

3-2015

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Recommended Citation

Swenson, David, "The Regional Economic Impact of Camp Dodge" (2015). *Economics Technical Reports and White Papers*. 15.
http://lib.dr.iastate.edu/econ_reportspapers/15

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Abstract

This study measures the economic impact of state and federal government operations located at Camp Dodge. The analysis benefitted from detailed fiscal 2013 expenditure information from federal and state activities at the facility to estimate the total, multiplied-through economic impact of the facility for the central Iowa economy. Of the major findings: Camp Dodge is home to 1,184 jobholders, both military and civilian, who earned collectively \$77.86 million in labor income in 2013. The facility attracted nearly 385,000 visitors for training or instruction. Those visitors were estimated to spend \$35.4 million on retail and services in central Iowa during their stay. The facility required construction activities as well as purchases of equipment. Combined capital development or accumulation at the facility was \$7.9 million in fiscal 2013. When these data were properly classified and entered into an input-output model of the central Iowa economy, they produced the multiplied-through summaries of the economic impact of the facility for the region.

Disciplines

Economics | Growth and Development | Other Economics | Regional Economics

The Regional Economic Impact of Camp Dodge

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March, 2015

Overview of Findings

This study measures the economic impact of state and federal government operations located at Camp Dodge. The analysis benefitted from detailed fiscal 2013 expenditure information from federal and state activities at the facility to estimate the total, multiplied-through economic impact of the facility for the central Iowa economy. Of the major findings:

- Camp Dodge is home to 1,184 jobholders, both military and civilian, who earned collectively \$77.86 million in labor income in 2013.
- The facility attracted nearly 385, 000 visitors for training or instruction. Those visitors were estimated to spend \$35.4 million on retail and services in central Iowa during their stay.
- The facility required construction activities as well as purchases of equipment. Combined capital development or accumulation at the facility was \$7.9 million in fiscal 2013.

When these data were properly classified and entered into an input-output model of the central Iowa economy, they produced the multiplied-through summaries of the economic impact of the facility for the region.

When combining all Camp Dodge normal operations activities with all spending by visitors to the facility, the total annual and ongoing economic impact was projected at

- \$203.9 million in total regional economic output resulting in \$139.7 million in value added for the regional economy. Value added is the equivalent of Gross Domestic Product and is the standard indicator for the worth of economic activity in a region.
- Of that value added, \$117.3 million was in the form of labor income to a total of 2,339 jobholders

Secondarily, when evaluating the short-term impacts of capital formation or accumulation through construction or equipment purchase the facility generated

- \$11.98 million in total regional economic output of which \$6.23 million was in the form of value added (or GDP).
- Of the value added, \$4.88 million in labor income was paid to 79 total job holders.

Introduction

This study measures the regional economic value of the Camp Dodge - Iowa National Guard complex in Johnston, IA. The facility houses, in the main, Army National Guard and other related military activities along with some state of Iowa and other public services. This facility has permanent military personnel and it is also a monthly training site for members of the Iowa National Guard. In addition, the complex hosts over 385,000 visitors annually for short-term training and instruction.

The regional economic impact of the facility is measured using a current input-output model of the regional economy primarily influenced by Camp Dodge.¹ The primary region for this study consisted of Polk County, plus the counties of Boone, Dallas, Madison, Warren, and Story. These were the counties that explained the bulk of regional spending by the camp for goods and services, and these are the counties in which the vast majority of military and civilian personnel working at Camp Dodge live.

The study consists of three main parts:

1. Determining total and regional operational expenditures by category of expenditure
2. Isolating separate categories of regional economic activity for the modelling exercise, i.e.,
 - Operational spending: all current expenditures by state and federal agencies at Camp Dodge
 - Visitor spending: the likely casual or lodging-related spending by visitors to Camp Dodge for training and instruction.
 - Construction: the short-term economic impact of capital additions or improvements to the facility
3. Compiling the economic impact estimates

Operational Spending by Camp Dodge Organizations

The first step in estimating Camp Dodge economic impacts is to determine the amount and kind of spending the facility makes annually. The accounting professionals at the facility provided an item-by-item listing of all payments made to vendors for fiscal year 2013. The list contained the vendor zip code, the amount of the payment, and the category of the payment. This very detailed data set allowed for a systematic compilation of the purchases by type and from the vendors with billing addresses inside the six-county study region. A similar data set was provided by the Iowa Law Enforcement Academy, and those results were added to the results for the facility's military operations.

Knowing within-region purchases is important for the modeling process, as those sales drive the "multiplier" process which will be described in some detail in a later section. Knowing the purpose of the spending is also important in that not all spending is treated equally. Economic impact analysis concentrates on the value of on-going operational activity. Other kinds of spending, like for capital formation through construction or for equipment purchases create the capacity for operational activity. Accordingly, for modeling purposes, we treat additions to capital (construction and equipment costs)

¹ The input-output system used for this analysis is called IMPLAN. Iowa State University has acquired IMPLAN-based data sets annually since the late 1980s, and it is the most widely used modeling system by academics for this type of evaluation.

separately from on-going operational activity. Construction economic activity is short-term in duration (and facilities can have ups and downs in spending of this type depending on budgetary dynamics), and is therefore reported separately from normal operations impact analysis. Equipment purchases are also treated much differently in normal impact analysis as their use value, as represented by depreciation, is part of the annual input-output model accounting process.

Isolating the Spending Categories

As has been mentioned, the kind of spending supported by the facility matters to the modeling process. The first and most important category to measure is the ongoing operational spending of the entities housed at the facility. Table 1 lists the spending at the facility by kind of spending and organization. In all, the facility accounted for \$102.22 million in annual expenditures. Payments to military and civilian personnel were \$77.86 million, and payments for goods and services were \$16.94 million. In all, there were an estimated 1,184 jobs associated with the facility.²

Table 1

Fiscal 2013 Expenditures by Camp Dodge Organizations

	Camp Dodge	Iowa Law Enforcement Academy	Total
Total Expenditures	99,611,137	2,604,612	102,215,749
Capital Expenditures	8,286,433	-	8,286,433
Labor Payments	75,887,322	1,969,039	77,856,361
Expenditures for Supplies & Services	15,437,382	635,573	16,072,956
In Region Expenditures	5,021,377	169,656	5,191,033
Out-of-Region Expenditures	\$ 10,416,006	\$ 465,917	\$ 10,881,923
Jobs	1,161	23	1,184

Of the \$16.07 million in supplies and services spending, \$5.2 million were made to vendors with zip codes within the study region, so that value became the amount used to determining that portion of the economic impact. The remaining values that are ultimately added into the model are the total amount of payroll and the total number of jobs.

The next category of spending involves imputing visitor spending values for visitors to the facility who come from training or instruction. In fiscal 2013, the facility had nearly 385,000 visitors of these sorts whose tenure at the facility ranged from a few days to two weeks. Nearly all of these visitors were

² Jobs are measured as the number of employed personnel at the state and federal facilities at Camp Dodge. The modeling system thinks of jobs in annualized terms, which is different than a full-time equivalency. For this project, there were 1,835 National Guard members credited with 63 days of activity for the year at the facility. Those part-time military jobs were “annualized” into the equivalent of 445 full-time, full-year military jobs for reporting and modeling purposes.

housed in facilities at Camp Dodge and were provided meals and other essentials while in residence. In addition, approximately half of the trainees attending counterdrug training required off-facility lodging. Casual spending values were assigned to all visitors. Those staying on the facility were expected to spend \$20 daily in the region for 5 days. Those sales were apportioned equally between general merchandise retail sales, eating, and drinking. Those staying in area motels were expected to spend \$105 daily for lodging and food while attending classes at the facility. Combined, there were 384,878 total training-related visitors to Camp Dodge, and those visitors were expected to make \$35.39 million in casual, non-training related purchases from the regional economy.³

Table 2

Fiscal 2013 Camp Dodge Training Attendance and Spending

Training Attendees	
Guard	274,328
Reserve	23,751
Regular military	6,129
Other governmental	32,707
Non-governmental	44,262
Other: Counterdrug training	3,701
Total Attendees	384,878
Total Estimated Spending	
Dining & drinking	23,174,503
Miscellaneous retail	11,471,595
Lodging	740,200
Total Estimated Spending	\$ 35,386,298

The next impact category involves the special treatment afforded construction and equipment purchases. This type of spending is considered capital, and capital expenditures create the capacity to produce output. Accordingly, they are segregated from typical impact analyses. Construction impacts are short-term in duration and only last as long as the construction activity. Equipment purchases are durable goods that last many years, and their value, as mentioned above, is represented in their annualized use value. Both of these types of expenditures are typically periodic and lumpy. The levels vary over the years, but when purchases are made, the amounts spent are often substantial. Nonetheless, these values can be entered into the modeling system to estimate the one-time impact of the spending to the study region.

Table 3 lists the construction and (inventoried) equipment purchases at Camp Dodge. In all, there were \$7.4 million in construction-related expenditures, \$6.75 million of which went to firms within the region.

³ This would include on-post vending sales as well as off-facility spending. Training attendance for the Iowa Law Enforcement Academy was not reported, so that potential regional spending is not included.

There were \$497,100 in inventoried equipment purchases, of which \$364,132 were from regional vendors.

Table 3

Fiscal 2013 Camp Dodge Capital Spending	
Total Construction	\$ 7,424,211
In-Region Construction	\$ 6,753,056
Total Equipment	\$ 497,100
In-Region Equipment	\$ 364,132

Estimating the Economic Impacts of Camp Dodge

The region-wide economic impact of activities at Camp Dodge is measured using an input-output (I-O) model of the regional economy. I-O models are area-specific accountings of the buying and selling transactions among industries. When a business or an institution in a study area buys goods and services within the region, there is a multiplier effect. A supplier of goods and services will, in turn, be required to buy inputs from *their* suppliers, who in turn must buy inputs from *their* suppliers, and so on. All of these successive rounds of purchases are captured within an IO model. Before reporting the results, however, it is useful to understand the reporting components.

I-O Terminology

I-O models produce an array of information for analysts. For our purposes, however, there are four types of data and four levels of data comprising a typical I-O results table.

The types of economic impact data are

- **Output.** This is the value of industrial productivity over the course of a year. It represents the worth of what was produced whether it was sold or not. For public institutions, output usually is represented by annual expenditures.
- **Labor income.** These are wage and salary payments to workers, including employer-provided benefits. Management payments to proprietors are also counted as labor income payments.
- **Value added.** Value added includes all labor income (mentioned above) plus payments to investors (dividends, interests, and rents), and indirect tax payments to governments. Value added is the equivalent of Gross Domestic Product (GDP), which is the standard measure of economic activity across the states and for the nation.
- **Jobs.** There are many kinds of jobs. I-O models measure the annualized job value in different industries. Many industries have mostly full-time jobs, but many others have part-time and seasonal jobs. I-O models do not convert jobs into full-time equivalencies, but they do convert them into annualized equivalencies. As many people have more than one job, there are always more jobs in an economy than there are employed persons.

The levels of economic impact data are

- **Direct values.** These are the aforementioned data types for the industry that we are evaluating. In this study, the direct values will be respectively, operational spending by the agencies at Camp Dodge, the casual spending of visitors to the facility, and the amount of spending for construction and equipment.
- **Indirect values.** All direct firms require intermediate inputs into production. They must buy supplies, utilities, other agricultural or manufactured inputs, transportation, and services, just to name a few. In this study, most indirect payments to suppliers were provided.
- **Induced values.** When the workers in the direct industry (the military and civilian workers at Camp Dodge, in this case) and those in the indirect industries (the supplying sectors) convert their labor incomes into household spending they induce a third round of economic activity. Induced values are sometimes called the household values.
- **Total values.** The sum of direct, indirect, and induced activity constitutes the total economic effect that is being measured. In short it gives us the economic sums of the studied industry, its suppliers, and all affected households.

Impact Results: Camp Dodge Operations

Table 4 shows the results of the I-O analysis of Camp Dodge operational activities. These results include all military-type activities plus those of the Iowa Law Enforcement Academy. Those organizations had non-capital expenditures of \$93.93 million, which required the annualized equivalent of 1,184 jobholders earning \$77.86 million in labor income. Those agencies required \$5.23 million in total inputs from the regional economy, which in turn supported 55 jobholders making \$2.45 million in labor income. When the direct and the indirect jobholders converted their labor income into household spending, they induced \$56.64 million in additional output in the study area, which then paid \$19.3 million in labor income to 478 workers. Summed, the camp supported \$155.8 million in total regional economic output, \$114.5 million in value added (or GDP)⁴, \$99.6 million in labor income (a subset of value added), and 1,717 jobs.

Table 4

Total Camp Dodge Operational Economic Impacts				
	Jobs	Labor Income	Value Added	Output
Direct	1,184	\$ 77,856,361	\$ 77,856,361	\$ 93,929,317
Indirect	55	\$ 2,446,733	\$ 2,997,905	\$ 5,228,861
Induced	478	\$ 19,285,666	\$ 33,612,896	\$ 56,642,143
Total	1,717	\$ 99,588,760	\$ 114,467,162	\$ 155,800,321
<i>Total Multiplier</i>	<i>1.45</i>	<i>1.28</i>	<i>1.47</i>	<i>1.66</i>

Table 4 also includes a line of multipliers. A multiplier is the total value divided by the direct value. The interpretation is this:

⁴ For this analysis, Camp Dodge value added and labor income are equal as the government organizations are not making payments to investors or to indirect government tax payments as part of their operations.

- An output multiplier of 1.66 means that for every \$1 of output at Camp Dodge, there was \$.66 in total economic output supported in the rest of the regional economy.
- A value added multiplier of 1.47 means that for every \$1 of value added produced at Camp Dodge, there was \$.47 in value added generated in the rest of the region.
- A labor income multiplier of 1.28 means that for every \$1 of labor income paid at Camp Dodge, there was \$.28 in labor income supported in the remaining economy.
- A jobs multiplier of 1.45 means that for every annualized job equivalent at Camp Dodge, 45/100th of a job was supported in the central Iowa region in fiscal 2013.

Impact Results: Visitor Spending

Table 5 presents the regional economic impact values of the estimated Camp Dodge visitor spending. As was noted in Table 2, nearly 385,000 individuals visited the facility in fiscal 2013 for training and instruction. It was estimated that those visitors would spending nearly \$35.4 million in the regional economy for retail purchases, dining and drinking, and for lodging. In so doing, they would create \$26.93 million in boosted direct regional economic output, the supply of which would require 467 jobholders making \$10.54 million in labor income.⁵ The businesses directly boosted by visitor spending will in turn require \$11.1 million in regionally supplied inputs supporting 71 jobs making \$3.72 million in labor income. When the direct and the indirect jobholders convert their paychecks into household spending, they would induce another \$10.07million in output supporting 85 jobs and \$3.43 million in labor income. Combined, visitor spending would support \$48.1 million in regional output, of which \$25.2 million was value added (or GDP), and \$17.7million was labor income to 622 workers.

Table 5

Total Camp Dodge Visitor Economic Impacts				
	Jobs	Labor Income	Value Added	Output
Direct	467	\$ 10,536,922	\$ 12,903,568	\$ 26,931,733
Indirect	71	\$ 3,716,601	\$ 6,307,959	\$ 11,064,945
Induced	85	\$ 3,429,841	\$ 5,977,398	\$ 10,073,288
Total	622	\$ 17,683,364	\$ 25,188,925	\$ 48,069,966
<i>Total Multiplier</i>	<i>1.33</i>	<i>1.68</i>	<i>1.95</i>	<i>1.78</i>

There are multipliers for this table as well, and they should be interpreted exactly as described above. The financial value multipliers are higher than in the previous table because these industries purchase much more of their total cost of operation from the regional economy. The jobs multiplier is lower because the average earnings of the jobholders are lower and therefore their household spending (the induced values) is also lower.

⁵ The astute reader will notice that direct output of \$26.1 million is less than the \$35.4 million of estimated spending in the region. In I-O models, the cost of goods sold in retail transactions is not counted as regional output – the value of that purchase is apportioned to the manufacturer of that good as the retailer merely sells it and adds no more value to the commodity. Accordingly, then, retail output only represents retailers’ total sales less the cost of the good that was sold, not the amount of sales at the cash register.

Because visitor spending is primarily service sector spending, the amount of labor income per job from visitor spending is much less than the labor income per job for Camp Dodge operations. Average labor income after all multiplied-through transactions in Table 5 was \$29,430. The average labor income in Table 4 after all multiplied-through effects are accounted was \$58,001. Clearly, Camp Dodge operational impacts produce much higher value earnings per job, the majority of which are found in the very high direct average labor income per job of \$65,757 (calculated from the first line in Table 4) compared to visitor spending direct average incomes of \$22,569 per job (calculated from the first line of Table 5).

Impact Results: Camp Dodge Operational plus Visitor Impacts

It is entirely appropriate to add together Table 4 and Table 5 to produce a fiscal year grand total value. Table 6 tells us that, when just looking at the totals. Camp Dodge operations plus visitor spending in the region explained \$203.9 million in regional economic output, of which \$139.7 million was value added (or GDP), and \$117.3 million was labor income to 2,339 regional jobholders. This table is the “bottom line” declaration of the annualized worth of Camp Dodge to the regional economy.

Table 6

Total Camp Dodge Operational and Visitor Economic Impacts				
	Jobs	Labor Income	Value Added	Output
Direct	1,650	\$ 88,393,283	\$ 90,759,929	\$ 120,861,050
Indirect	126	\$ 6,163,334	\$ 9,305,864	\$ 16,293,806
Induced	563	\$ 22,715,507	\$ 39,590,294	\$ 66,715,431
Total	2,339	\$ 117,272,124	\$ 139,656,087	\$ 203,870,287

There are no multipliers listed for this table as it is a mix of two different types of economic activity and the interpretation of the multiplier would make little sense.

Impact Results: Construction and Equipment Purchases

The facility had both construction activity that was classified as capital development and it purchased equipment. When compiling economic impact summaries, capital development or acquisition is treated differently than ongoing operational spending. The amounts spent in total and regionally are contained in Table 3, and those values can be run through the I-O model to isolate the short-term economic impact of that spending.

Table 7 contains the results of entering both the construction activity and the equipment purchases into the regional model. In all, and after considering all indirect and induced activities, these capital development and acquisition purchases accounted for a one time boost to the regional economy of \$11.98 million in output, \$6.23 million in value added (or GDP), \$4.88 million in labor income, and 79 jobs as measured on an annualized basis.

Table 7

Total Camp Dodge Construction and Equipment Purchase Impacts				
	Jobs	Labor Income	Value Added	Output
Direct	36	\$ 3,081,524	\$ 3,232,035	\$ 6,816,415
Indirect	19	\$ 839,072	\$ 1,324,614	\$ 2,346,921
Induced	24	\$ 959,246	\$ 1,670,663	\$ 2,816,835
Total	79	\$ 4,879,842	\$ 6,227,312	\$ 11,980,171

Again, one reports capital development short-term impacts separately from ongoing operational and visitor impacts as those types of spending are (1) cyclical in nature, (2) usually in large amounts when made, and (3) they create the capacity for ongoing economic output which is more appropriately measured in the operational spending analysis (see Table 4) in future years.