

ECONOMIC IMPACT ANALYSIS

of the Detroit Zoo

April 21, 2023



DETROIT ZOO
DETROIT ZOOLOGICAL SOCIETY

CSL



April 21, 2023

Mr. Robert Schumaker
Chief Financial Officer & VP of Finance
Detroit Zoological Society
8450 West 10 Mile Road
Royal Oak, MI 48067

Dear Mr. Schumaker:

We have completed the study process and preparation of an updated analysis of the economic impacts associated with the Detroit Zoo (Zoo). Over the past several weeks, CSL has worked closely with Detroit Zoological Society (DZS) leadership and staff in conducting research into the many ways in which the operations of the Zoo provide a quantifiable economic impact locally and throughout the state of Michigan.

The generation of economic impacts associated with the Zoo requires the coordinated effort of the highly qualified Zoo staff and management team, the public sector (through support in funding Zoo operations), the private sector (through vendors and suppliers working with the Zoo), and the thousands of volunteers that provide an invaluable service to a highly valued community asset. The purpose of this study is to develop an impact model using conservative assumptions in order to present supportable estimates of community-wide benefits associated with the Detroit Zoo.

We sincerely appreciate the assistance and cooperation we have been provided in the completion of this report and would be pleased to be of further assistance in the interpretation and application of our findings.

Very truly yours,

A handwritten signature in black ink that reads 'CSL International' in a cursive, flowing script.

CSL International



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1 PROJECT INTRODUCTION

Introduction & Background

Opened in 1928, the Detroit Zoo is operated by the Detroit Zoological Society (DZS). Nearly 300 full and part-time employees work at the Zoo – and more than 1,000 volunteers donate in excess of 100,000 hours of their time on an annual basis at the campus located in Royal Oak, Michigan.

Designated as one of Michigan's top visitor attractions, The Zoo has seen an average of more than 1.3 million guests per year, for the past 25 years, pass through its gates. More than 2,000 animals and 200 different species call the Zoo home, and a variety of world-class habitats, including the Polk Penguin Conservation Center, Arctic Ring of Life and Australian Outback Adventure, are spread across the Zoo's 125 acres. The soon-to-be completed KidZone, a proposed 7-acre site devoted to play, discovery, engagement and building meaningful connections between children and the natural world, is under development right now as well.

The Zoo has officially bounced back to pre-pandemic attendance numbers, welcoming just over 1.2 million guests in 2022. Attendance dropped significantly during the COVID-19 pandemic, falling to just over 516,000 guests in 2020 – a 61% decrease from the 1.3 million guests in 2019. This was mostly due to the Zoo closing to the general public in early March 2020 and not reopening until the first week of June of that year. Upon reopening, the Zoo operated with significantly reduced capacity limitations – limitations that were in place through early 2022.

Attendance numbers bounced back slightly in 2021, when we welcomed just over 960,000 guests to the Zoo, but it wasn't until last year we saw attendance start to rise back to pre-pandemic levels.

Our total revenue decreased significantly during the COVID-19 pandemic as well. In 2020, we ended the year with \$28 million in total revenue, down from almost \$43 million in 2019. Earned revenue, which consists of admission fees, parking, concessions, attractions and events, dropped from \$21.6 million in 2019 to \$9.3 million in 2020, a 57% decrease.

CSL has been closely working with DZS leadership to conduct extensive research into the many ways in which the Detroit Zoo serves as a vital community asset and helps support the generation of significant economic impacts within the community. This analysis builds on a previously conducted analysis by CSL in which we evaluated the economic impacts of the Detroit Zoo in 2019. This current effort seeks to update these impacts for the four-year period spanning 2019 through 2022, as well as provide high-level forecasts for the following three-year period spanning from 2023 through 2025.



1 PROJECT INTRODUCTION

In order to improve the attendee experience, draw new visitors, and enhance its overall economic impact, Zoo leaders have continued to make significant investments throughout the campus since CSL's previous study. Totalling nearly \$38 million, these projects have added to, and will continue to, improve the Zoo's habitats and visitor experiences. A summary of the ongoing efforts to build on the Zoo's success is presented below.

Summary of Recent Detroit Zoo Investments (2018-2023)

2018 Highlights

To expand its culinary offerings and deepen its ties to the region, the DZS partnered with Buddy's Pizza to open a Buddy's restaurant at the Zoo. The \$1.3 million facility, which opened in October, seats 155 guests and also features a 75-seat rooftop deck that provides incredible views of the Zoo's grounds.

2019 Highlights

Featuring a new water pool with recirculation system, deadfall and activity logs and a new landscape with Michigan-hardy plants, construction on the Devereaux Tiger Forest started in late 2018 and tripled the size of the original tiger habitat. Part of the \$4 million project called for remodeling of the habitat's public viewing and landscape areas – and also included the addition of two acrylic viewing shelters and a unique, safari vehicle experience.

2020 Highlights

Improvements were made to the Polk Penguin Conservation Center, including new flooring and ventilation upgrades, that cost approximately \$1 million. Additional security upgrades, such as extra perimeter fencing, additional cameras and more access control systems, were also made and totaled about \$500,000.

2021 Highlights

A renovation of Detroit's Belle Isle Nature Center, also operated by the DZS, began in mid-2021. This \$2.5 million project included new animal habitats, child-friendly interactive experiences and a new bird viewing window. Paving and pathway improvements, costing approximately \$750,000, were completed at the Detroit Zoo.

2022 Highlights

The Belle Isle Nature Center project was completed in September 2022. New pedestrian pathways at the Zoo's Arctic Ring of Life were completed at a cost of \$500,000, and additional infrastructure upgrades like pathways, fencing and HVAC, totaling about \$1.5 million, were made as well.

2023 and Beyond

Planning began for KidZone, a 7 acre site spanning from the current barnyard to the Rackham Fountain entrance. This \$22 million landmark capital project will show children how they impact the world around them through one-of-a-kind animal habitats in the Animal Zone, unique recreational opportunities in the Play Zone and relaxing spaces to recharge in the Gathering Zone. From wheelchair-accessible tree canopy play to multi-lingual signage, KidZone will be an inclusive, accessible space where every child belongs and every child matters. Construction will begin in 2023, with an expected opening date of Spring 2025.

The remainder of this report document presents the methodology, analysis, results and takeaways of the economic impact study of the Detroit Zoo.

2 DETROIT ZOO IMPACT ANALYSIS

The purpose of this section of the analysis is to summarize the findings and supporting research with respect to the quantifiable economic impacts of the operation and investment in the Detroit Zoo over the nine year-period spanning 2014 through 2022, as well as provide high-level forecasts of impacts for the following three-year period of 2023 through 2025. We have worked closely with DZS staff to develop an understanding of the various financial operating and patron spending sources that comprise economic impact. Spending generated by Zoo operations and vendors has been taken from various audited financial reports. In conducting this analysis, we have measured the economic impacts generated from three specific Zoo-related sources as described below.

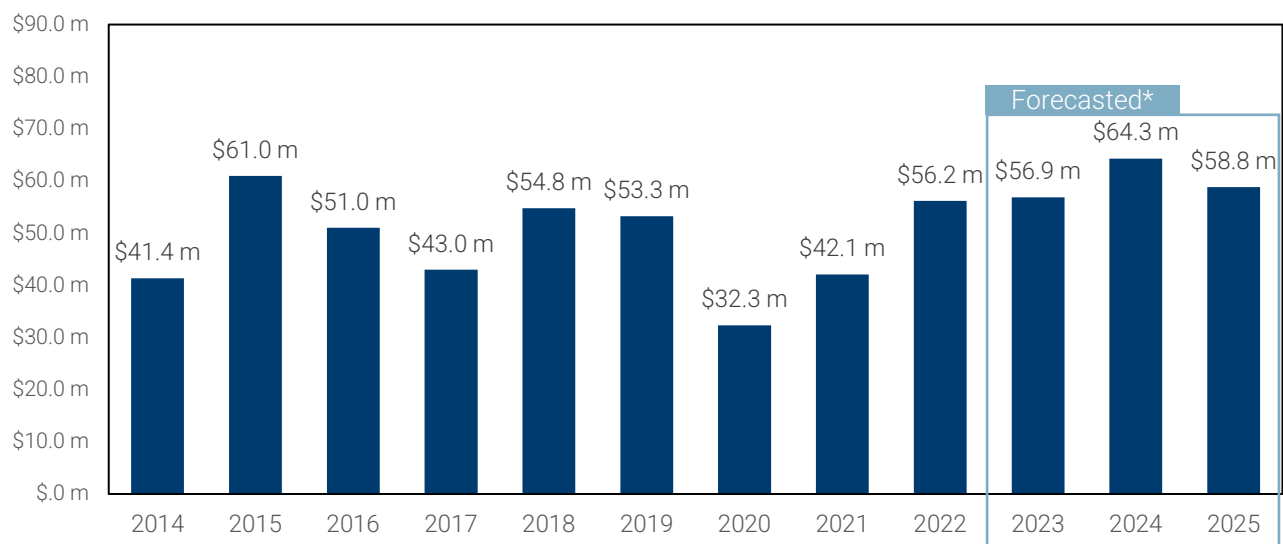
- **ZOO FINANCIAL OPERATIONS** – includes all expenditures made to operate the Zoo.
- **ZOO VENDOR SPENDING** – includes the expenditures made by the Zoo’s third-party food/beverage and gift shop vendor that are not included in Zoo’s financial statements.
- **ZOO VISITOR SPENDING** – includes only spending taking place outside the Zoo. Any spending that takes place inside the Zoo is accounted for in the Zoo financial operations.

A summary of key assumptions and resulting impacts associated with each of these sources is presented throughout the remainder of this section.

2.1 Zoo Financial Operations

Each year, the Zoo spends millions of dollars on labor, services, supplies, equipment, conservation, marketing, utilities, insurance, large-scale capital improvement projects and other such expenses. This spending creates significant impacts on the community and the region. As part of this analysis, we have reviewed the financial operations for the Detroit Zoo over the past several years. A summary of DZS expenditures between 2014 and 2022 is presented below, with budgeted expenses for 2023 through 2025 included as well.

Summary of DZS Operating Expenses
(2014-2025)



* - forecasted figures based on budget data provided by DZS management.

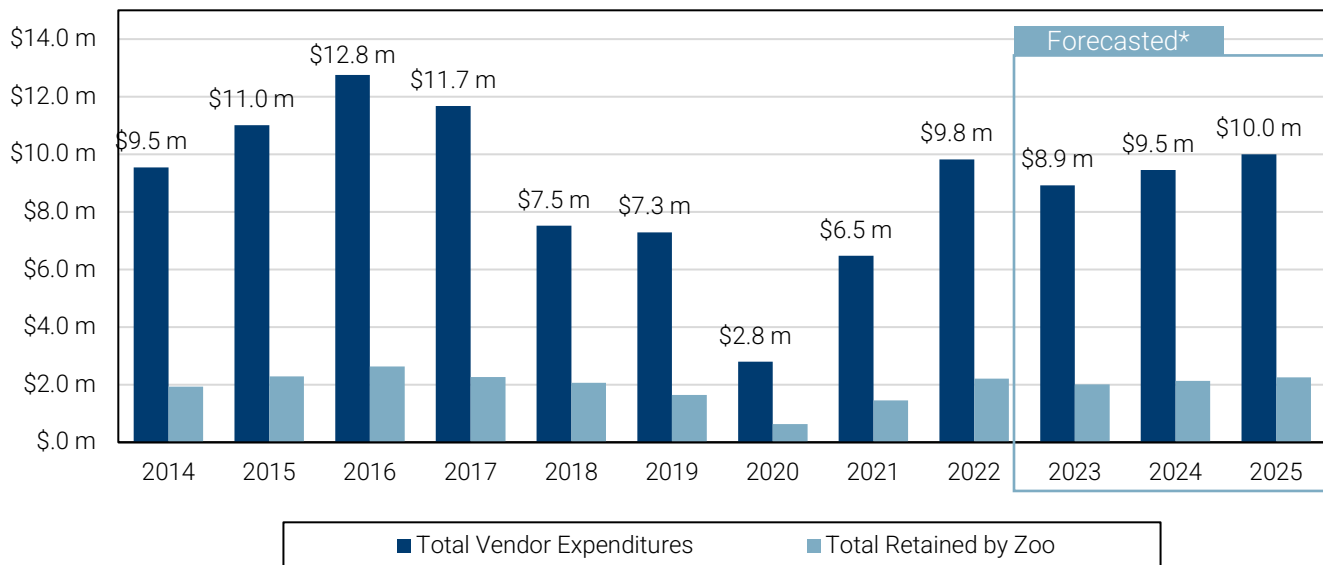
As presented, total DZS expenditures have ranged from a low of approximately \$41 million in 2014 to a high of more than \$61 million in 2015. It is important to note that figures for 2015 include nearly \$25 million in capital improvement spending, largely representing investment in the development of the Polk Penguin Conservation Center. These expenses are supported primarily by operating revenue generated from visitor purchases at the Zoo. In addition, public sector support is provided to ensure that the Zoo remains a highly professional entertainment and educational asset for the community. These financial operating data are applied to economic impact multipliers, as discussed later in this section.

2 DETROIT ZOO IMPACT ANALYSIS

2.2 Vendor Spending

The Zoo has a contract with Service Systems Associates, Inc. (SSA), a third-party vendor, to exclusively provide a number of ancillary services including the operations of its concessions, catering and gift shop facilities. Over the past nine years, SSA has generated nearly \$79 million in total revenue from these services. The table below summarizes annual vendor revenue between 2014 and 2022, as well as CSL-developed forecasts of vendor revenue that are based on historical correlation between attendance and vendor performance. Data has been segmented into total vendor expenditures and the total amount that is retained by the Zoo.

Summary of DZS Vendor Revenue
(2014-2025)



* - forecasted figures based on budget data provided by DZS management.

As noted above, prior to COVID, SSA generated between \$7.3 and \$12.8 million in spending each year related to its provision of food, beverage, gift shop and other services for the DZS. During 2020 and 2021, two years significantly impacted by the COVID-19 pandemic, vendor revenue dropped to \$2.8 and \$6.5 million, respectively. Revenue then rebounded to \$9.8 million in 2022 and is anticipated to range between \$8.9 million and \$10 million over the next three years.

Of this total vendor revenue, the Zoo retains an average of approximately 23 percent, or between \$1.8 and \$2.6 million per year (excluding 2020 and 2021). These dollars are included in the Zoo's financial statements. However, the remaining spending is not accounted for in the Zoo financials and is presented separately as vendor spending in calculating overall Zoo impacts. This value ranged from \$7.6 to \$10.1 million per year between 2014 and 2019 and is estimated to range from \$6.9 million to \$7.7 million between 2023 and 2025.

2 DETROIT ZOO IMPACT ANALYSIS

2.3 Visitor Spending

Each year the Detroit Zoo attracts more than one million visitors from within the community, throughout the state of Michigan and across both the United States and Canada. Based on information provided by the DZS, we have summarized Zoo attendance over the nine-year period spanning 2014 through 2022, as well as forecasted attendance provided by DZS management for 2023 through 2025.



Over the past nine years, the Zoo has attracted just over 11.5 million visitors, or an average of approximately 1.3 million annual attendees. Excluding the down years in 2020 and 2021, this annual average increases to just over 1.4 million. As shown, the COVID-19 pandemic and crowd capacity limitations that were in place for much of 2020 and 2021 had a significant, negative impact on attendance at the Zoo. Attendance mostly rebounded to pre-Pandemic levels in 2022 (approximately 85 percent of the 2014-2019 average) and preliminary forecasts expect a gradual continuation of this trend.

The number of Zoo visitors reached a high of nearly 1.7 million guests in 2016, with the opening of the Polk Penguin Conservation Center. As expected by facility management, visitation has decreased after an initial “novelty” period. It is likely that KidZone will have a similar impact on annual attendance as well, which is forecasted to grow from just under 1.3 million to eventually about 1.4 million.

Based on zip code data regularly compiled by the Zoo’s ticketing system, we have assumed that approximately 75 percent of visitors come from within the tri-county, metro Detroit area (Oakland, Wayne and Macomb counties). Approximately 15 percent of visitors are from outside these three counties, but live within the state of Michigan, and an additional 10 percent of visitors are from outside of Michigan.

2 DETROIT ZOO IMPACT ANALYSIS

Calculation of Direct Spending

By attracting visitors, the ongoing operation of the Zoo generates direct spending that affects the area's broader economy. In order to estimate this spending, we have developed a unique model to incorporate various performance measures associated with Zoo operations, including attendance, visitor origination (local, regional and national), and assumptions for per-person spending outside the Zoo.

The impact analysis is based in part on assumptions with respect to per-person spending within a variety of industry sectors including lodging, food and beverage, fuel and other such expenditures. These assumptions focus on the percentage of visitors who make purchases outside of the Zoo, paired with the value of these purchases. The spending data was derived from estimates provided by Zoo management and CSL's extensive experience as attraction and destination consultants – in addition to reviews of similar economic impact estimates prepared for comparable zoo, aquarium and nature center attractions across the United States. Furthermore, the assumptions used in this analysis have been developed in conjunction with DZS representatives and consider our 2013 and 2018 analyses of the economic impacts of the Detroit Zoo, the 2022 economic impact analysis of a prospective venture in metro Detroit, and our own past economic impact research for the Detroit Riverfront and associated events and activities.



Sources of Visitor Spending

Outside the Zoo itself, additional direct spending will be generated in city, county and regional areas by visitors, members and event attendees on lodging, food and beverages, retail, entertainment, transportation, and other such items in connection with their visit to the area.

The following assumptions have been made in quantifying Zoo-related direct spending. These assumptions are segmented by three visitor origination profiles: Local, State and Out-of-State. Estimates for visitation by origination were prepared in collaboration with DZS representatives and in high-level reviews of similar facilities' attendance locally and nationally.



Local Visitors

From the Detroit metropolitan area

- 35 percent will go to restaurants outside the Zoo, average spend of \$25.30 per person.
- Other spending (entertainment, retail, etc.) accounts for \$2.25 per person.
- The resulting total spending per person for this category is \$11.11 per person.

75%
of
overall
visitation



State Visitors

From outside the Detroit metropolitan area residing in Michigan

- Visitors spend approximately two days and two nights in the market.
- 50 percent visit restaurants outside the Zoo, spending an average of \$31 per person per day.
- 60 percent purchase fuel at \$56 per tank with three people per party.
- 25 percent stay at hotels and pay an average nightly rate of \$186.72 (three people per party).
- Other spending (entertainment, retail, etc.) accounts for \$4.00 per person.
- The resulting total spending per person for this category is \$77.32 per person.

15%
of
overall
visitation



Out-of-State Visitors

From outside the state of Michigan

10%
of
overall
visitation

- Visitors spend approximately two days and two nights in the market.
- 90 percent visit restaurants outside the Zoo, spending an average of \$40 per person per day.
- 90 percent purchase fuel at \$56 per tank with three people per party.
- 65 percent stay at hotels and pay an average nightly rate of \$186.72 (three people per party).
- Other spending (entertainment, retail, etc.) accounts for \$6.00 per person.
- The resulting total spending per person for this category is \$169.71 per person.

Based on these and other assumptions, we have estimated that visitors from within the Detroit metropolitan area will spend an average of \$11.11 per person per trip. Visitors from other areas of the state are estimated to spend approximately \$77.32 per person, and patrons from outside of Michigan are estimated to spend an estimated \$169.71 per person. The higher spending among out-of-state visitors is largely driven by hotel and restaurant spending.

A summary of the total amount of visitor spending estimated to take place outside the Zoo during the period spanning 2014 through 2025, in 2023 dollars, is presented below. Estimates have been segmented into spending on hotels, restaurants, retail, entertainment, fuel and other segments of the economy.

Summary of Visitor Spending Taking Place Outside the Zoo (2014-2025)

| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|--------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Hotel | \$18,321,432 | \$19,831,972 | \$22,809,329 | \$20,991,585 | \$18,563,904 | \$17,946,003 |
| Restaurant | 25,915,761 | 28,052,428 | 32,263,915 | 29,692,706 | 26,258,739 | 25,384,715 |
| Fuel | 4,822,705 | 5,220,321 | 6,004,044 | 5,525,563 | 4,886,531 | 4,723,882 |
| Other | 3,984,163 | 4,312,644 | 4,960,098 | 4,564,812 | 4,036,891 | 3,902,523 |
| Total | \$53,044,061 | \$57,417,365 | \$66,037,386 | \$60,774,666 | \$53,746,065 | \$51,957,123 |
| | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 |
| Hotel | \$6,940,120 | \$12,896,419 | \$16,589,306 | \$16,790,796 | \$17,798,244 | \$18,805,692 |
| Restaurant | 9,816,835 | 18,242,053 | 23,465,661 | 23,750,669 | 25,175,709 | 26,600,749 |
| Fuel | 1,826,831 | 3,394,693 | 4,366,762 | 4,419,800 | 4,684,988 | 4,950,176 |
| Other | 1,645,074 | 3,309,447 | 3,607,497 | 3,651,313 | 3,870,391 | 4,089,470 |
| Total | \$20,228,860 | \$37,842,612 | \$48,029,226 | \$48,612,577 | \$51,529,332 | \$54,446,087 |
| | | | | | | Forecasted* |

* - forecasted figures based on budget data provided by DZS management.

As presented above, total visitor expenditures taking place outside of the Zoo are estimated to have ranged from a low of just over \$20 million in the COVID-impacted year of 2020 to a high of more than \$66 million (in 2016). Once again, the spike in 2016 spending directly corresponds with the opening of the Polk Penguin Conservation Center that year. These dollars are distributed in the economy throughout sectors that include hotel, restaurant, fuel and other (retail, groceries, etc.). Restaurant expenditures have comprised nearly 50 percent of all Zoo related direct spending over the past five years. This compares to 35 percent for hotels and nine (9) percent for fuel.

2.4 Total Direct Spending, Output, Earnings and Employment

The operation of a major Zoo facility can generate significant visitation and associated economic impacts within a community and region. The expenses incurred to maintain the Zoo and the business generated by vendors working at the Zoo also generate significant economic impacts. In terms of quantifiable economic impacts presented in this report, effects are characterized in terms of direct spending, total output, personal earnings and employment. These specific terms are defined below.

- **DIRECT SPENDING** represents the initial change in final demand (or spending) generated directly by the operations of the Zoo and the visiting patrons and groups. For this report, we accumulate all direct spending in order to measure the “economic footprint” of the Zoo operations within the regional economy. We have not focused on issues of “net new” spending, as it is very difficult to define the likely spending patterns for visitors were the Zoo not to exist.
- **TOTAL OUTPUT** represents the total direct, indirect and induced spending effects generated by the Zoo. This calculation measures the total dollar change in output that occurs in the local economy for each dollar of direct spending delivered to final demand.
- **INDUCED EFFECTS** consist of the positive changes in employment, earnings and tax collections generated by changes in population associated with the direct and indirect expenditures.

The re-spending of dollars in an economy (encompassing the indirect and induced spending) is estimated by utilizing economic multipliers specific to Wayne County, Michigan and applying them to the amount of direct, or initial spending. The multipliers illustrate that spending in a defined economy will lead to additional spending until that dollar has completed its cycle through leakage. Leakage represents the portion of a dollar spent in areas outside the designated economy.

Based on the analysis summarized up to this point, we present the following estimates of direct spending associated with the Zoo over a nine-year period spanning from 2014 through 2022, as well as its forecasted impact over the next three years (2023 to 2025, based on data provided by DZS leadership.) We have segmented Zoo-related spending into the following three sources of economic impact generation that are used in our estimates:

- Zoo Operations Impacts
- Zoo Vendor Operations Impacts
- Zoo Visitor Related Spending Impacts

Summary of Total Zoo-Related Direct Spending (2014-2025)

| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|----------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Zoo Operations | \$41,381,811 | \$61,020,087 | \$51,027,851 | \$42,998,565 | \$54,825,557 | \$53,274,555 |
| Zoo Vendors | 7,615,202 | 8,721,589 | 10,117,670 | 9,406,723 | 5,453,351 | 5,647,571 |
| Zoo Visitors | 53,044,061 | 57,417,365 | 66,037,386 | 60,774,666 | 53,746,065 | 51,957,123 |
| Total | \$102,041,074 | \$127,159,041 | \$127,182,907 | \$113,179,954 | \$114,024,974 | \$110,879,248 |
| | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 |
| Zoo Operations | \$32,336,653 | \$42,097,381 | \$56,192,222 | \$56,870,580 | \$64,330,580 | \$58,845,580 |
| Zoo Vendors | 2,170,631 | 5,023,310 | 7,616,136 | 6,917,090 | 7,332,116 | 7,747,141 |
| Zoo Visitors | 20,228,860 | 37,842,612 | 48,029,226 | 48,612,577 | 51,529,332 | 54,446,087 |
| Total | \$54,736,144 | \$84,963,303 | \$111,837,584 | \$112,400,247 | \$123,192,027 | \$121,038,807 |

* - forecasted figures based on budget data provided by DZS management.

Forecasted*

2 DETROIT ZOO IMPACT ANALYSIS

Over the past nine years, a combined total of more than \$946 million in direct spending can be associated with the operations of the Detroit Zoo. Averaging over \$105 million per year, direct spending peaked at more than \$127 million in both 2015 and 2016 (largely due to the \$25 million in capital expenditures related to the development of the Polk Penguin Conservation Center. The combined direct spending associated with the Zoo was estimated at \$111 million in 2019, and that figure lowered to \$54.7 million in 2020 due to COVID-19-related restrictions, followed by a moderate rebound to \$85 million in 2021. According to budget information provided by DZS management, Zoo-related spending is forecasted to total nearly \$112 million in 2023 and raise to \$123 million in 2024. This spike is largely due to the estimated impacts of the construction and operations of KidZone.

This direct spending is applied to economic impact multipliers (specific to Wayne County, Michigan) in order to measure the indirect and induced spending. Combined, the direct, indirect and induced spending is referred to as total output. Stated another way, the initial direct spending of new dollars into an economy begins a series of transactions in which the dollars are cycled through the economy. The re-spending of the dollars is estimated by utilizing the economic multipliers and applying them to the amount of direct, or initial, spending. The multiplier illustrates that spending in a defined economy will lead to additional spending until that dollar has completed its cycle through leakage. Leakage represents the portion of a dollar spent in areas outside the designated economy, such as the taxes paid on purchases of goods and services.

Multipliers are also used to calculate the amount of earnings associated with direct spending, as well as the resulting full and part-time employment impacts. The multiplier estimates used in this analysis are based on the Regional Input-Output Modeling System (RIMS II), a regional economic model used by investors, planners and elected officials to objectively assess the potential economic impacts of various projects. RIMS II is based on a set of national input-output (I-O) accounts that show the goods and services produced by each industry and the use of these goods and services by industries and final users. RIMS II adjusts these national relationships to account for regional supply conditions. The I-O accounts provide the basis for the model's multipliers and impose assumptions that need to be recognized when conducting an economic impact study.

The multiplier effects estimated in this analysis include:

- **TOTAL OUTPUT** represents the total direct, indirect, and induced spending effects generated by the Zoo. Total output is calculated by multiplying the appropriate total output multiplier by the estimated direct spending within each industry.
- **PERSONAL INCOME (EARNINGS)** represent the wages and salaries earned by employees of businesses impacted by the Zoo. Personal earnings are calculated by multiplying the appropriate personal earnings multiplier by the estimated direct spending within each industry.
- **EMPLOYMENT** is expressed in terms of total jobs and includes both full and part-time jobs. Employment is calculated by dividing the appropriate employment multiplier by one million, and then multiplying by the estimated direct spending within each industry.

The multipliers used in this analysis are specific to the Wayne County, Michigan economy and are summarized below. It is important to note that CSL's 2019 study used IMPLAN multipliers, which are based on forms of area spending that RIMS II classifies as "leakage". This inflates earnings and employment multipliers, with some upward effect on output as well. As a result, earnings and employment estimates for the years 2014 through 2018 in this report are more modest relative to the previous study due to this change in multipliers.

| | Economic Impact Multipliers - Wayne County | | |
|----------------------|--|----------|------------|
| | Output | Earnings | Employment |
| Zoo Operations | 1.448 | 0.249 | 7.219 |
| Hotels | 1.526 | 0.316 | 7.670 |
| Restaurants | 1.605 | 0.466 | 18.639 |
| Local Transportation | 1.598 | 0.349 | 10.933 |
| Other Industries | 1.540 | 0.306 | 9.452 |

Source: Bureau of Economic Analysis, 2023

To calculate output, earnings and employment, these multipliers are applied to our estimates of Zoo-related direct spending. The resulting total output, earnings and full and part-time employment impacts associated with the operations of the Detroit Zoo are presented in the following table. Annual estimates have been calculated for the past nine calendar years, and high-level forecasts (based on Zoo-provided data) have been prepared for the following three years.

| Detroit Zoo Economic Impact Summary (2014-2025) | | | | | | |
|--|---------------|---------------|---------------|---------------|---------------|---------------|
| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| Total Output | \$154,328,687 | \$191,241,441 | \$192,344,192 | \$171,415,760 | \$171,768,366 | \$166,991,670 |
| Earnings | \$32,979,515 | \$39,859,786 | \$41,094,459 | \$36,856,157 | \$36,064,770 | \$35,026,168 |
| Employment | 1,068 | 1,276 | 1,330 | 1,196 | 1,159 | 1,125 |
| | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 |
| Total Output | \$81,760,384 | \$127,700,295 | \$167,892,595 | \$168,779,621 | \$184,767,562 | \$182,011,143 |
| Earnings | \$16,506,655 | \$26,515,426 | \$34,704,993 | \$34,928,306 | \$38,032,302 | \$37,911,700 |
| Employment | 521 | 847 | 1,107 | 1,115 | 1,211 | 1,214 |

* - forecasted figures based on budget data provided by DZS management.

Forecasted*

Total Output, which represents the re-spending of dollars in the economy, has ranged from a low of approximately \$82 million in 2020 to more than \$192 million in 2016. This sizable difference highlights the negative impact that COVID had on Zoo operations and, as a result, the area economy.

- Visitor spending represents nearly half (47 percent) of this total output. Zoo operations have comprised an estimated 46 percent of the Zoo's total output. SSA's operations account for approximately seven (7) percent of the Zoo's total economic output.
- Large capital projects, such as the development of the Polk Penguin Conservation Center, have made a significant impact on the total output of the Detroit Zoo. For example, in 2015, nearly \$36 million in output can be directly attributed to capital projects.
- Over the past nine years, approximately 47 percent of the total output generated by Zoo-related visitor spending takes place among people residing outside of Michigan. This compares to 31 percent among those residing outside of the tri-county metro area (but within Michigan) and 21 percent among local visitors.
- According to DZS projections, the Zoo is forecasted to generate its highest economic output (\$185 million) since 2016 in 2024, due largely to the completion and opening of KidZone.

Personal Earnings, which represents the dollars earned among jobs supported by Zoo operations, has ranged from a low of approximately \$16.5 million in 2020 to approximately \$41.1 million in 2016.

Employment, which represents the number of full and part-time employment impacts supported by Zoo operations, has ranged between 521 and 1,330 positions between 2014 and 2022. Job creation is forecasted to range between 1,100 and just over 1,200 positions during the period spanning 2023 through 2025, exceeding the historical average.