THE ECONOMIC IMPACT OF THE WEST VIRGINIA ARMY NATIONAL GUARD ON THE WEST VIRGINIA ECONOMY

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WRITTEN BY

Eric Bowen, PhD
Research Assistant Professor
John Meszaros, PhD
Graduate Research Assistant

This research was provided free of charge by the BBER as a service to the West Virginia Army National Guard and the State of West Virginia. The opinions herein are those of the authors and do not necessarily reflect those of the West Virginia Army National Guard or the West Virginia University Board of Governors.

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Executive Summary

The West Virginia Army National Guard (WVARNG) has 38 units stationed in 22 counties throughout West Virginia. In addition to units supporting operations in Iraq, Afghanistan, and Kosovo, the WVARNG also provides assistance to the state of West Virginia when natural disasters, such as floods and forest fires, strike the state. One of the WVARNG’s largest facilities is Camp Dawson, located in Preston County, where the Guard hosts tactical training for Army and Army National Guard soldiers from across the country. Camp Dawson also serves as the main staging ground for the Ridge Runner training exercise, which is designed to “provide challenging, realistic, and meaningful training to the Department of Defense and its partners,” according to facility literature.

In this report, we estimate the economic impact of the WVARNG on the West Virginia economy. We examine the economic impact of WVARNG to the state’s overall output, employment, employee compensation, and tax revenue. We also estimate the economic impact of Camp Dawson and the Ridge Runner training program on the regions in which they are located. As shown in Figure 1, the WVARNG spends about $306 million within the state’s economy, which results in an additional $111 million in secondary impacts for a total impact of $417.5 million.

Figure 1: Total Impact Comparison

Other highlights of our findings include:

- WVARNG supports a total of 2,249 total jobs in the West Virginia economy.
- Camp Dawson brings in thousands of out-of-state trainees to West Virginia each year, whose spending results in an economic impact of more than $1.7 million.
- The WVARNG Ridge Runner exercise generates about $3.7 million in economic impact each year.
1 Introduction

The West Virginia Army National Guard (WVARNG) has 38 units stationed in 22 counties throughout West Virginia. In addition to units supporting operations in Iraq, Afghanistan, and Kosovo, the WVARNG also provides assistance to the state of West Virginia when natural disasters, such as floods and forest fires, strike the state. One of the WVARNG’s largest facilities is Camp Dawson, located in Preston County. The camp was founded in 1909 and is named in honor of former WV Governor William M. Dawson who was a native of Preston County and served as governor from 1905 to 1908. The camp’s primary purpose is to provide tactical training for Army and Air National Guard soldiers from across the country.

Camp Dawson, in addition to other training activities, serves as the main staging ground for the Ridge Runner training exercise. The exercise is designed to “provide challenging, realistic, and meaningful training to the Department of Defense and its partners,” according to facility literature. The program takes place in West Virginia’s Advanced Mobility Training Area, which comprises 500,000 acres of rugged and mountainous public and private land across several West Virginia counties. The Ridge Runner exercise is designed to simulate insurgencies and terrorist movements in “friendly” territory and is used to train WVARNG troops to work with other troops and civilian forces. Recently, in January and February 2017, US Army Special Forces, the WVARNG, the Pennsylvania National Guard, and the West Virginia State Police were involved in a joint Ridge Runner training program.

In this report, we estimate the economic impact of the WVARNG on the West Virginia economy. We examine the economic impact of WVARNG to the state’s overall output, employment, employee compensation, and tax revenue. We also estimate the economic impact of Camp Dawson and the Ridge Runner training program on the regions in which they are located. The economic value of the WVARNG, Camp Dawson, and the Ridge Runner program encompass a number of different types of economic impacts. The operational expenditures are spent in the West Virginia economy generating business activity. In addition, the payroll spending of the WVARNG, Camp Dawson, and the Ridge Runner program provide income for local households and also generate secondary economic activity. All of these expenditures constitute the economic benefit to West Virginia of the WVARNG, Camp Dawson, and the Ridge Runner program.

2 Methodology

To estimate the economic impacts of the WVARNG, Camp Dawson, and the Ridge Runner program, we use a detailed model of the West Virginia economy. The expenditures for wages and benefits and other spending are called the direct impact. However, the total impact is not limited to the direct impact, but also includes the secondary economic impact accrued as those expenditures are re-spent throughout the rest of the economy.

For example, as depicted in Figure 2, each year the West Virginia Army National Guard purchases a variety of goods and services, such as military supplies, electricity, insurance, and various other items. As the suppliers of these inputs increase production, their subsequent suppliers will increase production.

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1 This study was conducted using the IMPLAN modeling software, an industry-standard input-output model of the economy. More information about IMPLAN can be found at http://www.implan.com.
and so on. Also, the WVARNG directly employs thousands of workers, part of whose income will be spent in the West Virginia economy, which generates more output, income, and employment.

These secondary impacts together form what is known as the “multiplier effect.” The original stimulus to the economy from the WVARNG’s expenditures is re-spent multiple times through the rest of the economy. At each stage, some of the expenditures “leak” out of West Virginia as they are spent at companies outside the state. The combined direct impact and secondary impacts together constitute the total economic impact of the WVARNG’s operations.

**Figure 2: Economic Impact Flow**

Data for this study was provided by the WVARNG in consultation with the authors. The data include the number of troops employed by the WVARNG and at Camp Dawson, wages and benefits, other spending by the WVARNG, and the number of visitors at Camp Dawson for the Ridge Runner event and other training exercises.²

To proceed with the analysis, we must make several assumptions. First, in order to estimate the economic impact of the WVARNG, Camp Dawson, and Ridge Runner exercise, we assume a

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² The BBER did not audit the numbers provided by the WVARNG. The authors took the information as given.
counterfactual scenario where these facilities and training exercises are eliminated from the local economy. This type of analysis is called an economic contribution analysis, and assumes the rest of the economy is unchanged by the elimination of the WVARG and its facilities. Second, we assume that permanent employees of the WVARG live within the state boundaries, and spend the majority of their income within the state. Third, visitors who come to Camp Dawson and the Ridge Runner program are assumed to spend the per diem compensation they receive from these exercises within the state of West Virginia.

3 Impact of Camp Dawson on the Preston County Region

In this section we examine the impact of Camp Dawson individually on economy of the Preston County Region, which we define to include the counties of Preston, Barbour, Monongalia, Taylor, and Tucker. For this analysis we include both operational expenditures for the camp itself, and the expenditures from visitors who visit the camp for training.

Camp Dawson’s total operational expenditure is about $21.3 million. Of that total, approximately $18.6 million is spent on payroll for the camp’s 306 permanent employees. The remaining $2.7 million is spent on general operational expenditures, such as utilities and other facility expenditures.

In Table 1, we detail the economic impact of Camp Dawson’s operations. We estimate that the camp’s direct expenditures of $21.3 million result in a total impact of $32.3 million in the Preston County regional economy. These secondary expenditures support about 93 jobs in the economy in addition to the 306 employed at the camp, for a total employment impact of 399 jobs. Total employee compensation is $22.2 million, of which $3.5 million is paid to workers in the Preston County regional economy outside of Camp Dawson itself.

As a state-run military facility, Camp Dawson does not pay West Virginia taxes on its operations. However, its employees pay income taxes on their income, and sales taxes when making purchases in stores outside the military base. In addition, businesses and workers in secondary industries supported by the camp’s spending pay state taxes. In total, we estimate that Camp Dawson’s expenditures generate about $1.5 million in tax revenue for the state, of which about $400 thousand is derived from secondary impacts. 3

3 State tax revenue calculations include personal incomes taxes, sales taxes, corporation net income taxes, and state and local property taxes.
Table 1: Economic Impact of Camp Dawson’s Operations

<table>
<thead>
<tr>
<th></th>
<th>Direct Impact</th>
<th>Indirect &amp; Induced Impact</th>
<th>Total Economic Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output ($, millions)</td>
<td>21.3</td>
<td>11.0</td>
<td>32.3</td>
</tr>
<tr>
<td>Employment (jobs)</td>
<td>306</td>
<td>93</td>
<td>399</td>
</tr>
<tr>
<td>Employee Compensation ($, millions)</td>
<td>18.8</td>
<td>3.5</td>
<td>22.2</td>
</tr>
<tr>
<td>Total Taxes ($, thousands)</td>
<td>1.1</td>
<td>0.4</td>
<td>1.5</td>
</tr>
</tbody>
</table>

In addition to Camp Dawson’s year-round operations, the camp brings in thousands of out-of-state trainees to participate in various exercises throughout the year. Camp officials estimate that there were 44,989 visitor-days of activity at the camp during 2016 (there were fewer individual visitors, as some stayed multiple days). Each trainee was paid a stipend of $25 per day on average during their training. If we multiply these values, we estimate the direct impact of Camp Dawson’s visiting trainees to be approximately $1.1 million.

In Table 2, we report the estimated economic impact of these out-of-state visitors participating in Camp Dawson’s training exercises. The initial spending of $1.1 million generates an additional 653 thousand of economic impact, for a total impact of nearly $1.8 million. In addition to the visitors themselves, secondary impacts supported five jobs in the local economy with an estimated $204 thousand of employee compensation.

Table 2: Economic Impact of Camp Dawson Out-of-State Trainees

<table>
<thead>
<tr>
<th></th>
<th>Direct Impact</th>
<th>Indirect &amp; Induced Impact</th>
<th>Total Economic Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output ($, thousands)</td>
<td>1,124.7</td>
<td>653.1</td>
<td>1,777.8</td>
</tr>
<tr>
<td>Employment (jobs)</td>
<td>0</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Employee Compensation ($, thousands)</td>
<td>1,124.7</td>
<td>204.5</td>
<td>1,329.2</td>
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<tr>
<td>Total Taxes ($, thousands)</td>
<td>68.3</td>
<td>21.4</td>
<td>89.8</td>
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</table>
4 Economic Impact of the Ridge Runner Exercise

In this section we examine the impact of the Ridge Runner exercise separately from other WVARNG operations. For this analysis, we consider the impact of the operational expenditures specific to the Ridge Runner exercise and visiting trainees on economy of those counties where the exercise takes place: Preston, Randolph, Tucker, and Webster counties.

Figure 3: Ridge Runner Exercise

WVARNG expenditures for the Ridge Runner exercise total just under $2.1 million, including approximately $1 million in payroll expenditures. The Ridge Runner exercise employs 10 workers full time, plus an additional 80 people who assist during the six-week period of the exercise itself. The remaining $1.1 million is spent on general operational expenditures, such as utilities and other facility costs.

In Table 3, we detail the economic impact of Ridge Runner. We estimate that the exercise expenditures produce a total of $468 thousand in secondary impacts, for a total economic impact of $2.5 million in the local economy. These secondary expenditures support five jobs in the local economy in addition to the direct employees, for a total employment impact of 95 workers. Total employee compensation is $1.1 million, of which about $133 thousand is paid to workers in the local economy. We estimate that the Ridge Runner exercise generates $75 thousand in state tax revenue.
Table 3: Economic Impact of Ridge Runner Operations

<table>
<thead>
<tr>
<th></th>
<th>Direct Impact</th>
<th>Indirect &amp; Induced Impact</th>
<th>Total Economic Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output ($, thousands)</td>
<td>2,050.0</td>
<td>468.6</td>
<td>2,518.6</td>
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<tr>
<td>Employment (jobs)</td>
<td>90</td>
<td>5</td>
<td>95</td>
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<tr>
<td>Employee Compensation ($, thousands)</td>
<td>1,005.4</td>
<td>133.9</td>
<td>1,139.3</td>
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<tr>
<td>Total Taxes ($, thousands)</td>
<td>61.1</td>
<td>14.4</td>
<td>75.5</td>
</tr>
</tbody>
</table>

Over the course of six weeks each year, 164 trainees come to West Virginia to participate in the Ridge Runner exercise. During that period, 97 trainees stay for the full 45 days, while 67 stay for a 30-day period. The WVARNG provides a stipend to the participants of the exercise of $142 per day, which we assume is spent within the region. If we multiply the number of person-days by the stipend, we find that the direct impact of the trainees to be $841 thousand.

In Table 4, we report the estimated economic impact of those visitors participating in the Ridge Runner exercise. The initial spending of $841 thousand million generates an additional 359 thousand of economic impact, for a total impact of more than $1.2 million. Secondary impacts of these expenditures supported three workers in the local economy, earning an estimated $102 thousand in compensation. Both visitors and secondary industries generate approximately $62 thousand in tax revenue to the state government.

Table 4: Economic Impact of Ridge Runner Visiting Trainees

<table>
<thead>
<tr>
<th></th>
<th>Direct Impact</th>
<th>Indirect &amp; Induced Impact</th>
<th>Total Economic Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output ($, thousands)</td>
<td>841.4</td>
<td>359.9</td>
<td>1,201.3</td>
</tr>
<tr>
<td>Employment (jobs)</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Employee Compensation ($, thousands)</td>
<td>841.4</td>
<td>101.7</td>
<td>943.0</td>
</tr>
<tr>
<td>Total Taxes ($, thousands)</td>
<td>51.1</td>
<td>11.0</td>
<td>62.2</td>
</tr>
</tbody>
</table>
5  Total Impact West Virginia Army National Guard

Camp Dawson and the Ridge Runner exercise are a small part of the overall expenditures that the WVVARNG makes within the state of West Virginia each year. In this section, we consider WVVARNG’s entire impact on the state of West Virginia, including visitors from the training exercises detailed above.

WVVARNG and the training exercises account for a total of $306 million in total expenditures in West Virginia each year. Of that total, a little more than $143 million is spent on payroll for the WVVARNG’s 1,351 permanent employees. More than $163 million is spent on operational expenditures, and another $1.1 million is spent on stipends for visiting trainees.

With these expenditures as our starting point, we estimate that the WVVARNG’s spending generates an additional $111 million of secondary economic activity as these monies are re-spent in the rest of the West Virginia economy (see Table 5). Including the initial direct expenditures, the WVVARNG generates $417.5 million in total economic activity.

In addition to the 1,351 workers directly employed by WVVARNG, these expenditures support another 898 jobs in the state’s economy, for a total employment impact of 2,249 jobs. These workers earn $178 million in total compensation. The overall economic activity associated with WVVARNG is expected to generate nearly $12.4 million thousand in selected state tax revenue.

Table 5: Total Statewide Economic Impact of WVVARNG

<table>
<thead>
<tr>
<th></th>
<th>Direct Impact</th>
<th>Indirect &amp; Induced Impact</th>
<th>Total Economic Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Output ($, millions)</strong></td>
<td>306.3</td>
<td>111.2</td>
<td>417.5</td>
</tr>
<tr>
<td><strong>Employment (jobs)</strong></td>
<td>1,351</td>
<td>898</td>
<td>2,249</td>
</tr>
<tr>
<td><strong>Employee Compensation ($, millions)</strong></td>
<td>143.2</td>
<td>35.5</td>
<td>178.7</td>
</tr>
<tr>
<td><strong>Total Taxes ($, millions)</strong></td>
<td>8.7</td>
<td>3.7</td>
<td>12.4</td>
</tr>
</tbody>
</table>
6 Conclusion

The West Virginia Army National Guard provides a significant economic boost to the West Virginia economy. In this report, we have estimated the economic impact in terms of the dollar value of operational spending, as well as the impact of thousands of out-of-state trainees who visit the state as part of the WVARG’s military exercises.

In Figure 4, we graphically depict the difference between the direct spending by the WVARG and the total impact in West Virginia. As shown, the total impact is significantly larger than the direct impact, resulting in a multiplier of 1.36. This multiplier indicates that each dollar of expenditure by the WVARG results in an additional 36 cents of economic activity in the state economy.

Figure 4: Total Impact Comparison

Total Impact:
$417.5 Million

Direct Impact:
$306.3 Million
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