PREPARED FOR

Great Falls Development Alliance

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The Economic Impact of Population Growth in Great Falls, Montana

CHMURA

1. Executive Summary

Population in the Great Falls, MT metropolitan statistical area (MSA) has experienced modest growth in the past few years. Chmura's recent analysis indicates that a population influx can generate significant economic impact in the region when new households spend their income within the MSA.[1] This would benefit local businesses—especially consumer-related establishments.

This report analyzes the economic impact of population growth for the Great Falls region. This report first presents the impact of population growth since 2017, based on the actual new population number and actual household income.

In addition, this report estimates the economic impact of future population growth from 2024 to 2033 in the region. Different regional, state, and national population growth rates were used to create four possible scenarios. Each scenario was used to project the Great Falls regional population growth rate for the ten-year period of 2024 to 2033. The following growth rates were used in the population projections:

- Scenario 1: **0.66%** (regional rate from 2017 to 2023)
- Scenario 2: **0.37%** (regional rate from 2010 to 2020)
- Scenario 3: **0.92%** (state rate from 2010 to 2020)
- Scenario 4: **0.71%** (national rate from 2010 to 2020)

Table 1.1 summarizes the economic impact of population growth in the Great Falls MSA. Since 2017, population growth in the past six years generated **an estimated $88.8 million economic impact, supporting 717 cumulative jobs** in the region.

For the impact in the future, under Scenario 1, if regional population grows at the recent pace of 0.66% per year, 5,738 new residents would **result in a $241.2 million economic impact. This can support 1,256 cumulative jobs** in the region from 2024 to 2033. Under the most optimistic scenario (Scenario 3), regional population grows at the state rate of 0.92% per year, adding 8,137 new residents. Household spending of new residents can **generate $342.1 million in total economic impact from 2024 to 2033, and support 1,781 cumulative jobs** in the MSA in that scenario.

Table 1.2 outlines the direct spending impact on different industries in the Great Falls MSA from the population growth.

Contents

[1] Chmura provides economic software, consulting, and data to our clients that help them make informed decisions to benefit their communities. Chmura's PhD economists, data scientists, and strategic planners guide clients through their local labor market. Over the past 26 years, Chmura has served hundreds of clients nationwide with thoroughness, accuracy, and objectivity.

From 2018 to 2023, the industries benefiting the most from increased household spending are transportation ($12.1 million), food and beverage ($9.3 million), and housing and related expenses ($8.7 million). For future years, under Scenario 1, the industries benefiting the most from increased household spending are transportation ($35.9 million), food and beverage ($27.6 million), and housing and related expenses ($25.7 million). Under the other three scenarios, the top three industries remain the same, but the spending impacts are different depending on the number of new residents in each scenario.

Table 1.1: Cumulative Economic Impact of Population Growth 2024 to 2033

	Actual Growth (2018-2023)	Future Population Growth (2024-2033)			
		Scenario 1	Scenario 2	Scenario 3	Scenario 4
	Growth at 0.66% per year	Growth at 0.66% per year	Growth at 0.37% per year	Growth at 0.92% per year	Growth at 0.71% per year
New Residents	3,267	5,738	3,217	8,137	6,249
New Households	1,378	2,421	1,358	3,433	2,637
Total Household Income (Million)	$88.3	$240.0	$134.6	$340.4	$261.4
Direct Spending in MSA (Million)	$61.9	$168.3	$94.3	$238.6	$183.2
Direct Jobs Supported	513	897	503	1,272	977
Total Economic Impact (Million)	$88.8	$241.2	$135.3	$342.1	$262.7
Total Jobs Supported	717	1,256	704	1,781	1,368

Source: Chmura Economics & Analytics

Table 1.2: Multiple Industries in Great Falls MSA Benefit from Population Growth

	Actual Growth (2018-2023)	Future Population Growth (2024-2033)			
		Scenario 1	Scenario 2	Scenario 3	Scenario 4
Total Household Income (Million)	**$88.3**	**$240.0**	**$134.6**	**$340.4**	**$261.4**
Direct Spending in MSA (Million)	**$61.9**	**$168.3**	**$94.3**	**$238.6**	**$183.2**
Apparel	$1.8	$5.2	$2.9	$7.4	$5.7
Cash Contribution	$1.9	$5.5	$3.1	$7.8	$6.0
Education	$1.5	$4.4	$2.5	$6.3	$4.8
Entertainment & Personal Service	$3.4	$10.0	$5.6	$14.2	$10.9
Food and Beverage	$9.3	$27.6	$15.5	$39.1	$30.0
Furniture, Appliance & Household Supplies	$4.2	$12.4	$7.0	$17.6	$13.5
Government	$2.3	$6.8	$3.8	$9.6	$7.4
Healthcare	$6.0	$17.7	$9.9	$25.1	$19.3
Housing and Related Expenses	$8.7	$25.7	$14.4	$36.4	$28.0
Other	$2.5	$7.3	$4.1	$10.3	$7.9
Transportation	$12.1	$35.9	$20.1	$50.9	$39.1
Utilities	$3.3	$9.7	$5.4	$13.7	$10.5

Source: Chmura Economics & Analytics

2. Background

The City of Great Falls is the county seat of Cascade County and is the third-largest city in the state of Montana. Situated on the Missouri River in Central Montana, it is also the principal city of the Great Falls Metropolitan Statistical Area (MSA).

In 2017, Chmura Economics & Analytics (Chmura) prepared an economic impact study of population growth in the Great Falls MSA.[2] Since then, population in the Great Falls MSA has enjoyed modest growth.

The economic impact of population growth comes primarily from spending by new residents on items such as housing, health care, food, transportation, and a range of other products and services. As a result, regional businesses such as retail stores and restaurants benefit from this household spending, which is called the direct impact in an economic impact analysis. Those consumer-related businesses subsequently purchase supplies from other regional businesses, which is called indirect impact. Finally, induced impact occurs when these businesses hire additional workers to meet the demand of new households and the workers subsequently spend some of their income in the region.

Chmura used the following methodology to estimate the economic impact of population growth in the Great Falls MSA:

1. For direct spending, the annual incremental residents and households were estimated based on four different scenarios.
2. The current household income of the region was used as a base to calculate the total household income associated with population growth.
3. Using the latest Consumer Expenditure Survey,[3] total household spending was allocated into categories such as housing, food, clothing, transportation, health care, and a range of other products and services.
4. Finally, Chmura used the JobsEQ® Economic Impact Model to estimate the indirect and induced impact associated with household spending resulting from population growth.

The rest of this report is structured as follows:

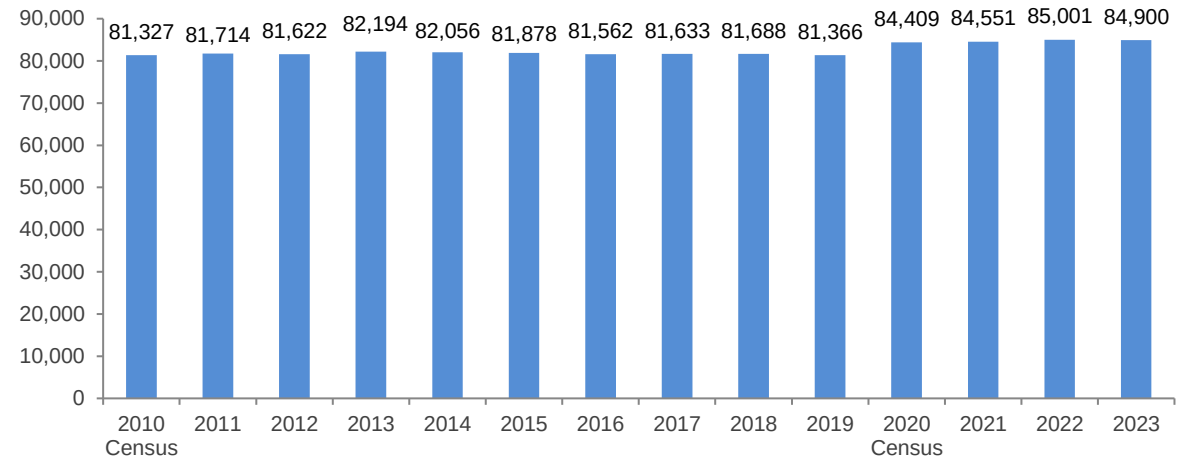
- Section 3 summarizes historical population growth in the Great Falls MSA and compares it with the state and national average.
- Section 4 presents the economic impact of population growth since 2017, based on the actual population change and household income.
- Section 5 presents the economic impact of population growth in four scenarios:
    - Scenario 1: regional population will grow **0.66%** (regional rate from 2017 to 2023)
    - Scenario 2: regional population will grow **0.37%** (regional rate from 2010 to 2020)
    - Scenario 3: regional population will grow **0.92%** (state rate from 2010 to 2020)
    - Scenario 4: regional population will grow **0.71%** (national growth rate from 2010 to 2020)
- The Appendix includes an impact study glossary.

[2] Chmura, "The Economic Impact of Population Growth in Great Falls, Montana", May 2017.
[3] The Consumer Expenditure Survey is an annual survey conducted by the U.S. Department of Labor.

3. Historical Population Growth

Population in the Great Falls MSA experienced moderate growth between the two decennial censuses of 2010 and 2020 (Figure 3.1). Based on the 2010 U.S. Census, population in the metro area was 81,327. The population grew to 84,409 in 2020. Three years later, the estimated population inched up to 84,900.[4]

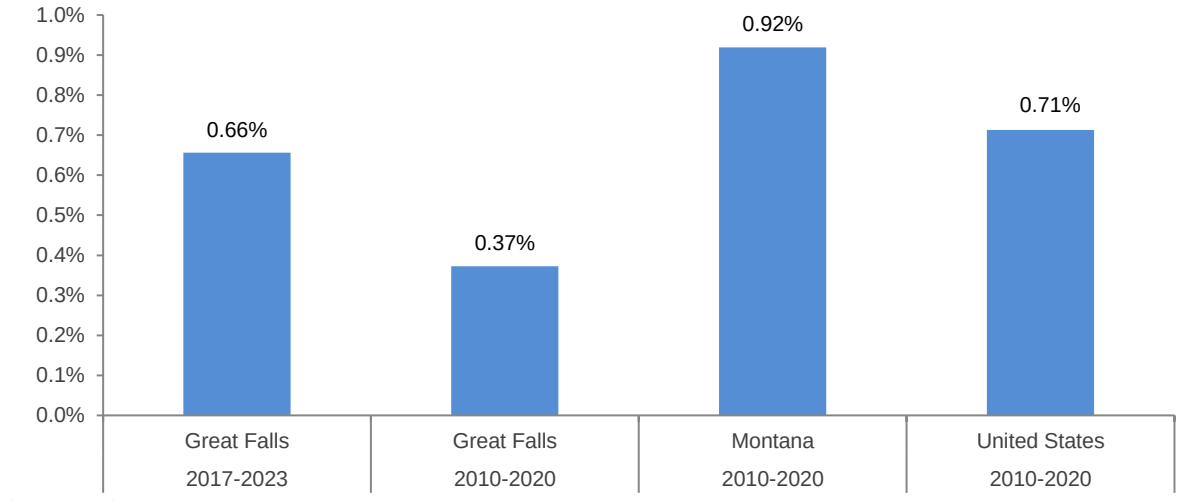
Figure 3.1: Population in the Great Falls MSA has Experienced Modest Growth



Source: U.S. Census

From 2010 to 2020, population growth of the Great Falls region averaged 0.37% per year (Figure 3.2). This growth pace lagged both the state and the national average. From 2010 to 2020, the state population growth averaged 0.92% while national growth averaged 0.71% per year. The regional population has experienced some acceleration since the last Chmura study; since 2017, population grew an estimated 0.66% per year.

Figure 3.2: Population Growth Rate in Great Falls Lagged the State and National Average



Source: U.S. Census

[4] The U.S. Census Bureau conducts a population census every ten years. Between censuses, the Bureau publishes a population estimate each year.

This study analyzes the impact of population growth since 2017, based on the actual new population number and actual household income. In addition, this report estimates the economic impact of future population growth from 2024 to 2033 in the region. In estimating the economic impact of future population growth, Chmura chose four different scenarios to illustrate the economic impact that would occur if the region achieved different levels of growth rates. More specifically, Chmura adopted the following four scenarios to analyze the economic impact of population growth in the Great Falls MSA in the next ten years from 2024 to 2033:

- Scenario 1: 0.66% per year (same pace as the Great Falls regional growth from 2017 to 2023)
- Scenario 2: 0.37% per year (same pace as the Great Falls regional growth from 2010 to 2020)
- Scenario 3: 0.92% per year (same pace as the Montana state growth from 2010 to 2020)
- Scenario 4: 0.71% per year (same pace as the national growth from 2010 to 2020)

4. Economic Impact of Population Growth Since 2017

Based on the U.S. Census estimate, population in the Great Falls MSA increased from 81,633 in 2017 to 84,900 in 2023, at a rate of 0.66% per year. Using 2017 as a base, in six years since then (from 2018 to 2023), the Great Falls MSA added a total of 3,267 new residents, averaging 545 per year. The latest data from the American Community Survey (ACS) indicate that the current household size in the region is 2.37.[5] This implies the region added 1,378 new households in six years. From 2018 to 2023, these new residents contributed to the regional economy by spending a large portion of their income locally on retail, food services, health care, and other consumer services.

The economic impact derived from household spending depends on household income. Data from the American Community Survey indicate that in 2017, median household income was $46,827. This increased to $64,087 in 2023.[6]

Household income is adjusted by removing taxes, savings, and investments to estimate discretionary household spending. These categories together are estimated to comprise 23.6% of income that will not be spent by households.[7] In addition, household spending must be further adjusted to account for leakage—the percentage of spending that occurs outside the region. Using Chmura's JobsEQ Economic Impact Model, average consumer spending leakage is an estimated 8.3% for the region.

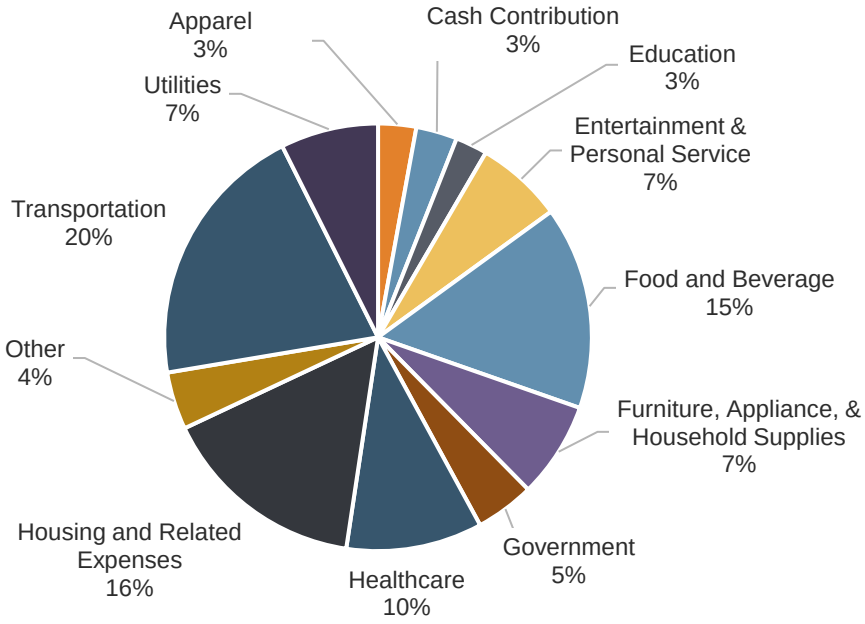
Thus, for new households in the Great Falls MSA, it is assumed that each would spend an average of $38,780 per year within the metro area from 2018 to 2023. As a result, these additional households are estimated to spend a total of $56.8 million in the Great Falls MSA over six years, averaging $9.5 million per year.

The 2022 Consumer Expenditure Survey (CES) from the U.S. Department of Labor provides calculations of household spending by major categories (Figure 3.3). It indicates that major household spending items are transportation (20%), housing (16%), food and beverage (15%), and health care (10%). Other spending categories include entertainment and personal service; furniture, appliance, and household supplies; and apparel.

Each of the CES spending categories has a different impact on the economy based on the degree of local supplies purchased in the region as well as the wages and salaries paid to employees of associated businesses. For that reason, the economic impact of household spending was estimated first by each spending category. These data were then aggregated into the total economic impact of household spending based on the increased population in the Great Falls MSA.

[5] Source: U.S. Census American Community Survey, 5-Year average 2018-2022.
[6] Ibid.
[7] The latest Consumer Expenditure Survey (20212) from the U.S. Department of Labor indicates a difference of 23.6% between annual expenditure and after-tax income for the Midwest region. Chmura chose the Midwest rather than the West, as the spending pattern in the West is heavily influenced by California's high income and rent.

Figure 4.1: Major Spending Categories are Transportation, Housing, and Food



Source: Bureau of Labor Statistics

Since 2017, the total economic impact (direct, indirect, and induced) of increased household spending was estimated at $88.8 million, which supported 717 cumulative jobs in the MSA[8] (Table 4.1). Of this impact, $61.9 million is associated with direct spending by new households in the area from 2018 to 2023, which supported 513 cumulative jobs. The indirect impact was an estimated $11.2 million in spending and 57 cumulative jobs, while the induced impact was estimated at $15.7 million in spending that supported 148 jobs in the Great Falls MSA. On an annual average basis, new residents added an estimated $14.8 million total impact (direct, indirect, and induced) in the region, supporting 120 jobs.

Table 4.1: Economic Impact of Household Spending Reached $88.8 Million from 2018 to 2023

		Direct	Indirect	Induced	Total Impact
Cumulative (2018-2023)	Spending (Million)	$61.9	$11.2	$15.7	$88.8
	Employment	513	57	148	717
Annual Average (2018-2023)	Spending (Million)	$10.3	$1.9	$2.6	$14.8
	Employment	85	9	25	120

Note: Numbers may not sum due to rounding.

Source: JobsEQ by Chmura

[8] Cumulative jobs are the sum of annual jobs. For example, if one individual works on a project for two years, the cumulative number of jobs is two. This includes both full-time and part-time jobs, not full-time equivalent jobs.

5. Projected Economic Impact of Future Population Growth

5.1. Economic Impact Under Scenario 1

Under Scenario 1, it is assumed that population of the Great Falls MSA will expand at the same growth rate of the region since the last Chmura study, which averaged 0.66% per year. Using the 2023 population as a base, the Great Falls MSA will likely add a total of 5,738 new residents in ten years, averaging 574 per year. The latest data from the American Community Survey (ACS) indicate that the current household size of the region is 2.37.[9] Assuming household size remains the same in the future, the region will add 2,421 new households in ten years, averaging 242 per year. These new residents will spend a large portion of their income in the area, benefiting local businesses such as retail, food services, health care, and other consumer-related establishments.

The economic impact derived from household spending depends on household income. The latest data from the American Community Survey indicate that in 2022, median household income was $61,351.[10] For future income, Chmura assumes that median household income in the region will expand 4.5% per year, which was the historical income growth rate from 2015 to 2022. As a result, in the next ten years, the average median household income of the region will average $80,470 per year from 2024 to 2033.

Under Scenario 1, if the Great Falls MSA added 5,738 new residents from 2024 to 2033, the total economic impact (direct, indirect, and induced) of increased household spending is estimated to be $241.2 million, which could support 1,256 cumulative jobs in the MSA[11] (Table 5.1). Of this spending, $168.3 million is associated with direct spending by new households in the area, which can support 897 cumulative jobs. The indirect impact is estimated at $30.4 million in spending and 99 cumulative jobs, while the induced impact is estimated at $42.6 million in spending that can support 259 jobs in the Great Falls MSA. On an annual average basis, new residents could add $24.1 million total impact (direct, indirect, and induced) in the region, supporting 126 jobs.

Table 5.1: Economic Impact of Household Spending Can Reach $241.2 Million from 2024 to 2033

		Direct	Indirect	Induced	Total Impact
Cumulative (2024-2033)	**Spending (Million)**	$168.3	$30.4	$42.6	$241.2
	Employment	897	99	259	1,256
Annual Average (2024-2033)	**Spending (Million)**	$16.8	$3.0	$4.3	$24.1
	Employment	90	10	26	126

Note: Numbers may not sum due to rounding.

Source: JobsEQ by Chmura

5.2. Economic Impact Under Scenario 2

Scenario 2 assumes that the population in the Great Falls MSA will expand at 0.37% per year, which was the regional population growth rate from 2010 to 2020. Based on the 2023 population estimate, the Great Falls MSA could add 3,217 residents over the ten-year span of 2024 to 2033, which is equivalent to 1,358 new households.

[9] Source: U.S. Census American Community Survey, 5-Year average 2018-2022.
[10] Ibid.
[11] Cumulative jobs are the sum of annual jobs. For example, if one individual works on a project for two years, the cumulative number of jobs is two. This includes both full-time and part-time jobs, not full-time equivalent jobs.

The same assumptions regarding household income and household spending patterns were used for Scenario 2. If 1,358 new households were added, estimated direct spending would total $94.3 million in the Great Falls MSA (Table 5.2). This direct household spending can support 503 cumulative jobs. The indirect impact is estimated at $17.0 million in spending and 56 cumulative jobs, while the induced impact is estimated at $23.9 million in spending and 145 cumulative jobs in the region. Combined, the total economic impact (direct, indirect, and induced) of increased population is estimated at $135.3 million which can support 704 cumulative jobs in the Great Falls MSA. On an annual average basis, new residents could add $13.5 million total impact (direct, indirect, and induced) in the region, supporting 70 jobs.

Table 5.2: Economic Impact of Household Spending Could Reach $135.3 Million from 2024 to 2033

		Direct	Indirect	Induced	Total Impact
Cumulative (2024-2033)	**Spending (Million)**	$94.3	$17.0	$23.9	$135.3
	Employment	503	56	145	704
Annual Average (2024-2033)	**Spending (Million)**	$9.4	$1.7	$2.4	$13.5
	Employment	50	6	15	70

Note: Numbers may not sum due to rounding.

Source: JobsEQ by Chmura

5.3. Economic Impact Under Scenario 3

Under Scenario 3, it is assumed that population in the Great Falls MSA will expand at 0.92% per year, which was the state average growth rate from 2010 to 2020. Based on the 2023 population estimate, the Great Falls MSA could add 8,137 residents over ten years from 2024 to 2033, which is equivalent to 3,433 new households.

If 3,433 new households were added, it is estimated that direct spending would total $238.6 million in the Great Falls MSA (Table 5.3). This direct household spending could support 1,272 cumulative jobs. The indirect impact is estimated at $43.1 million in spending and 141 cumulative jobs while the induced impact is estimated at $60.4 million in spending that can support 367 cumulative jobs in the region. Combined, the total economic impact (direct, indirect, and induced) of increased population is estimated to be $342.1 million which could support 1,781 cumulative jobs in the Great Falls MSA. On an annual average basis, new residents could add $34.2 million total impact (direct, indirect, and induced) in the region, supporting 178 jobs.

Table 5.3: Economic Impact of Household Spending Could Reach $342.1 Million from 2024 to 2033

		Direct	Indirect	Induced	Total Impact
Cumulative (2024-2033)	**Spending (Million)**	$238.6	$43.1	$60.4	$342.1
	Employment	1,272	141	367	1,781
Annual Average (2024-2033)	**Spending (Million)**	$23.9	$4.3	$6.0	$34.2
	Employment	127	14	37	178

Note: Numbers may not sum due to rounding.

Source: JobsEQ by Chmura

5.4. Economic Impact Under Scenario 4

Under Scenario 4, it is assumed that the population in the Great Falls MSA will expand at 0.71% per year, which was the national population growth rate from 2010 to 2020. Based on the 2023 population estimate, the Great Falls MSA could add 6,249 residents in ten years from 2024 to 2033, which is equivalent to 2,637 new households.

If 2,637 new households were added, it is estimated that direct spending would total $183.2 million in the Great Falls MSA (Table 5.4). This direct household spending could support 977 cumulative jobs. The indirect impact is estimated at $33.1 million in spending and 108 cumulative jobs, while the induced impact is estimated at $46.4 million in spending and 282 cumulative jobs in the region. Combined, the total economic impact (direct, indirect, and induced) of increased population is estimated to be $262.7 million which could support 1,368 cumulative jobs in the Great Falls MSA. On an annual average basis, new residents could add $26.3 million total impact (direct, indirect, and induced) in the region, supporting 137 jobs.

Table 5.4: Economic Impact of Household Spending Could Reach $262.7 Million from 2024 to 2033

		Direct	Indirect	Induced	Total Impact
Cumulative (2024-2033)	**Spending (Million)**	$183.2	$33.1	$46.4	$262.7
	Employment	977	108	282	1,368
Annual Average (2024-2033)	**Spending (Million)**	$18.3	$3.3	$4.6	$26.3
	Employment	98	11	28	137

Note: Numbers may not sum due to rounding.

Source: JobsEQ by Chmura

Appendix: Impact Analysis Glossary

JobsEQ Economic Impact—an economic impact assessment modeling system. It allows the user to build economic models to estimate the impacts of economic changes in states, counties, or communities.

Input-Output Analysis—an examination of business-business and business-consumer economic relationships capturing all monetary transactions in a given period, allowing one to calculate the effects of a change in an economic activity on the entire economy (impact analysis).

Direct Impact—economic activity generated by a project or operation. For construction, this represents the activity of the contractor; for operations, this represents activity by tenants of the property.

Indirect Impact—secondary economic activity that is generated by a project or operation. An example might be a new office building generating demand for parking garages.

Induced (Household) Impact—economic activity generated by household income resulting from direct and indirect impacts.

Ripple Effect—the sum of induced and indirect impacts. In some projects, it is more appropriate to report ripple effects than indirect and induced impacts separately.

Multiplier—the cumulative impacts of a unit change in economic activity on the entire economy.