

DEVENS ECONOMIC PROFILE AND CONTRIBUTIONS

AN ECONOMIC IMPACT STUDY OF BUSINESSES AND
ORGANIZATIONS LOCATED IN DEVENS, MASSACHUSETTS



A Report for MassDevelopment



UMASS DONAHUE INSTITUTE
Economic & Public
Policy Research

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Devens Economic Profile and Contributions

An Economic Impact Study of Businesses and Organizations Located in Devens, MA, FY20

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Executive Summary

Massachusetts, following New Jersey and Rhode Island, ranks as the third most densely populated state in the United States. The combination of high density and expensive land costs adds challenges for companies looking to expand, including startups that are needing to scale as well as more established businesses needing space to grow. As such, the nearly seven-square-mile Devens community, located in North Central Massachusetts, on the periphery of both the Boston and Worcester metropolitan statistical areas, offers a critical asset to the Commonwealth and New England – the availability of large parcels of land with both infrastructure and transportation access (highway and rail) that allow companies to develop and increase in size. By locating in Devens, companies benefit from proximity to Greater Boston's globally recognized research and development assets, including advanced manufacturing capabilities, and ready access to one of the country's largest markets.

Overlapping the municipal boundaries of Harvard, Ayer and Shirley, the area known as Devens started as a U.S. Army base in 1917 and closed following the Defense Base Closure and Realignment Commission's 1991 decision to decommission the base. Once the Army evacuated its military and civilian personnel, the space came under the ownership of the quasi-public state economic development agency, MassDevelopment, which manages the property to this day.¹ Devens has since operated as an economic development zone, the economic contributions of which are evidenced by its steady growth over the years and discussed in more depth in this report. Devens has become a favored business location, especially for the region's manufacturing and distribution industries— both of which require large parcels of land to operate and accommodate growth. Devens plays an important role by providing businesses with a place where they can grow in Massachusetts, making the state more competitive – nationally and globally.

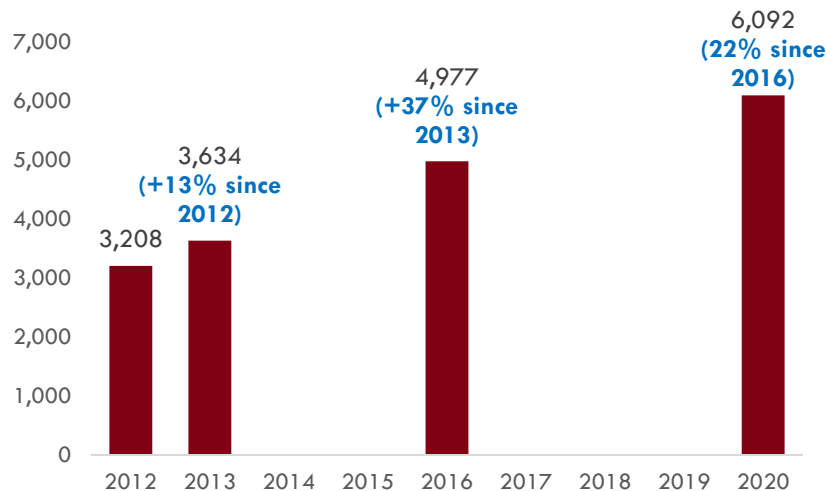


Source: MassDevelopment

¹ <https://commonwealthmagazine.org/economy/004-divining-devens/>

This study analyzed the substantial economic contributions Devens makes to the Commonwealth of Massachusetts, including:

- Devens employs an estimated 6,092 people, compared to previous totals of 4,977 in 2016, 3,634 in 2013, and 3,208 in 2012.



- Including multiplier effects (the jobs associated with companies that supply Devens' businesses and the effects of Devens' workers spending money on homes, construction, entertainment, household goods, etc.), Devens contributes some 14,130 jobs to the Massachusetts economy;
- In dollar terms, Devens' contribution to the \$600 billion Massachusetts economy, including multiplier effects, is \$3.8 billion.
- The report's economic impact values are based on 98 private, nonprofit, and government establishments with operations at Devens;
- Devens' establishments have an annual payroll of approximately \$547 million, with an estimated average annual wage of about \$90,000.
- Devens has a very high concentration in manufacturing, with about 2,700 employees (compared to 1,903 in 2016), accounting for more than 40 percent of all jobs on the site. By comparison, manufacturing accounts for well less than 10 percent of overall Massachusetts employment. Companies like Bristol Myers Squibb, a maker of biologics and the largest employer at Devens, have seen steady growth and expansion at Devens.
- Transportation and warehousing (e.g., distribution) is the second-largest industry in Devens, employing about 900 people. Location, infrastructure, and land availability make Devens a favorable location for large-scale distributors.

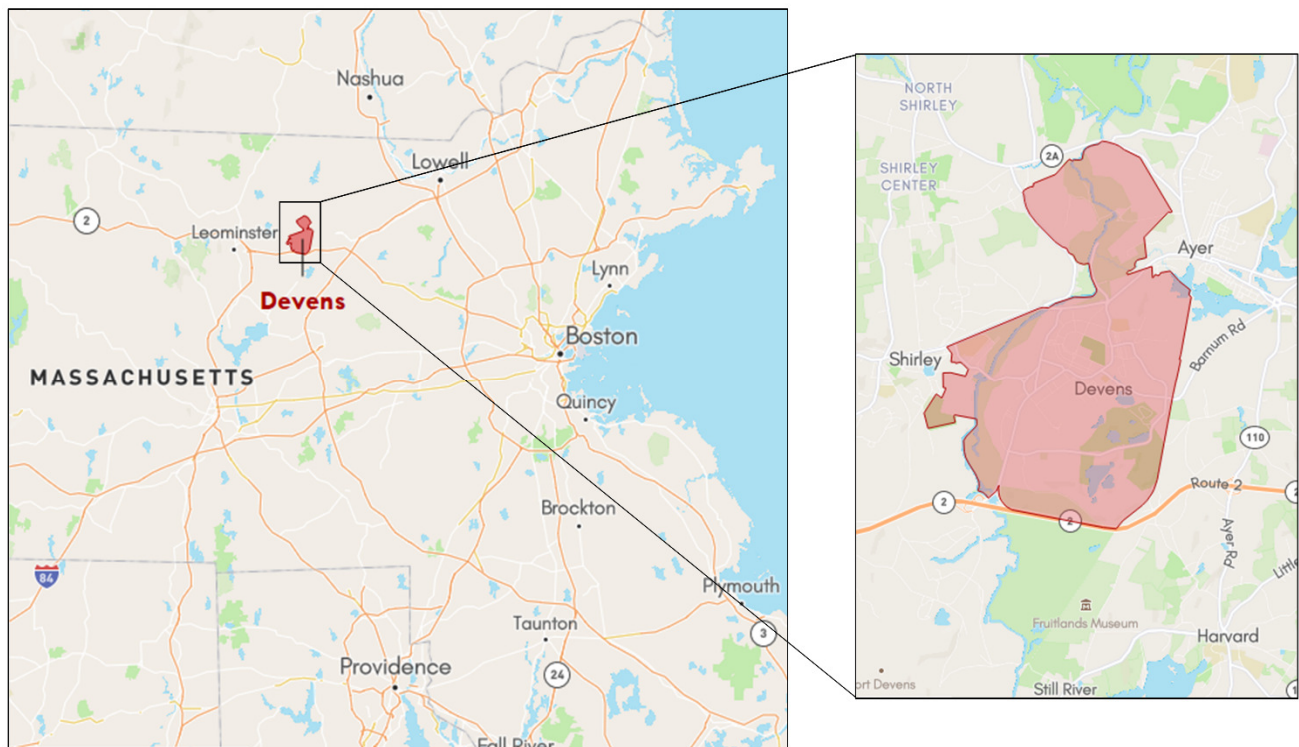


Source: MassDevelopment

Introduction

Devens, a 4,400-acre site managed by MassDevelopment, acts as an important hub of commercial, industrial, and nonprofit activity in North Central Massachusetts. Because MassDevelopment is frequently asked for information about business activity in Devens, it is important to provide a current assessment of Devens' economic contribution to the state. In 2012, 2013, 2014, and 2016, the Economic and Public Policy Research group (EPPR) at the UMass Donahue Institute (UMDI) developed economic impact analyses of the commercial and industrial activities located in Devens, showing the direct and multiplier effects of Devens' activities (e.g., in manufacturing, health care, logistics, hospitality, and services) on the Massachusetts economy.

Figure 1. Reference Map of Devens



Source: UMDI, Mapbox

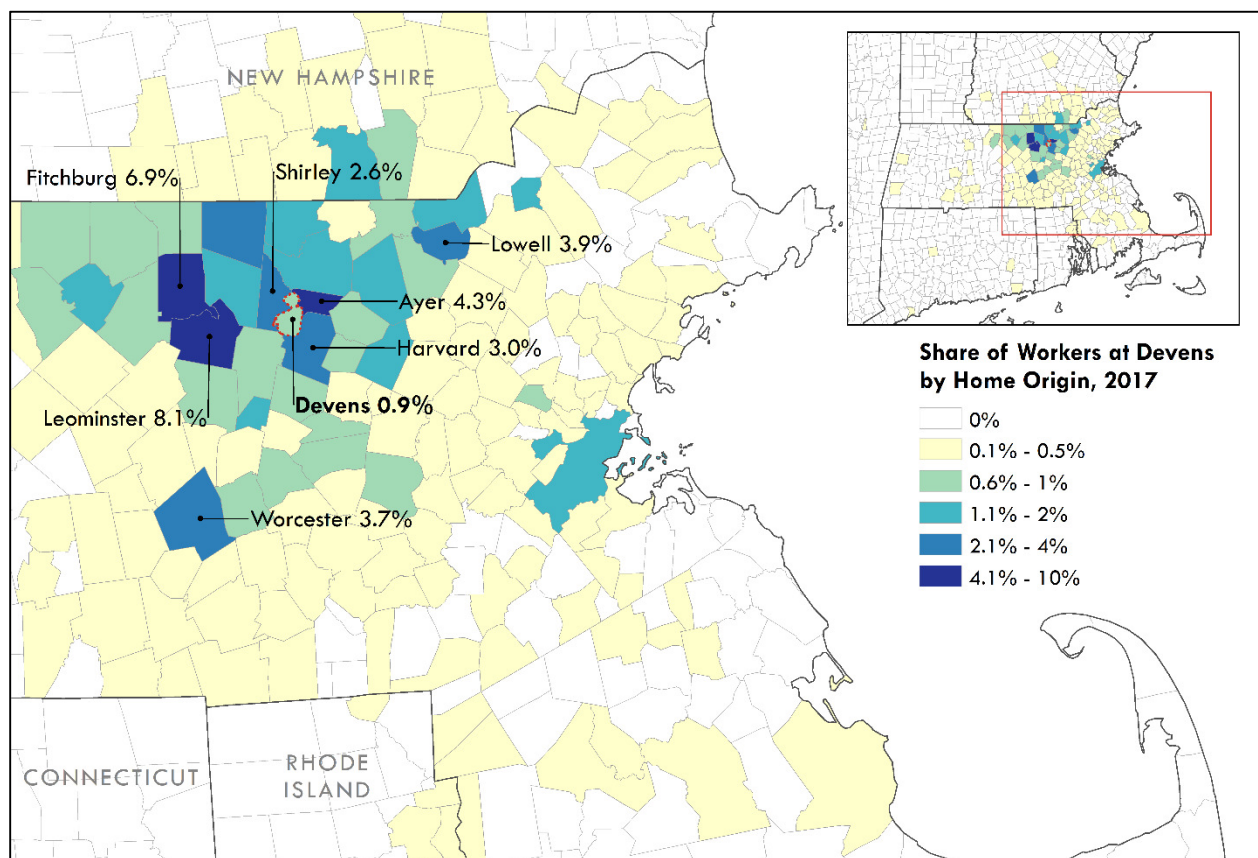
Advanced Manufacturing, Professional Scientific and Technical Services, Wholesale Trade, and Transportation and Warehousing are all strongly represented in Devens. In 2019, an estimated 6,092 people were employed in Devens, and the economic activities of private firms and nonprofit organizations in Devens supported employment of another 8,038 people in Massachusetts. An estimated \$2.3 billion in direct economic activity by private and nonprofit organizations in Devens supported additional spending of \$1.5 billion in local supply chains for a total contribution of nearly \$3.8 billion to the Massachusetts economy in 2019.

Commuter Flows

According to the U.S. Census Bureau, nearly all workers employed in Devens live elsewhere and commute. As a major employment hub for the Commonwealth, Devens attracts workers from across the state, Southern New Hampshire, and beyond.

Figure 2 shows the expansive inflow of workers to Devens (using any mode of transportation), represented as shares of Devens' total employment by municipality. Together, residents of Leominster and Fitchburg (the two largest population centers in North Central Massachusetts) comprise 15 percent of the total workers in Devens, followed by Ayer, Lowell, Worcester, Harvard, Shirley, Townsend, and Gardner. Towns in New Hampshire comprise another 6 percent, largely attributed to workers from Nashua, Hudson, and Manchester.

Figure 2. Inflow of Workers to Devens, 2017



Source: U.S. Census Bureau LEHD Origin-Destination Employment Statistics accessed via OnTheMap.

*Notes: Devens is excluded from employment totals for Ayer, Harvard, and Shirley, and its 0.9 percent of workers are double counted across the three underlying municipalities. It is therefore represented as with a red-bordered overlay.

Workers are reported by employers in the QCEW, who were working during the reference quarter (Q2 April-June).

Telecommuters are included in the database.

Currently there are 226 privately owned households in Devens, another 30 units currently under development and 128 more units in the pipeline. If Devens continues to permit and build new residential housing such as Emerson Green (pictured below), a new 124-unit development containing a mix of single-family duplexes, townhouses, and a multifamily apartment complex, the share of people both living and working in Devens is likely to increase.



Source: MassDevelopment

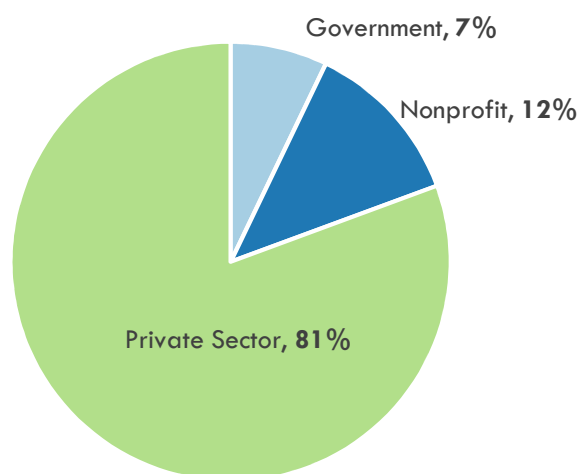
Economic Profile

Establishment Type and Count

Of the 98 Devens establishments in 2019, 81 percent are in the private sector, 12 percent are nonprofits, and 7 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 3. Devens Establishments by Type



Sources: Dun & Bradstreet, InfoGroup, UMDI analysis.

Aggregate Employment and Wages

Devens businesses and organizations employ 6,092 people, with the private sector employing 5,192, around 85 percent of the total. Total estimated employee wages in Devens top \$547 million. Due to the mix of firms and organizations, estimated average wages in Devens are slightly higher than those in the Commonwealth: \$89,898 versus \$87,770, respectively. In Devens, the estimated average annual employee wage in the private sector is more than \$96,000; 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	720	12%	\$57,582,929	\$79,976
Nonprofit	180	3%	\$9,373,839	\$52,077
Private	5,192	85%	\$501,140,997	\$96,522
Total	6,092	100%	\$547,656,873	\$89,898

Sources: Dun & Bradstreet, InfoGroup, MassDevelopment, and Emsi. Note: Wages are in 2019 dollars. Total Average Annual Wages reflects the total amount of wages divided by the total jobs.

Aggregate Industry Analysis

Devens has a unique industry mix; containing higher concentrations of certain industries compared to the state as a whole. Manufacturing makes up nearly 26 percent of all Devens establishments, compared to just 3 percent statewide; Professional, Scientific and Technical Services makes up 15 percent versus 13 percent statewide; Educational Services makes up 8 percent versus 2 percent statewide; and Transportation and Warehousing makes up 6 percent versus 2 percent statewide. Public Administration, which includes five government establishments, also has a higher share than the state overall (5 percent of the total versus 3 percent statewide). Business types with a lower concentration in Devens include Retail (5 percent of Devens establishments versus 9 percent in Massachusetts) and Construction (1 percent versus 8 percent).

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

Industry Description	Devens			Massachusetts		
	Establish-ments	% of Establish-ments	Average Annual Wages	Establish-ments	% of Establish-ments	Average Annual Wages
Manufacturing	25	25.51%	\$127,704	6,697	2.55%	\$111,020
Professional, Scientific, and Technical Services	15	15.31%	\$144,212	33,743	12.86%	\$157,658
Educational Services	8	8.16%	\$60,260	4,006	1.53%	\$60,160
Transportation and Warehousing	6	6.12%	\$66,753	4,345	1.66%	\$66,442
Accommodation and Food Services	6	6.12%	\$34,427	16,987	6.47%	\$30,406
Arts, Entertainment, and Recreation	6	6.12%	\$31,020	3,785	1.44%	\$49,912
Other Services	5	5.10%	\$34,723	21,832	8.32%	\$43,370
Public Administration	5	5.10%	\$92,144	7,593	2.89%	\$92,661
Health Care and Social Assistance	4	4.08%	\$54,997	65,090	24.81%	\$69,097
Retail Trade	5	5.10%	\$36,651	23,354	8.90%	\$43,579
Wholesale Trade	4	4.08%	\$98,136	14,034	5.35%	\$117,281
Administrative and Waste Services	2	2.04%	\$97,007	12,985	4.95%	\$62,689
Finance and Insurance	2	2.04%	\$65,347	10,464	3.99%	\$188,880
Real Estate Rental and Leasing	1	1.02%	\$100,219	7,471	2.85%	\$93,994
Construction	1	1.02%	\$94,869	21,487	8.19%	\$95,367
Utilities	1	1.02%	\$93,036	333	0.13%	\$190,719
Agriculture, Forestry, Fishing, and Hunting	1	1.02%	\$43,208	909	0.35%	\$73,710
Information	1	1.02%	\$92,766	5,666	2.16%	\$149,549
Management of Companies and Enterprises	N/A	N/A	N/A	1,512	0.58%	\$161,872
Mining, Quarrying, and Oil and Gas Extraction	N/A	N/A	N/A	93	0.04%	\$83,995
Total	98	100%	\$89,898	262,384	100%	\$87,770

Sources: Dun & Bradstreet, InfoGroup, MassDevelopment, and Emsi. Note: Wages are in 2019 dollars. Total Average Annual Wages reflects the total amount of wages divided by the total jobs.

Manufacturing is a significant force in Devens with 25 establishments and nearly 2,700 employees, the largest number of people employed by any one industry, by far, in the community. The largest Manufacturing employers in Devens are Bristol Myers Squibb (biologics manufacturing), SMC Ltd. (medical-device manufacturing), Johnson Matthey (pharmaceutical manufacturing), and Jabil (plastics manufacturing). The Professional, Scientific, and Technical Services industry includes 15 businesses that employ 197 people. The largest Professional, Scientific, and Technical Services employers are MagneMotion (engineering services) and QinetiQ (robotics and engineering). Quiet 3PF, formerly known as Quiet Logistics, in the Transportation and Warehousing industry, has also grown to become one of Devens' largest private-sector businesses. 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 Bristol Myers Squibb and Quiet 3PF.

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

Industry Description	Total Employment	Establishments	Total Wages
Manufacturing	2,673	25	\$341,351,983
Transportation and Warehousing	897	6	\$59,877,436
Public Administration	591	5	\$54,457,222
Professional, Scientific, and Technical Services	197	15	\$28,409,796
Educational Services	322	8	\$19,403,791
Wholesale Trade	209	4	\$20,510,321
Retail Trade	323	5	\$11,838,127
Accommodation and Food Services	187	6	\$6,437,835
Construction	150	1	\$14,230,324
Arts, Entertainment, and Recreation	73	6	\$2,264,450
Health Care and Social Assistance	358	4	\$19,688,862
Real Estate and Rental and Leasing	39	1	\$3,908,530
Administrative and Waste Mgmt Services	30	2	\$2,910,202
Other Services (except Public Administration)	11	5	\$381,949
Finance and Insurance	10	2	\$653,467
Agriculture, Forestry, Fishing, and Hunting	10	1	\$432,080
Utilities	7	1	\$651,251
Information	5	1	\$463,831

Sources: Dun & Bradstreet, InfoGroup, MassDevelopment, and Emsi. Note: Wages are in 2019 dollars.

Analysis of Private Establishments

More than three-quarters of both the establishments and employees in Devens are in the private sector. Devens particularly attracts 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 account for around 80 percent of the jobs in Devens (over 5,000 employees). Estimated average annual wages in this sector exceed \$96,000.

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

Establishments	79
Employment	5,192
Total Wages	\$501,140,997
Average Annual Wages	\$96,522

Sources: Dun & Bradstreet, InfoGroup, MassDevelopment, and Emsi. Note: Wages are in 2019 dollars. Total Average Annual Wages reflects the total amount of wages divided by the total jobs.

Industry Analysis

Nearly 44 percent of employment in Devens comes from its 25 manufacturers. Manufacturing employment in Devens has grown from 1,903 employees in 2016 to 2,673 in 2019, largely driven by Bristol Myers Squibb. With high-capacity infrastructure, available land for expansion, and strong highway and freight rail connections, Devens has emerged as a preferred New England location for manufacturing as well as distribution (i.e., "transportation & warehousing").

Devens' 14 private Professional, Scientific, and Technical Services firms employ 196 people at larger companies like MagneMotion, as well as at smaller firms and startups. The largest employers in Wholesale Trade include Patterson Veterinarian Supply, Ryerson, and ROFIN-BAASEL, Inc.

Industries that typically employ high-skill workers and pay high wages dominate the Devens private sector: Manufacturing has average annual wages of more than \$130,000 and Professional, Scientific, and Technical Services have average wages of more than \$162,000. The lowest average annual wages among Devens industries are in Accommodations and Food Services (\$33,198); Arts, Entertainment, and Recreation (\$39,203); and Other Services, which includes subsectors like civic and social organizations, automotive repair, and beauty salons (\$42,609).

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

Industry Description	Employment	Establishments	Total Wages	Average Annual Wages
Manufacturing	2,673	25	\$349,687,206	\$130,822
Transportation and Warehousing	893	5	\$55,444,584	\$62,088
Retail Trade	323	5	\$16,678,105	\$51,635
Health Care and Social Assistance	320	1	\$21,424,640	\$66,952
Wholesale Trade	209	4	\$23,895,179	\$114,331
Professional, Scientific, and Technical Services	196	14	\$31,875,088	\$162,628
Accommodation and Food Services	187	6	\$6,208,026	\$33,198
Construction	150	1	\$13,279,500	\$88,530
Educational Services	72	5	\$4,071,744	\$56,552
Arts, Entertainment, and Recreation	69	4	\$2,705,007	\$39,203
Real Estate and Rental and Leasing	39	1	\$3,882,879	\$99,561
Administrative and Waste Mgmt Services	30	2	\$1,888,860	\$62,962
Agriculture, Forestry, Fishing, and Hunting	10	1	\$595,510	\$59,551
Utilities	7	1	\$1,060,906	\$151,558
Finance and Insurance	6	1	\$604,704	\$100,784
Information	5	1	\$411,175	\$82,235
Other Services	3	2	\$127,827	\$42,609
Total	5,192	79	\$525,362,904	\$101,187

Sources: Dun & Bradstreet, InfoGroup, MassDevelopment, and Emsi. Note: Wages are in 2019 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' seven government entities account for 720 employees. Average annual wages exceeded \$84,000, with total annual wages topping \$60 million.

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

Establishments	7
Employment	720
Total Wages	\$60,962,400
Average Annual Wages	\$84,670

Sources: Dun & Bradstreet, InfoGroup, MassDevelopment, and Emsi. Note: Wages are in 2019 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 (591 employees in Devens), except in the case of Shriver Job Corps, and 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 (477 employees, or about 66 percent of total government employment in Devens). Shriver Job Corps, a job-training program out of the Department of Labor, comprises another 17 percent of government jobs in Devens. Average annual wages for the industries represented in Devens' government sector are \$84,670, close to 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	591	\$50,039,970	\$84,670
Educational Services	1	125	\$7,543,378	\$60,347
Transportation and Warehousing	1	4	\$248,352	\$62,088
Total	7	720	\$57,831,701	\$84,530

Sources: Dun & Bradstreet, InfoGroup, MassDevelopment, and Emsi. Note: Wages are in 2019 dollars. Total Average Annual Wages reflects the total amount of wages divided by the total jobs.

Analysis of Nonprofit Establishments

Nearly one in eight entities in Devens is a nonprofit organization, with educational and social assistance organizations most common. Devens' educational organizations include childcare 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 subsector.

Employment and Wages

The 12 nonprofit sector entities in Devens employ workers with an annual average wage of more than \$52,000 and total annual wages of more than \$9 million.

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

Establishments	12
Employment	180
Total Wages	\$9,373,839
Average Annual Wages	\$52,077

Sources: Dun & Bradstreet, InfoGroup, MassDevelopment, and Emsi. Note: Wages are in 2019 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, largely attributable to Francis W. Parker Charter Essential School and R3 Education Inc., which includes Saba University and the Medical University of the Americas. Average annual wages for the industries represented in the Devens nonprofit sector are \$52,077, largely due to the mix of industries represented, with average annual wages of \$60,255 in Educational Services and \$50,932 in Health Care and Social Assistance.

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

Industry Description	Establishments	Employment	Total Wages	Average Annual Wages
Educational Services	2	125	\$7,531,890	\$60,255
Health Care and Social Assistance	3	38	\$1,935,426	\$50,932
Other Services (except Public Administration)	3	8	\$303,717	\$37,965
Arts, Entertainment, and Recreation	2	4	\$146,666	\$36,667
Finance and Insurance	1	4	\$261,387	\$65,347
Professional, Scientific, and Technical Services	1	1	\$99,042	\$99,042
Total	12	180	\$10,278,128	\$52,077

Sources: Dun & Bradstreet, InfoGroup, MassDevelopment, and Emsi. Note: Wages are in 2019 dollars. Total Average Annual Wages reflects the total amount of wages divided by the total jobs.

Economic Contributions of Commercial and Nonprofit Activities

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.



Source: MassDevelopment

Researchers estimated economic contributions using the well-regarded IMPLAN (Impact Analysis for Planning) proprietary data and software, basing contributions for private sector and nonprofit firms on employment figures for those firms. IMPLAN is designed to predict the ripple effect of an economic activity (such as that taking place at Devens), both due to supply chain spending and spending by workers. IMPLAN is based on input-output matrices that show the patterns of transactions between businesses in different industry sectors. Government enterprises that do not sell goods and services (e.g., a government-owned utility) are not included as input options within the model, hence the emphasis on the multiplier effects of private industry and non-profits located at Devens shown in this section of the report.

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.

Total Economic Contributions

Devens firms' estimated direct spending of \$2.33 billion supports an additional estimated \$1.46 billion in spending in Massachusetts for a total economic contribution of nearly \$4 billion, 99 percent of which comes from private-sector firms. More than \$30.3 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	\$2,311,230,207	\$1,442,726,184	\$3,753,956,390
Nonprofit	\$16,208,724	\$14,095,721	\$30,304,445
Total	\$2,327,438,931	\$1,456,821,904	\$3,784,260,835

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

Employment Contributions

The private sector and nonprofit entities in Devens directly employ 5,372 people, and their spending (both by the businesses and their employees) supports an additional 8,038 workers. With the addition of government jobs, Devens has a total employment contribution to the Massachusetts economy of 14,130. Of the total supported employment (excludes government), spending of private-sector entities supports 13,144 employees, and spending of nonprofit entities supports 265 employees.

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

Type	Direct Employment	Indirect and Induced Employment	Total Employment
Private Sector	5,192	7,952	13,144
Nonprofit	180	85	265
Total (excl. government)	5,372	8,038	13,410

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

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, including environmental consultants and outside counsel. The indirect and induced economic contributions of private-sector firms in Devens to the Massachusetts economy include: more than \$168 million in Wholesale Trade; \$137 million in Health Care and Social Assistance; over \$135 million in Finance and Insurance; almost \$128 million in Management of Companies and Enterprises; and nearly \$122 million in Professional, Scientific, and Technical Services.

Table 12. Top 10 Industries Supported by Spending of Devens' Private Firms

Industry	Indirect and Induced Contributions to Sector
Wholesale Trade	\$168,976,536
Health Care and Social Assistance	\$137,254,925
Finance and Insurance	\$135,781,611
Management of Companies and Enterprises	\$127,952,313
Professional, Scientific, and Technical Services	\$121,917,855
Real Estate and Rental and Leasing	\$103,178,148
Manufacturing	\$94,236,413
Information	\$85,363,569
Transportation and Warehousing	\$71,773,612
Retail Trade	\$61,801,177

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: \$1.97 million for Real Estate and Rental and Leasing Activities; \$1.85 million for Finance and Insurance; \$1.80 million for Health Care and Social Assistance; \$963,000 for Information; and \$911,000 for Professional, Scientific, and Technical Services.

Table 13. Top 10 Industries Supported by Spending of Devens' Nonprofit Firms

Industry	Indirect and Induced Contributions to Sector
Real Estate and Rental and Leasing	\$1,967,607
Finance and Insurance	\$1,847,652
Health Care and Social Assistance	\$1,802,017
Information	\$963,645
Professional, Scientific, and Technical Services	\$911,404
Retail Trade	\$796,709
Accommodation and Food Services	\$611,442
Wholesale Trade	\$559,248
Administrative and Waste Management Services	\$544,760
Other Services (except Public Administration)	\$507,697

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 \$12.6 million in corporate profits tax in 2020, while their employees will pay an estimated \$29.5 million in personal income tax to Massachusetts. Additionally, nonprofit firm employees in Devens will pay an estimated \$390,083 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	\$12,612,718	\$29,497,765	5,192	\$5,681
Nonprofit	N/A	\$390,083	180	\$2,167
Total	\$12,612,718	\$29,887,848	5,372	\$5,564

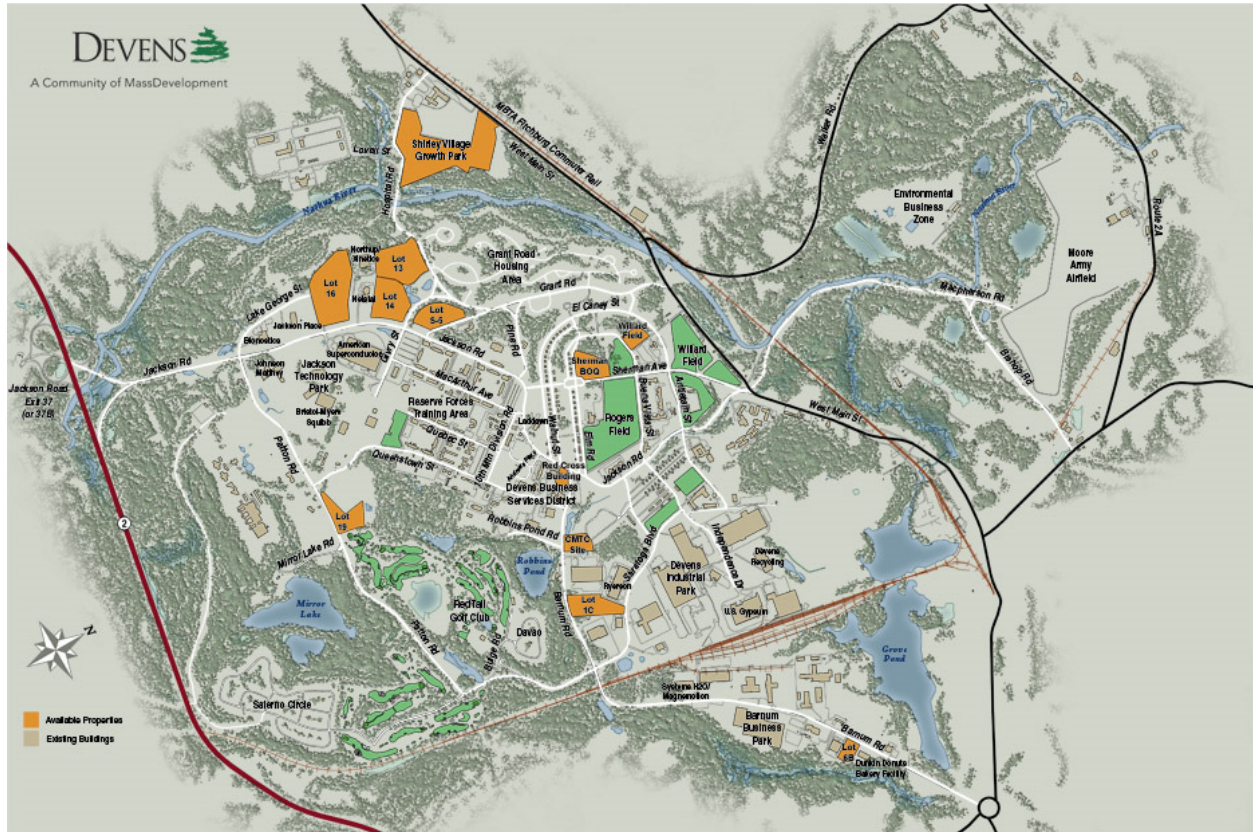
Sources: Dun & Bradstreet, MassDevelopment, and MIG, Inc. IMPLAN System.

Conclusion

Devens, as shown in this report, has become a magnet for larger enterprises, notably manufacturers and distributors that need substantial sites for production and goods movement while still being near major population and jobs centers. Devens' access to highways and rail (both commuter into Boston and freight rail) also fosters the movement of goods and people to, from, and within the region. In effect, Devens can offer sites for companies and manufacturers to scale up in Massachusetts and continue to capitalize on the state's substantial research and development activities without having to expand or relocate to other parts of the United States or overseas. Recent expansions by existing Devens' tenants, including Bristol Myers Squibb, Bio-Techne, and Little Leaf Farms attest to Devens' attractiveness not only as a site for new businesses but also as a place where existing companies can grow. Devens plays a key economic development role by helping to retain dynamic enterprises within the region and the state.

The employment patterns described in this report represent the period prior to the COVID-19 outbreak and may currently be disrupted by the pandemic. That said, Devens is home to major industries like pharmaceuticals, medical devices, and food processing that are essential to health and well-being. These types of industries should help bring Devens a certain level of resilience as Massachusetts, the nation, and the world weathers the storm brought upon by the global pandemic. The assets that have made Devens successful can also help it lead economic recovery and growth in the future as the direct threats of the pandemic abate.

Appendix A: Map of Devens



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

Appendix B: Devens Businesses and Organizations

Company	Address
Accel-RF Instruments	94 Jackson Road, Suite 106A
Acorn Technology Systems	94 Jackson Road, Suite 206
Anytime Fitness	20 Andrews Parkway
AOA Xinetics	115 Jackson Road
Applewild School	27 Jackson Road
Applewood Controls, Inc.	94 Jackson Road, Suite 303
Atlantic Forest Products	
Avantor Fluid Handling	29 Saratoga Boulevard
B13 Studio Web Design	
BioProtection Systems	94 Jackson Road, Suite 108
Bio-Techne	7 Jackson Road
Bristol Myers Squibb	38 Jackson Road
Clear Path for Veterans New England	84 Antietam Street
Comrex	19 Pine Street
Crozet BioPharma	94 Jackson Road, Suite 108
Cynthia Thomas, C.P.A.	94 Jackson Road, Suite 105B
Devens Central Production Location	56 Barnum Road
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 Regional Household Hazardous Products Collection Center	9 Cook Street
Devens United States Post Office	240 Barnum Road
Device Conformity and Testing, LLC	94 Jackson Road, Suite 211
Dragonfly Wellness Center	176 Jackson Road
Dunkin'	20 Andrews Parkway
Federal Medical Center	42 Patton Rd
Fort Devens Museum	94 Jackson Road
Francis W. Parker Charter Essential School	49 Antietam Street, Suite 311
Freedom's Way National Heritage Association	94 Jackson Road #311
Great American Grill	59 Andrews Parkway
Guild of St. Agnes Early Education & Care	172 Jackson Road

Company	Address
Guilford Motor Express/Pan Am Railways	133 Barnum Road
Hanscom Federal Credit Union	24 Andrews Parkway
Hilton Garden Inn	59 Andrews Parkway
IMPACT Technology Development	100 Jackson Road
Instrumentation Laboratory (div. of Werfen - Devens logistics center)	188 Independence Drive
IntelliTech International	94 Jackson Road #208
ITFW Timepieces (Barbosa Home Business)	13 Auman
Jabil	112 Barnum Road
Johnson Matthey	25 Patton Road
Kenco Group, Inc.	50 Independence Drive
Laddawn, Inc.	155 Jackson Road
Learning Express Toys	29 Buena Vista Street
Little Leaf Farms	105 Walker Road
Loaves & Fishes Food Pantry	234 Barnum Road
MagneMotion	139 Barnum Road
Manilow's Canine Playground	253 Barnum Road
Massachusetts State Police	59 Buena Vista Street
MassDevelopment	33 Andrews Parkway
Maxant Industries	58 Barnum Road
McInnis Cement	35 Saratoga Boulevard
MediaPower, Inc.	94 Jackson Road, Suite 105A
Medical University of the Americas	27 Jackson Road #302
Minuteman Press	10 Andrews Parkway
Mount Wachusett Community College / Devens Learning Center	27 Jackson Road
N.B. Kenney	68 Barnum Road
Nashoba Valley Regional Dispatch	270 Barnum Road
NEPW Logistics, Inc. (300,000 square foot warehouse)	66 Saratoga Boulevard
New England Sheets	36 Saratoga Boulevard
New England Studios	100 Studio Way
Odic, Inc.	37 MacArthur Avenue
Optodot	31 MacArthur Avenue
O'Reilly Auto Parts (Ozark Automotive)	15 Independence Drive
Parker Hannifin, Nichols Aircraft Div.	14 Robbins Pond Road
Patterson Veterinary Supply	137 Barnum Road
PCI Synthesis	88 Jackson Road
Pizza Bella	8 Andrews Parkway
QinetiQ North America	116 Queenstown Street
Quiet 3PF (Quiet Logistics)	235 Barnum Road
R3 Education, Inc.	27 Jackson Road #300

Company	Address
Rapid Refill Gas Station	4 Andrews Parkway
Red Tail Golf Club	15 Bulge Road
Regency Warehouse & Distribution, Inc.	50 Independence Drive
Response Microwave, Inc.	94 Jackson Road, Suite 106A
ROFIN-BAASEL, Inc.	68 Barnum Road
Ryerson	45 Saratoga Boulevard
Saba University School of Medicine	27 Jackson Road
Sequens	88 Jackson Road
Seven Hills Academy	22 Grant Road
Shriver Job Corps Center	270 Jackson Road
SMC Ltd.	18 Independence Drive
Springhill Suites by Marriott/ Devens Common Center	27 Andrews Parkway
SUEZ	85 Walker Road (Shirley)
TaraVista Behavioral Health Center	85 Patton Road
The Natural Cafe & Market	176 Jackson Road
Tighe Logistics Group	133 Barnum Road
Transitions at Devens	18 Cavite Street
United Native American Cultural Center	29 Antietam Street
Veterans Inc.	14A Bates Street
W.H. Nichols Employees Federal Credit Union	14 Robbins Pond Road
Waiteco Machine, Inc.	18 Saratoga Boulevard
WattJoule Corporation	100 Jackson Road
WestRock	51 Independence Drive
YMC Process Technologies	8 Charlestown Street

Sources: Dun & Bradstreet, InfoGroup, MassDevelopment

Appendix C: Industries by Type for Devens Businesses and Organizations

Industry by Type	Establishments	Employment
Government	7	720
Educational Services	1	125
Public Administration	5	591
Transportation and Warehousing	1	4
Nonprofit	12	180
Arts, Entertainment, and Recreation	2	4
Educational Services	2	125
Finance and Insurance	1	4
Health Care and Social Assistance	3	38
Other Services (except Public Administration)	3	8
Professional, Scientific, and Technical Services	1	1
Private	79	5,192
Accommodation and Food Services	6	187
Administrative and Support and Waste Management and Remediation Services	2	30
Agriculture, Forestry, Fishing, and Hunting	1	10
Arts, Entertainment, and Recreation	4	69
Construction	1	150
Educational Services	5	72
Finance and Insurance	1	6
Health Care and Social Assistance	1	320
Information	1	5
Manufacturing	25	2,673
Other Services (except Public Administration)	2	3
Professional, Scientific, and Technical Services	14	196
Real Estate and Rental and Leasing	1	39
Retail Trade	5	323
Transportation and Warehousing	5	893
Utilities	1	7
Wholesale Trade	4	209
Grand Total	98	6,092

Sources: Dun & Bradstreet, InfoGroup, MassDevelopment

Appendix D: 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 Economic Modeling Specialists International (Emsi). The numbers for wages shown in this report represent the average wages in Harvard, Shirley, and Ayer combined, since wage data are not specifically available for the Devens geography. 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.

Economic Modeling Specialists International (Emsi)

Emsi provides a composite dataset that integrates more than 90 federal and state labor market data sources into one database. Emsi data provide insight into regional economies through its look at industries, occupations, postsecondary training programs, demographics, and wages, at the state, county, zip code, and metro area levels. Emsi starts by downloading data from government sources like the Bureau of Economic Analysis (BEA), the U.S. Census Bureau, the Bureau of Labor Statistics, and others.

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.