

# A REPORT OF THE ECONOMIC IMPACT OF THE NATIONAL BIO AND AGRO-DEFENSE FACILITY IN MANHATTAN, KANSAS

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**Impact**DataSource

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# Executive Summary

## EXECUTIVE SUMMARY

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### Introduction

This report presents the results of an economic impact analysis performed by Impact DataSource, an Austin, TX based economic consulting, research and analysis firm. The report estimates the impact that the planned National Bio and Agro-Defense Facility the City of Manhattan will have on the State of Kansas and local taxing districts where the facility will be located. The report calculates the costs and benefits for local taxing districts over the first 25 years.

### Description of the National Bio and Agro-Defense Facility

The Department of Homeland Security plans to construct the National Bio and Agro-Defense Facility(NBAF) in Manhattan, Kansas. NBAF will be a state-of-the-art biocontainment facility for the study of foreign animal, emerging and zoonotic (transmitted from animals to humans) diseases that threaten the U.S. animal agriculture and public health. NBAF will provide and strengthen our nation with critical capabilities to conduct research, develop vaccines and other countermeasures, and train veterinarians in preparedness and response against these diseases. For the past 50 years, the Plum Island Animal Disease Center (PIADC) has served our nation as the primary facility to conduct this research. However, PIADC is nearing the end of its life-cycle and needs to be replaced in order to meet U.S. research requirements and ensure the timely development of countermeasures in the event of an outbreak. NBAF meets that need and will serve as a replacement for the PIADC facility. Strategically, NBAF will boast of new and expanded capabilities, specifically, Biosafety Level (BSL) 4 containment for the study of high-consequence diseases affecting large livestock.

The final design of the facility is currently being developed and the preliminary site preparation is underway. Construction is expected to begin in February 2012 with construction of the central utility plant. Construction on the laboratory space is projected to begin in August of 2012. The facility's commissioning is expected to be complete by July of 2018.

### Details on Construction

NBAF will be located on the campus of Kansas State University immediately adjacent to the Biosecurity Research Institute. The site consists of approximately 48.4 acres southeast of the intersection of Kimball Avenue and Denison Avenue. Construction of the NBAF could start in early 2012 and take approximately 5 years to complete. It would either be operated directly by the government or operated by a contractor with strict government oversight.

### Facility

As proposed, NBAF will consist of two laboratory facilities and four outbuildings. One of the two laboratory buildings will be the primary research building containing the BSL-2, BSL-3E, BSL-3Ag, and BSL-4 laboratories with associated support spaces. The other building would be a laboratory for small-scale vaccine and reagent production. It would be located adjacent to the primary research laboratory. Other outbuildings would include a central utility plant, an entry guard house, a central receiving facility, and parking. The approximate area needed for the NBAF is between 500,000 and 520,000 square feet.

### Details on Employment

Once constructed, it is estimated that the National Bio and Agro-Defense Facility will employ approximately 326 workers. On average, these workers will be paid approximately \$77,000 per year in salaries and benefits.

### Economic Impact of Construction

The economic activity associated with the facility's construction will support \$422.3 million in direct revenues for Kansas businesses over the five-year construction period. This direct activity will support an additional \$395.1 million in revenues for businesses in the state through indirect and induced activity. In total, the five-year construction period will support an estimated \$817.3 million in revenues for businesses in the state. In addition, the activity will support approximately 757 direct workers in the state as well as 578 indirect and induced workers each year. Direct workers are estimated to receive \$168.9 million in workers' earnings during the five-year construction period. Indirect and induced workers are estimated to receive \$118.9 million in workers' earnings during the 5-year construction period. In total, the five-year construction period is estimated to support \$278.8 million in workers' earnings.

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### Fiscal Impact of Construction

The construction activity will generate additional fiscal impacts for the State of Kansas and the local taxing districts where the construction will take place. The table below illustrates the estimated additional revenues for the State of Kansas and local taxing districts during the construction of the National Bio and Agro-Defense Facility.

Estimated Additional Revenues for the State of Kansas and Local Taxing Districts During Construction of the National Bio and Agro-Defense Facility	
<b>State of Kansas</b>	
<i>Sales taxes</i>	\$2,216,516
<i>Personal income taxes</i>	\$6,323,520
<i>Corporate income taxes</i>	\$844,515
<b>Subtotal for State of Kansas During Entire Construction Period</b>	<b>\$9,384,551</b>
<b>City of Manhattan</b>	
<i>Sales taxes</i>	\$293,190
<b>Subtotal for City of Manhattan During Entire Construction Period</b>	<b>\$293,190</b>
<b>Riley County</b>	
<i>Sales taxes</i>	\$234,552
<b>Subtotal for Riley County During Entire Construction Period</b>	<b>\$234,552</b>
<b>Total Additional Revenue During Entire Construction Period</b>	<b>\$9,912,293</b>

### Economic Impact of Operations of NBAF Over the First 25 Years

The National Bio and Agro-Defense Facility's direct spending, employment and salaries will spur additional economic activity in the state and local community. The table below shows the direct economic impact the facility will have on the state and Manhattan MSA as well as the indirect and induced activity resulting from the facility's operation over the first 25 years.

Estimated Economic Impacts Generated by the National Bio and Agro-Defense Facility's Operations Over the First 25 Years		
	<b>State of Kansas</b>	<b>Manhattan MSA*</b>
<b>Revenues for businesses (in millions):</b>		
Direct	\$1,354	\$1,354
Indirect & Induced	\$1,087	\$707
<b>Total revenues over 25-year period</b>	<b>\$2,441</b>	<b>\$2,061</b>
<b>Jobs:</b>		
Direct	326	326
Indirect & Induced	362	236
<b>Total permanent jobs</b>	<b>688</b>	<b>562</b>
<b>Workers' Earnings (in millions):</b>		
Direct	\$857	\$857
Indirect & Induced	\$496	\$322
<b>Total workers' earnings over 25-year period</b>	<b>\$1,353</b>	<b>\$1,180</b>

\* Impacts for Manhattan MSA are estimated based on 65% of the statewide impact, assuming the majority of the impact will occur locally.

## EXECUTIVE SUMMARY

### Additional Economic Impact of Operations of NBAF Over the First 25 Years

The table below presents some additional economic impacts generated over the first 25 years of the project.

Additional Economic Impacts Generated by the National Bio and Agro-Defense Facility's Operations Over the First 25 Years			
	Direct	Indirect & Induced	Total
Number of direct and indirect workers who will move to Manhattan area	300	0	300
Number of total new residents in the Manhattan area	777	0	777
Number of new residential properties to be built in the Manhattan area	45	0	45
Number of new students expected to attend the local school district	141	0	141
Taxable sales and purchases expected in the State and City of Manhattan:			
State of Kansas	\$133,480,680	\$76,800,979	\$210,281,659
City of Manhattan	\$87,015,092	\$32,448,414	\$119,463,505
The market value of new residential property to be built for direct and indirect workers who move to the City of Manhattan in 2018	\$7,092,000	\$0	\$7,092,000
Market value of the facility's property on local tax rolls in 2018	\$0	\$0	\$0

### Costs and Benefits for the State of Kansas and Local Taxing Districts

It is estimated that the National Bio and Agro-Defense Facility will generate additional benefits for the State of Kansas. In addition, this report estimates the benefits and costs for local taxing districts in Riley County as a result of the facility. An overall summary of these additional benefits, costs and net benefits over the first 25 years of operations is provided in the table below.

Estimated Additional Benefits and Costs for the State of Kansas and Local Taxing Districts Over the First 25 Years of Operation of the National Bio and Agro-Defense Facility				
	Additional Benefits	Additional Costs	Net Benefits	Present Value of Net Benefits**
State of Kansas	\$45,199,374	*	\$45,199,374	\$17,024,743
City of Manhattan	\$24,590,220	(\$11,864,744)	\$12,725,476	\$6,483,560
Riley County	\$3,593,649	(\$1,641,521)	\$1,952,128	\$978,427
Manhattan-Ogden USD 383	\$29,976,755	(\$28,516,916)	\$1,459,839	\$736,230
<b>Total</b>	<b>\$103,359,999</b>	<b>(\$42,023,181)</b>	<b>\$61,336,818</b>	<b>\$25,222,960</b>

While the above is a summary of the results of this analysis, details are on the following pages.

\* The analysis does not estimate any costs for the State of Kansas as a result of the facility and additional employment. The population change in Kansas is estimated to be fewer than 1,000 people and as discussed in the "NBAF Final Environmental Impact Statement", the effect of the facility and its workers on the State of Kansas would be negligible

\*\* The Present Value of Net Benefits is a way of expressing in today's dollars, dollars to be paid or received in the future. Today's dollar and a dollar to be received or paid at differing times in the future are not comparable because of the time value of money. The time value of money is the interest rate or each taxing entity's discount rate. This analysis uses a discount rate of 5% to make the dollars comparable.

## EXECUTIVE SUMMARY

The preceding analysis of the economic and fiscal impacts of construction and operations of the National Bio and Agro-Defense Facility focused on the backward-linked suppliers for construction and operations. The location of the facility in Kansas may likely spur additional growth in the bioscience industry in Kansas. This section summarizes some possible impacts for the bioscience industry in Kansas as a result of the NBAF.

### Bioscience Industry in Kansas

Kansas has made bioscience one of its top target industries for the future. Kansas has focused resources in sectors in which the state has national leadership and expertise, including animal health, bioenergy, biomaterials, plant biology and drug discovery and delivery. The state is investing in bioscience growth throughout the business cycle – from research and development to commercialization to expansion and attraction.

In part, the state's focus on bioscience helped attract the National Bio and Agro-Defense Facility to Manhattan. The facility will likely further cement Kansas as a major bioscience center in the U.S. and the world by spurring and attracting even more bioscience firms.

Federally funded facilities can help attract related researchers and commercialization, creating an industry cluster. The bioscience industry in Maryland is buoyed by the federal facilities in its state. Similarly, the Centers for Disease Control has similarly helped foster a bioscience cluster in Atlanta.

### Possible Direct Impacts for the Bioscience Industry in Kansas as a Result of the National Bio and Agro-Defense Facility

Impact DataSource estimates the possible impacts for the bioscience by modeling an expansion of employment in the bioscience industry\* in Kansas. Employment is modeled to increase by 1% per year for five years from 2018 to 2022 and then 0.5% for 10 years from 2023 to 2032. The 15-year growth will result in a 10% increase in employment in the bioscience industry and add approximately 1,100 direct bioscience jobs. This equates to approximately 34 new bioscience firms in Kansas based on average employment per establishment for the industry.

### Economic Impact of Possible Bioscience Industry Expansion Related to NBAF

The following table illustrates the possible economic impact that would result for the State of Kansas based on the assumption that the National Bio and Agro-Defense Facility will cause a 10% increase in employment in the bioscience industry over the next 25 years. These direct economic impacts will spur indirect and induced impacts as shown below.

Estimated Economic Impacts Resulting from Possible Bioscience Industry Expansion Concurrent with the First 25 Years of Operations of NBAF	
	<b>State of Kansas</b>
<b>Revenues for businesses (in millions):</b>	
Direct	\$9,785
Indirect & Induced	\$8,080
<b>Total revenues over 25-year period</b>	<b>\$17,865</b>
<b>Jobs:</b>	
Direct	1,094
Indirect & Induced	1,515
<b>Total permanent jobs</b>	<b>2,609</b>
<b>Workers' Earnings (in millions):</b>	
Direct	\$3,246
Indirect & Induced	\$2,975
<b>Total workers' earnings over 25-year period</b>	<b>\$6,221</b>

\* The bioscience industry is defined in this report consistent with the Battelle definition as discussed in the "Possible Impact on the Bioscience Industry in Kansas" section.

## EXECUTIVE SUMMARY

### Fiscal Impact of Possible Bioscience Industry Expansion Related to NBAF

The table below illustrates the estimated additional revenue for the State of Kansas and local taxing districts that may result from the expansion in the bioscience industry as described above.

Estimated Additional Revenues for the State of Kansas and Local Taxing Districts from Possible Bioscience Industry Expansion Concurrent with the First 25 Years of Operations of NBAF		
	<i>Revenues</i>	<i>Present Value of Revenues*</i>
<b>State of Kansas</b>		
<i>Sales taxes</i>	\$60,690,473	\$20,364,550
<i>Property taxes</i>	\$1,161,517	393,518
<i>Personal income taxes</i>	\$136,692,996	45,867,024
<i>Corporate income taxes</i>	\$35,730,860	11,878,353
<b><i>Subtotal for State of Kansas Over 25 Years</i></b>	<b>\$234,275,847</b>	<b>\$78,503,445</b>
<b>Local Taxing Districts</b>		
<i>Local Sales taxes</i>	\$17,340,135	\$5,818,443
<i>Local Property taxes (Municipal, County, School)</i>	\$95,713,942	\$32,427,585
<b><i>Subtotal for Local Taxing Districts Over 25 Years</i></b>	<b>\$113,054,078</b>	<b>\$38,246,028</b>
<b>Total Additional Revenue Over 25 Years</b>	<b>\$347,329,924</b>	<b>\$116,749,473</b>

\* This analysis uses a 5% discount rate to calculate present the value.

# **A Report of the Economic Impact of the National Bio And Agro-Defense Facility in Manhattan, Kansas**

## PROJECT SUMMARY

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### Introduction

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The following information is presented in this report:

- Description of the facility,
- Economic impact of the facility's construction, along with revenues that this construction activity will generate for the State, City, County and School District,
- Economic impact of the project during its first 25 years of operations,
- Revenues that the facility will generate for the state and local taxing districts during the first 25 years of operations,
- Information on the methodology of the analysis,
- Some information on Impact DataSource, and
- Appendices that provide details of tax rates and indirect multipliers used in this analysis, along with schedules showing details of calculations of economic impacts and revenues that the project will generate for the state and local taxing districts.

### Description of the National Bio and Agro-Defense Facility

The Department of Homeland Security plans to construct the National Bio and Agro-Defense Facility(NBAF) in Manhattan, Kansas. NBAF will be a state-of-the-art biocontainment facility for the study of foreign animal, emerging and zoonotic (transmitted from animals to humans) diseases that threaten the U.S. animal agriculture and public health. NBAF will provide and strengthen our nation with critical capabilities to conduct research, develop vaccines and other countermeasures, and train veterinarians in preparedness and response against these diseases. For the past 50 years, the Plum Island Animal Disease Center (PIADC) has served our nation as the primary facility to conduct this research. However, PIADC is nearing the end of its life-cycle and needs to be replaced in order to meet U.S. research requirements and ensure the timely development of countermeasures in the event of an outbreak. NBAF meets that need and will serve as a replacement for the PIADC facility. Strategically, NBAF will boast of new and expanded capabilities, specifically, Biosafety Level (BSL) 4 containment for the study of high-consequence diseases affecting large livestock.

The final design of the facility is currently being developed and the preliminary site preparation is underway. Construction is expected to begin in February 2012 with construction of the central utility plant. Construction on the laboratory space is projected to begin in August of 2012. The facility's commissioning is expected to be complete by July of 2018.

### Construction

NBAF will be located on the campus of Kansas State University immediately adjacent to the Biosecurity Research Institute. The site consists of approximately 48.4 acres southeast of the intersection of Kimball Avenue and Denison Avenue. Construction of the NBAF could start in early 2012 and take approximately 5 years to complete. It would either be operated directly by the government or operated by a contractor with strict government oversight.

## PROJECT SUMMARY

### Facility

As proposed, NBAF will consist of two laboratory facilities and four outbuildings. One of the two laboratory buildings will be the primary research building containing the BSL-2, BSL-3E, BSL-3Ag, and BSL-4 laboratories with associated support spaces. The other building would be a laboratory for small-scale vaccine and reagent production. It would be located adjacent to the primary research laboratory. Other outbuildings would include a central utility plant, an entry guard house, a central receiving facility, and parking. The approximate area needed for the NBAF is between 500,000 and 520,000 square feet. The approximate breakdown (percentage) by area is provided in the table below.

NBAF Space Requirements	
	Percent of Space
Office/Administrative	6.9%
BSL-2 <sup>a</sup>	6.0%
BSL-3 <sup>b</sup>	73.8%
BSL-4	10.9%
Production Module	2.4%
<b>Total</b>	<b>100.0%</b>

a BSL-2 includes laboratory and support areas.

b BSL-3 includes laboratory, 3Ag, and training and support areas.

### Employment

Once constructed, it is estimated that the National Bio and Agro-Defense Facility will employ approximately 326 workers. On average, these workers will be paid approximately \$77,000 per year in salaries and benefits. The table below shows the anticipated staffing for the facility.

NBAF Employment and Total Payroll		
	Employees	Total Salaries and Benefits
Operations & Maintenance/Security	145	\$8,286,604
Scientific Staff and Support	71	\$6,732,517
USDA-Agricultural Research Service	80	\$7,360,225
Department of Homeland Security	30	\$2,720,019
<b>Total</b>	<b>326</b>	<b>\$25,099,365</b>

The next section discusses the types of impacts that result from the National Bio and Agro-Defense Facility.

### **Types of Impacts Resulting from the National Bio and Agro-Defense Facility**

The economic impacts estimated in this report can be categorized into two main types of impacts.

1. Direct economic impacts are the immediate economic activities generated by the facility or project. These impacts include the employment at the facility and salaries paid to the facility's workers as well as expenditures made by the facility.
2. Indirect and induced economic impacts represent the additional economic activity that is supported by the facility. Indirect jobs and salaries are created in new or existing area firms, such as maintenance companies and service firms that may supply goods and services to the facility. In addition, induced jobs and salaries are created in new or existing local businesses, such as retail stores, gas stations, banks, restaurants, and service companies that may supply goods and services to new workers and their families. This report labels the combined indirect and induced impacts as simply "Indirect".

## PROJECT SUMMARY

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The National Bio and Agro-Defense Facility will generate positive economic and fiscal impacts in several ways for the State of Kansas and other local taxing districts. The two sources of impacts estimated in this report include:

1. Impact related to construction of the facility.
2. Impact related to the operation of the facility.

### Construction Impacts

The construction of the NBAF will result in economic and fiscal impacts for the local area and state. The direct construction activity will spur indirect and induced economic activity. These construction impacts are temporary and are planned to occur over five years.

### Operations Impacts

The on-going operations of the NBAF will result in economic and fiscal impacts for the local area and the state. The direct operations of the facility will spur indirect and induced economic activity. This study summarizes these on-going impacts over the first 25 years of operations beginning in 2018.

This report estimates the statewide impact of the facility using impact multipliers from the US Department of Commerce's Regional Input-Output Modeling System (RIMS II). State fiscal impacts are calculated based on the total statewide economic impact of the construction and operations. Local fiscal impacts for the City of Manhattan and Riley County are estimated based on assumptions about the distribution of the statewide impact.

# IMPACT DURING CONSTRUCTION OF NATIONAL BIO & AGRO-DEFENSE FACILITY

## Economic Impact of Construction

The National Bio and Agro-Defense Facility construction is estimated to generate the following direct construction jobs, salaries and revenues for businesses in the state:

Estimated Direct Construction Jobs, Salaries and Revenues for Businesses	
Expenditures for construction	\$563,009,934
Estimated percent of expenditures made in Kansas:	75%
<i>Estimated:</i>	
<i>Construction employment (per year during five years of construction)</i>	757
<i>Construction salaries (total during five years)</i>	\$168,902,980
<i>Revenues for architects, engineers, contractors, subcontractors and others in Kansas</i>	\$422,257,451

As summarized above, this analysis assumes that of the total construction expenditure of \$563 million approximately 75% will be spent locally.

Therefore, the project may generate \$422.26 million in direct revenues for area construction companies, architects, engineers, and others in the construction industry over the estimated five-year construction period. In addition, an estimated 757 direct construction and related workers will be employed on the project during this period. The estimated direct construction salaries will be \$168.9 million.

The direct economic activity generated as a result of the construction of the facility will ripple through the economy spurring spin-off impacts. The direct activity will generate indirect and induced economic impacts as described below.

The direct economic impact, as shown in the above table, will be the revenues of local development and construction firms that design and build the museum, construction jobs and construction salaries. From the spending of the construction firms and their workers, indirect and induced benefits or spin-off benefits will be created.

Indirect sales, jobs and salaries will be created or supported in local businesses and organizations, such as trucking companies, concrete suppliers, lumber yards and other businesses supplying goods and services to the project.

In addition, induced sales, jobs and salaries will be created or supported in area businesses, such as restaurants, gas stations, banks, book stores, grocery stores, apartment complexes, convenience stores, service companies, etc. that supply goods and services to construction workers and their families and, in turn, to workers in indirect jobs and their families.

This report estimates the statewide impact of the construction activity using impact multipliers from the US Department of Commerce’s Regional Input-Output Modeling System (RIMS II) for the State of Kansas and the construction industry.

## IMPACT DURING CONSTRUCTION OF NATIONAL BIO & AGRO-DEFENSE FACILITY

### Economic Impact of Construction - Continued

This construction activity, direct construction jobs and salaries, in turn, will create and support revenues in other businesses in the state and indirect jobs and salaries during the time that the facility is being constructed. The table below summarizes the total economic impact during the five-year construction period.

Estimated Economic Impacts Generated During Construction of the National Bio and Agro-Defense Facility		
	State of Kansas	Manhattan MSA*
<b>Revenues for businesses (in millions):</b>		
Direct	\$422.3	\$422.3
Indirect & Induced	\$395.1	\$256.8
<b>Total revenues over five-year construction period</b>	<b>\$817.3</b>	<b>\$679.0</b>
<b>Jobs:</b>		
Direct	757	757
Indirect & Induced	578	375
<b>Total annual jobs supported during construction</b>	<b>1,335</b>	<b>1,133</b>
<b>Workers' Earnings (in millions):</b>		
Direct	\$168.9	\$168.9
Indirect & Induced	\$118.9	\$77.3
<b>Total earnings over five-year construction period</b>	<b>\$287.8</b>	<b>\$246.2</b>

\* Impacts for Manhattan MSA are estimated based on 65% of the statewide impact, assuming the majority of the impact will occur locally.

The economic activity associated with the facility's construction will support \$422.3 million in direct revenues for Kansas businesses over the five-year construction period. This direct activity will support an additional \$395.1 million in revenues for businesses in the state through indirect and induced activity. In total, the five-year construction period will support an estimated \$817.3 million in revenues for businesses in the state. In addition, the activity will support approximately 757 direct workers in the state as well as 578 indirect and induced workers each year. Direct workers are estimated to receive \$168.9 million in workers' earnings during the five-year construction period. Indirect and induced workers are estimated to receive \$118.9 million in workers' earnings during the five-year construction period. In total, the five-year construction period is estimated to support \$278.8 million in workers' earnings.

### Fiscal Impact of Construction

The construction activity will generate additional fiscal impacts for the State of Kansas and the local taxing districts where the construction will take place. Kansas will benefit from sales taxes supported by workers spending a portion of their wages in the state on taxable goods and services. State sales tax collections are estimated based on workers spending 25% of their wages on taxable goods and services and 75% of this spending occurring in the State of Kansas. In addition, Kansas will benefit from personal income taxes on the construction workers' wages. Personal income tax collections are estimated based on total construction-related worker wages and an effective personal income tax rate of 3.37%. The effective personal income tax rate was estimated based on the ratio of personal income tax collections in Kansas and the total wages earned in the state according to the Bureau of Economic Analysis. The State of Kansas may also collect corporate income taxes from construction-related businesses. The calculation of corporate income taxes assumes 5% of the total revenues during construction in the State of Kansas may be subject to the corporate net income tax rate of 4%.

## IMPACT DURING CONSTRUCTION OF NATIONAL BIO & AGRO-DEFENSE FACILITY

The City of Manhattan and Riley County may also benefit from construction workers making taxable purchases in the community. Local sales tax collections are estimated based on workers spending 25% of their wages on taxable goods and services and 65% of this spending occurring in the local area.

The table on the following page illustrates the estimated additional revenue collected by the State of Kansas and local taxing districts during construction.

### Fiscal Impact of Construction - Continued

As described on the previous page, the construction activity will generate additional fiscal impacts for the State of Kansas and the local taxing districts where the construction will take place. The table below illustrates the estimated additional revenues for the State of Kansas and local taxing districts during the construction of the National Bio and Agro-Defense Facility.

Estimated Additional Revenues for the State of Kansas and Local Taxing Districts During Construction of the National Bio and Agro-Defense Facility	
<b>State of Kansas</b>	
<i>Sales taxes</i>	\$2,216,516
<i>Personal income taxes</i>	\$6,323,520
<i>Corporate income taxes</i>	\$844,515
<b><i>Subtotal for State of Kansas During Entire Construction Period</i></b>	<b>\$9,384,551</b>
<b>City of Manhattan</b>	
<i>Sales taxes</i>	\$293,190
<b><i>Subtotal for City of Manhattan During Entire Construction Period</i></b>	<b>\$293,190</b>
<b>Riley County</b>	
<i>Sales taxes</i>	\$234,552
<b><i>Subtotal for Riley County During Entire Construction Period</i></b>	<b>\$234,552</b>
<b>Total Additional Revenue During Entire Construction Period</b>	<b>\$9,912,293</b>

## IMPACT DURING OPERATION OF NATIONAL BIO & AGRO-DEFENSE FACILITY

### Summary of the Direct Economic Impact of Operations of NBAF

The National Bio and Agro-Defense Facility will be a state-of-the-art biocontainment facility for the study of foreign animal, emerging and zoonotic (transmitted from animals to humans) diseases that threaten the U.S. animal agriculture and public health. NBAF will provide and strengthen our nation with critical capabilities to conduct research, develop vaccines and other countermeasures, and train veterinarians in preparedness and response against these diseases.

The National Bio and Agro-Defense Facility plans to employ approximately 326 workers. On average, these workers will be paid approximately \$77,000 per year in salaries and benefits. The table below shows the anticipated staffing for the facility at full operations in the first year.

NBAF Employment and Total Payroll		
	Employees	Total Salaries and Benefits
Operations & Maintenance/Security	145	\$8,286,604
Scientific Staff and Support	71	\$6,732,517
USDA-Agricultural Research Service	80	\$7,360,225
Department of Homeland Security	30	\$2,720,019
<b>Total</b>	<b>326</b>	<b>\$25,099,365</b>

Source: NBAF Site Cost Estimate

According to the NBAF Site Cost Estimate, the facility will have an average annual operating budget of \$44.5 million over the first 8 years. For the purpose of this analysis, Impact DataSource assumes the operating budget will increase by 3% per year after this period.

The direct economic activity generated at facility will ripple through the economy spurring spin-off impacts. The direct activity will generate indirect and induced economic impacts as described below.

The direct economic impact, as discussed above, will be the expenditures of the facility as well as the employment and workers' earnings paid to workers. From the spending during the operations of the facility and the direct workers, indirect and induced benefits or spin-off benefits will be created.

Indirect sales, jobs and workers' earnings will be created or supported in other businesses and organizations that supply goods and services to the facility.

In addition, induced sales, jobs and workers' earnings will be created or supported in area businesses, such as restaurants, gas stations, banks, book stores, grocery stores, apartment complexes, convenience stores, and service companies that supply goods and services to the direct and indirect workers and their families.

This report estimates the statewide impact of the facility using impact multipliers from the US Department of Commerce's Regional Input-Output Modeling System (RIMS II) for the State of Kansas and the primary activity of the facility - scientific research & development services.

The total economic impact of the operations of the National Bio and Agro-Defense Facility over the first 25 years is provided on the next page.

## IMPACT DURING OPERATION OF NATIONAL BIO & AGRO-DEFENSE FACILITY

### Economic Impact of Operations of NBAF Over the First 25 Years

The National Bio and Agro-Defense Facility's direct spending, employment and salaries will spur additional economic activity in the state and local community. The table below shows the direct economic impact the facility will have on the state and Manhattan MSA as well as the indirect and induced activity resulting from the facility's operation over the first 25 years.

Estimated Economic Impacts Generated by the National Bio and Agro-Defense Facility's Operations Over the First 25 Years		
	State of Kansas	Manhattan MSA*
<b>Revenues for businesses (in millions):</b>		
Direct	\$1,354	\$1,354
Indirect & Induced	\$1,087	\$707
<b>Total revenues over 25-year period</b>	<b>\$2,441</b>	<b>\$2,061</b>
<b>Jobs:</b>		
Direct	326	326
Indirect & Induced	362	236
<b>Total permanent jobs</b>	<b>688</b>	<b>562</b>
<b>Workers' Earnings (in millions):</b>		
Direct	\$857	\$857
Indirect & Induced	\$496	\$322
<b>Total workers' earnings over 25-year period</b>	<b>\$1,353</b>	<b>\$1,180</b>

\* Impacts for Manhattan MSA are estimated based on 65% of the statewide impact, assuming the majority of the impact will occur locally.

Revenues for businesses shown above represents the economic output or the value of goods and services produced in an economy during the 25-year period. The jobs shown above represent the total permanent jobs created as a result of the operation of the NBAF. The workers' earnings represents the salary and benefits paid to workers as a result of the facility. Appendix B provides year-by-year estimates of these economic impacts.

The total impacts shown above are Impact DataSource estimates calculated using the estimated direct economic activity and Regional Input-Output Modeling System (RIMS II) multipliers for the State of Kansas, obtained from the Bureau of Economic Analysis. The direct economic impacts were obtained from the *NBAF Final Environmental Impact Statement* as well as the *NBAF Site Cost Analysis*, both produced by the Department of Homeland Security.

The *Industries Impacted* section of this report (page 26) identifies the industries in which the spin-off revenues and jobs are expected to be created. The following page presents some additional economic impacts occurring as a result of the NBAF.

## IMPACT DURING OPERATION OF NATIONAL BIO & AGRO-DEFENSE FACILITY

### Additional Economic Impact of Operations of NBAF Over the First 25 Years

The table below presents some additional economic impacts generated over the first 25 years of the project. The estimates and assumptions used in this study are generally consistent with the *NBAF Final Environmental Impact Statement* released in 2008 regarding the Manhattan site. For example, the study estimates 300 of the 326 workers will move to the area from elsewhere in the country. Further, the earlier study believes the indirect and induced positions resulting from the project will primarily be filled by existing residents. Impact DataSource finds these assumptions to be credible and utilizes the same assumptions in this analysis.

Additional Economic Impacts Generated by the National Bio and Agro-Defense Facility's Operations Over the First 25 Years			
	Direct	Indirect & Induced	Total
Number of direct and indirect workers who will move to Manhattan area	300	0	300
Number of total new residents in the Manhattan area	777	0	777
Number of new residential properties to be built in the Manhattan area	45	0	45
Number of new students expected to attend the local school district	141	0	141
Taxable sales and purchases expected in the State and City of Manhattan:			
State of Kansas	\$133,480,680	\$76,800,979	\$210,281,659
City of Manhattan	\$87,015,092	\$32,448,414	\$119,463,505
The market value of new residential property to be built for direct and indirect workers who move to the City of Manhattan in 2018	\$7,092,000	\$0	\$7,092,000
Market value of the facility's property on local tax rolls in 2018	\$0	\$0	\$0

How the economic activity resulting from the facility's operation translates into additional costs and benefits for local taxing districts is discussed next.

## IMPACT DURING OPERATION OF NATIONAL BIO & AGRO-DEFENSE FACILITY

### Costs and Benefits for the State of Kansas and Local Taxing Districts

It is estimated that the National Bio and Agro-Defense Facility will generate additional benefits for the State of Kansas. In addition, this report estimates the benefits and costs for local taxing districts in Riley County as a result of the facility. An overall summary of these additional benefits, costs and net benefits over the first 25 years of operations is provided in the table below. The itemized source of these benefits and costs are provided in more detail for each taxing district on the following pages. Appendix C contains the year-by-year estimates of revenues and costs summarized below.

Estimated Additional Benefits and Costs for the State of Kansas and Local Taxing Districts Over the First 25 Years of Operation of the National Bio and Agro-Defense Facility				
	Additional Benefits	Additional Costs	Net Benefits	Present Value of Net Benefits**
State of Kansas	\$45,199,374	*	\$45,199,374	\$17,024,743
City of Manhattan	\$24,590,220	(\$11,864,744)	\$12,725,476	\$6,483,560
Riley County	\$3,593,649	(\$1,641,521)	\$1,952,128	\$978,427
Manhattan-Ogden USD 383	\$29,976,755	(\$28,516,916)	\$1,459,839	\$736,230
<b>Total</b>	<b>\$103,359,999</b>	<b>(\$42,023,181)</b>	<b>\$61,336,818</b>	<b>\$25,222,960</b>

\* The analysis does not estimate any costs for the State of Kansas as a result of the facility and additional employment. The population change in Kansas is estimated to be fewer than 1,000 people and as discussed in the "NBAF Final Environmental Impact Statement", the effect of the facility and its workers on the State of Kansas would be negligible

\*\* The Present Value of Net Benefits is a way of expressing in today's dollars, dollars to be paid or received in the future. Today's dollar and a dollar to be received or paid at differing times in the future are not comparable because of the time value of money. The time value of money is the interest rate or each taxing entity's discount rate. This analysis uses a discount rate of 5% to make the dollars comparable.

### Fiscal Impacts Outside of Riley County

The goal of this study was to identify the fiscal impacts for the State of Kansas and the local taxing districts in where the facility will be located. Therefore, the impacts calculated in this report and summarized above represent a subset of the total fiscal impact that may occur in throughout the state. Other counties and cities may benefit from the economic activity generated by the facility. The majority of local fiscal impacts will take place inside Riley County.

The following pages present the itemized sources of revenues and costs associated with the overall fiscal impact shown above.

## IMPACT DURING OPERATION OF NATIONAL BIO & AGRO-DEFENSE FACILITY

### Benefits for the State of Kansas

The economic impacts generated by the National Bio and Agro-Defense Facility will translate into additional benefits for the State of Kansas. The direct, indirect and induced workers will spend a portion of their earnings on taxable goods and services in the state and support state sales tax collections. Although the facility's property will not be subject to property taxes, new workers may require some additional residential property to be added to the tax rolls which will result in additional property taxes. In addition, the direct, indirect and induced workers will pay personal income taxes on wages earned as result of the facility. Finally, it is estimated that the indirect and induced businesses will generate corporate income taxes for the State of Kansas. The table below summarizes the additional revenue supported by the project for the State of Kansas over the first 25 years of the operation of the facility.

State of Kansas: Additional Benefits Over the First 25 Years	
	<b>Additional Benefits</b>
Sales Taxes	\$13,247,745
Property Taxes	\$41,788
Personal Income Taxes	\$29,735,433
Corporate Income Taxes	\$2,174,409
<b>Total</b>	<b>\$45,199,374</b>
<i>Present Value (5% discount rate)</i>	<i>\$17,024,743</i>

State sales tax collections are estimated based on direct, indirect and induced workers spending 25% of their wages on taxable goods and services and 95% of this spending occurring in the State of Kansas. Impact DataSource assumes 15% of the 300 workers moving to the area will require new residential property added to tax rolls. Personal income tax collections are estimated based on total worker wages and an effective personal income tax rate of 3.37%. The effective personal income tax rate was estimated based on the ratio of personal income tax collections in Kansas and the total wages earned in the state according to the Bureau of Economic Analysis. Finally, it is estimated that 5% of the revenues for indirect and induced businesses may be subject to the state's 4% corporate income tax.

No costs for the State of Kansas are estimated in this study as a result of the facility and additional employment. The total population change in Kansas is estimated to be fewer than 1,000 people and as noted in the *NBAF Final Environmental Impact Statement*, the effect of the facility and its workers on the State of Kansas would be negligible.

### Benefits and Costs for City of Manhattan

Additional benefits and costs will be generated in the City of Manhattan as a result of the National Bio and Agro-Defense Facility. The City will benefit from sales tax collections as workers spend a portion of their wages on taxable items in the city. Property taxes will be collected on the residential property added to tax rolls that may be built as a result of the new workers in the area. It is assumed that additional visitors to the facility may generate transient guest taxes. The City will collect utility revenue resulting from the city-owned utilities provided to new households as well as the facility. In addition, the City will collect utility franchise fees on the new households and the facility's use of electricity, natural gas and other utilities. The city may directly or indirect collect other taxes and user fees from new households and new businesses in the community.

It is also estimated that the economic impacts resulting from the project will impose additional costs on the City of Manhattan. The city will incur a cost to provide the new households and the facility city-owned utility services. Additionally, estimates are made on a per household and per new worker basis to determine the marginal cost to provide services to new households and new businesses in the city. Further discussion of this methodology is provided in the Methodology section.

The table on the following page summarizes the estimated additional benefits, costs and net benefits for the City of Manhattan over the first 25 years of the facility's operations.

# IMPACT DURING OPERATION OF NATIONAL BIO & AGRO-DEFENSE FACILITY

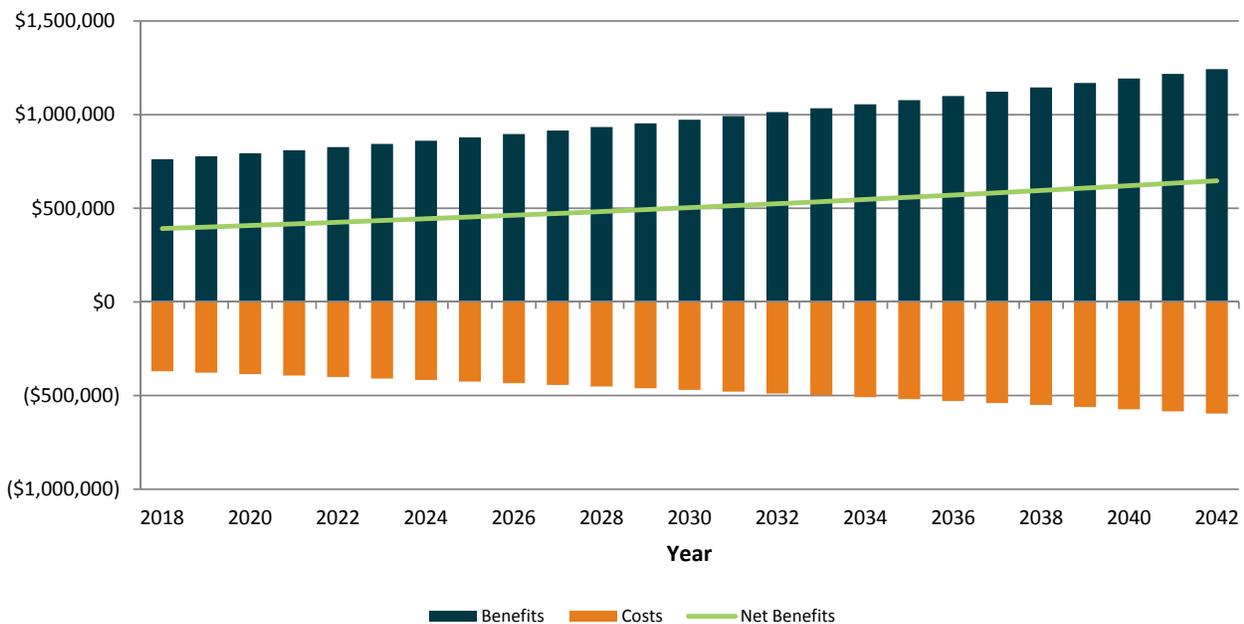
## Benefits and Costs for City of Manhattan - Continued

The table below displays the estimated additional benefits, costs and net benefits to be received by the city over the first 25 years of the project. Appendix C contains the year-by-year calculations.

City of Manhattan: Benefits, Costs and Net Benefits Over the First 25 Years			
	Additional Benefits	Additional Costs	Net Benefits
Sales Taxes	\$1,493,294		\$1,493,294
Property Taxes	\$1,167,740		\$1,167,740
Building Permits and Fees	\$0		\$0
Transient Guest Taxes	\$43,311		\$43,311
Utility Revenue	\$8,863,344		\$8,863,344
Utility Franchise Fees	\$10,752,479		\$10,752,479
Other Taxes & User Fees: Households	\$1,765,286		\$1,765,286
Other Taxes & User Fees: Businesses	\$504,765		\$504,765
Cost of Providing Utilities		(\$8,863,344)	(\$8,863,344)
Cost of Services to New Households		(\$2,333,952)	(\$2,333,952)
Cost of Services to New Businesses		(\$667,447)	(\$667,447)
<b>Total</b>	<b>\$24,590,220</b>	<b>(\$11,864,744)</b>	<b>\$12,725,476</b>
<i>Present Value (5% discount rate)</i>	<i>\$12,545,842</i>	<i>(\$6,062,282)</i>	<i>\$6,483,560</i>

The graph below depicts the costs, benefits and net benefits to the City of Manhattan over the first 25 years.

### Annual Net Benefits for the City



## IMPACT DURING OPERATION OF NATIONAL BIO & AGRO-DEFENSE FACILITY

### Benefits and Costs for Riley County

Additional benefits and costs will be generated in Riley County as a result of the National Bio and Agro-Defense Facility. The County will benefit from sales tax collections as workers spend a portion of their wages on taxable items in the county. Property taxes will be collected on the residential property added to tax rolls that may be built as a result of the new workers in the area. Finally, the county may directly or indirect collect other taxes and user fees from new households and new businesses in the community.

It is also estimated that the economic impacts resulting from the project will impose additional costs on the county. Estimates are made on a per household and per new worker basis to determine the marginal cost to provide services to new households and new businesses in the county. Further discussion of this methodology is provided in the Methodology section.

The table below displays the estimated additional benefits, costs and net benefits to be received by the county over the first 25 years of the project. Appendix C contains the year-by-year calculations.

Riley County: Benefits, Costs and Net Benefits Over the First 25 Years			
	Additional Benefits	Additional Costs	Net Benefits
Sales Taxes	\$2,102,817		\$2,102,817
Property Taxes	\$899,297		\$899,297
Other Taxes & User Fees: Households	\$460,275		\$460,275
Other Taxes & User Fees: Businesses	\$131,260		\$131,260
Cost of Services to New Households		(\$1,277,240)	(\$1,277,240)
Cost of Services to New Businesses		(\$364,281)	(\$364,281)
<b>Total</b>	<b>\$3,593,649</b>	<b>(\$1,641,521)</b>	<b>\$1,952,128</b>
<i>Present Value (5% discount rate)</i>	<i>\$1,817,160</i>	<i>(\$838,734)</i>	<i>\$978,427</i>

### Benefits and Costs for Manhattan-Ogden USD 383

Additional benefits and costs will be generated for the local school district as a result of the facility. The school district will benefit from property taxes collected on the residential property added to tax rolls that may be built as a result of the new workers in the area. Also, the school district will likely receive additional state and federal funding as a result of additional students.

It is also estimated that the economic impacts resulting from the project will impose the additional costs to educate new students to area. Further discussion of this methodology is provided in the Methodology section and Appendix A.

The table below displays the estimated additional benefits, costs and net benefits to be received by the school district over the first 25 years of the project. Appendix C contains the year-by-year calculations.

School District: Benefits, Costs and Net Benefits Over the First 25 Years			
	Additional Benefits	Additional Costs	Net Benefits
Property Taxes	\$1,372,945		\$1,372,945
Additional State and Federal Funding	\$28,603,810		\$28,603,810
Additional Cost to Educate New Students		(\$28,516,916)	(\$28,516,916)
<b>Total</b>	<b>\$29,976,755</b>	<b>(\$28,516,916)</b>	<b>\$1,459,839</b>
<i>Present Value (5% discount rate)</i>	<i>\$14,952,947</i>	<i>(\$14,216,717)</i>	<i>\$736,230</i>

## POSSIBLE IMPACT ON THE BIOSCIENCE INDUSTRY IN KANSAS

The main focus of this study related to the economic and fiscal impacts of construction and operations of the National Bio and Agro-Defense Facility focused on the backward-linked suppliers for construction and operations. The location of the facility in Kansas may likely spur additional growth in the bioscience industry in Kansas. This section summarizes some possible impacts on the bioscience industry in Kansas as a result of the NBAF.

### Bioscience Industry in Kansas

Kansas has made bioscience one of its top target industries for the future. Kansas has focused resources in sectors in which the state has national leadership and expertise, including animal health, bioenergy, biomaterials, plant biology and drug discovery and delivery. The state is investing in bioscience growth throughout the business cycle – from research and development to commercialization to expansion and attraction.

In part, the state's focus on bioscience helped attract the National Bio and Agro-Defense Facility to Manhattan. The facility will likely further cement Kansas as a major bioscience center in the U.S. and the world by spurring and attracting even more bioscience firms.

Federally funded facilities can help attract related researchers and commercialization, creating an industry cluster. The bioscience industry in Maryland is buoyed by the federal facilities in its state. Similarly, the Centers for Disease Control has similarly helped foster a bioscience cluster in Atlanta.

A commonly used definition of the bioscience industry, presented by Battelle\*, includes specific manufacturing sectors related to agricultural feedstocks and chemicals, drugs and pharmaceuticals and medical devices and equipment. In addition, the definition also includes specific industries research, testing and medical laboratories.

According to this definition, the bioscience industry in Kansas employed more than 10,000 people in 2007 according to the most recent Economic Census. Wages for this industry averaged approximately \$51,000 and businesses in this industry generated direct revenues of more than 2.3 billion in 2007.

### Possible Direct Impacts for the Bioscience Industry in Kansas as a Result of the National Bio and Agro-Defense Facility

Impact DataSource estimates the possible impacts for the bioscience by modeling an expansion of employment in the bioscience industry in Kansas. Employment is modeled to increase by 1% per year for five years from 2018 to 2022 and then 0.5% for 10 years from 2023 to 2032. The 15-year growth will result in a 10% increase in employment in the bioscience industry and add approximately 1,100 direct bioscience jobs. This equates to approximately 34 new bioscience firms in Kansas based on average employment per establishment for the industry.

The direct economic impacts resulting from this possible expansion in the bioscience industry in Kansas over the next 25 years is shown below.

Direct Economic Impacts Resulting from Possible Bioscience Industry Expansion Concurrent with the First 25 Years of Operations of NBAF	
Direct Revenues for businesses (in millions)	\$9,785
Direct Employment	1,094
Direct Workers' Earnings (in millions)	\$3,246

Workers' earnings and revenues for these new businesses are calculated on a per worker basis, using the most recent Economic Census data as the basis for the per-employee calculations. These possible direct economic impacts would then support indirect and induced activity in the state, multiplying the NBAF's impact.

The estimated total economic impact resulting from a possible bioscience industry expansion is summarized on the next page.

\* Battelle, *Growing the Nation's Bioscience Sector: A Regional Perspective*, January 2007.

## POSSIBLE IMPACT ON THE BIOSCIENCE INDUSTRY IN KANSAS

### Economic Impact of Possible Bioscience Industry Expansion Related to NBAF

The following table illustrates the possible economic impact that would result for the State of Kansas based on the assumption that the National Bio and Agro-Defense Facility will cause a 10% increase in employment in the bioscience industry over the next 25 years. These direct economic impacts will spur indirect and induced impacts as shown below.

Estimated Economic Impacts Resulting from Possible Bioscience Industry Expansion Concurrent with the First 25 Years of Operations of NBAF	
	State of Kansas
<b>Revenues for businesses (in millions):</b>	
Direct	\$9,785
Indirect & Induced	\$8,080
<b>Total revenues over 25-year period</b>	<b>\$17,865</b>
<b>Jobs:</b>	
Direct	1,094
Indirect & Induced	1,515
<b>Total permanent jobs</b>	<b>2,609</b>
<b>Workers' Earnings (in millions):</b>	
Direct	\$3,246
Indirect & Induced	\$2,975
<b>Total workers' earnings over 25-year period</b>	<b>\$6,221</b>

These economic impacts would translate into additional revenues for the State of Kansas and local taxing districts throughout the state. A discussion of the fiscal impact is provided next.

### Benefits for the State of Kansas & Local Taxing Districts Resulting from the Possible Expansion in the Bioscience Industry

The benefits for the State of Kansas and other local taxing districts throughout the state were estimated based on the economic impacts above and a few additional assumptions about this activity.

#### State Revenues

State sales tax collections are estimated based on direct, indirect and induced workers spending 25% of their wages on taxable goods and services and 95% of this spending occurring in the State of Kansas. Impact DataSource assumes 25% of the new direct workers moving to the area will require new residential property added to tax rolls. Also, commercial property was estimated by assuming each worker will require approximately 300 square feet of commercial space with a market value of \$150 per square foot. Personal income tax collections are estimated based on total worker wages and an effective personal income tax rate of 3.37%. The effective personal income tax rate was estimated based on the ratio of personal income tax collections in Kansas and the total wages earned in the state according to the Bureau of Economic Analysis. Finally, it is estimated that 5% of the revenues for direct, indirect and induced businesses may be subject to the state's 4% corporate income tax.

#### Local Revenues

Local tax revenues were calculated using an average statewide local sales tax rate of 1.8% applied to worker taxable purchases in the state. Local property tax revenues were calculated by applying a mill levy of 123.6, consistent with the average statewide levy during 2009 as summarized by the Kansas Department of Revenue. The local taxes represent taxes paid to municipalities, counties and schools throughout the state.

## POSSIBLE IMPACT ON THE BIOSCIENCE INDUSTRY IN KANSAS

The table below illustrates the estimated additional revenue for the State of Kansas and local taxing districts that may result from the expansion in the bioscience industry as described above.

Estimated Additional Revenues for the State of Kansas and Local Taxing Districts from Possible Bioscience Industry Expansion Concurrent with the First 25 Years of Operations of NBAF		
	<i>Revenues</i>	<i>Present Value of Revenues*</i>
<b>State of Kansas</b>		
<i>Sales taxes</i>	\$60,690,473	\$20,364,550
<i>Property taxes</i>	\$1,161,517	393,518
<i>Personal income taxes</i>	\$136,692,996	45,867,024
<i>Corporate income taxes</i>	\$35,730,860	11,878,353
<b><i>Subtotal for State of Kansas Over 25 Years</i></b>	<b>\$234,275,847</b>	<b>\$78,503,445</b>
<b>Local Taxing Districts</b>		
<i>Local Sales taxes</i>	\$17,340,135	\$5,818,443
<i>Local Property taxes (Municipal, County, School)</i>	\$95,713,942	\$32,427,585
<b><i>Subtotal for Local Taxing Districts Over 25 Years</i></b>	<b>\$113,054,078</b>	<b>\$38,246,028</b>
<b>Total Additional Revenue Over 25 Years</b>	<b>\$347,329,924</b>	<b>\$116,749,473</b>

\* This analysis uses a 5% discount rate to calculate present the value.

## INDUSTRIES IMPACTED BY THE NATIONAL BIO AND AGRO-DEFENSE FACILITY

### Industries Impacted by the National Bio and Agro-Defense Facility

RIMS II multipliers were used to determine industries in which indirect and induced activity will be created by the National Bio Agro-Defense Facility. Impact DataSource utilizes State of Kansas RIMS II Multipliers developed by U.S. Department of Commerce's Bureau of Economic Analysis. RIMS II is based on an accounting framework called an Input-Output table (I-O table). For each industry, an I-O table shows the distribution of the inputs purchased and the outputs and the related industries. Overall, RIMS II shows the relationship and interdependency of industries.

### Estimated Employment Impacts by Industry

As discussed above, the facility will make purchases in the state to support its operations and other general business services. These businesses will hire additional workers to provide the goods and services required by the facility and will impact many industries in the state. Similarly, induced jobs, generated by direct and indirect workers spending their salaries in the state, will be created in various industries.

The distribution of jobs across major industry categories in which direct, indirect and induced jobs will be created in the State of Kansas are shown in the following table.

Industry Employment Impact from Direct, Indirect and Induced Jobs Created in Kansas					
NAICS Group	Industry Title	Direct	Indirect	Induced	Total
11	Agriculture, Forestry, Fishing & Hunting	0	1	1	2
21	Mining, Quarrying, & Oil & Gas Extraction	0	1	1	2
22	Utilities	0	1	2	3
23	Construction	0	8	5	13
31-33	Manufacturing	0	11	11	22
42	Wholesale Trade	0	3	5	9
44-45	Retail Trade	0	3	23	26
48-49	Transportation & Warehousing	0	6	6	13
51	Information	0	5	5	10
52	Finance and Insurance	0	11	14	24
53	Real Estate and Rental & Leasing	0	15	15	30
54	Professional, Scientific, & Technical Services	326	29	19	374
55	Management of Companies & Enterprises	0	4	3	6
56	Administrative & Support & Waste Mgmt	0	52	33	85
61	Educational Services	0	0	4	5
62	Health Care & Social Assistance	0	0	22	22
71	Arts, Entertainment, & Recreation	0	1	3	4
72	Accommodation & Food Services	0	9	16	24
81	Other Services	0	5	9	14
<b>Total</b>		<b>326</b>	<b>164</b>	<b>199</b>	<b>688</b>

Total may not sum due to rounding.

Impact DataSource calculations based on RIMS II relationships.

### Industry Employment to Occupational Employment

The industrial employment shown above will result in the employment of specific occupational areas. The 2009 Occupational Employment Statistics (OES) Survey published by the U.S. Department of Labor's Bureau of Labor Statistics was used to identify occupational categories and specific types of occupations typically hired in a given major industry category.

## INDUSTRIES IMPACTED BY THE NATIONAL BIO AND AGRO-DEFENSE FACILITY

### Occupational Categories Impacted by Jobs Created in the State of Kansas

As discussed on the previous pages, the direct jobs will primarily consist of scientific and research-related positions. The following table illustrates the estimated distribution of occupational areas impacted throughout the state as a result of the indirect and induced activity based on the mix of industry employment and the occupations typically employed in major industry categories.

Occupational Category Impact from Indirect and Induced Jobs Created in the State of Kansas			Indirect & Induced Jobs	Percent of Total
Occupation Code	Occupational Category			
43-0000	Office and administrative support occupations		75	20.6%
41-0000	Sales and related occupations		40	11.0%
53-0000	Transportation and material moving occupations		27	7.4%
37-0000	Building and grounds cleaning and maintenance occupations		24	6.7%
35-0000	Food preparation and serving related occupations		24	6.5%
51-0000	Production occupations		22	6.2%
13-0000	Business and financial operations occupations		21	5.9%
11-0000	Management occupations		19	5.2%
49-0000	Installation, maintenance, and repair occupations		17	4.7%
47-0000	Construction and extraction occupations		14	3.8%
15-0000	Computer and mathematical science occupations		14	3.7%
29-0000	Healthcare practitioner and technical occupations		12	3.2%
33-0000	Protective service occupations		9	2.6%
17-0000	Architecture and engineering occupations		9	2.5%
39-0000	Personal care and service occupations		7	2.1%
31-0000	Healthcare support occupations		6	1.8%
27-0000	Arts, design, entertainment, sports, and media occupations		6	1.6%
23-0000	Legal occupations		5	1.3%
25-0000	Education, training, and library occupations		4	1.2%
19-0000	Life, physical, and social science occupations		4	1.1%
21-0000	Community and social services occupations		2	0.6%
45-0000	Farming, fishing, and forestry occupations		2	0.5%
<b>Total</b>			<b>362</b>	<b>100%</b>

Total may not sum due to rounding.

Impact DataSource calculations based on industry employment projects and Occupational Employment Statistics Survey data published by the U.S. Department of Labor's Bureau of Labor Statistics.

## INDUSTRIES IMPACTED BY THE NATIONAL BIO AND AGRO-DEFENSE FACILITY

### Estimated Additional Demand Impacts by Industry

The indirect and induced economic activity identified on page 17 will occur in various industries in Kansas. The table below provides additional detail on the industries impacted by the facility's operations during the first year of operations.

Demand for Additional Services in Kansas During the First Full Year of Operations of the Facility				
NAICS Group	Industry Title	Indirect	Induced	Total Spin-off
11	Agriculture, Forestry, Fishing & Hunting	\$200,257	\$247,239	\$447,496
21	Mining, Quarrying, & Oil & Gas Extraction	\$129,054	\$136,234	\$265,288
22	Utilities	\$489,517	\$628,190	\$1,117,706
23	Construction	\$720,924	\$494,479	\$1,215,403
31-33	Manufacturing	\$1,958,066	\$2,300,839	\$4,258,905
42	Wholesale Trade	\$578,520	\$963,729	\$1,542,248
44-45	Retail Trade	\$186,906	\$1,342,156	\$1,529,062
48-49	Transportation & Warehousing	\$689,773	\$744,241	\$1,434,014
51	Information	\$1,197,090	\$1,316,928	\$2,514,018
52	Finance and Insurance	\$1,526,402	\$1,935,026	\$3,461,427
53	Real Estate and Rental & Leasing	\$1,116,988	\$2,719,632	\$3,836,620
54	Professional, Scientific, & Technical Services	\$2,821,395	\$1,899,706	\$4,721,101
55	Management of Companies & Enterprises	\$582,970	\$461,682	\$1,044,651
56	Administrative & Support & Waste Mgmt	\$2,345,229	\$1,569,213	\$3,914,442
61	Educational Services	\$8,900	\$214,442	\$223,343
62	Health Care & Social Assistance	\$8,900	\$1,622,192	\$1,631,093
71	Arts, Entertainment, & Recreation	\$35,601	\$98,391	\$133,992
72	Accommodation & Food Services	\$396,063	\$736,672	\$1,132,736
81	Other Services	\$502,867	\$819,926	\$1,322,793
<b>Total</b>		<b>\$15,495,423</b>	<b>\$20,250,916</b>	<b>\$35,746,339</b>

## METHODOLOGY

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### **Conduct of the Analysis**

This analysis was conducted by Impact DataSource. The analysis was performed using projections and other data about the planned mixed-use development project. In addition, the model uses local tax rates and data as well as certain estimates and assumptions.

Using this data, the economic impact from the project and the costs and benefits for relevant taxing districts were calculated for a 10-year period

### **Types of Impacts Resulting from the National Bio and Agro-Defense Facility**

The economic impacts estimated in this report can be categorized into two main types of impacts.

1. Direct economic impacts are the immediate economic activities generated by the facility or project. These impacts include the employment at the facility and salaries paid to the facility's workers as well as expenditures made by the facility.
2. Indirect and induced economic impacts represent the additional economic activity that is supported by the facility. Indirect jobs and salaries are created in new or existing area firms, such as maintenance companies and service firms that may supply goods and services to the facility. In addition, induced jobs and salaries are created in new or existing local businesses, such as retail stores, gas stations, banks, restaurants, and service companies that may supply goods and services to new workers and their families. This report labels the combined indirect and induced impacts as simply "Indirect".

The National Bio and Agro-Defense Facility will generate positive economic and fiscal impacts in several ways for the State of Kansas and other local taxing districts. The two sources of impacts estimated in this report include:

1. Impact related to construction of the facility.
2. Impact related to the operation of the facility.

#### Construction Impacts

The construction of the NBAF will result in economic and fiscal impacts for the local area and state. The direct construction activity will spur indirect and induced economic activity. These construction impacts are temporary and are planned to occur over 6 years.

#### Operations Impacts

The on-going operations of the NBAF will result in economic and fiscal impacts for the local area and the state. The direct operations of the facility will spur indirect and induced economic activity. This study summarizes these on-going impacts over the first 25 years of operations beginning in 2018.

This report estimates the statewide impact of the facility using impact multipliers from the US Department of Commerce's Regional Input-Output Modeling System (RIMS II). State fiscal impacts are calculated based on the total statewide economic impact of the construction and operations. Local fiscal impacts for the City of Manhattan and Riley County are estimated based on assumptions about the distribution of the statewide impact.

The next page discusses the calculation methodology used to estimate the fiscal impacts for Kansas and the local taxing districts.

## METHODOLOGY

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### Calculation of Fiscal Impacts

#### State of Kansas - Revenues

State sales tax collections are estimated based on direct, indirect and induced workers spending 25% of their wages on taxable goods and services and 95% of this spending occurring in the State of Kansas. Impact DataSource assumes 15% of the 300 workers moving to the area will require new residential property added to tax rolls. Personal income tax collections are estimated based on total worker wages and an effective personal income tax rate of 3.37%. The effective personal income tax rate was estimated based on the ratio of personal income tax collections in Kansas and the total wages earned in the state according to the Bureau of Economic Analysis. Finally, it is estimated that the indirect and induced It is estimated that 5% of the revenues for indirect and induced businesses may be subject to the state's 4% corporate income tax. The above methodology differs slightly for the construction impacts as described in the *Impact of Construction* section.

#### State of Kansas - Costs

No costs for the State of Kansas are estimated in this study as a result of the facility and additional employment. The total population change in Kansas is estimated to be fewer than 1,000 people and as noted in the *NBAF Final Environmental Impact Statement*, the effect of the facility and its workers on the State of Kansas would be negligible.

#### City of Manhattan - Revenues

The additional benefits and costs will be generated in the City of Manhattan as a result of the National Bio and Agro-Defense Facility. The City will benefit from sales tax collections as workers spend a portion of their wages on taxable items in the city. Property taxes will be collected on the residential property added to tax rolls that may be built as a result of the new workers in the area. It is assumed that additional visitors to the facility may generate transient guest taxes. The City will collect utility revenue resulting from the city-owned utilities provided to new households as well as the facility. In addition, the City will collect utility franchise fees on the new households and the facility's use of electricity, natural gas and other utilities.

The city will likely receive revenues from businesses and new workers through other miscellaneous taxes and user fees not itemized for the city. Data for calculating these additional revenues is either unavailable or difficult to estimate directly.

Therefore, some other city revenues were calculated using an average revenue approach. This approach uses two assumptions:

- 1 - The city has two general revenue sources -- revenues from residents and revenues from businesses.
- 2 - The city will collect (a) about the same amount of other revenues from each household of new workers that may move to the city as it currently collects from an average household of existing residents, and (b) about the same amount of other revenues from the new firm (on a per worker basis) will be collected as the city collects from other businesses in the city.

Using this average revenue approach, revenues likely to be received by the city were calculated from the households of new workers who may move to the city and from the new firm using average city revenues per worker calculations.

The total annual city revenues used to make average revenue calculations in this analysis were obtained from the city's latest annual budget.

## METHODOLOGY

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### **City of Manhattan - Costs**

It is also estimated that the economic impacts resulting from the project will impose additional costs on the City of Manhattan. The city will incur a cost to provide the new households and the facility city-owned utility services. Additionally, estimates are made on a per household and per new worker basis to determine the marginal cost to provide services to new households and new businesses in the city. A marginal cost approach was used to calculate additional city costs from new businesses and new households.

This approach uses two assumptions:

- 1 - The city spends money on services for two general groups -- residents and businesses.
- 2 - The city will spend (a) about the same amount for variable or marginal cost for each household of new workers that may move to the city as it currently spends for an average household of existing residents, and (b) about the same amount for variable or marginal costs for the new firm (on a per worker basis) as it spends for other businesses in the city.

Using this approach, the costs likely to be imposed on the city were calculated from the households of new workers who may move to the city and from the new businesses using marginal cost per worker calculations.

### **Riley County - Revenues**

The additional benefits and costs will be generated in Riley County as a result of the National Bio and Agro-Defense Facility. The County will benefit from sales tax collections as workers spend a portion of their wages on taxable items in the county. Property taxes will be collected on the residential property added to tax rolls that may be built as a result of the new workers in the area. Also, the analysis estimates other additional revenue to be received by the county from new residents and new businesses. An average revenue approach is used in the same way additional city revenues were calculated.

### **Riley County - Costs**

It is also estimated that the economic impacts resulting from the project will impose additional costs on the county. Estimates are made on a per household and per new worker basis to determine the marginal cost to provide services to new households and new businesses in the county. The analysis estimates additional costs to provide services to new residents and businesses using the same methodology used for the city.

### **Manhattan-Ogden USD 383 - Revenues**

Additional benefits and costs will be generated for the local school district as a result of the facility. The school district will benefit from property taxes collected on the residential property added to tax rolls that may be built as a result of the new workers in the area. Also, the school district will likely receive additional state and federal funding as a result of additional students.

### **Manhattan-Ogden USD 383 - Costs**

A marginal cost approach was used to calculate additional school district costs. This approach uses the assumption that the school district will spend about the same amount for variable or marginal cost for each new student as it spends for each existing student.

## METHODOLOGY

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### About Impact DataSource

Impact DataSource is a 17-year-old Austin, Texas economic consulting, research and analysis firm. The company has conducted over 2,500 economic impact analyses of firms, projects and activities in most industry groups throughout the U.S.

In addition, Impact DataSource has prepared and customized over 50 economic impact models for its clients to perform their own analyses of economic development projects. These clients include the New Mexico Economic Development and the Metro Orlando (Florida) Economic Development Commission.

The New Mexico Department of Economic Development uses Impact DataSource's computer model to project the economic impact of new or expanding firms in the state and costs and benefits for the State of New Mexico and each local taxing district. The model also calculates the amount of eligible state and local incentives and calculates a rate of return and payback period for these incentives.

Impact DataSource's team includes the following members:

- Jerry Walker, principal/economist, and
- Paul Scheuren, economist

Jerry Walker is an economist and Impact DataSource's Principal. Over the past seventeen years, he has conducted economic and fiscal impact analyses and cost-benefit studies of a variety of firms, facilities, projects and activities. He has also developed several economic impact analysis computer programs for clients to do their own economic impact analyses of firms, projects, activities and organizations.

He also has a background in government accounting and auditing. Prior to his economic consulting career, he had a fifteen-year career as a supervisory auditor with two federal departments – the U.S. Department of Education and the U.S. Department of Health and Human Services. He reviewed federal programs operated by states, local governments, colleges and universities, local education agencies, and nonprofit organizations in a six state area from Austin, Texas. He performed financial audits and operational reviews. During the operational reviews, the operations of the federal programs were reviewed for economy, efficiency and effectiveness. The financial audits included analyzing costs incurred for federal programs and components of indirect cost rates. He has also served as a part-time accounting instructor at Austin Community College, Austin, Texas.

Jerry has Bachelor of Science and Master of Business Administration degrees in accounting and economics from Nicholls State University, Thibodaux, Louisiana.

Paul Scheuren is an Impact DataSource economist. Over the past three years, he has conducted economic and fiscal impact analyses and cost-benefit studies of a variety of firms, facilities, projects and activities. Recently, Paul analyzed more than 30 renewable energy projects funded by the Iowa Power Fund, Iowa's energy-related economic development fund.

Prior to joining Impact DataSource, Paul worked as a compensation analyst at the Texas Association of School Boards where he supported compensation consulting projects and helped streamline data analysis for a statewide salary survey.

Paul has a Master of Arts in Economics from Clemson University as well as a Bachelor of Business Administration in actuarial science from Temple University.

# **Appendix A**

*Data and Rates*

# APPENDIX A

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**Tax Rates:**

Sales tax rates:

State of Kansas	6.30%
City of Manhattan	1.25%
Riley County	1.00%
City of Manhattan - Transient guest tax rate	6.00%

Property tax rates, per \$1,000 of valuation:

State of Kansas	1.500
City of Manhattan	41.917
Riley County	32.281
Manhattan-Ogden USD 383	49.283

*Assessment percentages*

<i>Commercial</i>	<i>25.0%</i>
<i>Residential</i>	<i>11.5%</i>

Personal income tax rate:

*The State of Kansas has three Personal Income Tax Brackets*

<b>Income Ranges</b>	<b>Tax Rate</b>
\$0 to \$15,000	3.50%
\$15,001 to \$30,000	6.25%
\$30,001 and above	6.45%

Effective personal income tax rate	3.37%
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*Based on total personal income tax collections and total wages in Kansas in 2009*

Corporate income tax rate:

State of Kansas	4.00%
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Percent of revenues (economic output) subject to corporate income tax	5.00%
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**Relevant City Rates:**

Annual marginal cost of providing municipal services to new households	\$243 per household
Annual marginal cost of providing municipal services to new businesses	\$69 per employee
Annual other taxes and user fees to be collected from each new household	\$184 per household
Annual other taxes and user fees to be collected from new businesses	\$53 per employee
Annual increase expected in the city's other revenues and marginal costs	2%

## APPENDIX A

The city's estimated annual water, wastewater and garbage collection billings per household \$610

Utility Service	Estimated	Estimated Annual Billing
	Monthly Billing	(Monthly billing x 12)
Water	\$30	\$360
Wastewater	\$21	\$250

The city's cost of providing water, wastewater and solid waste services, as a percent of utility billings 100%

Annual increase expected in city-owned utility billings 2%

The city's utility franchise fee percentages:

Electricity	5%
Natural gas	5%
Cable	5%
Telephone	5%

Annual utility franchise fees collected from utility providers for each household in the city as detailed below \$141.00

Utility Service	Estimated Monthly Billing	Utility Franchise Fee Percentage	Monthly	Estimated Annual Utility
			Utility Franchise Fee Collections	Franchise Fee Collections (Monthly collections x 12)
Electricity	\$85	5%	\$4.25	\$51.00
Natural gas	\$30	5%	\$1.50	\$18.00
Cable	\$70	5%	\$3.50	\$42.00
Telephone	\$50	5%	\$2.50	\$30.00

### Relevant County Rates:

Annual marginal cost of providing county services to new households \$133 per household  
Annual marginal cost of providing county services to new businesses \$38 per employee

Annual other taxes and user fees to be collected from each new household \$48 per household  
Annual other taxes and user fees to be collected from new businesses \$14 per employee

Annual increase expected in other county revenues and marginal costs 2%

### Relevant School District Rates:

The school district's estimated marginal cost of providing services to each new child in the district \$5,547

Average annual cost of providing services to each child in the district \$11,703

Average annual cost for each new child, as a percent of average annual cost 47.4%

## APPENDIX A

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Estimated annual state, federal and other funding received by the district for each child enrolled \$5,564

### Relevant Community Rates:

Expected inflation rate over the first 10 years 3.0%

Discount rate used in analysis to compute discounted cash flows 5.0%

Percent of a typical worker's salary that will be spent on taxable goods and services 25%

Average taxable value of a new single family residence in the community that will be built for some individuals moving to the city \$157,600

Percent annual increase in the taxable value of residential and commercial real property on local tax rolls over the first 10 years 2.5%

### The Project's Investments, Assets and Construction:

The Facility's taxable property investments each year:

Note: The federal facility's property will not be subject to property taxes.

	Land	Buildings and Other Real Property Improvements	Furniture, Fixtures, and Equipment	Total
2018	\$0	\$0	\$0	\$0
2019	\$0	\$0	\$0	\$0
2020	\$0	\$0	\$0	\$0
2021	\$0	\$0	\$0	\$0
2022	\$0	\$0	\$0	\$0
2023	\$0	\$0	\$0	\$0
2024	\$0	\$0	\$0	\$0
2025	\$0	\$0	\$0	\$0
2026	\$0	\$0	\$0	\$0
2027	\$0	\$0	\$0	\$0
Total	\$0	\$0	\$0	\$0

The facility's construction budget \$563,009,934

Estimated percent of construction expenditure spent in Kansas 75%

Percent of construction costs for:

Materials 70%

Labor 30%

Estimated percent of construction materials that will be purchased in the state and be subject to sales tax 0%

Percent of taxable spending by construction workers that will be in the state 75%

Estimated percent of furniture, fixtures and equipment that will be purchased in the city and be subject to sales tax 0%

## APPENDIX A

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Building permits and fees to be paid to the city:

	Building Permits & Fees
2018	\$0
2019	\$0
2020	\$0
2021	\$0
2022	\$0
2023	\$0
2024	\$0
2025	\$0
2026	\$0
2027	\$0

### Activities During Operations:

The facility's estimated expenditures:

*Note: \$44.5 million represents the average over the first 8 years. Beyond this period, the estimated expenditures are assumed to increase by 3%*

	Total Estimated Expenditures
2018	\$44,527,079
2019	\$44,527,079
2020	\$44,527,079
2021	\$44,527,079
2022	\$44,527,079
2023	\$44,527,079
2024	\$44,527,079
2025	\$44,527,079
2026	\$45,862,891
2027	\$47,238,778

The facility's estimated taxable purchases of materials, supplies and services in the state:

	Taxable Purchases
2018	\$0
2019	\$0
2020	\$0
2021	\$0
2022	\$0
2023	\$0
2024	\$0
2025	\$0
2026	\$0
2027	\$0

## APPENDIX A

Estimated annual utilities at the facility:

	Water	Wastewater	Solid Waste	Electricity	Natural Gas	Cable	Telephone
2018	\$51,718	\$42,000	\$0	\$4,796,342	\$1,071,600	\$0	\$0
2019	\$52,752	\$42,840	\$0	\$4,892,269	\$1,093,032	\$0	\$0
2020	\$53,807	\$43,697	\$0	\$4,990,114	\$1,114,893	\$0	\$0
2021	\$54,883	\$44,571	\$0	\$5,089,917	\$1,137,190	\$0	\$0
2022	\$55,981	\$45,462	\$0	\$5,191,715	\$1,159,934	\$0	\$0
2023	\$57,100	\$46,371	\$0	\$5,295,549	\$1,183,133	\$0	\$0
2024	\$58,242	\$47,299	\$0	\$5,401,460	\$1,206,796	\$0	\$0
2025	\$59,407	\$48,245	\$0	\$5,509,489	\$1,230,932	\$0	\$0
2026	\$60,595	\$49,210	\$0	\$5,619,679	\$1,255,550	\$0	\$0
2027	\$61,807	\$50,194	\$0	\$5,732,073	\$1,280,661	\$0	\$0

The facility's total taxable purchases and taxable utilities:

	Utilities Subject to Sales Tax				
	Taxable Purchases	Subject to Sales Tax	Percent Taxable	Taxable Utilities	Total
2018	\$0	\$5,867,942	0%	\$0	\$0
2019	\$0	\$5,985,301	0%	\$0	\$0
2020	\$0	\$6,105,007	0%	\$0	\$0
2021	\$0	\$6,227,107	0%	\$0	\$0
2022	\$0	\$6,351,649	0%	\$0	\$0
2023	\$0	\$6,478,682	0%	\$0	\$0
2024	\$0	\$6,608,256	0%	\$0	\$0
2025	\$0	\$6,740,421	0%	\$0	\$0
2026	\$0	\$6,875,229	0%	\$0	\$0
2027	\$0	\$7,012,734	0%	\$0	\$0

Number of new workers hired each year:

	Operations & Maintenance/Security Employees	Scientific Staff and Support Employees	USDA-Agricultural Research Svc Employees	Department of Homeland Security Employees	Total Employees Hired Each Year
2018	145	71	80	30	326
2019	0	0	0	0	0
2020	0	0	0	0	0
2021	0	0	0	0	0
2022	0	0	0	0	0
2023	0	0	0	0	0
2024	0	0	0	0	0
2025	0	0	0	0	0
2026	0	0	0	0	0
2027	0	0	0	0	0
Total	145	71	80	30	326

## APPENDIX A

Number of new households in the area:

According to the analysis included in the NBAF Final Environmental Impact Statement, 300 would be expected to relocate to the community from elsewhere in the country.

	Number of new Households to the area
2018	300
2019	0
2020	0
2021	0
2022	0
2023	0
2024	0
2025	0
2026	0
2027	0
<b>Total</b>	<b>300</b>

Average annual salaries and benefits of new workers at the facility	\$76,992
Percent of total compensation that represents salaries	65.2%
Percent of total compensation that represents benefits	34.8%

Percent of expected increase in employee salaries after year 1	2.5%
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RIMS II multipliers for the State of Kansas used in this analysis:

<b>Type II Multipliers for State of Kansas - BEA RIMS II</b>					
	Final Demand Output	Final Demand Earnings	Final Demand Employment	Direct Effect Earnings	Direct Effect Employment
Construction	1.9356	0.5727	15.8576	1.7039	1.7627
Scientific research & development svcs	1.8028	0.5892	12.7315	1.5785	2.1118

Percent employees to be hired in spin-off jobs created at the project who will move to the area to take a job	0%
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*Source: NBAF Final Environmental Impact Statement*

Percent of workers who move to the community that will buy a new home or require that new residential property be built for them	15%
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*Source: Impact DataSource estimate*

The number of people in a typical worker's household	2.59
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*Source: US Census American Community Survey, Total US Population*

The number of school children in a typical worker's household	0.47
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*Source: US Census American Community Survey, Total US Population*

Percent of retail shopping by a typical worker in the state	95%
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**APPENDIX A**

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**Out-of-Town Visitors**

Number of out-of-town visitors expected at the firm in the first year	150
Percent of annual increase in the number of visitors	2%
Average number of days that each visitor will stay in the city	2
Average daily taxable visitor spending, excluding lodging in the city	\$50
Average number of nights that a typical visitor will stay in a hotel/motel in the city	1
Average nightly room rate in a local hotel/motel	\$100

## **Appendix B**

### *Economic Impact Calculations*

## APPENDIX B

### Number of local jobs added each year and worker salaries to be paid:

Year	Direct Jobs	Indirect Jobs	Total Jobs	Direct Earnings	Indirect Earnings	Total Earnings
2018	326	362	688	\$25,099,366	\$14,519,983	\$39,619,349
2019	0	0	0	\$25,726,850	\$14,882,983	\$40,609,833
2020	0	0	0	\$26,370,021	\$15,255,057	\$41,625,079
2021	0	0	0	\$27,029,272	\$15,636,434	\$42,665,706
2022	0	0	0	\$27,705,004	\$16,027,345	\$43,732,348
2023	0	0	0	\$28,397,629	\$16,428,028	\$44,825,657
2024	0	0	0	\$29,107,569	\$16,838,729	\$45,946,298
2025	0	0	0	\$29,835,259	\$17,259,697	\$47,094,956
2026	0	0	0	\$30,581,140	\$17,691,190	\$48,272,330
2027	0	0	0	\$31,345,669	\$18,133,469	\$49,479,138
2028	0	0	0	\$32,129,310	\$18,586,806	\$50,716,116
2029	0	0	0	\$32,932,543	\$19,051,476	\$51,984,019
2030	0	0	0	\$33,755,857	\$19,527,763	\$53,283,620
2031	0	0	0	\$34,599,753	\$20,015,957	\$54,615,710
2032	0	0	0	\$35,464,747	\$20,516,356	\$55,981,103
2033	0	0	0	\$36,351,366	\$21,029,265	\$57,380,631
2034	0	0	0	\$37,260,150	\$21,554,997	\$58,815,146
2035	0	0	0	\$38,191,654	\$22,093,872	\$60,285,525
2036	0	0	0	\$39,146,445	\$22,646,218	\$61,792,663
2037	0	0	0	\$40,125,106	\$23,212,374	\$63,337,480
2038	0	0	0	\$41,128,234	\$23,792,683	\$64,920,917
2039	0	0	0	\$42,156,439	\$24,387,500	\$66,543,940
2040	0	0	0	\$43,210,350	\$24,997,188	\$68,207,538
2041	0	0	0	\$44,290,609	\$25,622,117	\$69,912,727
2042	0	0	0	\$45,397,874	\$26,262,670	\$71,660,545
Total	326	362	688	\$857,338,216	\$495,970,158	\$1,353,308,374

### Number of direct and indirect workers and their families who will move to the area and their children who will attend local public schools:

Year	Total New Households to the Area	Total New Residents	Total New Students
2018	300	777	141
2019	0	0	0
2020	0	0	0
2021	0	0	0
2022	0	0	0
2023	0	0	0
2024	0	0	0
2025	0	0	0
2026	0	0	0
2027	0	0	0
Total	300	777	141

## APPENDIX B

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**Number of new residential properties that may be built in the city for direct and indirect workers who will move to the community:**

Year	New Residential Properties
2018	45
2019	0
2020	0
2021	0
2022	0
2023	0
2024	0
2025	0
2026	0
2027	0
Total	45

**Direct Expenditures by the Facility (Economic Output):**

Year	Total Estimated Expenditures
2018	\$44,527,079
2019	\$44,527,079
2020	\$44,527,079
2021	\$44,527,079
2022	\$44,527,079
2023	\$44,527,079
2024	\$44,527,079
2025	\$44,527,079
2026	\$45,862,891
2027	\$47,238,778
2028	\$48,655,941
2029	\$50,115,620
2030	\$51,619,088
2031	\$53,167,661
2032	\$54,762,691
2033	\$56,405,571
2034	\$58,097,739
2035	\$59,840,671
2036	\$61,635,891
2037	\$63,484,968
2038	\$65,389,517
2039	\$67,351,202
2040	\$69,371,738
2041	\$71,452,890
2042	\$73,596,477

## APPENDIX B

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### Expenditures at the facility and revenues for businesses in the State:

	Facility's Expenditures (Direct Output)	Revenues for Businesses in the State*	Total Economic Output
2018	\$44,527,079	\$35,746,339	\$80,273,418
2019	\$44,527,079	\$35,746,339	\$80,273,418
2020	\$44,527,079	\$35,746,339	\$80,273,418
2021	\$44,527,079	\$35,746,339	\$80,273,418
2022	\$44,527,079	\$35,746,339	\$80,273,418
2023	\$44,527,079	\$35,746,339	\$80,273,418
2024	\$44,527,079	\$35,746,339	\$80,273,418
2025	\$44,527,079	\$35,746,339	\$80,273,418
2026	\$45,862,891	\$36,818,729	\$82,681,621
2027	\$47,238,778	\$37,923,291	\$85,162,069
2028	\$48,655,941	\$39,060,990	\$87,716,931
2029	\$50,115,620	\$40,232,819	\$90,348,439
2030	\$51,619,088	\$41,439,804	\$93,058,892
2031	\$53,167,661	\$42,682,998	\$95,850,659
2032	\$54,762,691	\$43,963,488	\$98,726,179
2033	\$56,405,571	\$45,282,393	\$101,687,964
2034	\$58,097,739	\$46,640,865	\$104,738,603
2035	\$59,840,671	\$48,040,091	\$107,880,761
2036	\$61,635,891	\$49,481,293	\$111,117,184
2037	\$63,484,968	\$50,965,732	\$114,450,700
2038	\$65,389,517	\$52,494,704	\$117,884,221
2039	\$67,351,202	\$54,069,545	\$121,420,747
2040	\$69,371,738	\$55,691,631	\$125,063,370
2041	\$71,452,890	\$57,362,380	\$128,815,271
2042	\$73,596,477	\$59,083,252	\$132,679,729
Total	\$1,354,265,967	\$1,087,204,718	\$2,441,470,685

\* Indirect & induced economic output.

## APPENDIX B

### Local taxable spending in the State of Kansas on which sales taxes will be collected:

Year	Furniture, Fixtures and Equipment	Direct and Indirect Workers' Spending	Visitors' Spending	Taxable Sales at the Facility	The Facility's Local Purchases and Taxable Utilities	Total
2018	\$0	\$6,135,056	\$15,000	\$0	\$0	\$6,150,056
2019	\$0	\$6,288,433	\$15,759	\$0	\$0	\$6,304,192
2020	\$0	\$6,445,643	\$16,556	\$0	\$0	\$6,462,200
2021	\$0	\$6,606,785	\$17,394	\$0	\$0	\$6,624,179
2022	\$0	\$6,771,954	\$18,274	\$0	\$0	\$6,790,228
2023	\$0	\$6,941,253	\$19,199	\$0	\$0	\$6,960,452
2024	\$0	\$7,114,784	\$20,170	\$0	\$0	\$7,134,955
2025	\$0	\$7,292,654	\$21,191	\$0	\$0	\$7,313,845
2026	\$0	\$7,474,970	\$22,263	\$0	\$0	\$7,497,234
2027	\$0	\$7,661,845	\$23,390	\$0	\$0	\$7,685,234
2028	\$0	\$7,853,391	\$24,573	\$0	\$0	\$7,877,964
2029	\$0	\$8,049,725	\$25,817	\$0	\$0	\$8,075,542
2030	\$0	\$8,250,969	\$27,123	\$0	\$0	\$8,278,092
2031	\$0	\$8,457,243	\$28,496	\$0	\$0	\$8,485,738
2032	\$0	\$8,668,674	\$29,937	\$0	\$0	\$8,698,611
2033	\$0	\$8,885,391	\$31,452	\$0	\$0	\$8,916,843
2034	\$0	\$9,107,525	\$33,044	\$0	\$0	\$9,140,569
2035	\$0	\$9,335,214	\$34,716	\$0	\$0	\$9,369,929
2036	\$0	\$9,568,594	\$36,472	\$0	\$0	\$9,605,066
2037	\$0	\$9,807,809	\$38,318	\$0	\$0	\$9,846,127
2038	\$0	\$10,053,004	\$40,257	\$0	\$0	\$10,093,261
2039	\$0	\$10,304,329	\$42,294	\$0	\$0	\$10,346,623
2040	\$0	\$10,561,937	\$44,434	\$0	\$0	\$10,606,371
2041	\$0	\$10,825,986	\$46,682	\$0	\$0	\$10,872,668
2042	\$0	\$11,096,635	\$49,044	\$0	\$0	\$11,145,680
Total	\$0	\$209,559,802	\$721,857	\$0	\$0	\$210,281,659

## APPENDIX B

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### Local spending by visitors on lodging and food and beverage by out-of-town visitors:

Year	Spending on Lodging
2018	\$15,000
2019	\$15,759
2020	\$16,556
2021	\$17,394
2022	\$18,274
2023	\$19,199
2024	\$20,170
2025	\$21,191
2026	\$22,263
2027	\$23,390
2028	\$24,573
2029	\$25,817
2030	\$27,123
2031	\$28,496
2032	\$29,937
2033	\$31,452
2034	\$33,044
2035	\$34,716
2036	\$36,472
2037	\$38,318
2038	\$40,257
2039	\$42,294
2040	\$44,434
2041	\$46,682
2042	\$49,044
Total	\$721,857

## APPENDIX B

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**Market value of new residential property built for direct and indirect workers who move to the community and the value of the Facility's property on local tax rolls:**

Year	Market New Residential Property	Market Value of the Facility's Property on Local Tax Rolls	Total Market Value of Property
2018	\$7,092,000	\$0	\$7,092,000
2019	\$7,269,300	\$0	\$7,269,300
2020	\$7,451,033	\$0	\$7,451,033
2021	\$7,637,308	\$0	\$7,637,308
2022	\$7,828,241	\$0	\$7,828,241
2023	\$8,023,947	\$0	\$8,023,947
2024	\$8,224,546	\$0	\$8,224,546
2025	\$8,430,159	\$0	\$8,430,159
2026	\$8,640,913	\$0	\$8,640,913
2027	\$8,856,936	\$0	\$8,856,936
2028	\$9,078,360	\$0	\$9,078,360
2029	\$9,305,319	\$0	\$9,305,319
2030	\$9,537,952	\$0	\$9,537,952
2031	\$9,776,400	\$0	\$9,776,400
2032	\$10,020,810	\$0	\$10,020,810
2033	\$10,271,331	\$0	\$10,271,331
2034	\$10,528,114	\$0	\$10,528,114
2035	\$10,791,317	\$0	\$10,791,317
2036	\$11,061,100	\$0	\$11,061,100
2037	\$11,337,627	\$0	\$11,337,627
2038	\$11,621,068	\$0	\$11,621,068
2039	\$11,911,594	\$0	\$11,911,594
2040	\$12,209,384	\$0	\$12,209,384
2041	\$12,514,619	\$0	\$12,514,619
2042	\$12,827,484	\$0	\$12,827,484

## APPENDIX B

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**Assessed value of new residential property built for direct and indirect workers who move to the community and the assessed value of the facility's property on local tax rolls:**

Year	Assessed New Residential Property	Assessed Value of The Facility's Property on Local Tax Rolls	Total Assessed Value of Property
2018	\$815,580	\$0	\$815,580
2019	\$835,970	\$0	\$835,970
2020	\$856,869	\$0	\$856,869
2021	\$878,290	\$0	\$878,290
2022	\$900,248	\$0	\$900,248
2023	\$922,754	\$0	\$922,754
2024	\$945,823	\$0	\$945,823
2025	\$969,468	\$0	\$969,468
2026	\$993,705	\$0	\$993,705
2027	\$1,018,548	\$0	\$1,018,548
2028	\$1,044,011	\$0	\$1,044,011
2029	\$1,070,112	\$0	\$1,070,112
2030	\$1,096,864	\$0	\$1,096,864
2031	\$1,124,286	\$0	\$1,124,286
2032	\$1,152,393	\$0	\$1,152,393
2033	\$1,181,203	\$0	\$1,181,203
2034	\$1,210,733	\$0	\$1,210,733
2035	\$1,241,001	\$0	\$1,241,001
2036	\$1,272,026	\$0	\$1,272,026
2037	\$1,303,827	\$0	\$1,303,827
2038	\$1,336,423	\$0	\$1,336,423
2039	\$1,369,833	\$0	\$1,369,833
2040	\$1,404,079	\$0	\$1,404,079
2041	\$1,439,181	\$0	\$1,439,181
2042	\$1,475,161	\$0	\$1,475,161

## **Appendix C**

### *Cost and Benefit Calculations*

## APPENDIX C

### Benefits for the State of Kansas

#### Sales tax collections:

Year	Purchases of Furniture, Fixtures and Equipment	On Direct and Indirect Workers' Spending	On Visitors' Spending	Taxable Sales at the Facility	The Facility's Local Purchases and Taxable Utilities	Total
2018	\$0	\$386,509	\$945	\$0	\$0	\$387,454
2019	\$0	\$396,171	\$993	\$0	\$0	\$397,164
2020	\$0	\$406,076	\$1,043	\$0	\$0	\$407,119
2021	\$0	\$416,227	\$1,096	\$0	\$0	\$417,323
2022	\$0	\$426,633	\$1,151	\$0	\$0	\$427,784
2023	\$0	\$437,299	\$1,210	\$0	\$0	\$438,508
2024	\$0	\$448,231	\$1,271	\$0	\$0	\$449,502
2025	\$0	\$459,437	\$1,335	\$0	\$0	\$460,772
2026	\$0	\$470,923	\$1,403	\$0	\$0	\$472,326
2027	\$0	\$482,696	\$1,474	\$0	\$0	\$484,170
2028	\$0	\$494,764	\$1,548	\$0	\$0	\$496,312
2029	\$0	\$507,133	\$1,626	\$0	\$0	\$508,759
2030	\$0	\$519,811	\$1,709	\$0	\$0	\$521,520
2031	\$0	\$532,806	\$1,795	\$0	\$0	\$534,602
2032	\$0	\$546,126	\$1,886	\$0	\$0	\$548,013
2033	\$0	\$559,780	\$1,981	\$0	\$0	\$561,761
2034	\$0	\$573,774	\$2,082	\$0	\$0	\$575,856
2035	\$0	\$588,118	\$2,187	\$0	\$0	\$590,306
2036	\$0	\$602,821	\$2,298	\$0	\$0	\$605,119
2037	\$0	\$617,892	\$2,414	\$0	\$0	\$620,306
2038	\$0	\$633,339	\$2,536	\$0	\$0	\$635,875
2039	\$0	\$649,173	\$2,665	\$0	\$0	\$651,837
2040	\$0	\$665,402	\$2,799	\$0	\$0	\$668,201
2041	\$0	\$682,037	\$2,941	\$0	\$0	\$684,978
2042	\$0	\$699,088	\$3,090	\$0	\$0	\$702,178
Total	\$0	\$13,202,268	\$45,477	\$0	\$0	\$13,247,745

## APPENDIX C

### Benefits for the State of Kansas - Continued

#### Property tax collections on:

Year	The Facility's Property			Total Taxes After Abatement	Total
	New Residential Property	Taxes Collected	Taxes Abated		
2018	\$1,223	\$0	\$0	\$0	\$1,223
2019	\$1,254	\$0	\$0	\$0	\$1,254
2020	\$1,285	\$0	\$0	\$0	\$1,285
2021	\$1,317	\$0	\$0	\$0	\$1,317
2022	\$1,350	\$0	\$0	\$0	\$1,350
2023	\$1,384	\$0	\$0	\$0	\$1,384
2024	\$1,419	\$0	\$0	\$0	\$1,419
2025	\$1,454	\$0	\$0	\$0	\$1,454
2026	\$1,491	\$0	\$0	\$0	\$1,491
2027	\$1,528	\$0	\$0	\$0	\$1,528
2028	\$1,566	\$0	\$0	\$0	\$1,566
2029	\$1,605	\$0	\$0	\$0	\$1,605
2030	\$1,645	\$0	\$0	\$0	\$1,645
2031	\$1,686	\$0	\$0	\$0	\$1,686
2032	\$1,729	\$0	\$0	\$0	\$1,729
2033	\$1,772	\$0	\$0	\$0	\$1,772
2034	\$1,816	\$0	\$0	\$0	\$1,816
2035	\$1,862	\$0	\$0	\$0	\$1,862
2036	\$1,908	\$0	\$0	\$0	\$1,908
2037	\$1,956	\$0	\$0	\$0	\$1,956
2038	\$2,005	\$0	\$0	\$0	\$2,005
2039	\$2,055	\$0	\$0	\$0	\$2,055
2040	\$2,106	\$0	\$0	\$0	\$2,106
2041	\$2,159	\$0	\$0	\$0	\$2,159
2042	\$2,213	\$0	\$0	\$0	\$2,213
Total	\$41,788	\$0	\$0	\$0	\$41,788

## APPENDIX C

### Benefits for the State of Kansas - Continued

#### Personal Income Tax Collections:

Year	Direct Workers' Wages	Indirect & Indirect & Induced Workers' Wages	Direct Workers' Personal Income Tax Collections	Indirect & Ind. Workers' Personal Income Tax Collections	Total Personal Income Tax Collections
2018	\$16,364,787	\$9,467,029	\$551,493	\$319,039	\$870,532
2019	\$16,773,906	\$9,703,705	\$565,281	\$327,015	\$892,295
2020	\$17,193,254	\$9,946,297	\$579,413	\$335,190	\$914,603
2021	\$17,623,085	\$10,194,955	\$593,898	\$343,570	\$937,468
2022	\$18,063,662	\$10,449,829	\$608,745	\$352,159	\$960,905
2023	\$18,515,254	\$10,711,074	\$623,964	\$360,963	\$984,927
2024	\$18,978,135	\$10,978,851	\$639,563	\$369,987	\$1,009,550
2025	\$19,452,589	\$11,253,323	\$655,552	\$379,237	\$1,034,789
2026	\$19,938,903	\$11,534,656	\$671,941	\$388,718	\$1,060,659
2027	\$20,437,376	\$11,823,022	\$688,740	\$398,436	\$1,087,175
2028	\$20,948,310	\$12,118,598	\$705,958	\$408,397	\$1,114,355
2029	\$21,472,018	\$12,421,562	\$723,607	\$418,607	\$1,142,214
2030	\$22,008,819	\$12,732,102	\$741,697	\$429,072	\$1,170,769
2031	\$22,559,039	\$13,050,404	\$760,240	\$439,799	\$1,200,038
2032	\$23,123,015	\$13,376,664	\$779,246	\$450,794	\$1,230,039
2033	\$23,701,090	\$13,711,081	\$798,727	\$462,063	\$1,260,790
2034	\$24,293,618	\$14,053,858	\$818,695	\$473,615	\$1,292,310
2035	\$24,900,958	\$14,405,204	\$839,162	\$485,455	\$1,324,618
2036	\$25,523,482	\$14,765,334	\$860,141	\$497,592	\$1,357,733
2037	\$26,161,569	\$15,134,468	\$881,645	\$510,032	\$1,391,676
2038	\$26,815,608	\$15,512,829	\$903,686	\$522,782	\$1,426,468
2039	\$27,485,999	\$15,900,650	\$926,278	\$535,852	\$1,462,130
2040	\$28,173,149	\$16,298,166	\$949,435	\$549,248	\$1,498,683
2041	\$28,877,477	\$16,705,621	\$973,171	\$562,979	\$1,536,150
2042	\$29,599,414	\$17,123,261	\$997,500	\$577,054	\$1,574,554
Total	\$558,984,517	\$323,372,543	\$18,837,778	\$10,897,655	\$29,735,433

## APPENDIX C

### Benefits for the State of Kansas - Continued

#### Corporate Income Tax Collections:

Year	Revenues for Indirect & Induced Businesses	Portion of Indirect & Induced Revenues Subject to Tax	Indirect & Induced Corporate Income Tax Collections	Total Corporate Income Tax Collections
2018	\$35,746,339	\$1,787,317	\$71,493	\$71,493
2019	\$35,746,339	\$1,787,317	\$71,493	\$71,493
2020	\$35,746,339	\$1,787,317	\$71,493	\$71,493
2021	\$35,746,339	\$1,787,317	\$71,493	\$71,493
2022	\$35,746,339	\$1,787,317	\$71,493	\$71,493
2023	\$35,746,339	\$1,787,317	\$71,493	\$71,493
2024	\$35,746,339	\$1,787,317	\$71,493	\$71,493
2025	\$35,746,339	\$1,787,317	\$71,493	\$71,493
2026	\$36,818,729	\$1,840,936	\$73,637	\$73,637
2027	\$37,923,291	\$1,896,165	\$75,847	\$75,847
2028	\$39,060,990	\$1,953,049	\$78,122	\$78,122
2029	\$40,232,819	\$2,011,641	\$80,466	\$80,466
2030	\$41,439,804	\$2,071,990	\$82,880	\$82,880
2031	\$42,682,998	\$2,134,150	\$85,366	\$85,366
2032	\$43,963,488	\$2,198,174	\$87,927	\$87,927
2033	\$45,282,393	\$2,264,120	\$90,565	\$90,565
2034	\$46,640,865	\$2,332,043	\$93,282	\$93,282
2035	\$48,040,091	\$2,402,005	\$96,080	\$96,080
2036	\$49,481,293	\$2,474,065	\$98,963	\$98,963
2037	\$50,965,732	\$2,548,287	\$101,931	\$101,931
2038	\$52,494,704	\$2,624,735	\$104,989	\$104,989
2039	\$54,069,545	\$2,703,477	\$108,139	\$108,139
2040	\$55,691,631	\$2,784,582	\$111,383	\$111,383
2041	\$57,362,380	\$2,868,119	\$114,725	\$114,725
2042	\$59,083,252	\$2,954,163	\$118,167	\$118,167
Total	\$1,087,204,718	\$54,360,236	\$2,174,409	\$2,174,409

*Impact DataSource assumes 5% of the revenues (or economic output) for indirect and induced businesses may be subject to the corporate income taxes.*

*The direct activity will not generate corporate income taxes.*

## APPENDIX C

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### Benefits for the State of Kansas - Continued

Year	Benefits	Cumulative Benefits
2018	\$1,330,702	\$1,330,702
2019	\$1,362,206	\$2,692,908
2020	\$1,394,499	\$4,087,407
2021	\$1,427,601	\$5,515,009
2022	\$1,461,532	\$6,976,541
2023	\$1,496,313	\$8,472,853
2024	\$1,531,964	\$10,004,817
2025	\$1,568,508	\$11,573,326
2026	\$1,608,113	\$13,181,438
2027	\$1,648,720	\$14,830,158
2028	\$1,690,355	\$16,520,512
2029	\$1,733,044	\$18,253,556
2030	\$1,776,814	\$20,030,370
2031	\$1,821,692	\$21,852,062
2032	\$1,867,707	\$23,719,769
2033	\$1,914,888	\$25,634,657
2034	\$1,963,264	\$27,597,921
2035	\$2,012,865	\$29,610,786
2036	\$2,063,723	\$31,674,509
2037	\$2,115,870	\$33,790,378
2038	\$2,169,338	\$35,959,716
2039	\$2,224,161	\$38,183,877
2040	\$2,280,374	\$40,464,251
2041	\$2,338,012	\$42,802,263
2042	\$2,397,111	\$45,199,374
Total	\$45,199,374	

## APPENDIX C

### Costs and Benefits for City of Manhattan

#### Benefits:

#### Sales tax collections:

Year	Purchases of Furniture, Fixtures and Equipment	On Direct and Indirect Workers' Spending	On Visitors' Spending	Taxable Sales at the Facility	The Facility's Local Purchases and Taxable Utilities	Total
2018	\$0	\$43,453	\$188	\$0	\$0	\$43,641
2019	\$0	\$44,540	\$197	\$0	\$0	\$44,737
2020	\$0	\$45,653	\$207	\$0	\$0	\$45,860
2021	\$0	\$46,795	\$217	\$0	\$0	\$47,012
2022	\$0	\$47,964	\$228	\$0	\$0	\$48,193
2023	\$0	\$49,164	\$240	\$0	\$0	\$49,404
2024	\$0	\$50,393	\$252	\$0	\$0	\$50,645
2025	\$0	\$51,652	\$265	\$0	\$0	\$51,917
2026	\$0	\$52,944	\$278	\$0	\$0	\$53,222
2027	\$0	\$54,267	\$292	\$0	\$0	\$54,560
2028	\$0	\$55,624	\$307	\$0	\$0	\$55,931
2029	\$0	\$57,015	\$323	\$0	\$0	\$57,337
2030	\$0	\$58,440	\$339	\$0	\$0	\$58,779
2031	\$0	\$59,901	\$356	\$0	\$0	\$60,257
2032	\$0	\$61,399	\$374	\$0	\$0	\$61,773
2033	\$0	\$62,933	\$393	\$0	\$0	\$63,327
2034	\$0	\$64,507	\$413	\$0	\$0	\$64,920
2035	\$0	\$66,119	\$434	\$0	\$0	\$66,553
2036	\$0	\$67,772	\$456	\$0	\$0	\$68,228
2037	\$0	\$69,467	\$479	\$0	\$0	\$69,946
2038	\$0	\$71,203	\$503	\$0	\$0	\$71,707
2039	\$0	\$72,984	\$529	\$0	\$0	\$73,512
2040	\$0	\$74,808	\$555	\$0	\$0	\$75,364
2041	\$0	\$76,678	\$584	\$0	\$0	\$77,262
2042	\$0	\$78,595	\$613	\$0	\$0	\$79,208
Total	\$0	\$1,484,271	\$9,023	\$0	\$0	\$1,493,294

## APPENDIX C

### Costs and Benefits for City of Manhattan - Continued

#### Property tax collections on:

Year	New Residential Property	The Facility's Property		Total Taxes After Abatement	Total
		Taxes Collected	Taxes Abated		
2018	\$34,187	\$0	\$0	\$0	\$34,187
2019	\$35,041	\$0	\$0	\$0	\$35,041
2020	\$35,917	\$0	\$0	\$0	\$35,917
2021	\$36,815	\$0	\$0	\$0	\$36,815
2022	\$37,736	\$0	\$0	\$0	\$37,736
2023	\$38,679	\$0	\$0	\$0	\$38,679
2024	\$39,646	\$0	\$0	\$0	\$39,646
2025	\$40,637	\$0	\$0	\$0	\$40,637
2026	\$41,653	\$0	\$0	\$0	\$41,653
2027	\$42,694	\$0	\$0	\$0	\$42,694
2028	\$43,762	\$0	\$0	\$0	\$43,762
2029	\$44,856	\$0	\$0	\$0	\$44,856
2030	\$45,977	\$0	\$0	\$0	\$45,977
2031	\$47,127	\$0	\$0	\$0	\$47,127
2032	\$48,305	\$0	\$0	\$0	\$48,305
2033	\$49,512	\$0	\$0	\$0	\$49,512
2034	\$50,750	\$0	\$0	\$0	\$50,750
2035	\$52,019	\$0	\$0	\$0	\$52,019
2036	\$53,320	\$0	\$0	\$0	\$53,320
2037	\$54,653	\$0	\$0	\$0	\$54,653
2038	\$56,019	\$0	\$0	\$0	\$56,019
2039	\$57,419	\$0	\$0	\$0	\$57,419
2040	\$58,855	\$0	\$0	\$0	\$58,855
2041	\$60,326	\$0	\$0	\$0	\$60,326
2042	\$61,834	\$0	\$0	\$0	\$61,834
Total	\$1,167,740	\$0	\$0	\$0	\$1,167,740

## APPENDIX C

### Costs and Benefits for City of Manhattan - Continued

**Other city revenues, including building permits and fees, hotel occupancy taxes, and other taxes and user fees collected from new households and businesses:**

Year	Building Permits and Fees	Hotel Occupancy Taxes	Other Taxes & User Fees: Households	Other Taxes & User Fees: Businesses	Total Other Revenues
2018	\$0	\$900	\$55,113	\$15,759	\$71,772
2019	\$0	\$946	\$56,215	\$16,074	\$73,235
2020	\$0	\$993	\$57,340	\$16,396	\$74,729
2021	\$0	\$1,044	\$58,486	\$16,724	\$76,254
2022	\$0	\$1,096	\$59,656	\$17,058	\$77,811
2023	\$0	\$1,152	\$60,849	\$17,399	\$79,400
2024	\$0	\$1,210	\$62,066	\$17,747	\$81,024
2025	\$0	\$1,271	\$63,308	\$18,102	\$82,681
2026	\$0	\$1,336	\$64,574	\$18,464	\$84,374
2027	\$0	\$1,403	\$65,865	\$18,833	\$86,102
2028	\$0	\$1,474	\$67,182	\$19,210	\$87,867
2029	\$0	\$1,549	\$68,526	\$19,594	\$89,669
2030	\$0	\$1,627	\$69,897	\$19,986	\$91,510
2031	\$0	\$1,710	\$71,295	\$20,386	\$93,390
2032	\$0	\$1,796	\$72,720	\$20,794	\$95,310
2033	\$0	\$1,887	\$74,175	\$21,210	\$97,272
2034	\$0	\$1,983	\$75,658	\$21,634	\$99,275
2035	\$0	\$2,083	\$77,172	\$22,066	\$101,321
2036	\$0	\$2,188	\$78,715	\$22,508	\$103,411
2037	\$0	\$2,299	\$80,289	\$22,958	\$105,546
2038	\$0	\$2,415	\$81,895	\$23,417	\$107,727
2039	\$0	\$2,538	\$83,533	\$23,885	\$109,956
2040	\$0	\$2,666	\$85,204	\$24,363	\$112,233
2041	\$0	\$2,801	\$86,908	\$24,850	\$114,559
2042	\$0	\$2,943	\$88,646	\$25,347	\$116,936
Total	\$0	\$43,311	\$1,765,286	\$504,765	\$2,313,363

## APPENDIX C

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### Costs and Benefits for City of Manhattan - Continued

Utility revenue and utility franchise fees collected by the city from new residents and from the facility:

Year	City-owned Utility Revenue	Utility Franchise Fees	Total
2018	\$276,718	\$335,697	\$612,415
2019	\$282,252	\$342,411	\$624,663
2020	\$287,897	\$349,259	\$637,156
2021	\$293,655	\$356,244	\$649,899
2022	\$299,528	\$363,369	\$662,897
2023	\$305,518	\$370,637	\$676,155
2024	\$311,629	\$378,049	\$689,678
2025	\$317,861	\$385,610	\$703,472
2026	\$324,219	\$393,323	\$717,541
2027	\$330,703	\$401,189	\$731,892
2028	\$337,317	\$409,213	\$746,530
2029	\$344,063	\$417,397	\$761,461
2030	\$350,945	\$425,745	\$776,690
2031	\$357,964	\$434,260	\$792,224
2032	\$365,123	\$442,945	\$808,068
2033	\$372,425	\$451,804	\$824,229
2034	\$379,874	\$460,840	\$840,714
2035	\$387,471	\$470,057	\$857,528
2036	\$395,221	\$479,458	\$874,679
2037	\$403,125	\$489,047	\$892,172
2038	\$411,188	\$498,828	\$910,016
2039	\$419,411	\$508,805	\$928,216
2040	\$427,800	\$518,981	\$946,781
2041	\$436,356	\$529,361	\$965,716
2042	\$445,083	\$539,948	\$985,030
Total	\$8,863,344	\$10,752,479	\$19,615,823

## APPENDIX C

### Costs and Benefits for City of Manhattan - Continued

#### Costs:

#### The costs of providing municipal services and utility services to new residents:

Year	Cost of Services to New Households	Cost of Services to New Businesses	Cost of Providing Utility Services	Total Costs
2018	\$72,867	\$20,838	\$276,718	\$370,423
2019	\$74,324	\$21,255	\$282,252	\$377,831
2020	\$75,811	\$21,680	\$287,897	\$385,388
2021	\$77,327	\$22,113	\$293,655	\$393,095
2022	\$78,874	\$22,556	\$299,528	\$400,957
2023	\$80,451	\$23,007	\$305,518	\$408,976
2024	\$82,060	\$23,467	\$311,629	\$417,156
2025	\$83,701	\$23,936	\$317,861	\$425,499
2026	\$85,375	\$24,415	\$324,219	\$434,009
2027	\$87,083	\$24,903	\$330,703	\$442,689
2028	\$88,824	\$25,401	\$337,317	\$451,543
2029	\$90,601	\$25,909	\$344,063	\$460,574
2030	\$92,413	\$26,428	\$350,945	\$469,785
2031	\$94,261	\$26,956	\$357,964	\$479,181
2032	\$96,146	\$27,495	\$365,123	\$488,765
2033	\$98,069	\$28,045	\$372,425	\$498,540
2034	\$100,031	\$28,606	\$379,874	\$508,511
2035	\$102,031	\$29,178	\$387,471	\$518,681
2036	\$104,072	\$29,762	\$395,221	\$529,055
2037	\$106,153	\$30,357	\$403,125	\$539,636
2038	\$108,277	\$30,964	\$411,188	\$550,428
2039	\$110,442	\$31,583	\$419,411	\$561,437
2040	\$112,651	\$32,215	\$427,800	\$572,666
2041	\$114,904	\$32,859	\$436,356	\$584,119
2042	\$117,202	\$33,517	\$445,083	\$595,801
Total	\$2,333,952	\$667,447	\$8,863,344	\$11,864,744

## APPENDIX C

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### Costs and Benefits for City of Manhattan - Continued

#### Net Benefits for City of Manhattan

Year	Benefits	Costs	Net Benefits	Cumulative Net Benefits
2018	\$762,014	\$370,423	\$391,592	\$391,592
2019	\$777,676	\$377,831	\$399,845	\$791,437
2020	\$793,662	\$385,388	\$408,275	\$1,199,711
2021	\$809,980	\$393,095	\$416,885	\$1,616,596
2022	\$826,636	\$400,957	\$425,679	\$2,042,275
2023	\$843,638	\$408,976	\$434,662	\$2,476,937
2024	\$860,993	\$417,156	\$443,837	\$2,920,774
2025	\$878,708	\$425,499	\$453,208	\$3,373,982
2026	\$896,790	\$434,009	\$462,781	\$3,836,764
2027	\$915,248	\$442,689	\$472,559	\$4,309,323
2028	\$934,090	\$451,543	\$482,547	\$4,791,870
2029	\$953,323	\$460,574	\$492,749	\$5,284,619
2030	\$972,956	\$469,785	\$503,171	\$5,787,790
2031	\$992,998	\$479,181	\$513,817	\$6,301,607
2032	\$1,013,456	\$488,765	\$524,691	\$6,826,298
2033	\$1,034,340	\$498,540	\$535,800	\$7,362,098
2034	\$1,055,659	\$508,511	\$547,148	\$7,909,246
2035	\$1,077,422	\$518,681	\$558,741	\$8,467,987
2036	\$1,099,638	\$529,055	\$570,583	\$9,038,570
2037	\$1,122,317	\$539,636	\$582,681	\$9,621,251
2038	\$1,145,469	\$550,428	\$595,040	\$10,216,292
2039	\$1,169,104	\$561,437	\$607,667	\$10,823,959
2040	\$1,193,232	\$572,666	\$620,566	\$11,444,525
2041	\$1,217,863	\$584,119	\$633,744	\$12,078,269
2042	\$1,243,009	\$595,801	\$647,208	\$12,725,476
Total	\$24,590,220	\$11,864,744	\$12,725,476	

## APPENDIX C

### Costs and Benefits for Riley County

#### Benefits:

#### Sales tax collections:

Year	Purchases of Furniture, Fixtures and Equipment	On Direct and Indirect Workers' Spending	On Visitors' Spending	Taxable Sales at the Facility	The Facility's Local Purchases and Taxable Utilities	Total
2018	\$0	\$61,351	\$150	\$0	\$0	\$61,501
2019	\$0	\$62,884	\$158	\$0	\$0	\$63,042
2020	\$0	\$64,456	\$166	\$0	\$0	\$64,622
2021	\$0	\$66,068	\$174	\$0	\$0	\$66,242
2022	\$0	\$67,720	\$183	\$0	\$0	\$67,902
2023	\$0	\$69,413	\$192	\$0	\$0	\$69,605
2024	\$0	\$71,148	\$202	\$0	\$0	\$71,350
2025	\$0	\$72,927	\$212	\$0	\$0	\$73,138
2026	\$0	\$74,750	\$223	\$0	\$0	\$74,972
2027	\$0	\$76,618	\$234	\$0	\$0	\$76,852
2028	\$0	\$78,534	\$246	\$0	\$0	\$78,780
2029	\$0	\$80,497	\$258	\$0	\$0	\$80,755
2030	\$0	\$82,510	\$271	\$0	\$0	\$82,781
2031	\$0	\$84,572	\$285	\$0	\$0	\$84,857
2032	\$0	\$86,687	\$299	\$0	\$0	\$86,986
2033	\$0	\$88,854	\$315	\$0	\$0	\$89,168
2034	\$0	\$91,075	\$330	\$0	\$0	\$91,406
2035	\$0	\$93,352	\$347	\$0	\$0	\$93,699
2036	\$0	\$95,686	\$365	\$0	\$0	\$96,051
2037	\$0	\$98,078	\$383	\$0	\$0	\$98,461
2038	\$0	\$100,530	\$403	\$0	\$0	\$100,933
2039	\$0	\$103,043	\$423	\$0	\$0	\$103,466
2040	\$0	\$105,619	\$444	\$0	\$0	\$106,064
2041	\$0	\$108,260	\$467	\$0	\$0	\$108,727
2042	\$0	\$110,966	\$490	\$0	\$0	\$111,457
Total	\$0	\$2,095,598	\$7,219	\$0	\$0	\$2,102,817

## APPENDIX C

### Costs and Benefits for Riley County - Continued

#### Property tax collections:

Year	New Residential Property	The Facility's Property		Total Taxes After Abatement	Total
		Taxes Collected	Taxes Abated		
2018	\$26,328	\$0	\$0	\$0	\$26,328
2019	\$26,986	\$0	\$0	\$0	\$26,986
2020	\$27,661	\$0	\$0	\$0	\$27,661
2021	\$28,352	\$0	\$0	\$0	\$28,352
2022	\$29,061	\$0	\$0	\$0	\$29,061
2023	\$29,787	\$0	\$0	\$0	\$29,787
2024	\$30,532	\$0	\$0	\$0	\$30,532
2025	\$31,295	\$0	\$0	\$0	\$31,295
2026	\$32,078	\$0	\$0	\$0	\$32,078
2027	\$32,880	\$0	\$0	\$0	\$32,880
2028	\$33,702	\$0	\$0	\$0	\$33,702
2029	\$34,544	\$0	\$0	\$0	\$34,544
2030	\$35,408	\$0	\$0	\$0	\$35,408
2031	\$36,293	\$0	\$0	\$0	\$36,293
2032	\$37,200	\$0	\$0	\$0	\$37,200
2033	\$38,130	\$0	\$0	\$0	\$38,130
2034	\$39,084	\$0	\$0	\$0	\$39,084
2035	\$40,061	\$0	\$0	\$0	\$40,061
2036	\$41,062	\$0	\$0	\$0	\$41,062
2037	\$42,089	\$0	\$0	\$0	\$42,089
2038	\$43,141	\$0	\$0	\$0	\$43,141
2039	\$44,220	\$0	\$0	\$0	\$44,220
2040	\$45,325	\$0	\$0	\$0	\$45,325
2041	\$46,458	\$0	\$0	\$0	\$46,458
2042	\$47,620	\$0	\$0	\$0	\$47,620
Total	\$899,297	\$0	\$0	\$0	\$899,297

## APPENDIX C

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### Costs and Benefits for Riley County - Continued

#### Other taxes and user fees collected from new households and businesses:

Year	Other Taxes & User Fees: Households	Other Taxes & User Fees: Businesses	Total
2018	\$14,370	\$4,098	\$18,468
2019	\$14,657	\$4,180	\$18,837
2020	\$14,951	\$4,264	\$19,214
2021	\$15,250	\$4,349	\$19,598
2022	\$15,555	\$4,436	\$19,990
2023	\$15,866	\$4,525	\$20,390
2024	\$16,183	\$4,615	\$20,798
2025	\$16,507	\$4,707	\$21,214
2026	\$16,837	\$4,801	\$21,638
2027	\$17,173	\$4,897	\$22,071
2028	\$17,517	\$4,995	\$22,512
2029	\$17,867	\$5,095	\$22,963
2030	\$18,225	\$5,197	\$23,422
2031	\$18,589	\$5,301	\$23,890
2032	\$18,961	\$5,407	\$24,368
2033	\$19,340	\$5,515	\$24,855
2034	\$19,727	\$5,626	\$25,353
2035	\$20,121	\$5,738	\$25,860
2036	\$20,524	\$5,853	\$26,377
2037	\$20,934	\$5,970	\$26,904
2038	\$21,353	\$6,089	\$27,442
2039	\$21,780	\$6,211	\$27,991
2040	\$22,216	\$6,335	\$28,551
2041	\$22,660	\$6,462	\$29,122
2042	\$23,113	\$6,591	\$29,705
Total	\$460,275	\$131,260	\$591,536

## APPENDIX C

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### Costs and Benefits for Riley County - Continued

#### Costs of providing county services to new residents:

Year	Cost of Services to New Households	Cost of Services to New Businesses	Total Costs
2018	\$39,876	\$11,373	\$51,249
2019	\$40,674	\$11,600	\$52,274
2020	\$41,487	\$11,832	\$53,319
2021	\$42,317	\$12,069	\$54,386
2022	\$43,163	\$12,311	\$55,474
2023	\$44,026	\$12,557	\$56,583
2024	\$44,907	\$12,808	\$57,715
2025	\$45,805	\$13,064	\$58,869
2026	\$46,721	\$13,325	\$60,046
2027	\$47,656	\$13,592	\$61,247
2028	\$48,609	\$13,864	\$62,472
2029	\$49,581	\$14,141	\$63,722
2030	\$50,572	\$14,424	\$64,996
2031	\$51,584	\$14,712	\$66,296
2032	\$52,616	\$15,006	\$67,622
2033	\$53,668	\$15,307	\$68,974
2034	\$54,741	\$15,613	\$70,354
2035	\$55,836	\$15,925	\$71,761
2036	\$56,953	\$16,243	\$73,196
2037	\$58,092	\$16,568	\$74,660
2038	\$59,254	\$16,900	\$76,153
2039	\$60,439	\$17,238	\$77,676
2040	\$61,647	\$17,582	\$79,230
2041	\$62,880	\$17,934	\$80,815
2042	\$64,138	\$18,293	\$82,431
Total	\$1,277,240	\$364,281	\$1,641,521

## APPENDIX C

### Costs and Benefits for Riley County - Continued

#### Total Benefits for the County:

Year	Benefits	Costs	Net Benefits	Cumulative Net Benefits
2018	\$106,296	\$51,249	\$55,047	\$55,047
2019	\$108,865	\$52,274	\$56,591	\$111,639
2020	\$111,497	\$53,319	\$58,177	\$169,816
2021	\$114,192	\$54,386	\$59,806	\$229,622
2022	\$116,954	\$55,474	\$61,480	\$291,102
2023	\$119,782	\$56,583	\$63,199	\$354,301
2024	\$122,680	\$57,715	\$64,965	\$419,266
2025	\$125,648	\$58,869	\$66,779	\$486,045
2026	\$128,688	\$60,046	\$68,642	\$554,687
2027	\$131,803	\$61,247	\$70,556	\$625,243
2028	\$134,994	\$62,472	\$72,522	\$697,764
2029	\$138,262	\$63,722	\$74,541	\$772,305
2030	\$141,611	\$64,996	\$76,615	\$848,919
2031	\$145,041	\$66,296	\$78,745	\$927,664
2032	\$148,555	\$67,622	\$80,933	\$1,008,597
2033	\$152,154	\$68,974	\$83,180	\$1,091,777
2034	\$155,842	\$70,354	\$85,488	\$1,177,265
2035	\$159,620	\$71,761	\$87,859	\$1,265,124
2036	\$163,490	\$73,196	\$90,294	\$1,355,417
2037	\$167,454	\$74,660	\$92,794	\$1,448,212
2038	\$171,516	\$76,153	\$95,363	\$1,543,574
2039	\$175,677	\$77,676	\$98,001	\$1,641,575
2040	\$179,940	\$79,230	\$100,710	\$1,742,285
2041	\$184,307	\$80,815	\$103,493	\$1,845,778
2042	\$188,781	\$82,431	\$106,350	\$1,952,128
Total	\$3,593,649	\$1,641,521	\$1,952,128	

## APPENDIX C

### Costs and Benefits for Manhattan-Ogden USD 383

#### Benefits, including property taxes and additional state and federal school funding:

Year	Property Tax Collections on:			Additional	
	New Residential Property	Facility's Property	Total Collections	State School Funding	Total
2018	\$40,194	\$0	\$40,194	\$784,542	\$824,736
2019	\$41,199	\$0	\$41,199	\$808,078	\$849,277
2020	\$42,229	\$0	\$42,229	\$832,320	\$874,549
2021	\$43,285	\$0	\$43,285	\$857,290	\$900,575
2022	\$44,367	\$0	\$44,367	\$883,009	\$927,375
2023	\$45,476	\$0	\$45,476	\$909,499	\$954,975
2024	\$46,613	\$0	\$46,613	\$936,784	\$983,397
2025	\$47,778	\$0	\$47,778	\$964,887	\$1,012,666
2026	\$48,973	\$0	\$48,973	\$993,834	\$1,042,807
2027	\$50,197	\$0	\$50,197	\$1,023,649	\$1,073,846
2028	\$51,452	\$0	\$51,452	\$1,054,358	\$1,105,810
2029	\$52,738	\$0	\$52,738	\$1,085,989	\$1,138,727
2030	\$54,057	\$0	\$54,057	\$1,118,569	\$1,172,626
2031	\$55,408	\$0	\$55,408	\$1,152,126	\$1,207,534
2032	\$56,793	\$0	\$56,793	\$1,186,690	\$1,243,483
2033	\$58,213	\$0	\$58,213	\$1,222,290	\$1,280,504
2034	\$59,669	\$0	\$59,669	\$1,258,959	\$1,318,628
2035	\$61,160	\$0	\$61,160	\$1,296,728	\$1,357,888
2036	\$62,689	\$0	\$62,689	\$1,335,630	\$1,398,319
2037	\$64,257	\$0	\$64,257	\$1,375,698	\$1,439,955
2038	\$65,863	\$0	\$65,863	\$1,416,969	\$1,482,832
2039	\$67,509	\$0	\$67,509	\$1,459,479	\$1,526,988
2040	\$69,197	\$0	\$69,197	\$1,503,263	\$1,572,460
2041	\$70,927	\$0	\$70,927	\$1,548,361	\$1,619,288
2042	\$72,700	\$0	\$72,700	\$1,594,812	\$1,667,512
Total	\$1,372,945	\$0	\$1,372,945	\$28,603,810	\$29,976,755

## APPENDIX C

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### Costs and Benefits for Manhattan-Ogden USD 383

#### Costs to educate new students

Year	Cost to Educate New Students
2018	\$782,158
2019	\$805,623
2020	\$829,792
2021	\$854,685
2022	\$880,326
2023	\$906,736
2024	\$933,938
2025	\$961,956
2026	\$990,815
2027	\$1,020,539
2028	\$1,051,155
2029	\$1,082,690
2030	\$1,115,171
2031	\$1,148,626
2032	\$1,183,085
2033	\$1,218,577
2034	\$1,255,134
2035	\$1,292,788
2036	\$1,331,572
2037	\$1,371,519
2038	\$1,412,665
2039	\$1,455,045
2040	\$1,498,696
2041	\$1,543,657
2042	\$1,589,967
Total	\$28,516,916

## APPENDIX C

### Costs and Benefits for Manhattan-Ogden USD 383 - Continued

#### Net Benefits for the School District:

Year	Benefits	Costs	Net Benefits	Cumulative Net Benefits
2018	\$824,736	\$782,158	\$42,578	\$42,578
2019	\$849,277	\$805,623	\$43,654	\$86,231
2020	\$874,549	\$829,792	\$44,758	\$130,989
2021	\$900,575	\$854,685	\$45,889	\$176,878
2022	\$927,375	\$880,326	\$47,049	\$223,927
2023	\$954,975	\$906,736	\$48,239	\$272,166
2024	\$983,397	\$933,938	\$49,459	\$321,625
2025	\$1,012,666	\$961,956	\$50,709	\$372,335
2026	\$1,042,807	\$990,815	\$51,992	\$424,327
2027	\$1,073,846	\$1,020,539	\$53,307	\$477,633
2028	\$1,105,810	\$1,051,155	\$54,655	\$532,288
2029	\$1,138,727	\$1,082,690	\$56,037	\$588,326
2030	\$1,172,626	\$1,115,171	\$57,455	\$645,781
2031	\$1,207,534	\$1,148,626	\$58,908	\$704,689
2032	\$1,243,483	\$1,183,085	\$60,398	\$765,087
2033	\$1,280,504	\$1,218,577	\$61,926	\$827,014
2034	\$1,318,628	\$1,255,134	\$63,493	\$890,507
2035	\$1,357,888	\$1,292,788	\$65,100	\$955,606
2036	\$1,398,319	\$1,331,572	\$66,747	\$1,022,353
2037	\$1,439,955	\$1,371,519	\$68,436	\$1,090,789
2038	\$1,482,832	\$1,412,665	\$70,167	\$1,160,956
2039	\$1,526,988	\$1,455,045	\$71,943	\$1,232,899
2040	\$1,572,460	\$1,498,696	\$73,764	\$1,306,663
2041	\$1,619,288	\$1,543,657	\$75,631	\$1,382,294
2042	\$1,667,512	\$1,589,967	\$77,545	\$1,459,839
Total	\$29,976,755	\$28,516,916	\$1,459,839	

## **Appendix D**

*Economic and Fiscal Impacts Related to  
Possible Bioscience Industry Growth*

## APPENDIX D

### Assumptions about Possible Bioscience Industry Growth Resulting from the NBAF

Workers added per year:

Year	Jobs Added	Cumulative Total
2018	109	109
2019	109	219
2020	109	328
2021	109	438
2022	109	547
2023	55	602
2024	55	656
2025	55	711
2026	55	766
2027	55	821
2028	55	875
2029	55	930
2030	55	985
2031	55	1,039
2032	55	1,094
2033	0	1,094
2034	0	1,094
2035	0	1,094
2036	0	1,094
2037	0	1,094
2038	0	1,094
2039	0	1,094
2040	0	1,094
2041	0	1,094
2042	0	1,094
<b>Total</b>	<b>1,094</b>	

Average workers' earnings		\$106,801
	Salaries	\$69,634
	Benefits	\$37,167
Average increase in workers' earnings		2.5%
Average revenue-per-worker generated by the firms employing these workers		\$298,653
Average taxable commercial property per worker		\$45,000
	Average square feet per worker	300
	Value of 1 square foot of commercial space	\$150
Average countywide property tax levy during 2009		125.1300
	State	1.5000
	Local	123.6064
	<i>Municipality</i>	<i>23.5147</i>
	<i>County</i>	<i>37.4139</i>
	<i>School District</i>	<i>62.6778</i>

Source: Kansas Department of Revenue Annual Report of Assessed Values 2009

## APPENDIX D

Average local sales tax rate statewide

1.8%

Source: Ernst & Young Competitiveness of state and local business taxes on new investment

### Number of local jobs added each year and worker salaries to be paid:

Year	Direct Jobs	Indirect Jobs	Total Jobs	Direct Earnings	Indirect Earnings	Total Earnings
2018	109	151	260	\$11,685,055	\$10,708,185	\$22,393,240
2019	109	151	260	\$23,954,363	\$21,951,778	\$45,906,141
2020	109	151	260	\$36,829,833	\$33,750,859	\$70,580,692
2021	109	151	260	\$50,334,105	\$46,126,174	\$96,460,279
2022	109	151	260	\$64,490,572	\$59,099,161	\$123,589,733
2023	55	76	131	\$72,713,120	\$66,634,303	\$139,347,424
2024	55	76	131	\$81,306,489	\$74,509,267	\$155,815,756
2025	55	76	131	\$90,284,081	\$82,736,331	\$173,020,412
2026	55	76	131	\$99,659,735	\$91,328,181	\$190,987,916
2027	55	76	131	\$109,447,745	\$100,297,913	\$209,745,658
2028	55	76	131	\$119,662,868	\$109,659,052	\$229,321,920
2029	55	76	131	\$130,320,342	\$119,425,561	\$249,745,903
2030	55	76	131	\$141,435,900	\$129,611,859	\$271,047,760
2031	55	76	131	\$153,025,787	\$140,232,831	\$293,258,618
2032	55	76	131	\$165,106,770	\$151,303,844	\$316,410,614
2033	0	0	0	\$169,234,439	\$155,086,440	\$324,320,879
2034	0	0	0	\$173,465,300	\$158,963,601	\$332,428,901
2035	0	0	0	\$177,801,933	\$162,937,691	\$340,739,624
2036	0	0	0	\$182,246,981	\$167,011,133	\$349,258,114
2037	0	0	0	\$186,803,155	\$171,186,412	\$357,989,567
2038	0	0	0	\$191,473,234	\$175,466,072	\$366,939,306
2039	0	0	0	\$196,260,065	\$179,852,724	\$376,112,789
2040	0	0	0	\$201,166,567	\$184,349,042	\$385,515,609
2041	0	0	0	\$206,195,731	\$188,957,768	\$395,153,499
2042	0	0	0	\$211,350,624	\$193,681,712	\$405,032,336
Total	1,094	1,515	2,609	\$3,246,254,795	\$2,974,867,894	\$6,221,122,689

## APPENDIX D

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Number of direct and indirect workers and their families who will move to the State and their children who will attend public schools and number of new residential properties built in the State:

Year	Total New Households to the State	Total New Residents	Total New Students	New Residential Properties
2018	27	71	13	4
2019	27	71	13	4
2020	27	71	13	4
2021	27	71	13	4
2022	27	71	13	4
2023	14	35	6	2
2024	14	35	6	2
2025	14	35	6	2
2026	14	35	6	2
2027	14	35	6	2
2028	14	35	6	0
2029	14	35	6	0
2030	14	35	6	0
2031	14	35	6	0
2032	14	35	6	0
2033	0	0	0	0
2034	0	0	0	0
2035	0	0	0	0
2036	0	0	0	0
2037	0	0	0	0
2038	0	0	0	0
2039	0	0	0	0
2040	0	0	0	0
2041	0	0	0	0
2042	0	0	0	0
Total	274	708	129	30

## APPENDIX D

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### Revenues for Businesses (Economic Output) in Kansas:

	Direct Revenues for Businesses	Indirect Revenues for Businesses	Total Revenues for Businesses
2018	\$32,675,606	\$26,983,516	\$59,659,122
2019	\$67,311,749	\$55,586,042	\$122,897,791
2020	\$103,996,652	\$85,880,435	\$189,877,088
2021	\$142,822,069	\$117,942,465	\$260,764,534
2022	\$183,883,414	\$151,850,923	\$335,734,337
2023	\$208,339,908	\$172,047,096	\$380,387,004
2024	\$234,098,297	\$193,318,373	\$427,416,670
2025	\$261,214,683	\$215,711,085	\$476,925,768
2026	\$289,747,363	\$239,273,373	\$529,020,736
2027	\$319,756,912	\$264,055,258	\$583,812,169
2028	\$351,306,260	\$290,108,710	\$641,414,970
2029	\$384,460,789	\$317,487,719	\$701,948,508
2030	\$419,288,413	\$346,248,372	\$765,536,785
2031	\$455,859,680	\$376,448,924	\$832,308,604
2032	\$494,247,864	\$408,149,886	\$902,397,750
2033	\$509,075,300	\$420,394,383	\$929,469,682
2034	\$524,347,559	\$433,006,214	\$957,353,773
2035	\$540,077,985	\$445,996,400	\$986,074,386
2036	\$556,280,325	\$459,376,292	\$1,015,656,617
2037	\$572,968,735	\$473,157,581	\$1,046,126,316
2038	\$590,157,797	\$487,352,309	\$1,077,510,105
2039	\$607,862,531	\$501,972,878	\$1,109,835,409
2040	\$626,098,407	\$517,032,064	\$1,143,130,471
2041	\$644,881,359	\$532,543,026	\$1,177,424,385
2042	\$664,227,800	\$548,519,317	\$1,212,747,117

## APPENDIX D

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### Local taxable spending in the State of Kansas on which sales taxes will be collected:

Year	Direct Workers' Spending	Indirect Workers' Spending	Total
2018	\$1,809,431	\$1,658,162	\$3,467,593
2019	\$3,709,333	\$3,399,233	\$7,108,566
2020	\$5,703,100	\$5,226,321	\$10,929,420
2021	\$7,794,236	\$7,142,638	\$14,936,874
2022	\$9,986,365	\$9,151,505	\$19,137,870
2023	\$11,259,627	\$10,318,322	\$21,577,949
2024	\$12,590,310	\$11,537,760	\$24,128,070
2025	\$13,980,490	\$12,811,721	\$26,792,211
2026	\$15,432,310	\$14,142,169	\$29,574,479
2027	\$16,947,983	\$15,531,132	\$32,479,115
2028	\$18,529,795	\$16,980,704	\$35,510,499
2029	\$20,180,105	\$18,493,048	\$38,673,153
2030	\$21,901,349	\$20,070,396	\$41,971,746
2031	\$23,696,043	\$21,715,054	\$45,411,097
2032	\$25,566,783	\$23,429,400	\$48,996,184
2033	\$26,205,953	\$24,015,135	\$50,221,088
2034	\$26,861,102	\$24,615,514	\$51,476,615
2035	\$27,532,629	\$25,230,901	\$52,763,531
2036	\$28,220,945	\$25,861,674	\$54,082,619
2037	\$28,926,469	\$26,508,216	\$55,434,684
2038	\$29,649,630	\$27,170,921	\$56,820,552
2039	\$30,390,871	\$27,850,194	\$58,241,065
2040	\$31,150,643	\$28,546,449	\$59,697,092
2041	\$31,929,409	\$29,260,110	\$61,189,519
2042	\$32,727,644	\$29,991,613	\$62,719,257
Total	\$502,682,555	\$460,658,293	\$963,340,848

## APPENDIX D

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**Market value of new residential property built for direct and indirect workers who move to the community and the value of the Facility's property on local tax rolls:**

Year	Market New Residential Property	Market Value of the Commercial Property on Local Tax Rolls	Total Market Value of Property
2018	\$630,400	\$11,718,450	\$12,348,850
2019	\$1,298,624	\$23,905,638	\$25,204,262
2020	\$2,006,374	\$36,575,626	\$38,582,000
2021	\$2,755,420	\$49,742,852	\$52,498,272
2022	\$3,547,604	\$63,422,136	\$66,969,739
2023	\$4,019,435	\$71,184,478	\$75,203,913
2024	\$4,516,383	\$79,231,945	\$83,748,329
2025	\$5,039,531	\$87,572,837	\$92,612,369
2026	\$5,590,003	\$96,215,672	\$101,805,675
2027	\$6,168,968	\$105,169,192	\$111,338,159
2028	\$6,354,037	\$114,442,366	\$120,796,402
2029	\$6,544,658	\$124,044,399	\$130,589,056
2030	\$6,740,997	\$133,984,736	\$140,725,734
2031	\$6,943,227	\$144,273,069	\$151,216,297
2032	\$7,151,524	\$154,919,342	\$162,070,866
2033	\$7,366,070	\$158,017,729	\$165,383,799
2034	\$7,587,052	\$161,178,083	\$168,765,135
2035	\$7,814,664	\$164,401,645	\$172,216,309
2036	\$8,049,104	\$167,689,678	\$175,738,781
2037	\$8,290,577	\$171,043,471	\$179,334,048
2038	\$8,539,294	\$174,464,341	\$183,003,635
2039	\$8,795,473	\$177,953,628	\$186,749,100
2040	\$9,059,337	\$181,512,700	\$190,572,037
2041	\$9,331,117	\$185,142,954	\$194,474,071
2042	\$9,611,051	\$188,845,813	\$198,456,864

## APPENDIX D

Assessed value of new residential property built for direct and indirect workers who move to the community and the assessed value of the facility's property on local tax rolls:

Year	Assessed New Residential Property	Assessed Value of The Facility's Property on Local Tax Rolls	Total Assessed Value of Property
2018	\$72,496	\$2,929,613	\$3,002,109
2019	\$149,342	\$5,976,410	\$6,125,751
2020	\$230,733	\$9,143,907	\$9,374,640
2021	\$316,873	\$12,435,713	\$12,752,586
2022	\$407,974	\$15,855,534	\$16,263,508
2023	\$462,235	\$17,796,120	\$18,258,355
2024	\$519,384	\$19,807,986	\$20,327,370
2025	\$579,546	\$21,893,209	\$22,472,755
2026	\$642,850	\$24,053,918	\$24,696,768
2027	\$709,431	\$26,292,298	\$27,001,729
2028	\$730,714	\$28,610,591	\$29,341,306
2029	\$752,636	\$31,011,100	\$31,763,735
2030	\$775,215	\$33,496,184	\$34,271,399
2031	\$798,471	\$36,068,267	\$36,866,738
2032	\$822,425	\$38,729,835	\$39,552,261
2033	\$847,098	\$39,504,432	\$40,351,530
2034	\$872,511	\$40,294,521	\$41,167,032
2035	\$898,686	\$41,100,411	\$41,999,098
2036	\$925,647	\$41,922,419	\$42,848,066
2037	\$953,416	\$42,760,868	\$43,714,284
2038	\$982,019	\$43,616,085	\$44,598,104
2039	\$1,011,479	\$44,488,407	\$45,499,886
2040	\$1,041,824	\$45,378,175	\$46,419,999
2041	\$1,073,078	\$46,285,739	\$47,358,817
2042	\$1,105,271	\$47,211,453	\$48,316,724

## APPENDIX D

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### Benefits for the State of Kansas

#### Sales tax collections:

Year	On Direct Workers' Spending	On Indirect Workers' Spending	Total
2018	\$113,994	\$104,464	\$218,458
2019	\$233,688	\$214,152	\$447,840
2020	\$359,295	\$329,258	\$688,553
2021	\$491,037	\$449,986	\$941,023
2022	\$629,141	\$576,545	\$1,205,686
2023	\$709,356	\$650,054	\$1,359,411
2024	\$793,190	\$726,879	\$1,520,068
2025	\$880,771	\$807,138	\$1,687,909
2026	\$972,236	\$890,957	\$1,863,192
2027	\$1,067,723	\$978,461	\$2,046,184
2028	\$1,167,377	\$1,069,784	\$2,237,161
2029	\$1,271,347	\$1,165,062	\$2,436,409
2030	\$1,379,785	\$1,264,435	\$2,644,220
2031	\$1,492,851	\$1,368,048	\$2,860,899
2032	\$1,610,707	\$1,476,052	\$3,086,760
2033	\$1,650,975	\$1,512,954	\$3,163,929
2034	\$1,692,249	\$1,550,777	\$3,243,027
2035	\$1,734,556	\$1,589,547	\$3,324,102
2036	\$1,777,920	\$1,629,285	\$3,407,205
2037	\$1,822,368	\$1,670,018	\$3,492,385
2038	\$1,867,927	\$1,711,768	\$3,579,695
2039	\$1,914,625	\$1,754,562	\$3,669,187
2040	\$1,962,491	\$1,798,426	\$3,760,917
2041	\$2,011,553	\$1,843,387	\$3,854,940
2042	\$2,061,842	\$1,889,472	\$3,951,313
Total	\$31,669,001	\$29,021,472	\$60,690,473

## APPENDIX D

### Benefits for the State of Kansas - Continued

#### Property tax collections on:

Year	New Residential Property	The Facility's Property		Total Taxes After Abatement	Total
		Taxes Collected	Taxes Abated		
2018	\$109	\$4,394	\$0	\$4,394	\$4,503
2019	\$224	\$8,965	\$0	\$8,965	\$9,189
2020	\$346	\$13,716	\$0	\$13,716	\$14,062
2021	\$475	\$18,654	\$0	\$18,654	\$19,129
2022	\$612	\$23,783	\$0	\$23,783	\$24,395
2023	\$693	\$26,694	\$0	\$26,694	\$27,388
2024	\$779	\$29,712	\$0	\$29,712	\$30,491
2025	\$869	\$32,840	\$0	\$32,840	\$33,709
2026	\$964	\$36,081	\$0	\$36,081	\$37,045
2027	\$1,064	\$39,438	\$0	\$39,438	\$40,503
2028	\$1,096	\$42,916	\$0	\$42,916	\$44,012
2029	\$1,129	\$46,517	\$0	\$46,517	\$47,646
2030	\$1,163	\$50,244	\$0	\$50,244	\$51,407
2031	\$1,198	\$54,102	\$0	\$54,102	\$55,300
2032	\$1,234	\$58,095	\$0	\$58,095	\$59,328
2033	\$1,271	\$59,257	\$0	\$59,257	\$60,527
2034	\$1,309	\$60,442	\$0	\$60,442	\$61,751
2035	\$1,348	\$61,651	\$0	\$61,651	\$62,999
2036	\$1,388	\$62,884	\$0	\$62,884	\$64,272
2037	\$1,430	\$64,141	\$0	\$64,141	\$65,571
2038	\$1,473	\$65,424	\$0	\$65,424	\$66,897
2039	\$1,517	\$66,733	\$0	\$66,733	\$68,250
2040	\$1,563	\$68,067	\$0	\$68,067	\$69,630
2041	\$1,610	\$69,429	\$0	\$69,429	\$71,038
2042	\$1,658	\$70,817	\$0	\$70,817	\$72,475
Total	\$26,522	\$1,134,995	\$0	\$1,134,995	\$1,161,517

## APPENDIX D

### Benefits for the State of Kansas - Continued

#### Personal Income Tax Collections:

Year	<i>Direct Workers' Wages</i>	<i>Indirect &amp; Indirect &amp; Induced Workers' Wages</i>	<i>Direct Workers' Personal Income Tax Collections</i>	<i>Indirect &amp; Ind. Workers' Personal Income Tax Collections</i>	<i>Total Personal Income Tax Collections</i>
2018	\$7,618,656	\$6,981,736	\$256,749	\$235,285	\$492,033
2019	\$15,618,245	\$14,312,559	\$526,335	\$482,333	\$1,008,668
2020	\$24,013,051	\$22,005,560	\$809,240	\$741,587	\$1,550,827
2021	\$32,817,837	\$30,074,265	\$1,105,961	\$1,013,503	\$2,119,464
2022	\$42,047,853	\$38,532,653	\$1,417,013	\$1,298,550	\$2,715,563
2023	\$47,408,954	\$43,445,566	\$1,597,682	\$1,464,116	\$3,061,797
2024	\$53,011,831	\$48,580,042	\$1,786,499	\$1,637,147	\$3,423,646
2025	\$58,865,221	\$53,944,088	\$1,983,758	\$1,817,916	\$3,801,674
2026	\$64,978,147	\$59,545,974	\$2,189,764	\$2,006,699	\$4,196,463
2027	\$71,359,930	\$65,394,240	\$2,404,830	\$2,203,786	\$4,608,616
2028	\$78,020,190	\$71,497,702	\$2,629,280	\$2,409,473	\$5,038,753
2029	\$84,968,863	\$77,865,466	\$2,863,451	\$2,624,066	\$5,487,517
2030	\$92,216,207	\$84,506,932	\$3,107,686	\$2,847,884	\$5,955,570
2031	\$99,772,813	\$91,431,806	\$3,362,344	\$3,081,252	\$6,443,596
2032	\$107,649,614	\$98,650,106	\$3,627,792	\$3,324,509	\$6,952,301
2033	\$110,340,854	\$101,116,359	\$3,718,487	\$3,407,621	\$7,126,108
2034	\$113,099,376	\$103,644,268	\$3,811,449	\$3,492,812	\$7,304,261
2035	\$115,926,860	\$106,235,375	\$3,906,735	\$3,580,132	\$7,486,867
2036	\$118,825,032	\$108,891,259	\$4,004,404	\$3,669,635	\$7,674,039
2037	\$121,795,657	\$111,613,540	\$4,104,514	\$3,761,376	\$7,865,890
2038	\$124,840,549	\$114,403,879	\$4,207,126	\$3,855,411	\$8,062,537
2039	\$127,961,562	\$117,263,976	\$4,312,305	\$3,951,796	\$8,264,101
2040	\$131,160,602	\$120,195,575	\$4,420,112	\$4,050,591	\$8,470,703
2041	\$134,439,617	\$123,200,465	\$4,530,615	\$4,151,856	\$8,682,471
2042	\$137,800,607	\$126,280,476	\$4,643,880	\$4,255,652	\$8,899,533
Total	\$2,116,558,126	\$1,939,613,867	\$71,328,009	\$65,364,987	\$136,692,996

## APPENDIX D

### Benefits for the State of Kansas - Continued

#### Corporate Income Tax Collections:

Year	Revenues for Direct, Indirect & Induced Businesses	Portion of Indirect & Induced Revenues Subject to Tax	Direct, Indirect & Induced Corporate Income Tax Collections	Total Corporate Income Tax Collections
2018	\$59,659,122	\$2,982,956	\$119,318	\$119,318
2019	\$122,897,791	\$6,144,890	\$245,796	\$245,796
2020	\$189,877,088	\$9,493,854	\$379,754	\$379,754
2021	\$260,764,534	\$13,038,227	\$521,529	\$521,529
2022	\$335,734,337	\$16,786,717	\$671,469	\$671,469
2023	\$380,387,004	\$19,019,350	\$760,774	\$760,774
2024	\$427,416,670	\$21,370,834	\$854,833	\$854,833
2025	\$476,925,768	\$23,846,288	\$953,852	\$953,852
2026	\$529,020,736	\$26,451,037	\$1,058,041	\$1,058,041
2027	\$583,812,169	\$29,190,608	\$1,167,624	\$1,167,624
2028	\$641,414,970	\$32,070,749	\$1,282,830	\$1,282,830
2029	\$701,948,508	\$35,097,425	\$1,403,897	\$1,403,897
2030	\$765,536,785	\$38,276,839	\$1,531,074	\$1,531,074
2031	\$832,308,604	\$41,615,430	\$1,664,617	\$1,664,617
2032	\$902,397,750	\$45,119,887	\$1,804,795	\$1,804,795
2033	\$929,469,682	\$46,473,484	\$1,858,939	\$1,858,939
2034	\$957,353,773	\$47,867,689	\$1,914,708	\$1,914,708
2035	\$986,074,386	\$49,303,719	\$1,972,149	\$1,972,149
2036	\$1,015,656,617	\$50,782,831	\$2,031,313	\$2,031,313
2037	\$1,046,126,316	\$52,306,316	\$2,092,253	\$2,092,253
2038	\$1,077,510,105	\$53,875,505	\$2,155,020	\$2,155,020
2039	\$1,109,835,409	\$55,491,770	\$2,219,671	\$2,219,671
2040	\$1,143,130,471	\$57,156,524	\$2,286,261	\$2,286,261
2041	\$1,177,424,385	\$58,871,219	\$2,354,849	\$2,354,849
2042	\$1,212,747,117	\$60,637,356	\$2,425,494	\$2,425,494
Total	\$17,865,430,097	\$893,271,505	\$35,730,860	\$35,730,860

Impact DataSource assumes 5% of the revenues (or economic output) for direct, indirect and induced businesses may be subject to the corporate income taxes.

## APPENDIX D

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### Benefits for the State of Kansas - Continued

Year	Benefits	Cumulative Benefits
2018	\$834,313	\$834,313
2019	\$1,711,492	\$2,545,805
2020	\$2,633,197	\$5,179,002
2021	\$3,601,145	\$8,780,147
2022	\$4,617,113	\$13,397,259
2023	\$5,209,370	\$18,606,629
2024	\$5,829,039	\$24,435,668
2025	\$6,477,144	\$30,912,812
2026	\$7,154,742	\$38,067,553
2027	\$7,862,927	\$45,930,480
2028	\$8,602,756	\$54,533,236
2029	\$9,375,468	\$63,908,704
2030	\$10,182,270	\$74,090,975
2031	\$11,024,412	\$85,115,387
2032	\$11,903,184	\$97,018,571
2033	\$12,209,503	\$109,228,074
2034	\$12,523,746	\$121,751,820
2035	\$12,846,117	\$134,597,937
2036	\$13,176,829	\$147,774,766
2037	\$13,516,099	\$161,290,866
2038	\$13,864,149	\$175,155,015
2039	\$14,221,208	\$189,376,223
2040	\$14,587,511	\$203,963,734
2041	\$14,963,297	\$218,927,032
2042	\$15,348,815	\$234,275,847
Total	\$234,275,847	

## APPENDIX D

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### Benefits for Local Taxing Districts

#### Sales tax collections:

Year	On	On	Total
	Direct Workers' Spending	Indirect Workers' Spending	
2018	\$32,570	\$29,847	\$62,417
2019	\$66,768	\$61,186	\$127,954
2020	\$102,656	\$94,074	\$196,730
2021	\$140,296	\$128,567	\$268,864
2022	\$179,755	\$164,727	\$344,482
2023	\$202,673	\$185,730	\$388,403
2024	\$226,626	\$207,680	\$434,305
2025	\$251,649	\$230,611	\$482,260
2026	\$277,782	\$254,559	\$532,341
2027	\$305,064	\$279,560	\$584,624
2028	\$333,536	\$305,653	\$639,189
2029	\$363,242	\$332,875	\$696,117
2030	\$394,224	\$361,267	\$755,491
2031	\$426,529	\$390,871	\$817,400
2032	\$460,202	\$421,729	\$881,931
2033	\$471,707	\$432,272	\$903,980
2034	\$483,500	\$443,079	\$926,579
2035	\$495,587	\$454,156	\$949,744
2036	\$507,977	\$465,510	\$973,487
2037	\$520,676	\$477,148	\$997,824
2038	\$533,693	\$489,077	\$1,022,770
2039	\$547,036	\$501,303	\$1,048,339
2040	\$560,712	\$513,836	\$1,074,548
2041	\$574,729	\$526,682	\$1,101,411
2042	\$589,098	\$539,849	\$1,128,947
Total	\$9,048,286	\$8,291,849	\$17,340,135

## APPENDIX D

### Benefits for Local Taxing Districts - Continued

Property tax collections on:

Year	The Facility's Property			Total Taxes After Abatement	Total
	New Residential Property	Taxes Collected	Taxes Abated		
2018	\$8,961	\$362,119	\$0	\$362,119	\$371,080
2019	\$18,460	\$738,722	\$0	\$738,722	\$757,182
2020	\$28,520	\$1,130,245	\$0	\$1,130,245	\$1,158,765
2021	\$39,168	\$1,537,134	\$0	\$1,537,134	\$1,576,301
2022	\$50,428	\$1,959,845	\$0	\$1,959,845	\$2,010,274
2023	\$57,135	\$2,199,714	\$0	\$2,199,714	\$2,256,849
2024	\$64,199	\$2,448,394	\$0	\$2,448,394	\$2,512,593
2025	\$71,636	\$2,706,141	\$0	\$2,706,141	\$2,777,776
2026	\$79,460	\$2,973,218	\$0	\$2,973,218	\$3,052,679
2027	\$87,690	\$3,249,896	\$0	\$3,249,896	\$3,337,587
2028	\$90,321	\$3,536,452	\$0	\$3,536,452	\$3,626,773
2029	\$93,031	\$3,833,170	\$0	\$3,833,170	\$3,926,201
2030	\$95,821	\$4,140,343	\$0	\$4,140,343	\$4,236,164
2031	\$98,696	\$4,458,269	\$0	\$4,458,269	\$4,556,965
2032	\$101,657	\$4,787,256	\$0	\$4,787,256	\$4,888,913
2033	\$104,707	\$4,883,001	\$0	\$4,883,001	\$4,987,707
2034	\$107,848	\$4,980,661	\$0	\$4,980,661	\$5,088,509
2035	\$111,083	\$5,080,274	\$0	\$5,080,274	\$5,191,357
2036	\$114,416	\$5,181,879	\$0	\$5,181,879	\$5,296,295
2037	\$117,848	\$5,285,517	\$0	\$5,285,517	\$5,403,365
2038	\$121,384	\$5,391,227	\$0	\$5,391,227	\$5,512,611
2039	\$125,025	\$5,499,052	\$0	\$5,499,052	\$5,624,077
2040	\$128,776	\$5,609,033	\$0	\$5,609,033	\$5,737,809
2041	\$132,639	\$5,721,214	\$0	\$5,721,214	\$5,853,853
2042	\$136,619	\$5,835,638	\$0	\$5,835,638	\$5,972,256
Total	\$2,185,529	\$93,528,414	\$0	\$93,528,414	\$95,713,942

## APPENDIX D

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### Benefits for Local Taxing Districts - Continued

Year	Benefits	Cumulative Benefits
2018	\$433,497	\$433,497
2019	\$885,136	\$1,318,633
2020	\$1,355,495	\$2,674,128
2021	\$1,845,165	\$4,519,293
2022	\$2,354,755	\$6,874,048
2023	\$2,645,253	\$9,519,301
2024	\$2,946,898	\$12,466,199
2025	\$3,260,036	\$15,726,235
2026	\$3,585,019	\$19,311,254
2027	\$3,922,211	\$23,233,465
2028	\$4,265,962	\$27,499,427
2029	\$4,622,318	\$32,121,745
2030	\$4,991,656	\$37,113,401
2031	\$5,374,365	\$42,487,765
2032	\$5,770,844	\$48,258,609
2033	\$5,891,687	\$54,150,296
2034	\$6,015,088	\$60,165,384
2035	\$6,141,101	\$66,306,484
2036	\$6,269,782	\$72,576,267
2037	\$6,401,190	\$78,977,456
2038	\$6,535,381	\$85,512,837
2039	\$6,672,416	\$92,185,254
2040	\$6,812,357	\$98,997,610
2041	\$6,955,264	\$105,952,875
2042	\$7,101,203	\$113,054,078
Total	\$113,054,078	