

Economic Impacts from the Minnesota Zoo 2017

Final Report

March 15, 2018

Daniel L. Erkkila, Ph.D.
College of Food, Agricultural and Natural Resource Sciences
North Central Research & Outreach Center
Grand Rapids, MN 55744



Executive Summary

An estimate was made of the Minnesota Zoo's economic impacts to the 7-county Metro Area using proven input-output impact estimation techniques. Based on the fiscal year 2017 gate totals of 1,350,000 visitors who came to the Zoo, its annual operations and visitors spending in the area generated \$222.7 million in gross output, 2,265 jobs and \$137.2 million in value-added to the local Metro economy. Impacts stemming from proposed Zoo construction projects include \$65.9 million in gross output and \$35.2 million in value-added. Local job impacts from construction include approximately 375 across the span of years required for completion.

Introduction¹

Located in the southwest Metro community of Apple Valley, Minnesota (Dakota County), the Minnesota Zoo is considered one of the nation's top zoos. It is currently home to more than 5,300 animals in award-winning exhibits. The Zoo spans a wide breadth of features that reflect its destination attributes, its conservation work with a myriad of programs and collaborative research partnerships and its education role as the State's largest environmental educator with 444,000 participants last year. With nearly 1.4 million visitors annually in FY 2017 and even more investments in its exhibits and facilities planned in the years ahead, the Minnesota Zoo remains a vibrant and critical educational and recreational attraction for local residents of the 7-county Metropolitan area. From its Metro location with Zoo Camp and via its Zoomobile outreach program across the state, its reach serves visitors from outside of the local area in Minnesota and beyond.

As a premier attraction in the Metro Area, the Zoo can be viewed as an "economic engine." Open 363 days a year, it employs full and part-time workers, purchases a wealth of supplies and services to keep operating, and generates further economic activity as it attracts and provides an on-site experience for all its visiting consumers. This report summarizes an estimate of the nature and significance of this economic activity.

Background on Metro Area Tourism²

Based on the most recent figures, the leisure and hospitality industries contribute significantly to the 7-county Metro Area that includes and surrounds the Minnesota Zoo. Most recent Metro Area figures (2016) document nearly \$10 billion in spending supporting roughly 165,000 jobs. No more recent research is available to describe the average Metro visitor, but according to 2008 estimates provided by the Explore Minnesota Tourism travel office, two-thirds of that

¹ This study is the fourth update to an economic impact assessment, the last dated December 26, 2012, similarly detailing the effects from 2012 Minnesota Zoo visitors and annual operations on the seven county Metro Area. All descriptive information has been updated with the most current information available for FY 2017.

² Summarized from the "2018 Tourism Economy Fact Sheet," Explore Minnesota Tourism and "The economic impact of expenditures by travelers on Minnesota's Metro Region and the profile of travelers June 2007 – May 2008," Davidson-Peterson Associates, Kennebunk, ME. 2008.

spending came from visitors who stayed in the area overnight in local hotels, motels and bed and breakfasts. Fifty-one percent of Metro travelers were in the area for pleasure, 13% for conventions or conferences and 20% for business purposes. Average travel party size in 2008 of Metro visitors was estimated at 2.6 with average length-of-stays of 3.5 nights (excluding daytrip visitors).

Metro travelers arrive ready to experience a dazzling assortment of tourism opportunities in the area. These opportunities include plentiful dining and nightlife entertainment choices and shopping that span the Mall of America to other regional malls and specialty arts & crafts. Further, travelers come to visit friends and family in high numbers, while taking in Valley Fair or other amusement or museum offerings, professional sports or participating in recreational activities on area lakes, trails, etc. The context in which tourism operates within the Metro Area is diverse and the Minnesota Zoo is a world-class icon in this splendid array of choices.

Terms and Methods

Regional economic impacts are typically described by three components: direct, indirect and induced impacts or effects. Direct impacts are the immediate, first-round expenditures generated as firms or organizations expand production to supply the increased demand of their operation's goods and services. Indirect impacts are the intermediate sales as businesses buy inputs for their productive use. An example of this would include a restaurant replenishing food supplies or hiring services (e.g. accountants). Finally, induced impacts come from increased household income and the resulting expenditures of employees spending earnings in the local economy.

Impact measures typically quantify the following:

- Gross Industry Output – the total value of industry production or receipts
- Employment – annual average full and part-time jobs
- Total Value-added – the dollar value added to the production of intermediate goods and services. It is the total of employee compensation plus self-employment income, plus other property income plus indirect business taxes.

For many industries, products sold or services rendered are from outside of the region being evaluated. Economic effects from sales to visitors of those goods do not accrue to the region's economy and must be deducted from the impact analysis. For retail sales, for example, only the margin of value above the wholesale price benefits, or is "captured" by, the business and region. Typically 60-70% of spending by tourists ends up as final demand within a local area. The model used here handles these considerations and the impacts reflect those adjustments.

For example, if a visitor were to spend \$50 on a Minnesota Zoo memento, part of what was spent went to the company that produced the item. Regardless of whether the item was made in California or Japan, the wholesale cost a retailer paid for that item ends up being subtracted from gross spending, as another economic region received the benefit and not the 7-county Metro Area (or Minnesota). This represents the notion of "leakage." What leaks from the

economy is the value of the purchase that did not accrue to local businesses because the memento was not produced locally. In this example, only the retail margin of the item accrues to the local area. If the item were assembled locally from foreign parts, only the value of the foreign parts would be considered leakage from the local economy.

Consequently, direct output or sales reported here only refer to the amount of money remaining in the area and available for re-spending on locally provided goods or services. The more that intermediate inputs to products and services are provided locally, the greater the direct sales levels (less leakage) and the greater the economic impact to the region to be re-spent locally. Further, the more extensive and complete a local area economic base is, the greater the likelihood that direct sales will result in greater local area spending.

Determination of the three components of impact, measured in gross output, employment and total value-added, was done with the help of the IMPLAN³ model. IMPLAN is based on an input-output method of economic impact estimation that traces commodity flows from producers to intermediate and final consumers. Its level of detail is the county level and it is based on and conforms to the US Department of Commerce Bureau of Economic Analysis conventions for input-output analysis.

A model of the 7-county Metro economy in which the Minnesota Zoo operates was constructed with IMPLAN using the most recent 2016 IMPLAN data set for Minnesota. This included Anoka, Carver, Dakota, Hennepin, Ramsey, Scott and Washington Counties. This model was used to estimate the impact of the Zoo's annual visitors. A necessary consideration, in addition to estimating the proportions of visitors coming from the local area versus outstate or out-of-state, was the amount of daily spending each category of visitors would exhibit. For that, several spending profiles were used, derived from a number of secondary sources, as no on-site data collection from Zoo visitors was attempted.

Annual Economic Impacts

Annual recurring impacts to the local economy from the Zoo come from the day-to-day operations of the facility and the economic activity generated by visitors coming to the facility, spending money on-site and in the surrounding Metro Area.

The Minnesota Zoo had 1,350,000 visitors in FY 2017. In order to estimate the impacts stemming from the economic activity generated in the local economy from these visitors, it is necessary to estimate the numbers and associated spending profiles of these visitors within the categories they fall into:

1. Annual visitors (Metro/non-Metro) on daytrips
2. Annual visitors from outside the Metro Area staying overnight

³ IMPLAN (IMpact Analysis for PLANning) is a widely used and sophisticated (yet flexible) tool for economic impact assessments and analyses. It is based on data from federal and state data sources that portray economic interactions between industry sectors of local economies. It is managed and supported internationally by IMPLAN, Huntersville, NC.

The Zoo's publication "*Summer 2017 Onsite Guest Intercept Survey Summary Report*" (page 24) identified respondents by ZIP Code. This was used to break down the 2017 annual visitor count by visitors' residency. Approximately 56% of visitors were from the Metro Area and 44% were non-local (25% from outstate Minnesota and 19% from beyond the state's borders).⁴

Research suggests that not all non-local visitors to the Metro Area stay overnight and if they do, not all stay in commercial lodging. Some stay with friends or family, which also has a direct impact on their spending habits while traveling. No current information was available to determine daytrip vs. overnight visitors among the non-Metro visitors to the Zoo, so the approach used in the 2012 and earlier impact reports was followed. In 2012, the *August 2008 Visitors Survey Report* from the Morey Group was used that identified 41% of non-local visitors stayed overnight in the Metro Area while on their trip, leaving 59% as daytrip visitors only (no lodging expenditures). These values allow calculation of two key visitor-impact statistics for impact estimation, daytrip only and overnight visitors:

1,350,000 (Total Zoo Visitors)	X 56% = 756,000 local (day) visitors
	X 44% = 594,000 non-local visitors
594,000 (Non-local Zoo Visitors)	X 41% = 243,540 overnight non-local visitors
	X 59% = 350,460 non-local daytrip visitors

Total Daytrip Visitors = 756,000 (local) + 350,460 (non-local daytrip) = 1,106,460

Total Overnight Visitors = 243,540

The same Morey report indicated that those visitors who stayed in commercial lodging stayed an average of 1.5 days while those staying with friends or family stayed 3.0 days. With no new research on Zoo visitors falling in either category, the 1.5 trip duration value was used again to stay on the conservative side. Applying the 1.5 average nights spent in the area per person to the 243,540 overnight visitors yielded 365,310 visitor-nights for non-Metro overnight visitors (243,540 visitors X 1.5 nights/visitor = 365,310 visitor nights).

1. Annual Metro/Non-Metro Day Visitors

No more current information about spending patterns for Zoo daytrip visitors was available for this analysis, so the values used in the Zoo's 2012 impact report were used and adjusted for inflation. Table 1 shows the spending pattern used for day visitors and the impact from that spending is shown in Table 2.

⁴ Metro Area was defined to be visitors traveling within fifty miles to the Zoo, which corresponds to the furthest reaches of the 7-county study area.

Table 1. Daily per-person spending profile for 1,106,460 daytrip visitors to the MN Zoo.

Spending Category – Daily Visitor	Value (2018 \$)
Transportation	\$6.16
Shopping	\$14.71
Eating & Drinking	\$13.83
Recreation	\$19.30
TOTAL	\$54.00

Table 2. Economic impacts from 1,106,460 annual daytrip visitors spending \$54/person/day.

Impact Type	Gross Output (\$ millions)	Jobs	Value-added (\$ millions)
<i>Direct</i>	\$42.1	713	\$24.0
<i>Indirect</i>	\$18.5	101	\$11.0
<i>Induced</i>	\$20.3	138	\$12.2
TOTAL	\$80.90	952	\$47.2

2. Annual Non-local Visitors Staying Overnight

As noted, the total visitor-nights to be evaluated for spending impacts was 365,310. The Burnsville visitor profile was used to estimate Zoo visitor spending in this category.⁵ Table 3 reflects the spending categories per person per day and Table 4 reflects the local economy impacts from that spending.⁶

Table 3. Daily per-person spending profile for 365,310 non-local visitors staying overnight.

Spending Category	Value (2017 \$)
Transportation	\$21.60
Shopping	\$33.90
Eating & Drinking	\$38.90
Recreation	\$10.80
Lodging	\$75.40
Miscellaneous Retail	\$4.40
TOTAL	\$194.40

⁵ Qian, Xinyi. (2017). Burnsville area visitor and non-visitor profile report. University of Minnesota Tourism Center. Retrieved from the University of Minnesota Digital Conservancy, <http://hdl.handle.net/11299/189584>.

⁶ The Burnsville spending profile included both respondents who stayed in commercial lodging and those who did not, opting to stay with friends or family. With a conservative estimate of 1.5 nights in the area, this blended spending profile was viewed as a reasonable estimate for economic impacts estimation.

Table 4. Economic impacts from 365,310 annual non-local visitors staying overnight spending \$194.40/person/day.

Impact Type	Gross Output (\$ millions)	Jobs	Value-added (\$ millions)
<i>Direct</i>	\$52.1	674	\$31.0
<i>Indirect</i>	\$22.0	124	\$12.9
<i>Induced</i>	\$24.6	167	\$14.8
TOTAL	\$98.6	965	\$58.6

3. Operations

Governments or subsidiary agencies typically behave in ways very different from private industry in what they produce or provide to consumers. At other times, they can behave very much like any industrial enterprise in the provision of goods and services. Often, both behaviors are evident. When that happens, care needs to be taken in modeling to represent true impacts.

A portion of the Zoo’s income (funding) comes from the state through appropriations. In the model, this is seen as an institutional transfer payment that supports payroll and other public service work. While supporting operations, there is not a direct output impact from these transfer payments. Yet, a portion of the total budget does yield direct impacts. The model has been improved to represent the range of Zoo activity. It does mean that compared to past reports that (modestly) overestimated the operations side of the Zoo's impacts now is a closer representation of those impacts.

The annual cost of operations (2017) for the MN Zoo was \$26.5 million. The economic impact generated from annual operations to the Metro Area is displayed in Table 5 and represents the impact the Zoo has as an economic enterprise in the 7-county Metro Area.

Table 5. Economic impacts from annual operations of the MN Zoo.

Impact Type	Gross Output (\$ millions)	Jobs	Value-added (\$ millions)
<i>Direct</i>	\$23.9	222	\$19.9
<i>Indirect</i>	\$3.5	19	\$2.0
<i>Induced</i>	\$15.8	107	\$9.5
TOTAL	\$43.2	348	\$31.4

One-time Economic Impacts from Construction

Continued master and strategic planning by Minnesota Zoo and Minnesota Zoo Foundation leadership recognizes that care and feeding of its physical plant is no less important than care of the animals. Innovation in exhibit development and protection of its existing assets are critical to be one of the world’s great zoos. New plans are pointing to a number of critical areas

for construction and renewal of the site. Construction investments spur additional economic activity in the Metro Area and support many jobs in the region.

Five projects were evaluated that are part of the 2018 state bonding request. The projects include:

- Minnesota Treetop Trail: Phase 1 (\$5 million)
- Creatures Beneath the Canopy (\$4 million)
- Transportation and Accessibility: Phase 1 (\$2.5 million)
- Reimaging the Guest Welcome (\$9.5 million)
- Asset Preservation (\$13.75 million)

The economic impacts to the local economy from those projects are displayed in Table 6.

Table 6. Total economic impacts from scheduled MN Zoo renovations and new construction.

Project	Gross Output (\$ millions)	Jobs	Value-added (\$ millions)
Minnesota Treetop Trail: Phase 1 (\$5 million)	\$9.9	54	\$5.2
Creatures Beneath the Canopy (\$4 million)	\$7.4	40	\$3.8
Transportation and Accessibility: Phase 1 (\$2.5 million)	\$4.9	27	\$2.6
Reimaging the Guest Welcome (\$9.5 million)	\$17.6	95	\$9.0
Asset Preservation (\$13.75 million)	\$26.1	159	\$14.6
TOTAL	\$65.9	375	\$35.2

Summary

Best available data were used to estimate the economic impacts from the Minnesota Zoo for the Twin Cities 7-county Metro Area for FY 2017. Economic impact estimates were detailed, resulting from the annual Zoo operations and spending of visitors in the area, as well as those generated by Zoo construction projects that are planned.

Total economic impacts to the 7-county Metropolitan Area economy that occur on an annual basis from Zoo operations and visitors on daytrips and staying overnight in the area include:

- \$222.7 million in gross output,
- Approximately 2,265 jobs, and
- \$137.2 million in value-added.

The gross output impact of \$222.7 million is the sum of \$179.5 million associated with Zoo visitor spending in the area while on their day and overnight trips and \$43.2 million associated with annual operation of the facility and its effects in the local economy.

The Minnesota Zoo and Minnesota Zoo Foundation 2017-2020 strategic plan lays a framework to fulfill its mission to “connect people, animals and the natural world to save wildlife.” Further,

the Zoo believes there are many more opportunities *for “connecting people to the natural world”* and out of that vision, five projects were identified to preserve the existing physical plant plus enhance existing exhibits or create new. These capital investments stimulate significant economic activity in the local area, especially in the construction trades and allied industries. The economic impact on the Metro economy related to this construction activity is estimated to be \$65.9 million in gross output and \$35.2 million in value-added. Job impacts include 375 jobs if all projects proceed.

* * *