

# The Economic Benefits of Denver Zoo

August 2017

Prepared for:



Prepared By:





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*All photographs in this report courtesy of Denver Zoo.*

Denver Zoo celebrated its 120th anniversary in 2016, highlighting its importance as a cultural asset and economic driver in the City and County of Denver and the seven-county Scientific and Cultural Facilities District (SCFD). With more than 4,000 animals representing 600 animal species, Denver Zoo has attracted an average of 2 million attendees each year for the past five years. Indeed, Denver Zoo was the top attraction for visitors to Denver in 2016. Of the 2.05 million visitors to the Zoo in 2016, an estimated 453,000 people came from outside of the SCFD region. These out-of-region visitors brought new dollars into Denver and the SCFD as money was spent on local lodging, retail, restaurants, and other attractions and entertainment. In addition to being a top tourist attraction, the day-to-day business operations of Denver Zoo generates millions of dollars in local business activity and provides employment for several hundred individuals each year.

The intent of this study is to highlight and quantify the economic benefits Denver Zoo provides to both the City and County of Denver and the SCFD region.

### ***City and County of Denver Economic Benefits from Annual Operations***

- Denver Zoo and its private concessionaire spent about \$48 million on employee compensation and business operations in 2016. Denver-based vendors and suppliers captured about 76 percent of the non-employee expenditures. These operating expenditures included animal care and nutrition, outreach programs, contract services, repair and maintenance services, utilities, and communications.
- In 2016, the Zoo employed more than 400 full-time and regular part-time staff and nearly 250 seasonal, temporary, variable part-time workers, and interns. In addition, private concessions operations at the Zoo employed an additional 380 workers on average throughout the year. On a full-time equivalent basis, about 530 employees earning \$24 million were associated with Denver Zoo.
- Out-of-region visitors spent an estimated \$3.9 million in local lodging facilities, restaurants, and other retail stores, which supported the employment of 70 additional workers that earned \$1.1 million.
- Combined, the direct economic benefits of Denver Zoo in the City and County of Denver totaled \$51.9 million and supported the employment of 600 workers earning \$25.1 million in 2016.
- The spending patterns associated with Denver Zoo and its employees had spin-off effects or multiplicative impacts in Denver. Through the multiplier effects of this initial spending, **the total economic benefits of Denver Zoo were an estimated \$94.7 million in the City and County of Denver produced by 889 workers earning \$40.2 million.**

**Total Economic Benefits of Denver Zoo's Annual Operations, 2016**

	City and County of Denver			Scientific and Cultural Facilities District		
	Direct Impact	Indirect & Induced Impact	Total Impact	Direct Impact	Indirect & Induced Impact	Total Impact
<b>Denver Zoo Operations</b>						
Value of Output (\$M)	\$48.0	\$40.3	\$88.3	\$48.0	\$60.9	\$108.9
Earnings (\$M)	\$24.0	\$14.6	\$38.6	\$24.0	\$27.9	\$51.9
Employment	530	276	806	530	511	1,041
<b>Visitor Spending</b>						
Value of Output (\$M)	\$3.9	\$2.5	\$6.4	\$3.9	\$3.9	\$7.8
Earnings (\$M)	\$1.1	\$0.5	\$1.6	\$1.1	\$1.1	\$2.2
Employment	70	13	83	70	30	100
<b>Total</b>						
<b>Value of Output (\$M)</b>	<b>\$51.9</b>	<b>\$42.8</b>	<b>\$94.7</b>	<b>\$51.9</b>	<b>\$64.8</b>	<b>\$116.7</b>
<b>Earnings (\$M)</b>	<b>\$25.1</b>	<b>\$15.1</b>	<b>\$40.2</b>	<b>\$25.1</b>	<b>\$29.0</b>	<b>\$54.1</b>
<b>Employment</b>	<b>600</b>	<b>289</b>	<b>889</b>	<b>600</b>	<b>541</b>	<b>1,141</b>

## ***Scientific and Cultural Facilities District Economic Benefits from Annual Operations***

- While the direct economic benefits from Denver Zoo are the same in Denver and the SCFD, the multiplier impacts are greater throughout the larger region. For example, vendors located in the SCFD region captured a greater share of Denver Zoo’s non-employee expenditures, an estimated 88 percent.
- Further, while 40 percent of Denver Zoo’s employees both live and work in the City and County of Denver, more than 94 percent of the employees live in the SCFD region, contributing to larger spin-off effects from employee expenditures.
- Through the multiplier effects of the initial spending, **the total economic benefits of Denver Zoo were an estimated \$116.7 million in the SCFD produced by 1,141 workers earning \$54.1 million.**

## ***Economic Benefits from Construction Activity***

- Denver Zoo continually invests in exhibits and facilities to ensure high-quality of care for the animals and to engage guests. Recent examples include the public and privately funded \$54 million *Toyota Elephant Passage* and *The Edge*, a \$3.2 million tiger exhibit. From 2018 to 2022, Denver Zoo estimates it will invest a minimum of \$35 million for additional projects. These large projects will provide an additional, but temporary, economic benefit to Denver and the region.
- Once multipliers impacts are considered, **the total economic benefits of the Zoo’s planned construction activity will be an estimated \$14.8 million in the City and County of Denver produced by 44 workers earning \$3 million.**
- The construction benefits are larger in the SCFD region as a greater share of the direct construction dollars are captured in the larger region. Once multipliers impacts are considered, **the total economic benefits of the Zoo’s planned construction activity will be an estimated \$52.9 million in the SCFD region produced by 207 workers earning \$13 million.**

**Total Economic Benefits of Planned Denver Zoo Construction Activity, 2018-2022**

	City and County of Denver			Scientific and Cultural Facilities District		
	Direct Impact	Indirect & Induced Impact	Total Impact	Direct Impact	Indirect & Induced Impact	Total Impact
Value of Output (\$M)	\$10.3	\$4.5	\$14.8	\$26.1	\$26.8	\$52.9
Earnings (\$M)	\$2.3	\$0.7	\$3.0	\$7.9	\$5.1	\$13.0
Employment	31	13	44	112	95	207

Denver Zoo is a cultural treasure for the City and County of Denver and the larger Scientific and Cultural Facilities District, but its reach and importance stretches far beyond these local boundaries. Denver Zoo enhances animal welfare, serves a global conservation mission, and educates visitors and students on the world’s animals. Further, Denver Zoo contributes millions of dollars to the local economy through its business-to-business spending and large employment base.

Denver Zoo celebrated its 120th anniversary in 2016. Its history began with the gift of a black bear cub to the mayor of Denver in 1896. Through the years, the Zoo has become a valuable cultural resource to Denver area residents, providing numerous educational opportunities, events, and research. With more than 4,000 animals representing 600 animal species, Denver Zoo has attracted more than 2 million attendees each year on average for the past five years. Denver Zoo's reach extends beyond the metro Denver region with hundreds of thousands of visitors attending the Zoo from other parts of Colorado and across the country. Denver Zoo was the top attraction for visitors to Denver based on paid admissions in 2016.

Denver Zoo is also a major source of economic activity in Denver and the regional economy. The Zoo employs hundreds of people from the metro area. In addition, the Zoo utilizes a private concessions operator that employs several hundred more. The Zoo

**Denver Zoo was the top attraction for visitors to Denver based on paid admissions in 2016**

**Denver Zoo served more than 1,200 schools and provided educational experiences to more than 225,000 school children, adults, and families in 2015**

fosters local business activity with an estimated 88 percent of its operating expenditures beyond employment, being transacted with regionally based suppliers and vendors. The intent of this study is to describe and estimate the economic benefits of Denver Zoo to the City and County of Denver (Denver) and to the larger Scientific and Cultural Facilities District (SCFD).

## ECONOMIC BENEFITS DEFINED

Economic impact analysis is the analytical approach used to assess the measurable direct and indirect benefits resulting from a project during a specific period. Only those benefits that can be measured or quantified are included. Intangible benefits, such as enhancement of community character or diversification of the job base, are not included. Further, economic impact analysis highlights that activity which occurs within a specified geographic area. This analysis estimates the benefits of Denver Zoo in Denver and the SCFD that serves a seven-county region consisting of Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas (except the towns of Castle Rock and Larkspur), and Jefferson counties.

The spending patterns associated with investment and business operations have spin-off effects or multiplicative impacts in Denver and the SCFD region. Therefore, multiplier analysis is used to trace the impacts on businesses, organizations, and individuals affected by the construction activity and on-going operations.

The multiplicative impacts are discussed in terms of "indirect" and "induced" economic benefits (often collectively referred to as simply indirect benefits). For example, when Denver Zoo purchases supplies from a local vendor, that local vendor provides payroll to its employees and makes purchases from other vendors. These other vendors in turn provide payroll to their employees and make purchases from other vendors and so on, providing the indirect benefit of the initial dollar spent. On a separate but similar spending track, when employees of Denver Zoo spend their paychecks at local



businesses, these local businesses provide payroll to their employees, make purchases from other vendors, and so on, creating the induced benefit.

As a result, the initial dollars spent by Denver Zoo for construction, business purchases, and employee compensation are circulated throughout the local economy a number of times. The number of times that the initial dollars are circulated throughout the local economy may be estimated using economic multipliers. An economic multiplier summarizes the total impact that can be expected within a specific geographic area due to a given industry's level of business activity. Generally, larger multipliers are associated with industries that (1) spend more dollars locally, (2) pay high salaries, and/or (3) sell their goods and services outside of the local area.

The indirect and induced jobs and income flows generated by the direct local spending patterns are estimated using the Regional Input-Output Modeling System (RIMS II) multipliers developed by the Bureau of Economic Analysis of the U.S. Department of Commerce. The RIMS II multipliers are the most widely used and respected for economic impact analysis. These multipliers are geographic and industry specific, and are used to estimate the total benefits of a project.

Three types of economic benefits are derived from the RIMS II multipliers. First, the direct and indirect impact of Denver Zoo on the gross output of the region is estimated. This is the total value produced by local firms and residents resulting from the value of the output produced by an industry directly. Gross output consists of the value of both intermediate goods and final products, so this is a larger value than gross domestic product (GDP). Second, the total direct and indirect employment needed in the region to produce this level of output is determined. These employees may be full-time or part-time, local or non-local workers. Further, the indirect employment supported might represent fractions of jobs, added to reflect whole positions. Third, the analysis presents an estimate for the typical direct and indirect earnings associated with this level of production.

## METHODOLOGY

### *Geographic Selection*

This analysis estimates the benefits of Denver Zoo at two geographic levels, the City and County of Denver and the SCFD region. Both regions are important to Denver Zoo and benefit from its operations. Denver owns the buildings and property of the Zoo as well as contributes to its operations through capital investment and utility payments. The SCFD also contributes to Denver Zoo's programs. In turn, a large portion of the Zoo's expenditures benefit businesses and residents of Denver and the SCFD region. For analysis purposes, the economic impact to the SCFD includes the entire seven-county region. It should be noted that the benefits to Denver and the SCFD are individual, non-additive impacts. For example, the economic benefits reported for Denver are not in addition to the SCFD benefits, but are a component of the economic benefits of the region. Thus, the economic benefits estimated from this study should specify the particular geography when reported.

The total output, employment, and earnings attributed to Denver Zoo are estimated using the RIMS II multipliers for Denver County and the seven-county metro Denver region consisting of Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, and Jefferson counties. The smallest geography available for the RIMS II multipliers is the county level.

### *Project Parameters and Study Variables*

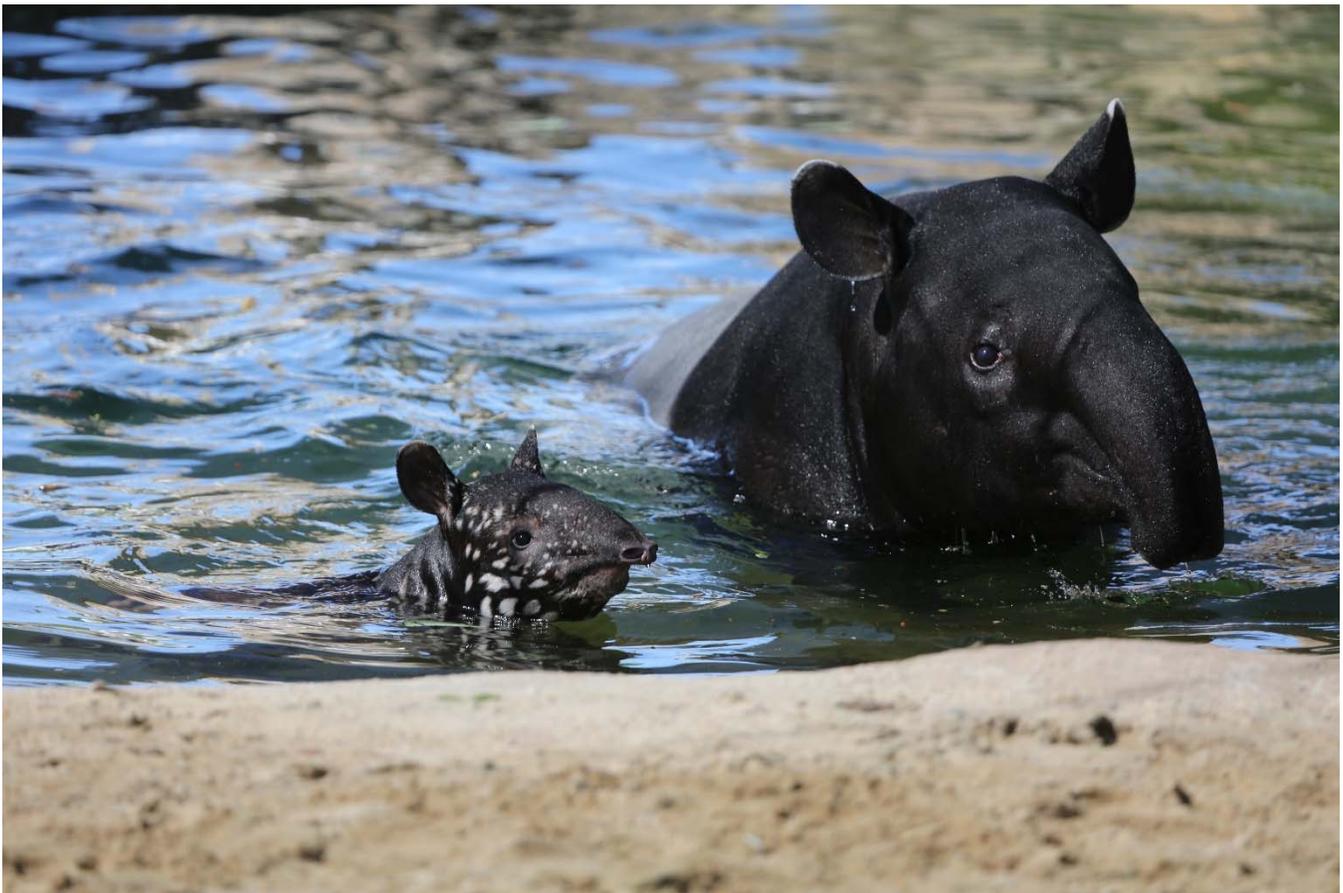
Development Research Partners estimated the economic benefits described in this report based on primary data provided by Denver Zoo and when necessary, data from a variety of secondary sources including the U.S. Census Bureau, U.S. Bureau of Labor Statistics, U.S. Bureau of Economic Analysis, and state and local governments.

Development Research Partners made every attempt to collect necessary additional or missing information and believe the information used in this report is from sources deemed reliable but is not guaranteed.

Some numbers in the study may not add exactly due to rounding. In general, numbers reported in the text of the report are rounded to the nearest hundred thousand if more than \$1 million. Figures that are less than \$1 million are rounded to the nearest thousand. This analysis estimates the economic benefits of Denver Zoo for 2016.

## REPORT ORGANIZATION

Following the Introduction, Chapters II-IV describe the economic benefits of Denver Zoo by spending category. The second chapter describes the economic benefits of Denver Zoo's operations and the private concessionaire that operates at the Zoo. Chapter III details the benefits of visitor spending, both to Denver and to the SCFD region. Visitor spending represents an economic benefit in addition to the benefit of spending captured in Chapter II's analysis of Zoo concessions. Chapter IV describes the projected benefit of upcoming projects and construction spending at Denver Zoo during the next five years. Through bond measures and private funding, the Zoo spends a significant amount on large capital projects, exhibits, and buildings. This construction activity brings additional benefits to Denver and the SCFD region. Finally, the economic benefits described throughout the report are combined to establish the overall economic benefit of Denver Zoo. These total values are included in the Summary chapter of the report.



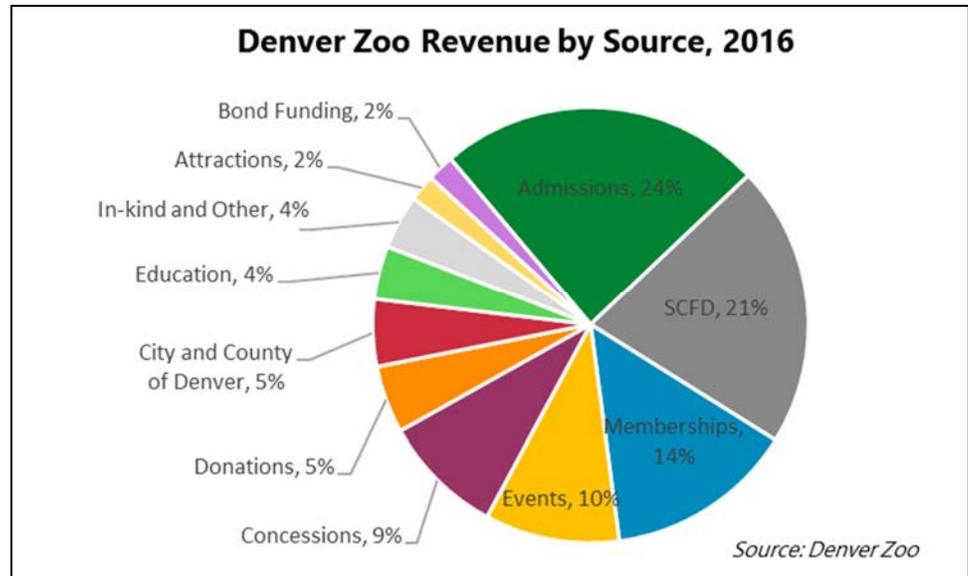
## II. DENVER ZOO OPERATIONS

Denver Zoo's consolidated operating expenditures totaled about \$41.4 million in 2016. Denver Zoo funds its activities through a variety of sources including admissions, the SCFD, memberships, events, concessions, donations, and the City and County of Denver.

Denver Zoo's strong local spending activity contributes to its economic benefit in Denver and the SCFD region. The largest component of local spending is employee compensation.

Beyond local employment, Denver Zoo cultivates relationships with many regionally-based suppliers and vendors. Denver Zoo regularly utilizes local construction companies, local repair and maintenance services, feed stores, and other vendors. A significant

partnership for Denver Zoo is Denver-based K-M Concessions that provides retail and concessions services at the Zoo. The direct economic benefits of Denver Zoo were estimated based on the Zoo's operating expenditures and the private concessions operating at the Zoo.



### ANNUAL DIRECT ECONOMIC BENEFITS

#### *Denver Zoo*

- In 2016, Denver Zoo's operating expenditures, excluding employee compensation, totaled \$17.9 million. About 88 percent of its expenditures were captured in the SCFD region. Denver-based vendors and suppliers captured about 76 percent. These operating expenditures included animal care and nutrition, outreach programs, contract services, repair and maintenance services, utilities, and communications. Sectors supported by the Zoo's operations included utilities, construction, wholesale and retail trade, transportation, information, professional and technical services, administrative and support services, and educational services.
- Employee compensation comprised about 57 percent of Denver Zoo's operating expenditures. Compensation included wages and salaries (\$19.3 million), employee benefits that contribute to worker earnings such as portions of insurance benefits (\$1.3 million), and employee benefits that have minimal local impact such as legally required benefits and retirement contributions (\$2.9 million). Total employee compensation in 2016 was about \$23.5 million.
- In 2016, the Zoo employed more than 400 full-time and regular part-time staff and nearly 250 seasonal, temporary, variable part-time workers, and interns. More than 91 percent of the Zoo's employees were

**Local vendors in the SCFD region captured an estimated 88 percent of Denver Zoo's expenditures.**

## II. DENVER ZOO OPERATIONS

residents of the SCFD region and more than 40 percent were from Denver. On a full-time equivalent (FTE) basis, Denver Zoo employed about 450 employees in 2016. These employees represented the direct employment benefit of the Zoo.

**In 2016, Denver Zoo employed more than 400 full and regular part-time staff as well as nearly 250 seasonal workers, temporary workers, and interns.**

### *Private Concessions*

- A critical component of Denver Zoo's economic benefit is its partnership with a private concessions operator that provides food and beverage and retail services at the Zoo. For the private concessions operator, operating expenditures, excluding employee compensation, were an estimated \$2.7 million in 2016 based on estimated sales and select expense data provided by the operator. This estimate excludes the cost of goods sold at retail, dollars that generally exit the region. The estimate also excludes the value of the contract with the Zoo to avoid double counting.
- Employee compensation for the private concessions employees was an estimated \$3.9 million in 2016 based on payroll data provided by the operator and estimated employee benefits. Employee benefits were estimated utilizing data from the U.S. Bureau of Labor Statistics, National Compensation Survey for full-time benefit eligible employees working the private concessions. Compensation was comprised of an estimated \$3 million in payroll, an estimated \$426,000 in employee benefits that contributed to the local earnings benefit, and an estimated \$461,000 of non-earnings benefits such as legally required benefits and retirement.
- Private concessions operations at the Zoo employed an additional 380 workers on average throughout 2016. Many of these workers were part-time or seasonal workers. On a full-time equivalent basis, this represented about 80 employees. In addition, about 15 percent were full-time benefits eligible. These employees represented the direct employment benefit of the private concessions in Denver and the SCFD region.

### *Direct Economic Benefits*

- The estimated direct economic benefits of Denver Zoo and the private concessions operator in 2016 were an estimated \$48 million including \$27.4 million in compensation for 530 FTE employees.
- These benefits occur annually assuming similar business operations.

**Table 1: Direct Economic Benefits of Denver Zoo Operations, 2016**

Operating Expenditures (except employee compensation)	
Denver Zoo Operations	\$17,905,000
Private Concessions*	\$2,740,000
Employee Compensation	
Denver Zoo Operations	\$23,492,000
Private Concessions	\$3,884,000
Employment (FTE)	
Denver Zoo Operations	450
Private Concessions	80
Total	
Denver Zoo Operations	\$41,397,000
Private Concessions	\$6,624,000
Total	\$48,021,000
Employment	530

*\*Reflects estimated benefit of operating expenditures excluding the cost of goods sold for retail.*

### TOTAL ANNUAL DIRECT, INDIRECT, AND INDUCED BENEFITS

#### *City and County of Denver*

- **Value of Output:** Denver Zoo and its private concessions operator utilized \$48 million of inputs such as labor, supplies, and equipment to generate its output in 2016, mainly in the form of services to residents and attendees. This impact analysis assumed that the value of the Zoo's output was equal to its known expenditures, and it was this value that was used to determine the multiplier benefits of the Zoo. Based on the RIMS II multipliers for the museums/historical sites/zoos/parks, retail, and other food and drinking places industry categories, Denver Zoo likely supported \$40.3 million in additional output in all industries throughout the City and County of Denver. This consisted of the value of the local spending of the employees (the induced benefits) and locally-based supplier companies and their employees (the indirect benefit). Therefore, **the total direct and indirect benefit of Denver Zoo was \$88.3 million in total output** (\$48 million direct output + \$40.3 million indirect and induced output), as shown in Table 2.
- **Employment:** Denver Zoo and its private concessions operator provided employment for 530 direct FTE workers in 2016. Based on the RIMS II multipliers, the production of the \$40.3 million in indirect and induced output in all industries throughout the City and County of Denver required about 276 employees. Therefore, **Denver Zoo supported employment of 806 local workers** (530 direct employees and 276 indirect and induced employees).
- **Earnings:** Employee compensation for Denver Zoo and its private concessions operator was an estimated \$27.4 million in 2016. However, not all of the employee benefits represented a direct economic benefit to the City and County of Denver. Employee benefits were adjusted to include only that spending that benefits the local economy directly. Employee benefits that affect the local economy include such items as paid leave, supplemental pay, and a portion of insurance benefits. Benefits excluded from the direct benefit are Social Security, Medicare, unemployment insurance, and retirement, among other things.

Adjusting compensation to reflect those earnings that will likely benefit the local economy, the direct economic benefit of employee compensation in the City and County of Denver was an estimated \$24 million. Based on the relationships revealed through the RIMS II multipliers, the 276 indirect employees that produced the \$40.3 million in indirect and induced output had associated earnings of about \$14.6 million. In total, **the direct and indirect employees had estimated earnings of \$38.6 million** (\$24 million direct earnings + \$14.6 million indirect and induced earnings). All earnings values are included in the total value of output; earnings are not in addition to the value of output.

**Denver Zoo provided a total economic benefit of \$88.3 million in the City and County of Denver in 2016, which was produced by 806 workers earning \$38.6 million.**

## II. DENVER ZOO OPERATIONS

**Table 2: Total Economic Benefits of Denver Zoo Operations in the City and County of Denver, 2016**

	Direct Impact	Multiplier	Indirect & Induced Impact	Total Impact
<b>Denver Zoo Operations</b>				
Value of Output (\$M)	\$41.4	1.8665	\$35.9	\$77.3
Earnings (\$M)	\$20.6	1.5922	\$12.2	\$32.8
Employment	450	1.5539	249	699
<b>Private Concessions</b>				
Value of Output (\$M)	\$6.6	1.6678	\$4.4	\$11.0
Earnings (\$M)	\$3.4	1.6917	\$2.4	\$5.8
Employment	80	1.3435	27	107
<b>Total</b>				
Value of Output (\$M)	\$48.0		\$40.3	\$88.3
Earnings (\$M)	\$24.0		\$14.6	\$38.6
Employment	530		276	806

*Source: Development Research Partners, based on multipliers for the City and County of Denver from the U.S. Department of Commerce, Bureau of Economic Analysis, Regional Input-Output Modeling System*

*(RIMS II), 2007 U.S. Benchmark I-O Data and 2015 Regional Data.*

*Calculation Note: Direct x Multiplier = Total Impact*

*Total Impact - Direct Impact = Indirect & Induced Impact*

*Numbers may not add exactly due to rounding.*

### *Scientific and Cultural Facilities District*

- Value of Output:** The direct value of output in the SCFD region is the same as the \$48 million direct economic benefit of Denver Zoo and its private concessions operator in the City and County of Denver. However, the multiplier benefits are larger in the SCFD as more of the Zoo's business-to-business transactions and employee spending activity are captured regionally. The Zoo likely supported \$60.9 million in additional output in all industries throughout the region. This consisted of the value of the local spending of the employees (the induced benefit) and regional-based supplier companies and their employees (the indirect benefit). Therefore, **the total direct and indirect benefit of Denver Zoo was \$108.9 million in total output** (\$48 million direct output + \$60.9 million indirect and induced output), as shown in Table 3.
- Employment:** Denver Zoo and its private concessions operator provided employment for 530 direct workers in 2016. Based on the RIMS II multipliers, the production of the \$60.9 million in indirect and induced output in all industries throughout the SCFD region required about 511 employees. Therefore, **Denver Zoo supported employment of 1,041 regional workers** (530 direct employees and 511 indirect and induced employees).
- Earnings:** The direct economic benefit of earnings of Denver Zoo and its private concessions operator in the SCFD region was an estimated \$24 million. The 511 indirect employees that produced the \$60.9 million in indirect and induced output had associated earnings of about \$27.9 million. In total, **the direct and indirect employees had estimated earnings of \$51.9 million** (\$24 million direct earnings + \$27.9 million indirect and induced earnings). All earnings values are included in the total value of output; earnings are not in addition to the value of output.

## II. DENVER ZOO OPERATIONS

**Denver Zoo provided a total economic benefit of \$108.9 million in the Scientific and Cultural Facilities District in 2016, which was produced by 1,041 workers earning \$51.9 million.**

**Table 3: Total Economic Benefits of Denver Zoo Operations in the Scientific and Cultural Facilities District, 2016**

	Direct Impact	Multiplier	Indirect & Induced Impact	Total Impact
<b>Denver Zoo Operations</b>				
Value of Output (\$M)	\$41.4	2.3097	\$54.2	\$95.6
Earnings (\$M)	\$20.6	2.1310	\$23.3	\$43.9
Employment	450	2.0094	454	904
<b>Private Concessions</b>				
Value of Output (\$M)	\$6.6	2.0141	\$6.7	\$13.3
Earnings (\$M)	\$3.4	2.3295	\$4.6	\$8.0
Employment	80	1.7147	57	137
<b>Total</b>				
Value of Output (\$M)	\$48.0		\$60.9	\$108.9
Earnings (\$M)	\$24.0		\$27.9	\$51.9
Employment	530		511	1,041

*Source: Development Research Partners, based on multipliers for the SCFD region from the U.S. Department of Commerce, Bureau of Economic Analysis, Regional Input-Output Modeling System (RIMS II), 2007 U.S. Benchmark I-O Data and 2013 Regional Data.*

*Calculation Note: Direct x Multiplier = Total Impact*

*Total Impact - Direct Impact = Indirect & Induced Impact*

*Numbers may not add exactly due to rounding.*

### EMPLOYEE SPENDING

When Denver Zoo provides payroll to its employees, their spending activity generates income for many businesses and industries in Denver and the SCFD region. While not estimated in this analysis, employee spending creates sales and property tax revenue for the state and local governments. Employee spending activity represents the first round of the induced impact of Denver Zoo. It should be noted that these impacts are not in addition to the indirect and induced impacts noted above, but are presented as an example of how the multiplier impacts begin to work their way through the economic system.

- While employees will spend some dollars close to their work site, the majority of an individual's spending is generally conducted closer to their place of residence. About 40 percent of Denver Zoo and private concessions employees both live and work in Denver and more than 94 percent live in the SCFD region.

**About 40 percent of Denver Zoo and private concessions employees both live and work in Denver, and more than 94 percent live in the SCFD region.**

## II. DENVER ZOO OPERATIONS

- As indicated in Table 4, wage and salary income for Denver Zoo and private concessions employees totaled about \$22.3 million.<sup>1</sup> Employee income was spent on a number of things including savings, investments, taxes, and goods and services. Based on an analysis of the Consumer Expenditure Survey from the U.S. Bureau of Labor Statistics, individual spending on retail goods represented about 32.6 percent of total income in 2016. Changing spending habits may influence this value over time.
- Of the 32.6 percent of income spent on retail goods, only a portion is likely transacted with Denver and SCFD-based businesses. Based on a retail leakage analysis for Denver and the SCFD region from retail sales data from the Colorado Department of Revenue, the City and County of Denver captured an estimated 73 percent of the employees' retail spending and the SCFD region captured an estimated 80 percent. The retail activity associated with this spending totaled an estimated \$2.2 million in Denver and an estimated \$5.4 million in the SCFD region.
- In addition, employees of Denver Zoo and its private concessions operator supported an estimated \$141.3 million in housing, assuming that the employees spent about one-third of their income on housing and other home affordability assumptions.<sup>2</sup> The value in Denver was an estimated \$42.4 million and the value in the SCFD region was an estimated \$98.9 million.

**Table 4: Denver Zoo Employee Spending Activity, 2016**

	Total	Denver	SCFD
Total Employees			
Denver Zoo Operations	450	181	419
Private Concessionaires	80	32	80
Wage and Salary Income	\$22,347,000	\$9,001,000	\$21,040,000
Retail Sales Activity	\$6,859,000	\$2,167,000	\$5,418,000
Estimated Value of Housing	\$141,316,000	\$42,394,000	\$98,922,000

<sup>1</sup> Note that employee spending activity is based only on wages and salaries. This differs from the direct impact of the value of earnings (\$24 million) discussed in the prior section, which included a portion of the employee benefits.

<sup>2</sup> Home affordability based on 33 percent of income spent on housing, a 5 percent down payment, a 30-year loan term, 4.6 percent annual interest rate, an annual insurance premium as a percent of home value of 0.5 percent, and total mill levy estimated for each employee location. The residential assessment rate is 7.96 percent.

# III. VISITOR SPENDING

Visitor spending represents an additional economic benefit of Denver Zoo. Denver Zoo was the top attraction for visitors to Denver in 2016 based on paid admissions. Denver Zoo is an asset not only for residents of the SCFD region, but also for several hundred thousand visitors from other areas of Colorado and from out-of-state. Another small, but notable, benefit of

**Denver Zoo's attendance topped 2,050,000 in 2016 and has averaged more than 2 million for the past five years**

**Table 5: Denver's Top Visitor Attractions, 2016**

- |   |
|---|
| 1. Denver Zoo                             |
| 2. Red Rocks Park & Amphitheatre          |
| 3. Denver Art Museum                      |
| 4. Denver Botanic Gardens                 |
| 5. Buffalo Bill Museum & Grave            |
| 6. Colorado Rockies                       |
| 7. Denver Museum of Nature & Science/IMAX |
| 8. Downtown Aquarium                      |
| 9. Colorado Railroad Museum               |
| 10. Denver Broncos                        |

Source: VISIT DENVER, 2016 Longwoods Visitor Research Results.  
Note: Based on paid admissions.

Denver Zoo is its Advanced Inquiry Program (AIP) that brings master's degree candidates to Denver for integrated learning opportunities.

Visitors, including attendees and students, benefit both the Denver and regional economies when they make purchases including retail, restaurants, and lodging. This analysis focuses mainly on the benefit of visitors from outside of the SCFD region and visiting students. These visitors are more likely to purchase goods and services as a part of a trip to Denver Zoo. Metro area residents who attend the Zoo likely spend negligible amounts related to a trip to the Zoo that would not have been spent otherwise.

## ANNUAL DIRECT ECONOMIC BENEFITS

- In 2016, Denver Zoo attendance totaled nearly 2,051,000 including normal gate attendance, K-12 students, Zoo Lights, and events. An estimated 1.6 million visitors, about 78 percent of total attendees, were from the SCFD region. Visitors from other areas of Colorado accounted for another 274,000 people and out-of-state visitors comprised about 179,000 people. There were more than 200 visiting AIP students at the Zoo.
- Denver Zoo is likely one of several attractions that people visit when coming to Denver. This analysis assumes that the cost of one meal on the day of a visit to the Zoo was attributed to a Zoo visit for visitors coming from outside of the SCFD region and the state. Based on a per diem rate for one meal in the Denver area from the U.S. General Services Administration of \$17, and assuming half of visitors from outside of the metro area and out-of-state went to restaurants in Denver, the estimated spending on food and drinking services of 453,000 visitors was \$3.8 million. This spending was in addition to any food and beverage spending at the Zoo's concessions, the benefits of which were accounted for in the estimates for the private concessions operator. The



### III. VISITOR SPENDING

spending likely occurred within the City and County of Denver. Therefore, 100 percent of the \$3.8 million was considered a direct economic benefit to Denver and the SCFD region.

- Several of the AIP students came from distant parts of Colorado or from out-of-state and likely utilized lodging while visiting Denver Zoo. These students spent one or two nights and a few days in Denver to complete their coursework. Based on the daily per diem rate of \$69 for the Denver area from the U.S. General Services Administration and an average daily room rate of \$121, the direct economic benefit of Denver Zoo's AIP students was an additional \$13,000 of lodging and non-lodging expenditures in Denver and the SCFD region.
- The direct economic benefit of visitors to Denver Zoo in Denver and the SCFD region was an estimated \$3.9 million in 2016, comprised of \$3.9 million of non-lodging expenditures for food and drinking services and retail and \$7,000 for lodging, as shown in Table 6.
- These benefits occur annually assuming similar visitor attendance.

**Table 6: Direct Economic Benefits of Denver Zoo  
Visitor Spending, 2016**

Estimated Annual Visitors	
Total Zoo Attendance	2,050,819
SCFD Residents	1,598,192
Other Colorado Residents	273,766
Out-of-State Attendees	178,861
Visiting AIP Students	206
Estimated Non-Lodging Expenditures*	\$3,853,000
Estimated Lodging Expenditures	
Room-Nights of Demand	59
Total Lodging Expenditures	\$7,000
<b>Total Direct Economic Benefit</b>	<b>\$3,860,000</b>

*\*Estimates of retail spending adjusted to reflect retail margin after subtracting the cost of goods sold and freight. Also includes spending on non-zoo food and drinking services.*

## TOTAL ANNUAL DIRECT, INDIRECT, AND INDUCED BENEFITS

### *City and County of Denver*

- **Value of Output:** Visitor spending contributed direct economic benefits in the City and County of Denver of \$3.9 million in 2016. Based on the RIMS II multipliers for industries directly benefiting from visitor spending, visitors likely supported \$2.5 million in additional output in all industries throughout Denver. This consisted of the value of the local spending of the employees (the induced benefit) and Denver-based supplier companies and their employees (the indirect benefit). Therefore, **the total direct and indirect benefit of visitor spending was \$6.4 million in total output** (\$3.9 million direct output + \$2.5 million indirect and induced output), as shown in Table 7.

### III. VISITOR SPENDING

- Employment:** Visitor spending provided employment for an estimated 70 direct workers in the City and County of Denver in 2016. Based on the RIMS II multipliers, the production of the \$2.5 million in indirect and induced output in all industries throughout Denver required about 13 employees. Therefore, **visitor spending supported estimated employment of 83 workers** (70 direct employees + 13 indirect and induced employees).
- Earnings:** The 70 employees directly supported by visitor spending in Denver had estimated earnings of \$1.1 million in 2016. This included the value of wages and salaries for the employees as well as a portion of employee benefits. Based on the relationships revealed through the RIMS II multipliers, the 13 indirect employees that produced the \$2.5 million in indirect and induced output had associated earnings of about \$506,000. In total, **the direct and indirect employees had estimated earnings of \$1.6 million** (\$1.1 million direct earnings + \$0.5 million indirect and induced earnings). All earnings values are included in the total value of output; earnings are not in addition to the value of output.

**Denver Zoo’s visitors provided a total economic benefit of \$6.4 million in the City and County of Denver in 2016, which was produced by 83 workers earning \$1.6 million.**

**Table 7: Total Economic Benefits of Denver Zoo  
Visitor Spending in the City and County of Denver, 2016**

	Direct Impact	Multiplier	Indirect & Induced Impact	Total Impact
<b>Non-Lodging Expenditures</b>				
Value of Output (\$M)	\$3.9	1.6563	\$2.5	\$6.4
Earnings (\$M)	\$1.1	1.4417	\$0.5	\$1.6
Employment	70	1.1825	13	83
<b>Lodging Expenditures</b>				
Value of Output (\$M)	\$0.0	1.5694	\$0.0	\$0.0
Earnings (\$M)	\$0.0	1.4526	\$0.0	\$0.0
Employment	0	1.3061	0	0
<b>Total</b>				
Value of Output (\$M)	\$3.9		\$2.5	\$6.4
Earnings (\$M)	\$1.1		\$0.5	\$1.6
Employment	70		13	83

*Source: Development Research Partners, based on multipliers for the City and County of Denver from the U.S. Department of Commerce, Bureau of Economic Analysis, Regional Input-Output Modeling System (RIMS II), 2007 U.S. Benchmark I-O Data and 2015 Regional Data.*

*Calculation Note: Direct x Multiplier = Total Impact*

*Total Impact - Direct Impact = Indirect & Induced Impact*

*Numbers may not add exactly due to rounding.*

#### **Scientific and Cultural Facilities District**

- Value of Output:** Visitor spending contributed direct economic benefits in the SCFD region of \$3.9 million in 2016. Based on the RIMS II multipliers, visitors likely supported \$3.9 million in additional output in all industries throughout the region. This consisted of the value of the local spending of the employees (the

### III. VISITOR SPENDING

induced benefit) and regional-based supplier companies and their employees (the indirect benefit). Therefore, **the total direct and indirect benefit of visitor spending was \$7.8 million in total output** (\$3.9 million direct output + \$3.9 million indirect and induced output), as shown in Table 8.

- **Employment:** Visitor spending provided employment for an estimated 70 direct workers in the SCFD region in 2016. Based on the RIMS II multipliers, the production of the \$3.9 million in indirect and induced output in all industries throughout the region required about 30 employees. Therefore, **visitor spending supported estimated employment of 100 workers** (70 direct employees + 30 indirect and induced employees).
- **Earnings:** The 70 employees directly supported by visitor spending in the SCFD region had estimated earnings of \$1.1 million in 2016. Based on the RIMS II multipliers, the 30 indirect employees that produced the \$3.9 million in indirect and induced output had associated earnings of about \$1.1 million. In total, **the direct and indirect employees had estimated earnings of \$2.2 million** (\$1.1 million direct earnings + \$1.1 million indirect and induced earnings). All earnings values are included in the total value of output; earnings are not in addition to the value of output.

**Denver Zoo’s visitors provided a total economic benefit of \$7.8 million in the Scientific and Cultural Facilities District in 2016, which was produced by 100 workers earning \$2.2 million.**

**Table 8: Total Economic Benefits of Denver Zoo Visitor Spending in the Scientific and Cultural Facilities District, 2016**

	Direct Impact	Multiplier	Indirect & Induced Impact	Total Impact
<b>Non-Lodging Expenditures</b>				
Value of Output (\$M)	\$3.9	2.0187	\$3.9	\$7.8
Earnings (\$M)	\$1.1	1.9663	\$1.1	\$2.2
Employment	70	1.4218	30	100
<b>Lodging Expenditures</b>				
Value of Output (\$M)	\$0.0	1.9117	\$0.0	\$0.0
Earnings (\$M)	\$0.0	1.9720	\$0.0	\$0.0
Employment	0	1.7344	0	0
<b>Total</b>				
Value of Output (\$M)	\$3.9		\$3.9	\$7.8
Earnings (\$M)	\$1.1		\$1.1	\$2.2
Employment	70		30	100

*Source: Development Research Partners, based on multipliers for the SCFD region from the U.S. Department of Commerce, Bureau of Economic Analysis, Regional Input-Output Modeling System (RIMS II), 2007 U.S. Benchmark I-O Data and 2013 Regional Data.*

*Calculation Note: Direct x Multiplier = Total Impact*

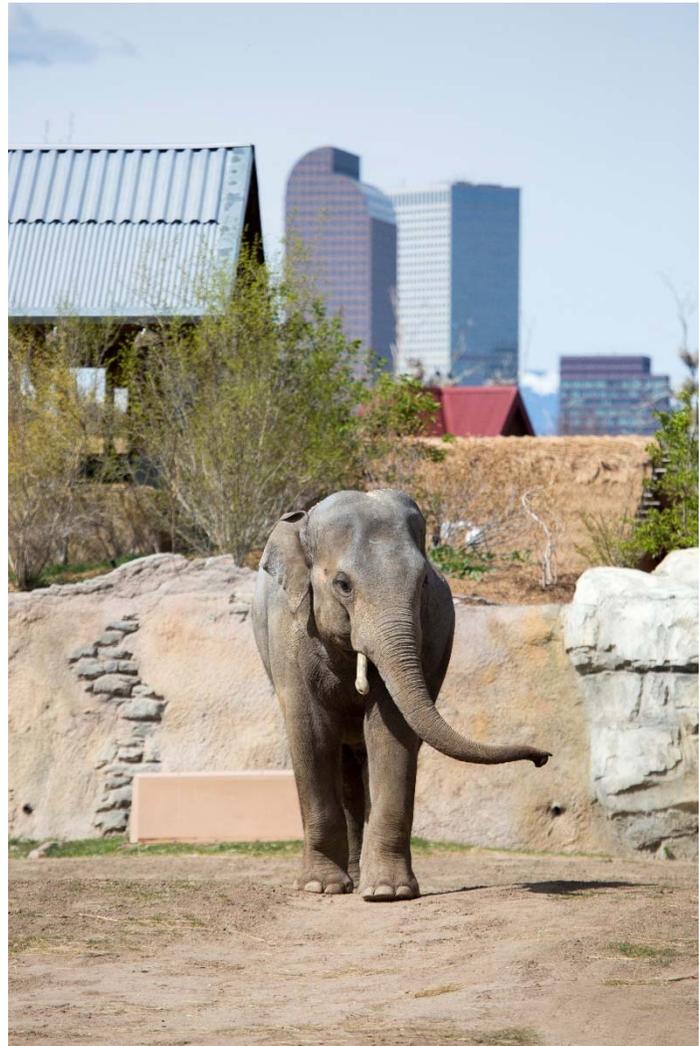
*Total Impact - Direct Impact = Indirect & Induced Impact*

*Numbers may not add exactly due to rounding.*

## IV. CONSTRUCTION ACTIVITY

Denver Zoo continually invests in exhibits and facilities to ensure high-quality of care for the animals and to engage guests. Recent examples include the \$54 million *Toyota Elephant Passage* and *The Edge*, a \$3.2 million tiger exhibit. Denver Zoo utilizes both private and public resources to fund these unique projects. For *Toyota Elephant Passage*, an estimated \$29 million was from private sources. Public funding comes from sources such as bond proceeds through the City and County of Denver. During the next several years, Denver Zoo estimates it will invest a minimum of \$35 million (public and private dollars) for projects that include a new animal hospital and necessary improvements to the Northern Shores exhibit, home to seals, sea lions, and polar bears.

These large projects provide additional, but temporary, economic benefits to the City and County of Denver and SCFD region. Construction benefits include expenditures on construction labor, construction materials, and project soft costs such as construction management, design, and engineering. This section of the report projects the potential economic benefits of Denver Zoo's planned capital spending during the next five years. It should be noted that funding, plans, and project scope are fluid and have yet to be finalized. The benefits reported in this study depend on current projections and assumptions for the projects.



### DIRECT ECONOMIC BENEFITS

- Construction materials and equipment will comprise an estimated 50 percent of Denver Zoo's projected construction activity, or about \$17.5 million. However, not all of this spending will be transacted with suppliers based in the City and County of Denver and the SCFD region. Based on an analysis of potential local business activity, an estimated \$14 million will be transacted with SCFD-based suppliers, including an estimated \$7 million in the City and County of Denver.
- Soft costs, such as project management, design, and engineering will comprise an estimated 15 percent of the projected construction activity, or about \$5.3 million. Through the years, Denver Zoo has worked with numerous metro Denver-based contractors and consultants for its projects. Based on an analysis of potential local business activity, an estimated \$4.2 million of the project soft costs will be contracted with SCFD region-based firms, including an estimated \$1 million in the City and County of Denver.
- Construction labor will comprise an estimated 35 percent of the projected construction activity, or about \$12.3 million. The direct economic benefit of construction worker earnings is based on local and regional

## IV. CONSTRUCTION ACTIVITY

construction occupations from U.S. Census Bureau data, and compensation data from the U.S. Bureau of Labor Statistics, National Compensation Survey. Based on Census data, an estimated 80 percent of the construction workers will likely come from the SCFD region, and an estimated 24 percent from the City and County of Denver. In order to calculate the local benefit of compensation, employee benefits were adjusted to identify only that spending that will likely benefit the local economy directly. Data indicates that employee benefits represent about 30 percent of the compensation for construction labor. Further, an estimated 35 percent of those benefits will likely be captured locally. Overall, the direct benefit of construction earnings in the SCFD region will be an estimated \$7.9 million in the SCFD region, including \$2.3 million in the City and County of Denver.



- Based on estimated wages and salaries for construction workers in the metro Denver area from the Colorado Department of Labor and Employment, Denver Zoo's projected construction activity will support an estimated 140 full-time equivalent construction workers.<sup>3</sup> The direct employment benefit for the SCFD region will be an estimated 112 workers, including 31 workers from the City and County of Denver.
- The direct economic benefit of Denver Zoo's projected construction activity in the SCFD region will be an estimated \$26.1 million, including \$10.3 million in the City and County of Denver.
- These benefits are temporary, occurring only during the construction period.

**Table 9: Direct Economic Benefits of Denver Zoo  
Construction Activity, 2018-2022**

	Total Spending	Direct Benefits	
		Denver	SCFD
Construction Materials	\$17,500,000	\$7,012,000	\$14,000,000
Soft Costs	\$5,250,000	\$1,014,000	\$4,200,000
Employee Compensation			
Wages and Salaries	\$8,575,000	\$2,015,000	\$6,860,000
Employee Benefits	\$3,675,000	\$302,000	\$1,029,000
<b>Total</b>	<b>\$35,000,000</b>	<b>\$10,343,000</b>	<b>\$26,089,000</b>
Employment	140	31	112

## TOTAL DIRECT, INDIRECT, AND INDUCED BENEFITS

### *City and County of Denver*

- **Value of Output:** Projected construction activity at Denver Zoo will contribute to direct economic benefits in the City and County of Denver of an estimated \$10.3 million. Based on the RIMS II multipliers for the construction industry in the county, construction activity will likely support \$4.5 million in additional output in all industries throughout Denver. This consists of the value of the local spending of the employees (the induced benefit) and Denver-based supplier companies and their employees (the indirect benefit). Therefore,

<sup>3</sup> A full-time equivalent construction worker is defined as one worker working full time for one year.

## IV. CONSTRUCTION ACTIVITY

**the total direct and indirect benefit will be an estimated \$14.8 million in total output** (\$10.3 million direct output + \$4.5 million indirect and induced output), as shown in Table 10.

- Employment:** Projected construction spending will support an estimated 31 full-time equivalent workers in Denver during the course of the project. Based on the RIMS II multipliers, the production of the \$4.5 million in indirect and induced output in all industries throughout the City and County of Denver will require about 13 employees. Therefore, **Denver Zoo’s planned projects will support an estimated 44 workers** (31 direct employees + 13 indirect and induced employees).
- Earnings:** The direct construction workers from Denver will have estimated earnings of \$2.3 million. This includes the value of wages and salaries for the employees as well as a portion of employee benefits. Based on the relationships revealed through the RIMS II multipliers, the 13 indirect employees that will produce the \$4.5 million in indirect and induced output will have associated earnings of about \$734,000. In total, **the direct and indirect employees that will be supported by the construction activity will have estimated earnings of \$3 million** (\$2.3 million direct earnings + \$0.7 million indirect and induced earnings). All earnings values are included in the total value of output; earnings are not in addition to the value of output.

**Projected construction activity at Denver Zoo will have a total economic benefit of \$14.8 million in the City and County of Denver, produced by 44 workers earning \$3 million.**

**Table 10: Total Economic Benefits of Planned Denver Zoo  
Construction Activity in the City and County of Denver, 2018-2022**

	Direct Impact	Multiplier	Indirect & Induced Impact	Total Impact
Value of Output (\$M)	\$10.3	1.4311	\$4.5	\$14.8
Earnings (\$M)	\$2.3	1.3169	\$0.7	\$3.0
Employment	31	1.4106	13	44

*Source: Development Research Partners, based on multipliers for the City and County of Denver from the U.S. Department of Commerce, Bureau of Economic Analysis, Regional Input-Output Modeling System (RIMS II), 2007 U.S. Benchmark I-O Data and 2015 Regional Data.*

*Calculation Note: Direct x Multiplier = Total Impact*

*Total Impact - Direct Impact = Indirect & Induced Impact*

*Numbers may not add exactly due to rounding.*

### Scientific and Cultural Facilities District

- Value of Output:** Projected construction activity at Denver Zoo will contribute to direct economic benefits in the SCFD region of an estimated \$26.1 million. This activity in the SCFD region will likely support \$26.8 million in additional output in all industries throughout the region. This consists of the value of the local spending of the employees (the induced benefit) and regional-based supplier companies and their employees (the indirect benefit). Therefore, **the total direct and indirect benefit will be an estimated \$52.9 million in total output** (\$26.1 million direct output + \$26.8 million indirect and induced output), as shown in Table 11.
- Employment:** Projected construction spending will support an estimated 112 full-time equivalent workers in the SCFD region during the course of the project. Based on the RIMS II multipliers, the production of the \$26.8 million in indirect and induced output in all industries throughout the SCFD region will require about 95

## IV. CONSTRUCTION ACTIVITY

employees. Therefore, **Denver Zoo's planned projects will support an estimated 207 workers** (112 direct employees and 95 indirect and induced employees).

- Earnings:** The direct construction workers from the SCFD region will have estimated earnings of \$7.9 million. Based on the RIMS II multipliers, the 95 indirect employees that will produce the \$26.8 million in indirect and induced output will have associated earnings of about \$5.1 million. In total, **the direct and indirect employees will have estimated earnings of \$13 million** (\$7.9 million direct earnings + \$5.1 million indirect and induced earnings). All earnings values are included in the total value of output; earnings are not in addition to the value of output.

**Projected construction activity at Denver Zoo will have a total economic benefit of \$52.9 million in the Scientific and Cultural Facilities District, produced by 207 workers earning \$13 million.**

**Table 11: Total Economic Benefits of Planned Denver Zoo Construction Activity in the Scientific and Cultural Facilities District, 2018-2022**

	Direct Impact	Multiplier	Indirect & Induced Impact	Total Impact
Value of Output (\$M)	\$26.1	2.0283	\$26.8	\$52.9
Earnings (\$M)	\$7.9	1.6443	\$5.1	\$13.0
Employment	112	1.8435	95	207

*Source: Development Research Partners, based on multipliers for the SCFD region from the U.S. Department of Commerce, Bureau of Economic Analysis, Regional Input-Output Modeling System (RIMS II), 2007 U.S. Benchmark I-O Data and 2013 Regional Data.*

*Calculation Note: Direct x Multiplier = Total Impact*

*Total Impact - Direct Impact = Indirect & Induced Impact*

*Numbers may not add exactly due to rounding.*



Denver Zoo is an important cultural asset and economic driver in the City and County of Denver and the SCFD region. The Zoo provides employment for several hundred residents of the SCFD region and the Zoo's private concessions operations provide employment for several hundred more. The Zoo benefits local businesses and residents not only through its business operations, but as a top attraction in the metro area that brings hundreds of thousands of visitors from outside of the SCFD region to Denver. The spending patterns associated with this direct spending activity have spin-off effects, or multiplicative impacts, throughout the Zoo's home county and the regional economy. The economic benefits described throughout this report are combined to estimate the overall annual economic benefits of the Zoo's operations and the benefits of planned construction activity.

### ANNUAL OPERATIONS

This analysis is based on 2016 business operations and employee patterns. However, the estimated economic benefits are likely to occur annually assuming similar business conditions.

#### *City and County of Denver*

- In 2016, the direct economic benefits of Denver Zoo in the City and County of Denver, including all Zoo operations and visitor spending, were an estimated \$51.9 million produced by 600 workers earning \$25.1 million. The 600 direct employees consisted of 450 Denver Zoo employees, 80 private concessions employees, and 70 workers supported by visitor spending. Through the multiplier effects of this direct spending, Denver Zoo likely supported an additional \$42.8 million of output in all industries in Denver produced by 289 indirect workers earning \$15.1 million.
- **The total economic benefits of Denver Zoo in the City and County of Denver were an estimated \$94.7 million in total output produced by 889 workers earning \$40.2 million.**

#### *Scientific and Cultural Facilities District*

- The direct economic benefits of Denver Zoo in the SCFD region were the same as in the City and County of Denver. However, the multiplier benefits are larger in the SCFD as more of the Zoo's business-to-business transactions, employees, and visitor spending activity are captured regionally. Through the multiplier effects of this direct spending, Denver Zoo likely supported an additional \$64.8 million of output in all industries in the SCFD produced by 541 indirect workers earning \$29 million.
- **The total economic benefits of Denver Zoo in the SCFD were an estimated \$116.7 million in total output produced by 1,141 workers earning \$54.1 million.**

**Table 12: Total Economic Benefits of Denver Zoo's Annual Operations, 2016**

	City and County of Denver			Scientific and Cultural Facilities District		
	Direct Impact	Indirect & Induced Impact	Total Impact	Direct Impact	Indirect & Induced Impact	Total Impact
<b>Denver Zoo Operations</b>						
Value of Output (\$M)	\$48.0	\$40.3	\$88.3	\$48.0	\$60.9	\$108.9
Earnings (\$M)	\$24.0	\$14.6	\$38.6	\$24.0	\$27.9	\$51.9
Employment	530	276	806	530	511	1,041
<b>Visitor Spending</b>						
Value of Output (\$M)	\$3.9	\$2.5	\$6.4	\$3.9	\$3.9	\$7.8
Earnings (\$M)	\$1.1	\$0.5	\$1.6	\$1.1	\$1.1	\$2.2
Employment	70	13	83	70	30	100
<b>Total</b>						
<b>Value of Output (\$M)</b>	<b>\$51.9</b>	<b>\$42.8</b>	<b>\$94.7</b>	<b>\$51.9</b>	<b>\$64.8</b>	<b>\$116.7</b>
<b>Earnings (\$M)</b>	<b>\$25.1</b>	<b>\$15.1</b>	<b>\$40.2</b>	<b>\$25.1</b>	<b>\$29.0</b>	<b>\$54.1</b>
<b>Employment</b>	<b>600</b>	<b>289</b>	<b>889</b>	<b>600</b>	<b>541</b>	<b>1,141</b>

Source: Development Research Partners, based on multipliers for the City and County of Denver and SCFD region from the U.S. Department of Commerce, Bureau of Economic Analysis, Regional Input-Output Modeling System (RIMS II), 2007 U.S. Benchmark I-O Data and 2013-2015 Regional Data.

## CONSTRUCTION ACTIVITY

Construction activity provides temporary economic benefits occurring only in those years in which construction activity occurs. Construction activity at Denver Zoo varies by year. The following analysis estimates the benefits of future, planned capital improvement projects during the years 2018 to 2022.

### *City and County of Denver*

- The direct economic benefits of Denver Zoo's planned construction activity in the City and County of Denver during the next five years will be an estimated \$10.3 million produced by 31 construction workers earning \$2.3 million. Through the multiplier effects of this direct spending, Denver Zoo will likely support an additional \$4.5 million of output in all industries in Denver, produced by 13 indirect workers earning \$734,000.
- The total economic benefits of Denver Zoo's planned construction activity in the City and County of Denver will be an estimated \$14.8 million in total output produced by 44 workers earning \$3 million.**

### *Scientific and Cultural Facilities District*

- The direct economic benefits of Denver Zoo's planned construction activity in the SCFD region during the next five years will be an estimated \$26.1 million produced by 112 construction workers earning \$7.9 million. Through the multiplier effects of this direct spending, Denver Zoo will likely support an additional \$26.8 million of output in all industries in the region, produced by 95 indirect workers earning \$5.1 million.
- The total economic benefits of Denver Zoo's planned construction activity in the SCFD region will be an estimated \$52.9 million in total output produced by 207 workers earning \$13 million.**

**Table 13: Total Economic Benefits of Planned Denver Zoo Construction Activity, 2018-2022**

	City and County of Denver			Scientific and Cultural Facilities District		
	Direct Impact	Induced Impact	Total Impact	Direct Impact	Induced Impact	Total Impact
Value of Output (\$M)	\$10.3	\$4.5	\$14.8	\$26.1	\$26.8	\$52.9
Earnings (\$M)	\$2.3	\$0.7	\$3.0	\$7.9	\$5.1	\$13.0
Employment	31	13	44	112	95	207

*Source: Development Research Partners, based on multipliers for the City and County of Denver and SCFD region from the U.S. Department of Commerce, Bureau of Economic Analysis, Regional Input-Output Modeling System (RIMS II), 2007 U.S. Benchmark I-O Data and 2013-2015 Regional Data.*

Denver Zoo is a cultural treasure for the City and County of Denver and the larger Scientific and Cultural Facilities District, but its reach and importance stretches far beyond these local boundaries. Denver Zoo enhances animal welfare, serves a global conservation mission, and educates visitors and students on the world’s animals. Further, Denver Zoo contributes millions of dollars to the local economy through its business-to-business spending and large employment base.



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