Devens Eco-Efficiency Center	33 Andrews Parkway
Devens Enterprise Commission	33 Andrews Parkway
Devens Grill	4 Ryans Way
Devens Recycling Center	45 Independence Drive
Devens United States Post Office	240 Barnum Road
Dragonfly Wellness Center	176 Jackson Road
Dunkin' Donuts	20 Andrews Parkway
Dunkin' Donuts Central Production Location	40 Barnum Road
Eco2 Copy Center	10 Andrews Parkway
Eglomise Designs	4 Antietam Street
Evergreen Garden Playschool	270 Barnum Road
Federal Medical Center Devens	42 Patton Road
Fort Devens Museum	94 Jackson Road
Francis W. Parker Charter Essential School	49 Antietam Street
Freedom's Way Heritage Association	100 Sherman Avenue
Guild of St. Agnes Day Care	172 Jackson Road
Guilford Motor Express/Pan Am Railways	133 Barnum Road
Hanscom Federal Credit Union	24 Andrews Parkway
Hilton Garden Inn	59 Andrews Parkway
Home Harmony Realty	55 Elm Rd
IMPACT Technology Development	100 Jackson Road
In The Fourth Watch	13 Auman St
Inland American Industrial Management Llc	235 Barnum Rd
Integra Companies	29 Saratoga Boulevard
Invivo Solutions Inc.	55 Elm Rd
Iron Stone Ventures	27 Quaker Road
Johnson Matthey Pharma Services	25 Patton Road
Kairos Pilgrimages Inc.	94 Jackson Rd Ste 206
Keena Keel	22 Auman St
Laddawn Inc.	155 Jackson Road
Learning Express	29 Buena Vista Street
LEWA Process Technologies Inc.	29 Saratoga Boulevard
Little Leaf Farms	105 Walker Road
Loaves & Fishes Food Pantry	234 Barnum Road
MagneMotion Inc.	139 Barnum Road
Massachusetts Bay Support Center	18 Bates St Apt E
Massachusetts State Police	59 Buena Vista Street

Massachusetts Veterans Inc.	14 Bates St
MassDevelopment	33 Andrews Parkway
Maxant Industries Inc.	58 Barnum Rd
Media News Printing	68 Barnum Road
MediaPower Inc.	94 Jackson Road
Megawave Corp.	100 Jackson Road
Mig Corp Inc.	94 Jackson Rd
Mount Wachusett Community College	27 Jackson Road
Mulantix Llc	2 Buena Vista St
N.B. Kenney Company Inc.	68 Barnum Road
Nashoba Valley Regional Dispatch District	270 Barnum Road
New England Environmental Education Alliance Inc.	5D Walnut St
New England Sheets	36 Saratoga Boulevard
New England Studios Devens	94 Jackson Road
NFI Industries	66 Saratoga Boulevard
North Middlesex Savings Bank	6 Andrews Parkway
Nypro Healthcare	112 Barnum Road
Odic Inc.	37 Macarthur Avenue
O'Reilly Automotive	15 Independence Drive
Oxbow Schoolhouse	270 Barnum Road
Parker-Hannifin Corp.	14 Robbins Pond Road
Patterson Veterinary Supply Inc.	137 Barnum Rd
PCI Synthesis	88 Jackson Road
Pizza Bella	8 Andrews Parkway
Quiet Logistics	66 Saratoga Boulevard
R3 Education Inc.	27 Jackson Road
Rapid Refill	4 Andrews Parkway
Red Tail Golf Club	15 Bulge Road
Regency Warehouse & Distribution Inc.	50 Independence Drive
Response Microwave Inc.	94 Jackson Road
Rofin-Baasel Inc.	68 Barnum Road
Ryerson	45 Saratoga Boulevard
Sabic Innovative Plastics	116 Queenstown Street
Seven Hills Family Services	22 Grant Road
Shriver Job Corps	270 Jackson Road
SMC Ltd.	18 Independence Drive
SpringHill Suites by Marriott	27 Andrews Parkway
TekNewell Engineering	36 Walnut Street
The Natural Cafe and Market	176 Jackson Road
Tighe Logistics Group	133 Barnum Road
Transitions at Devens	101 Sherman Avenue
United Native American Cultural Center	29 Antietam Street
USG Corporation	50 Independence Drive
Waiteco Machine, Inc.	18 Saratoga Boulevard
Wattjoule Corp.	100 Jackson Rd Ste 200
WestRock	51 Independence Drive

Sources: Dun & Bradstreet and MassDevelopment.

Note: Three companies are sub-contractors for Devens' municipal utility functions and do not maintain offices in the business park despite operating MassDevelopment's facilities. Their economic contributions have been included in the analyses above but their names and addresses are not in this table.

Appendix C: Devens Businesses and Organizations by Industry Type

Industry / Establishment	Establishments	Employees
GOVERNMENT	6	653
Public Administration	5	649
Devens Enterprise Commission		
Federal Medical Center Devens		
Massachusetts State Police		
MassDevelopment		
Nashoba Valley Regional Dispatch District		
Transportation and Warehousing	1	4
Devens United States Post Office		
NONPROFIT	18	352
Administrative and Waste Services	1	1
Kairos Pilgrimages Inc.		
Arts, Entertainment, and Recreation	1	3
Fort Devens Museum		
Educational Services	5	273
Francis W. Parker Charter Essential School		
Mount Wachusett Community College		
Oxbow Schoolhouse		
R3 Education Inc.		
Shriver Job Corps		
Finance And Insurance	1	5
Hanscom Federal Credit Union		
Health Care and Social Assistance	4	55
Evergreen Garden Playschool		
Guild of St. Agnes Day Care		
Seven Hills Family Services		
Transitions at Devens		
Other Services, Except Public Administration	4	11
Loaves & Fishes Food Pantry		
Massachusetts Veterans Inc.		
New England Environmental Education Alliance Inc.		
United Native American Cultural Center		
Professional and Technical Services	1	2
Devens Eco-Efficiency Center		
Public Administration	1	2
Freedom's Way Heritage Association		
PRIVATE SECTOR	75	3,960
Accommodation and Food Services	6	154
Devens Grill		
Dunkin' Donuts		

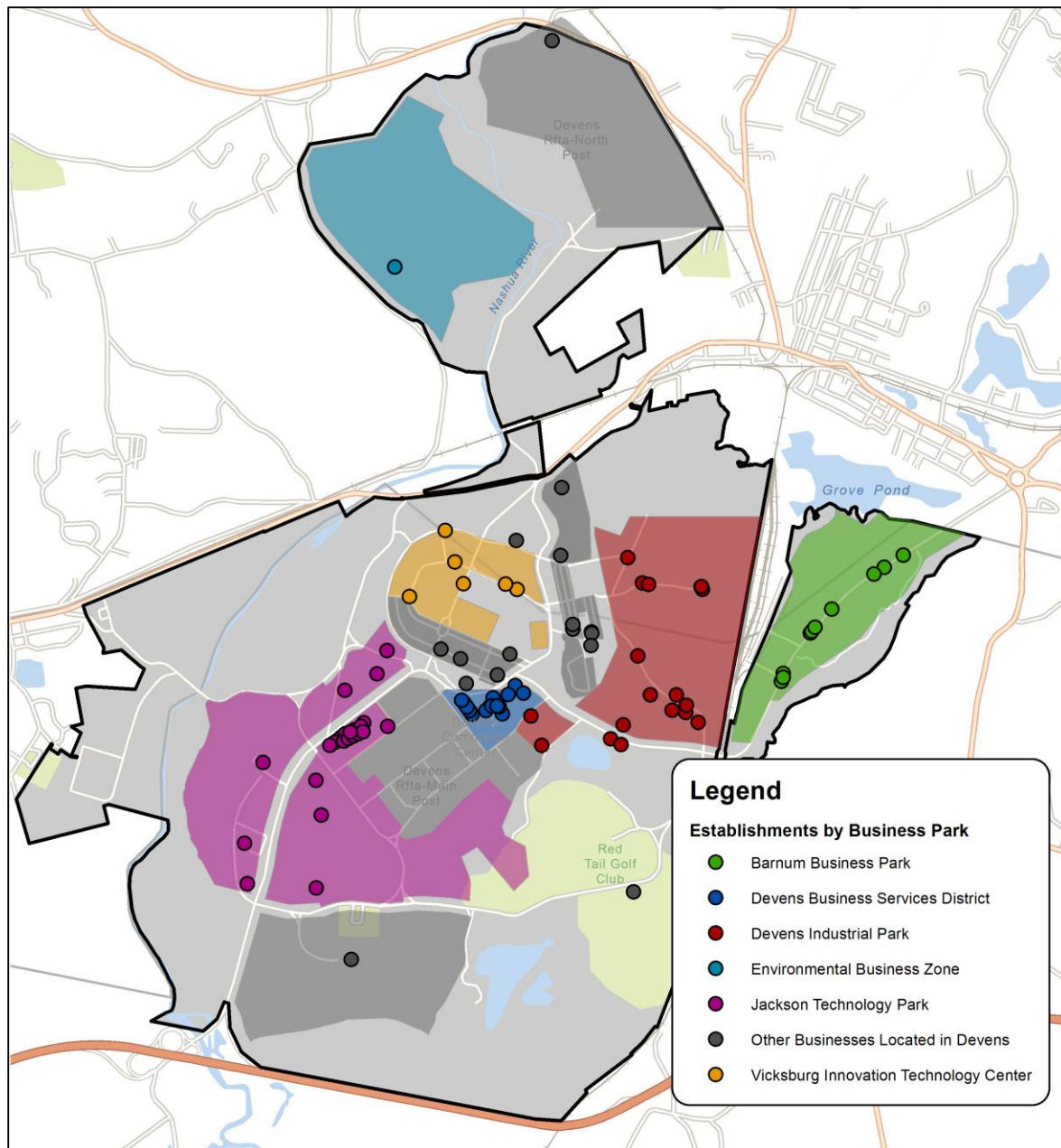
Hilton Garden Inn		
Pizza Bella		
SpringHill Suites by Marriott		
The Natural Cafe and Market		
Administrative and Waste Services	3	33
Christine M Deguglielmo		
Devens Recycling Center		
Eco2 Copy Center		
Agriculture, Forestry, Fishing and Hunting	1	10
Little Leaf Farms		
Arts, Entertainment, and Recreation	4	67
Anytime Fitness		
Devens Day Spa		
Dragonfly Wellness Center		
Red Tail Golf Club		
Construction	2	102
Mig Corp Inc.		
N.B. Kenney Company Inc.		
Educational Services	1	2
Iron Stone Ventures		
Finance And Insurance	1	7
North Middlesex Savings Bank		
Information	1	6
New England Studios Devens		
Manufacturing	20	1,903
Accel-RF Instruments		
AMSC (American Superconductor Corporation)		
AOA Xinetics		
Bio-Techne		
Bristol-Myers Squibb		
Comrex		
Dunkin' Donuts Central Production Location		
Eglomise Designs		
Laddawn Inc.		
LEWA Process Technologies Inc.		
Maxant Industries Inc.		
Media News Printing		
New England Sheets		
Nypro Healthcare		
Parker-Hannifin Corp.		
Sabic Innovative Plastics		
SMC Ltd.		
Waiteco Machine Inc.		
Wattjoule Corp.		
WestRock		
Other Services, Except Public Administration	2	4

Devens Dry Cleaners		
Keena Keel		
Professional and Technical Services	16	334
Acorn Technology Systems		
B13 Studio Web Design		
Bioprotection Systems		
Cynthia Thomas, C.P.A.		
DCS Corp.		
IMPACT Technology Development		
Invivo Solutions Inc.		
Johnson Matthey Pharma Services		
MagneMotion Inc.		
Massachusetts Bay Support Center		
MediaPower Inc.		
Megawave Corp.		
Odic Inc.		
PCI Synthesis		
Response Microwave Inc.		
TekNewell Engineering		
Real Estate and Rental and Leasing	3	34
Devens Common Center		
Home Harmony Realty		
Inland American Industrial Management Llc		
Retail Trade	4	157
In The Fourth Watch		
Learning Express		
O'Reilly Automotive		
Rapid Refill		
Transportation and Warehousing	6	899
Guilford Motor Express/Pan Am Railways		
NFI Industries		
Quiet Logistics		
Regency Warehouse & Distribution Inc.		
Tighe Logistics Group		
USG Corporation		
Wholesale Trade	5	248
Integra Companies		
Mulantix Llc		
Patterson Veterinary Supply Inc.		
Rofin-Baasel Inc.		
Ryerson		
Grand Total	99	4,965

Sources: Dun & Bradstreet and MassDevelopment.

Note: Three companies and 12 employees are sub-contractors for Devens' municipal utility functions and do not maintain offices in the business park despite operating MassDevelopment's facilities. Their economic contributions have been included in the analyses above but their names and counts of establishments and employment are not in this table.

Appendix D: Devens Business Map



Source: UMass Donahue Institute, June 2016.

Appendix E: Methodology

Introduction and Scope of Work

At the request of MassDevelopment, the UMass Donahue Institute (UMDI) analyzed enterprises in Devens, including an assessment of the economic value of Devens business activities. The work involved collecting data to provide an updated inventory of firms and organizations in Devens and researching typical wages for the represented industries. The economic analysis, based on the existing employment base in Devens, includes private, nonprofit, and government activities. UMDI worked with MassDevelopment to collect up-to-date employment counts for each establishment in Devens. Employment data populated an economic impact model designed to assess economic contributions flowing from private and nonprofit organizations.

Devens Establishment Database Development

UMDI created a comprehensive inventory of businesses, organizations, and other entities in Devens. Staff created an initial list of companies and organizations using data collected from www.devenscommunity.com/business-industry/business-listing and a location-based search in Dun & Bradstreet. MassDevelopment reviewed the list of organizations for accuracy and completeness. Employment counts and industrial classifications were retrieved from Dun & Bradstreet and the data were reviewed in conjunction with MassDevelopment. A coordinated effort was made to contact all businesses and organizations with greater than 10 employees to confirm firm and employment information. Overall, 59 firms were successfully contacted.

Wage data for each industry came from the Massachusetts Labor Market Information ES-202 series. The numbers for wages shown in this report do not represent actual wages paid by individual firms at Devens. Instead, the ES-202 data provide average wages paid to workers in each detailed (4-digit NAICS) industry in the entire state. These averages are then compared to the number of workers in specific industries at Devens to arrive at the estimated annual wages. The total wages are also based on these average wage estimates, multiplied by the number of employees.

Direct, indirect, and induced economic contributions were estimated based on employment using the IMPLAN input-output system. Industry codes/categories are based on NAICS and were assigned based on D&B data, input from MassDevelopment, and from contact with individual companies. Generally, NAICS codes were assigned based on the activities of the company as a whole, unless the same company had multiple locations in Devens undertaking distinct operations/activities, *e.g.* the Dunkin' Donuts retail location at 20 Andrews Parkway is coded as

722213 (snack and nonalcoholic beverage bars), while the Dunkin' Donuts Central Production Facility is coded as 311812 (commercial bakeries). Each of these data sources is described in greater detail below.

Data Sources

D&B® Million Dollar Directory

The Dun & Bradstreet Million Dollar Directory is a proprietary data source providing business information on more than 34 million businesses, including name, address, employment, and industry classification among other pieces of information. Business listings are updated from public and private sources. Business information is updated by phone on a rolling basis, and therefore timeframes for measurement using this source are approximate. UMDI used the Dun & Bradstreet Million Dollar Directory as one of a number of data sources to contribute to a complete company listing, employment count, and industrial classification for Devens businesses.

QCEW/ Massachusetts Labor Market Information ES-202

Quarterly Census of Employment and Wage (QCEW/ES-202) is a cooperative program between the U.S. Bureau of Labor Statistics and state agencies. Data are derived from reports filed by all employers subject to federal and state unemployment compensation laws. Industry employment and payroll information is produced both quarterly and annually for the state, labor market areas, workforce investment areas, municipalities, and counties. UMDI used Massachusetts ES-202 data to provide average annual wages and total wages by industrial classification for Massachusetts. The most recent annual data available at the time of preparation of this report covered 2014.

Data Sources, Continued

MIG, Inc. IMPLAN Systems

The IMPLAN modeling system, a widely-used proprietary software, combines the U.S. Bureau of Economic Analysis' Input-Output Benchmarks with regional employment and wage data. The software then constructs quantitative models of the flow of goods and services among businesses that purchase materials and services from one another and from employees who use increased earnings to purchase additional goods and services from local businesses. UMDI used IMPLAN to estimate direct, indirect and induced economic contributions, and state income and corporate profits tax payments by sector (private and nonprofit) for Devens. The most recent IMPLAN model and data representing trade flows between industries available at the time of the preparation of this study was 2014. Employment inputs for the IMPLAN model were from May 2016.

Economic and Tax Contributions Methodology

This study provides estimates of economic contributions from all spending for both private and nonprofit firms. Following standard practice, UMDI excluded government firms since we assumed these contributions would be more likely to continue in the form of alternate economic activity if the specific government entities in Devens relocated.

UMDI coded firms in Devens according to IMPLAN's proprietary industry sector scheme among the 536 available sectors based on their assigned NAICS codes. The model used employment by industry to estimate economic and tax contributions, including indirect and induced contributions and employment. Sales are modeled in IMPLAN and represent the imputed dollar value of output that correspond to employment levels in each industry of the Massachusetts economy.

Key model assumptions include:

1. Devens firms purchase goods and services from within Massachusetts in the same share as other businesses in the same IMPLAN sector.
2. The share of Devens employees who live in the Commonwealth is the same as the IMPLAN model default for all industries in Massachusetts (resulting in a negligible portion of wages from Devens leaving the Commonwealth because they are spent primarily in neighboring states by residents of neighboring states who work in Devens).
3. Employee output (productivity) is similar for Devens businesses as for other Massachusetts businesses in the same industry sector.