

# The Economic Impact of One WVU Home Football Game on the Monongalia County Economy

Dr. Christiadi  
Demographer

October 2012

**[bber.wvu.edu](http://bber.wvu.edu)**

PO Box 6527  
Morgantown, WV 26506  
(304) 293-7831  
[bebureau@mail.wvu.edu](mailto:bebureau@mail.wvu.edu)

# **The Economic Impact of One WVU Home Football Game on the Monongalia County Economy**

## **Executive Summary**

This study attempts to measure the economic impact of a single West Virginia University (WVU) home football game on the Monongalia County economy. The impact estimated in this study represents the impact of the 2011 football season when WVU was still in the Big East Conference. The findings of this study, however, should help readers gauge what would be the impact after WVU Mountaineers joined the Big 12 Conference.

The total impact estimated in this study includes those that stem from the increased sales revenues received by lodging establishments, restaurants, bars, gas stations, the Morgantown Municipal airport, tax revenues from the sales of merchandise, and revenues received by parking authorities and independent parties in Monongalia County. Also included are the impact that stem from remunerations received by people specifically hired for the game such as the state and university police, fire fighters, technicians maintaining the electricity, plumbing, and other facilities associated with the game.

On average, a single WVU home football game in 2011 generated a total economic impact of \$1.6 million in business volume in the Monongalia County economy. This included \$360,000 in employee compensation and \$55,000 in assorted taxes. This impact generated a total of 649 jobs, consisting of 629 part-time jobs directly associated with the game, and an additional 20 part-time and full-time jobs spread in various industries located in the county.

It is important to emphasize that the total impact estimated is conservative. Of the various ways to estimate the impact, this study utilizes one that yields conservative estimates. Moreover, the total impact estimated does not include certain types of impacts associated with the game that are either difficult to quantify or out of the study's scope. The estimate does not include the impact that spills over to the nearby economies such as Preston, Marion, Harrison, and even perhaps Lewis counties. It also does not include the impact that stems from the routine operating expenses of the WVU football program, the impact of the hundreds of volunteers, and the impact that the game has on improving the region's quality of life, and on increasing the visibility of WVU and Morgantown, which could in turn help attract not only students but businesses as well.

This study is also different from typical economic impact studies of a sporting event. This study recognizes the crowding-out effect that visitors' spending has on the locals' spending. For this reason, this study attributes only the difference between sales on game day versus non-game day as the direct impact of the game. In contrast, other studies tend to attribute all the sales made by the out-of-county visitors as the direct impact of the game.

# **The Economic Impact of One WVU Home Football Game on the Monongalia County Economy**

**By Christiadi<sup>1</sup>**

## **1. Introduction**

For many living in Monongalia County or perhaps in many parts of the state of West Virginia, the West Virginia University (WVU) Mountaineer Football team may be an integral part of their everyday lives. If you ask them what the WVU Mountaineer means to them, many may tell you something to the extent of from “great” to “everything.”

This report attempts to shed light on one aspect of what the WVU Mountaineer means to Monongalia County residents, which is the economic impact of a WVU home football game on the Monongalia County economy. This report does not attempt to put a dollar value on the pride, the love, or emotional attachment that the Monongalia County residents have regarding the WVU Mountaineer. Instead, it specifically attempts to measure how a WVU football game may affect business sales or revenues in the county.

Readers may be tempted to associate this report to the impact of the Big 12 Conference football games, which the WVU Mountaineers begin playing this fall. It is important to note that this report presents the impact of the 2011 football season when WVU was still in the Big East Conference. The findings of this report, however, should help readers gauge what would be the impact after the WVU Mountaineers joined the Big 12 Conference.

## **2. The Scope of the Impact**

The economic impact of an event can be perceived as the value of all economic activities that would likely go away if the event went away. By the same token, the impact of a WVU football game on Monongalia County represents the value of all economic activities in the county that would likely go away when the game is not played. It is important to clearly define which parts of the impact of the WVU football game that this study estimates. This is because different studies may estimate the impact differently.

This study estimates the average impact of a single WVU home football game on the increased revenues received by businesses and individuals living in Monongalia County. Any increased revenues received by those living outside of Monongalia County are not included.

---

<sup>1</sup> This study could not have been completed without help from a group of generous people. The author would like to thank Eric Bowen, Tom Witt, and Nancy McIntyre for their help with the review and analysis, Frank DeMarco, Matthew Kookan, Michael Szul, Peggy Myers-Smith, Ben Huffman, and Tara St. Clair for their help with the survey and data collection, and too many others who cannot all be mentioned in this report.

The total impact estimated in this study includes those that stem from the increased sales revenues received by lodging establishments, restaurants, bars, gas stations, and the airport as well as revenues received by parking authorities and independent parties in Monongalia County. Also included are those that stem from remunerations received by people specifically hired for the game such as the state and university police, technicians maintaining the electricity, plumbing, and other facilities associated with the game. On the other hand, remunerations for referees and officials as well as non-locals, are excluded as in most cases they live outside of the county or even the state.

Several companies are given the right by WVU to sell food and WVU-labeled merchandise. However, since these companies come from outside of Monongalia County, their revenues will most likely be spent outside of the county, thus their sales are not part of the WVU football game impact on the county. At the same time, however, these companies pay sale taxes and commission fees to WVU, and sometime hire locals to help sell their products. Sale taxes and the payments they make to the locals they hire are included as part of the impact. Their payments for the commission fees, however, for the reason explained in the next paragraph, are not included as part of the impact.

WVU does receive significant revenues from tickets, commissions, parking fees, television broadcast fees, and other sources. In this study, however, these revenues are not included as a part of the impact of a WVU football game. This is because these revenues will eventually become a part of the WVU Athletic Department operating expenses, whose impact will be a part of the impact of the overall WVU operations.

### **3. Methodology**

This study is different from typical economic impact studies of a sporting event. This study recognizes the crowding-out effect that visitors' spending has on the locals' spending. For this reason, this study attributes only the difference between sales on game day versus non game day as the direct impact of the game. In contrast, other studies tend to attribute all the sales made to the out-of-county visitors as the direct impact of the game. For a more detailed discussion on this topic of crowding-out effect, see Appendix 1.

This study conducts a survey of lodging and eating and drinking establishments in Monongalia County to collect data on their sales on game days versus sales on non-game days. This study uses the survey responses to develop patterns on how on average a football game affects businesses' revenues. Applying these patterns to lodging establishments in the county, this study estimates the total revenue increase the lodging establishments experience on a game day. A similar procedure is applied to get the estimate of the revenue increase that eating and

drinking establishments in the county experience on game day.<sup>2</sup> In the end, the sum of these increased sales or revenues represents the direct impact of a WVU football game on lodging and eating and drinking establishments.

The WVU football game also generates other types of direct impact. These include the impact on the increased usage of personal jet fuel and airport landing fees, increased parking fees, increased sales on gas, and taxes on food and merchandise sold during the game. Also included are the impact of the game on payments received by the state and university police, fire fighters, technicians maintaining the electricity, plumbing, other facilities, and other locals hired during the game. For a more detailed explanation on how this study estimates the components of this direct impact, see Appendix 2.

The direct impact represents the amount of money directly injected into the Monongalia County economy. As this money is spent on the county's economy, it generates the so-called indirect and induced impacts. For example, the rent of a \$100 hotel room requires the hotel to supply soap and shampoo, pay for the electricity and water, and pay the hotel managers and custodians to serve the guests. The supplier of the soap and shampoo may be a manufacturing company that will have to purchase ingredients such as salt and fatty acid to make that soap and shampoo. The supplier of salt and fatty acid may have to purchase further ingredients to make those salt or fatty acid, and so on. The sum of all purchases that the direct suppliers and the subsequent suppliers have to make to support the direct impact activities represents the indirect impact. The sum of purchases made by workers employed by the hotel and all subsequent suppliers represent the induced impact. This study estimates the direct, indirect and induced impact of a WVU football game using the IMPLAN<sup>®</sup> input-output model. This is a standard methodology used in many national and regional economic impact studies.

#### **4. The Economic Impact of a WVU Home Football Game**

The total economic impact of a WVU football game on the Monongalia County economy is the sum of the direct, indirect, and induced impacts. Table 1 shows that a single WVU home football game in 2011 generated a direct impact of \$880,000 in business volume or sales, which further generated additional indirect and induced impact of \$770,000. In total, a single WVU football game generated over \$1.6 million in business volume in the Monongalia County economy. This included \$360,000 in employee compensation and \$55,000 in assorted taxes. This impact generated a total of 649 jobs, consisting of 629 part-time jobs directly associated with the game, and an additional 20 part-time and full-time jobs spread in many other industries in the county.

---

<sup>2</sup> Only eating and drinking establishments considered highly affected by the football game are included in this study.

Type of Impact	Direct	Indirect & Induced	Total
Business Volume (2011\$)	880,000	770,000	1,650,000
Jobs	629	20	649
Employee Compensation (2011\$)	145,000	215,000	360,000
Assorted Taxes (2011\$)	--	--	55,000

Notes: Assorted Taxes include consumer taxes, use taxes, personal income taxes, corporate net income taxes, and business franchise taxes. Because the jobs performed during the game are highly temporary, using the number of locals hired for the jobs to represent the job impact will over-estimate the impact. Instead, this study estimates the job impact based on the employee compensation impact. In the end, the job impact estimated represents a full-time equivalent job impact.

## 5. Impact Not Accounted For or Lost

There are other impacts that are potentially part of the WVU home football game's impact but are not included in this report because they are either too difficult to quantify or out of this study's scope. First, the impact estimated only includes the impact that goes to the Monongalia County economy. In practice, the impact of a WVU home football game most likely spills over to the lodging and eating and drinking establishments located in the nearby counties such as Preston, Marion, Harrison, and even perhaps Lewis counties.

Second, as mentioned in the report, the estimate does not include the impact that stems from the operating expenses that the WVU Athletic Department spends on the football program. This includes the impact of expenses for salaries of full-time WVU Athletic Department employees, food and beverages served to the players, and a variety of utilities. While they do have an impact, it is, however, difficult to identify how much of these expenses can be specifically attributed to one particular game.

Third, the estimate does not include the impact of the volunteer hours. A WVU home football game is a community event attended by about 50,000 to 60,000 spectators.<sup>3</sup> Such an event not only attracts but will not run well without the help of hundreds of volunteers. It is estimated there are over 400 volunteers that come to help sell merchandise alone. There are many others. WVU faculty and staff, local government officials, individuals from different types of organizations, as well as regular county residents willingly attend the game. They help the community celebrate the event, help welcome and serve spectators, and conduct activities that facilitate social interactions.

<sup>3</sup> Depending on which team the WVU Mountaineer plays against, but the number of spectators could fluctuate from over 40,000 to 70,000. In most cases, the number lies between 50,000 and 60,000 (<http://www.wvusports.com/teamStats.cfm?sportID=1&sport=football>).

Finally, the impact estimated does not take into account the possible impact that a WVU football game makes on improving the quality of life and increasing the visibility of WVU and Morgantown, which could in turn help attract not only students but businesses as well.

One type of direct impact that could have been a part of the WVU home football game's impact would be the spending done by the visiting team. As of right now, the visiting teams typically stay at a lodging establishments located in Washington, Pennsylvania. This is primarily because they cannot find a big enough lodging establishment in Morgantown. As a result, all their spending on hotel rooms and eating and drinking will go to the Washington economy instead of the Monongalia County economy.

## Appendix 1 Controlling for the Crowding-Out Effect

In general, the economic impact of a football game can be estimated using either the expenditure approach or the revenue approach. The expenditure approach considers the impact that stems from the expenditures made by out-of-county visitors. The revenue approach considers the impact that stems from the revenues received by local businesses and local residents. In theory, the two approaches should yield the same results. Whichever approach is applied, however, studies often do not recognize the crowding out effect the visitors' spending has on the local spending (see for example studies by Watkins et al (2007),<sup>4</sup> Hogue (2011),<sup>5</sup> and Trim Umbach (2009).<sup>6</sup>

On game day, the traffic around Morgantown is usually extremely busy. Traffic patterns are also changed to accommodate the flow of visitors coming in and out of the football stadium. At the same time, bars and restaurants tend to be packed with visitors. As a result, many local residents opt to stay at home and do not go to the bars or restaurants they would normally visit on a non-game day. Similarly, visitors would occupy most of the hotel rooms available in town. They are more willing to pay the higher room rate the hotels charge on a game day. That is, they outbid the locals, as well as non-locals, who would normally stay at the hotel on a non-game day.

In sum, on a game day businesses get the revenues from out-of-county visitors, but at the same time lose the revenues from locals, or other non-locals, who opt not to come. Nonetheless, businesses will continue operating with or without a football game. The question then is what difference does a football game make? The difference is that on a game day businesses likely have more visitors coming, thus make more money. For these reasons, this study attributes only the difference in the total sales or revenues made on a game day versus those made on a non-game day to represent the real direct impact of a WVU home football game.

---

<sup>4</sup> Watkins S. D., et al., "Economic Impact of Big Ten Football Games in Michigan."

(<http://www.andersoneconomicgroup.com/Portals/0/upload/Doc2195.pdf>)

<sup>5</sup> Hogue, M. T., The Move to Pac-12: Economic Impact and Visitor Experience of Utah Football."

(<http://www.bibr.utah.edu/Documents/uebr/UEBR2011/UEBR2011no4.pdf>)

<sup>6</sup> Trip Umbach, "The Economic Impact and Community Benefit of Penn State Football on Pennsylvania and Centre County, 2009." ([http://econimpact.psu.edu/downloads/Penn\\_State\\_Football\\_2009\\_Economic\\_Impact.pdf](http://econimpact.psu.edu/downloads/Penn_State_Football_2009_Economic_Impact.pdf))

## **Appendix 2**

### **Estimating the Game's Direct Impact**

There are multiple ways to estimate a direct impact. This study attempts to always choose the ones that would give more conservative estimates.

The study conducts a survey of lodging establishments in Monongalia County, collecting the data of hotel revenues on game day versus revenues on non-game day. Using the information from the survey, this study develops a pattern of how the game, on average, affects hotel revenues. This study recognizes that big hotels tend to generate a higher increase in revenue than small hotels. Applying this pattern and controlling for the size of the hotel, this study estimates the total increase in hotel revenues in the county.

Being conservative, this study assumes only visitors staying at the hotels purchase gas in Morgantown. In other words, it assumes that visitors not staying overnight purchase gas in their own town or anywhere outside of Morgantown. Assuming that each group of visitors occupying one hotel room and rides together in one car, this study estimates the visitors' total spending on gas to be equal to the number of rooms occupied times 15 gallons of gas, times the average price of gas in the fall of 2011.

The study also conducts a survey of eating and drinking establishments. Using the responses from the survey, this study develops a pattern of how, on average, the game affects their revenues. This study recognizes that not all eating and drinking establishments are likely to be affected by the game. This study then identifies restaurants and bars that are very likely affected by the game. Using the confidential establishment data and IMPLAN, this study estimates the total wages and the total sales, respectively, of all the selected restaurants and bars. Applying the above patterns to these sales, this study estimates the total increase in restaurants and bars' revenues in the county on a game day.

The total impact estimated includes the impacts that stem from the increased parking revenues. However, only increased revenues collected by parties other than WVU are included. Those collected by WVU are not included because, as explained above, these revenues will eventually become a part of the WVU Athletic Department operating expenses, whose impact will be a part of the impact of the overall WVU operations.

Being conservative, this study estimates there are about 2000 non-WVU managed paid parking slots available in Morgantown (this includes permanent paid-parking slots in downtown and specially-commercialized-for-football parking slots around the stadium). This study assumes about 75 percent of these slots are occupied by football game visitors, who each pays on average \$10 per slot.

The estimates on increased usage of personal jet fuel and airport landing fees are directly available from the Airport's monthly sales report. Similarly, the estimates on taxes on food and

merchandise sold at the game, remunerations for the state and university police, fire fighters, technicians maintaining the electricity, plumbing, other facilities, and other locals hired during the game are provided by the WVU Athletic Department.