# *The El Paso Zoo: 2008 Economic Impact on El Paso, Texas*

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The University of Texas at El Paso

# The El Paso Zoo:
# 2008 Economic Impact on El Paso, Texas

## Summary Sheet

**Incremental Local Business Volume** **$ 7.870 million**

Zoo Operations
Café/Gift Shop
Construction

**Incremental Employment in Region** **123**

Zoo Operations
Café/Gift Shop
Construction

**Increase in Compensation to Households in Region** **$ 4.455 million**

Zoo Operations
Café/Gift Shop
Construction

**Average Compensation Per Employee** **$ 34,270**

# The El Paso Zoo:
# 2008 Economic Impact on El Paso, Texas

## Introduction

The El Paso Zoo serves as the main zoological attraction in the Paso del Norte region. Established in 1940, the zoo began as a reptile house and roadside attraction. Today, the El Paso Zoo sits on eighteen acres and is home to roughly 240 species of animals. The zoo will soon double in size – expanding from 18 acres to 36 acres – with the completion of the Zoo's Western Expansion, which will include the new "Passport to Africa" exhibit. As one of 218 zoos in the country accredited by the Association of Zoos & Aquariums, the zoo contributes to El Paso's quality of life by hosting cultural activities, enhancing community attractiveness, and engaging in conservation efforts. Each year, nearly 300,000 people visit the El Paso Zoo and enjoy the zoo's social, cultural and educational benefits.

The present study includes an economic impact assessment of the El Paso Zoo on El Paso, Texas and a price-elasticity/market-capacity analysis designed to measure the responsiveness of zoo visitors to changes in admission prices. The zoo generates incremental business volume, regional employment, and household income. The present study quantifies these economic benefits. It should be noted that this study underestimates the full economic impact of the zoo as it does not measure the impact of the zoo's intangible benefits. For instance, the zoo generates many cultural and educational benefits that are difficult to quantify. A brief discussion of these qualitative benefits will follow the quantitative analysis sections of this study.

## Methodology

In quantifying the economic impact of the El Paso Zoo on El Paso, Texas, and in analyzing the zoo's price-elasticity/market-capacity as it relates to changes in admission prices, the Institute for Policy and Economic Development at the University of Texas at El Paso used input-output (I-O) analysis, intercept surveying, and regression modeling to complete the study. Each of these methodologies is briefly described below.

Input-Output (I-O) Analysis

Economic impact studies are typically based upon input-output (I-O) analysis. I-O models develop tables which represent what industries buy and sell from one another to produce a product or provide a service. I-O models measure **multipliers** to estimate the activity of each dollar and its subsequent re-spending within a region. Multipliers are based on the concept that dollars introduced into an area generate economic activity. Regions and the exact type of industry affect the multiplier's size.

Some industries have larger multipliers within a given region due to their level of interaction with other industries.

An I-O model impact begins with a **direct effect** of spending from industry, government or households, and originates from current or new expenditures, also known as changes in **demand** (expenditures include salaries and wages to workers). Current expenditures are used, for example, to measure how current activities of a firm support and ripple through other regional economic sectors. New expenditures are used, for example, to measure the economic impact from new construction or business activity, an increase in household spending, a purchase order placed through a local business, or from spending by tourists.

The I-O model next identifies and quantifies the "ripple effects" of the demand change or direct effect; these "ripples" are referred to as **indirect** and **induced effects**. Usually, the biggest non-direct effect comes from induced household spending of labor income earned in affected industries. For instance, the auto industry spends ***x*** amount of dollars to manufacture cars. This initial spending amount (***x***) represents the direct economic impact. The model then estimates the auto industry's purchases of steel, rubber, plastic parts, etc. from other industries needed to manufacture the cars. These supplier sectors, in turn, must purchase inputs/materials from other industries to produce the steel, rubber, plastic parts, etc. that will be sold to the auto manufacturer. These intermediate sales are the **indirect effects**, and are measured in each "round" of economic activity until all required purchases are complete.

Further, the business to business purchases quantified in the direct and indirect rounds will involve compensating business proprietors and workers. A large portion of this earned income will be spent by these individuals on various goods and services, such as purchasing clothing or eating at a restaurant, generating more economic activity. These **induced effects** imply further increases in business volume, jobs and income to households throughout the economy. Overall, total economic impacts will be the sum of direct, indirect and induced effects, and the total impacts will be greater than or a multiple of the original direct effect.

The IMPLAN model[1] is selected for this economic impact analysis. The **IM**pact analysis for **PLAN**ning model was developed in the 1980's and is currently utilized by over 1,500 clients; including federal, state, and local agencies along with private firms. It is generally felt that IMPLAN's "regionalized" multipliers are more accurate at a local economy level, and generally are somewhat more conservative than other I-O models available.[2] In particular, IMPLAN provides efficient estimates on the magnitude of jobs affected by a change in demand, as well as its contribution to the economy; two key areas of interest for policy.

Intercept Survey

An intercept survey of El Paso Zoo visitors (provided in the Appendix) was conducted during a five month period, which included the months of February through June of 2009. Zoo visitors were surveyed on two days each week: a weekday (Wednesday or Thursday) and a weekend day (Saturday or

Sunday). Surveying during a five-month period of time that includes both weekdays and weekend days allows for a better representation of zoo visitors and their views and perceptions regarding their zoo experience relative to conducting an intercept survey at one point in time. Primary intercept locations included the main exit area and food court area. The final sample consisted of 1,400 responses. Survey questions were designed to gauge zoo visitors' opinions regarding various features and aspects of the El Paso Zoo, as well as to generate demographic and spending pattern information including: place of residence, number in party, and expenditures while at the zoo. Visitors who reported that they lived outside of the El Paso area were also asked questions regarding their expenditures in a variety of categories while visiting the City (e.g. lodging, transportation, entertainment, etc.).

Regression Modeling

Regression analysis is a well-known technique utilized to estimate equations and express the relationship between some variables of interest. This technique fits well in examining the factors that influence gate attendance at the El Paso Zoo. Hence, an econometric model of gate attendance is estimated employing time series data.

Time series analysis along with autoregressive integrated moving average (ARIMA) models have long proven helpful in examining a wide range of international and regional economic issues. A similar and also useful modeling approach is offered by linear transfer function (LTF) ARIMA analysis.[3] This alternative methodology provides one means for analyzing systematic linkages between variables. Essentially, this statistical approach is a modeling procedure that is closely related to ARIMA techniques. In fact, the latter is one of the key steps in linear transfer function (LTF) modeling.[4]

LTF ARIMA models offer an effective methodology to examine time series attributes of gate attendance at the El Paso Zoo. Several variables are employed in the development of the final model specification. It is hypothesized that paid attendance is a function of free attendance, admission prices, average movie prices (as a proxy for a substitute), El Paso non-agricultural employment (as a proxy for income), El Paso County population, the exchange rate (pesos/dollar), and several qualitative or categorical variables that represent different permanent and temporary zoo exhibits.

Monthly gate attendance, admission prices and all categorical variables were provided by the El Paso Zoo. Movie prices were obtained from the ACCRA Cost of Living Index and IPED calculations. Monthly employment estimates and exchange rate data (in real terms) were obtained from the U.S. Bureau of Labor Statistics and Banco de Mexico, respectively. Finally, the El Paso County population was obtained from the U.S. Census Bureau and IPED calculations. The period under consideration is between September 1994 and June 2009.

Before model estimation, it was necessary to difference all of the independent variables to obtain stationary working series. This is very important given that variables regressed in level form can lead to spurious results.[5] To account for inflation, all price series were deflated by dividing these price data by the monthly consumer price index for recreation activities. Also, all variables are expressed in logarithms

so that the resulting parameters are interpreted as elasticities. In simple terms, an elasticity coefficient measures how sensitive a variable of interest (Y) is, given a change in a predictor variable (X). If an elasticity coefficient is less that one, it implies that Y is not sensitive to changes in X. On the other hand, if an elasticity coefficient is greater than one, it implies that Y is sensitive to changes in X.

## Results

Economic Impact of the El Paso Zoo

IMPLAN generated direct as well as total economic impact figures for the El Paso Zoo on the El Paso County regional economy. Total Impact figures for Business Activity or Volume, Annual Employment, and Annual Compensation to Households are presented below. Economic effects in these three areas are generated from the Zoo's annual operations, from out-of-region visitors' spending at the café and gift shop, and from 2008 construction projects.

When reviewing the economic impact values, the reader should understand the following:

- Dollar values are at calendar year end 2008.
- Incremental employment values include full-time plus part-time employment jobs; consistent with federal and state government agencies' method for counting employment.
- Household compensation values include wages, salaries, plus employer-provided benefits (estimated at an average of 30 percent of direct pay).
- Construction impacts are generated only for the period of construction activity; the year 2008 in this study.
- Impact values for Business Volume and Household Compensation cannot be summed. Household compensation figures are a portion of the Business Activity values.

The total economic impact values are estimated to be:

- Incremental Local Business Volume $ 7,870 thousand
  - Zoo Operations $ 6,791 k
  - Café/Gift Shop $ 829 k
  - Construction $ 250 k

- Incremental Employment in Region 123
  - Zoo Operations 111
  - Café/Gift Shop 10
  - Construction 2

- Compensation to Households in Region $ 4,455 thousand
  - Zoo Operations $ 4,167 k
  - Café/Gift Shop $ 200 k
  - Construction $ 88 k

- Average Compensation Per Employee in Region $ 34,270

Selected Survey Responses

As indicated under the Methodology section, an intercept survey of El Paso Zoo visitors was conducted during a five month period, from February through June of 2009. The final sample consisted of 1,400 responses accounting for 10,386 total persons. Below are some selected survey responses.

For nearly 70 percent of zoo visitors, "pleasure" was the main reason for their visit to the zoo (Figure 1). Approximately 44 percent of zoo visitors were between the ages of three and thirteen, and 40 percent of visitors were between eighteen and sixty-four years of age (Figure 2). Figure 3 illustrates that only five percent of visitors were military related.

**Figure 1. Reason for Zoo Visit**

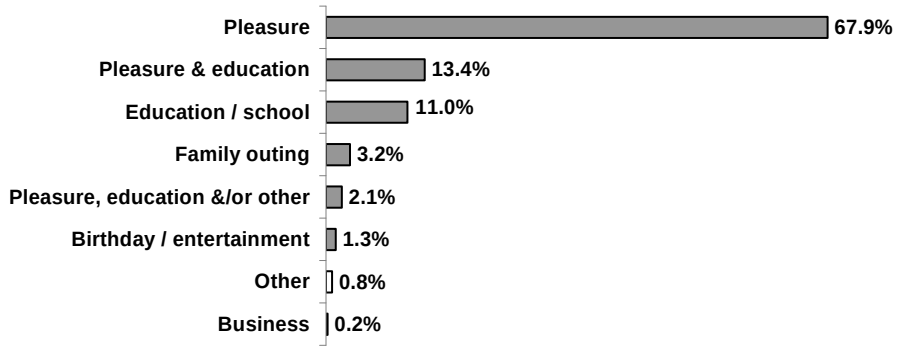



**Figure 2. Age Cohorts**

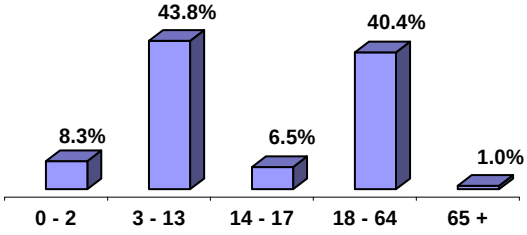
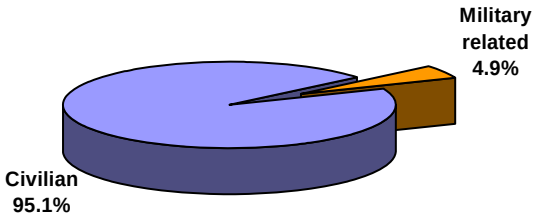
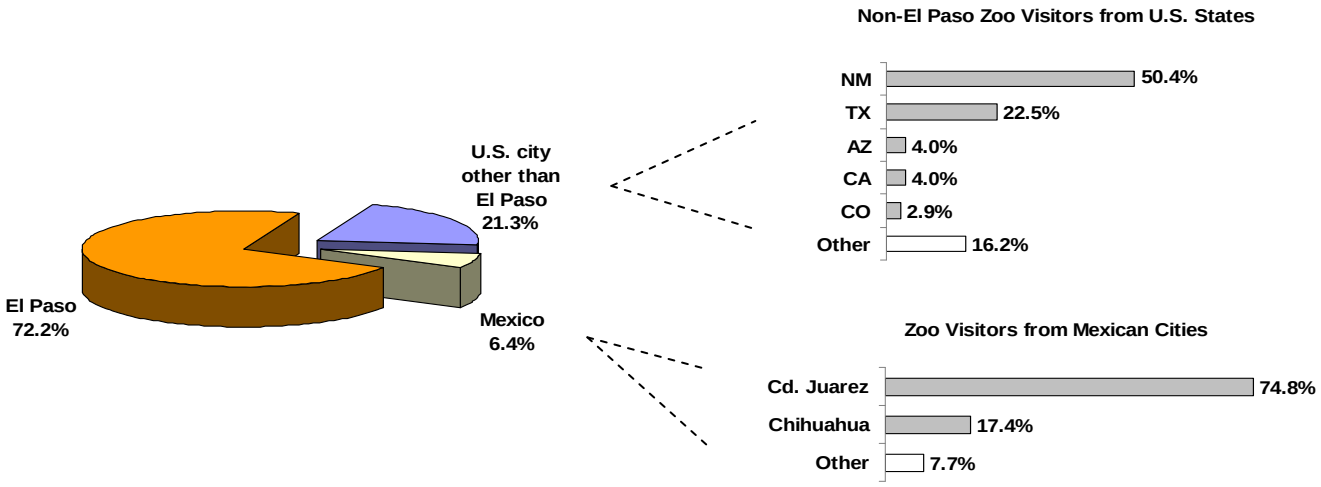



**Figure 3. Military-related Visitors**



Over 72 percent of zoo visitors live in El Paso, 21 percent live in another U.S. city, and nearly 6.5 percent live in Mexico (Figure 4). Of those visitors living in an U.S. city other than El Paso, over 50 percent come from New Mexico and another 22 percent come from Texas. As for visitors living in Mexico, three-fourths of visitors live in Cuidad Juarez and nearly another one-fifth live in Chihuahua.

**Figure 4. Where Zoo Visitors Live**




Over half of the surveyed zoo visitors know about the zoo's support organization, the El Paso Zoological Society (Figure 5), but only 14 percent of visitors actually belong to the Society (Figure 6). A breakdown of the number of hours visitors spent at the zoo is provided in Figure 7.

**Figure 5. Knowledge of Zoological Society**

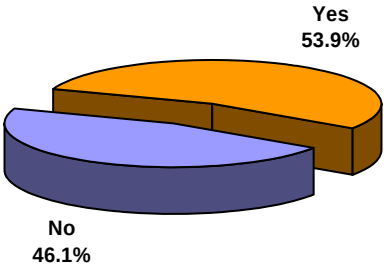



**Figure 6. Member of Zoological Society**

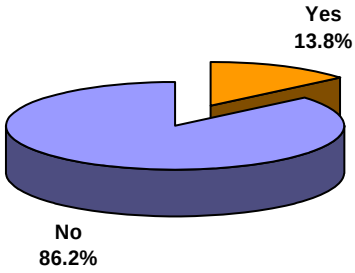



**Figure 7. Hours Spent at Zoo**

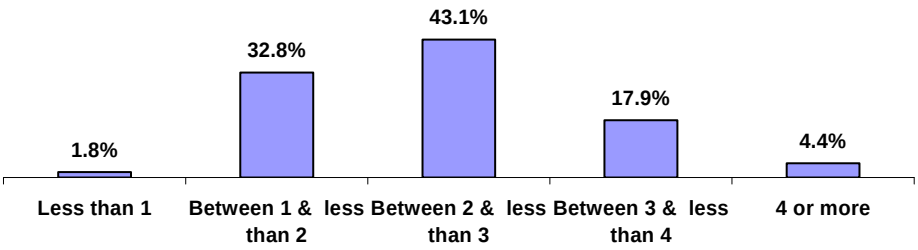


Figure 8 shows that 65 percent of zoo visitors spent money, excluding admission prices, while visiting the zoo. Of these zoo visitors, half spent less than $15 at the gift shop (Figure 9), while over 60 percent of visitors spent the same amount at the café (Figure 10). A small percentage of visitors (6% and ≈4%) spent more than $45 at the gift shop or café.

**Figure 8. Percent of Visitors that Spent Money at Zoo**

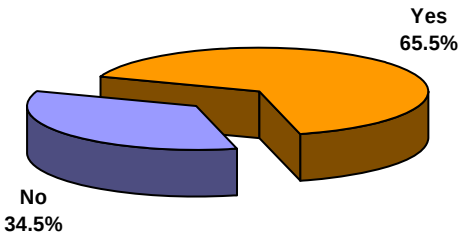



**Figure 9. Gift Shop Spending**

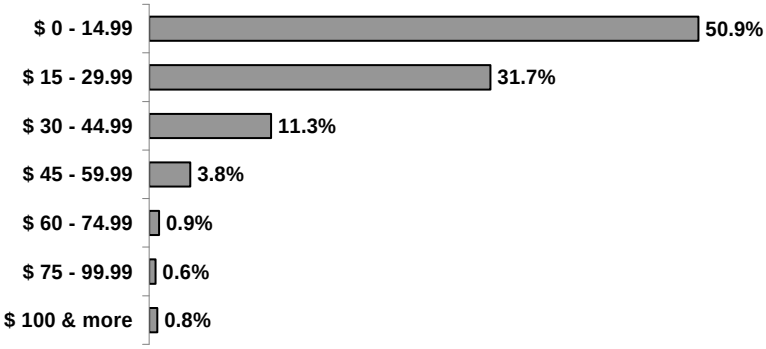
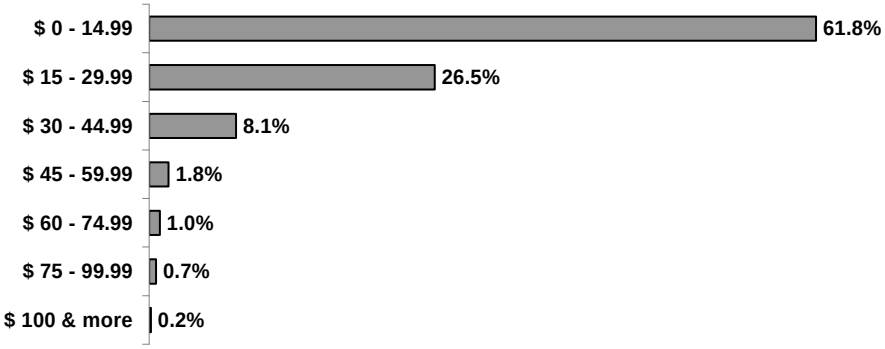



**Figure 10. Café Spending**



Information regarding repeat visitors to the El Paso Zoo is presented in Figure 11. Nearly 70 percent of the zoo visitors surveyed had visited the zoo no more than two times over the past year, and approximately 15 percent visited the zoo more than four times over the same time period. Figure 12 provides how the surveyed visitors feel about various features and aspects of the El Paso Zoo. The three highest rated ("Excellent" and "Very Good") features of the zoo were "Availability of parking," "Cleanliness of the facility overall," and "Courtesy of staff/volunteers." Conversely, the three lowest rated ("Poor") aspects of the zoo were "Price compared to 'value' of food," "Price compared to 'value' of souvenirs," and "Signage or directions to the zoo." In addition to rating zoo features and aspects, visitors also provided their opinion on the two changes or improvements they would most like to see take place at the zoo (Figure 13).

**Figure 11. Number of Zoo Visits over the Past Year**

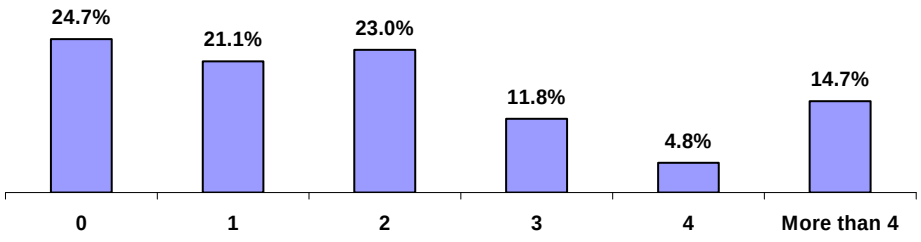
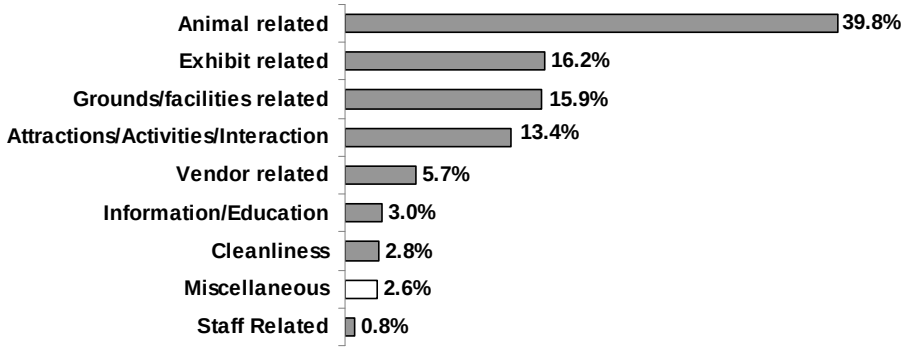



**Figure 12. Opinion of El Paso Zoo Features**

| | % Excellent | % Very Good | % Average or Fair | % Poor | % No Opinion |
|---|---|---|---|---|---|
| Signage or directions to the zoo | 37.5 | 38.1 | 18.9 | 4.8 | 0.7 |
| Availability of parking | 56.0 | 35.0 | 7.9 | 0.9 | 0.2 |
| Admission prices compared to quality of exhibits | 44.2 | 35.0 | 17.5 | 2.5 | 0.8 |
| Overall atmosphere of the facility | 36.1 | 45.5 | 16.9 | 1.4 | 0.1 |
| Animal information/educational signs | 36.5 | 41.0 | 19.6 | 2.5 | 0.4 |
| Courtesy of staff/volunteers | 44.0 | 39.0 | 13.6 | 1.7 | 1.6 |
| Cleanliness of the facility overall | 41.2 | 42.0 | 14.7 | 2.0 | 0.1 |
| Price compared to value of food | 17.0 | 22.3 | 32.4 | 12.2 | 16.1 |
| Price compared to value of souvenirs | 17.5 | 23.4 | 33.4 | 7.5 | 18.2 |

**Figure 13. Preferred Changes/Improvements at Zoo**




Zoo visitors who live in El Paso were asked whether they favored increased city financial support for the El Paso Zoo. The question assumed that the city's increased financial support would be accomplished by increasing taxes/fees on El Paso households by an average of $24/$48/$96 per year (or $2/$4/$8 per month) from 2010 and on. Figure 14 presents the survey results. Visitors were further asked to rank which issues deserved increased financial support (Figure 15). Survey results indicate that "Support for an increase in the number of exhibits to attract more tourists and increase city revenue" deserved the most financial support while "Support for an increase in educational programs such as Toddler Trek, sleepovers, etc." deserved the least financial support.

**Figure 14. Increased City Financial Support for Zoo?**

| | % Yes | % No |
|---|---|---|
| $ 24 | 72.5 | 27.5 |
| $ 48 | 69.3 | 30.7 |
| $ 96 | 62.1 | 37.9 |

**Figure 15. Issues that Deserve Financial Support**

| | % Strong | % Some | % None | % No Opinion |
|---|---|---|---|---|
| Support for an increase in educational programs such as Toddler Trek, sleepovers, etc. | 57.6 | 30.0 | 5.7 | 6.8 |
| Support for an increase in the number of exhibits to attract more tourists and increase city revenue. | 77.8 | 17.1 | 2.2 | 2.8 |
| Support for expanding the physical capacity of the zoo. | 71.6 | 22.7 | 2.3 | 3.3 |
| Support for zoo conservation efforts such as the Neighborhood Burrowing Owl Project. | 57.0 | 31.6 | 4.7 | 6.7 |
| Support zoo attendance by keeping admission prices low. | 59.9 | 28.3 | 4.1 | 7.6 |

Price-Elasticity/Market Capacity Analysis

The results shown in Table 1 indicate that the independent variables employed in estimating the model explain 88 percent of the monthly variations in paid admissions. In addition, all regressors are statistically significant at the 95% level. This suggests that those independent variables serve as good predictors in modeling paid admissions at the El Paso Zoo. Not surprisingly, the elasticity coefficients indicate that paid admissions are fairly responsive to changes in employment and population. Specifically, all other factors remaining the same, a one percent increase in population will lead to a 13.5 percent increase in paid admissions. Similarly, a one percent increase in employment will lead to nearly a three percent increase in paid attendance at the El Paso Zoo.

**Table 1. Final Model Specification**

| Variable | Coefficient | t-Statistic | Probability |
|---|---|---|---|
| Constant | -0.006 | -0.469 | 0.640 |
| Free Admissions | 0.415 | 7.805 | 0.000 |
| Admission Prices | -0.267 | -2.017 | 0.046 |
| Movie Prices(-3) | 0.589 | 2.614 | 0.010 |
| Employment(-7) | 2.917 | 2.263 | 0.025 |
| Population(-16) | 13.532 | 2.007 | 0.047 |
| AR(12) | 0.943 | 35.14 | 0.000 |
| MA(1) | -0.990 | -157.1 | 0.000 |
| | | | |
| R-squared | 0.878 | F-statistic | 144.7 |
| Adjusted R-squared | 0.872 | Prob. of F-stat. | 0.000 |
| Durbin-Watson stat | 2.076 | | |

Notes:

Dependent variable is paid admissions and the sample period is from Sep. 1994 to Jun. 2009.

AR(*X*) and MA(*X*) refer to autoregressive and moving average terms.

Variables' lagged periods in parentheses.

Admission prices, free admissions and movie prices are found to be inelastic, implying that paid admissions are not very responsive to changes in those variables. For instance, a one percent decrease in free admissions will lead to a decrease in paid attendance of only 0.42 percent. Likewise, a one percent increase in admission prices will cause a decrease in paid attendance of 0.27 percent. Although these results imply that an increase in admission prices will result in a very small decrease in paid attendance, such interpretation has to be taken with caution. Changes in admission prices have been relatively small over the past 15 years. Specifically, the nominal price of a general adult admission ticket changed approximately 67 percent over this time frame; a 4.5 percent annual rate of increase. In real, after inflation terms, the adult admission price rose only 35 percent over the last 15 years; a 2.3 percent

annual rate. Consequently, substantial increases (for example, 25 percent or more in one year) in admission prices may drastically affect the elasticity coefficients and the overall results of the model. The market's capacity to accept a significant increase in admission fees may be much more sensitive than the regression results suggest.

The intercept survey contained questions concerning Zoo visitors' willingness to accept a variety of admission price increases (Questions 11 and 12 in the Appendix). Specifically, price increase scenarios were given to respondents where the admission fee was raised by $0.50 (a 10 percent increase in the adult price) to as much as a $2.50 increase (50 percent). Survey results for these questions are presented in Figure 16 and Figure 17 below.

**Figure 16. Willingness to Visit Current Zoo Exhibits**

| | % Yes | % No |
|---|---|---|
| $ 0.50 | 87.5 | 12.5 |
| $ 1.00 | 77.3 | 22.7 |
| $ 1.50 | 55.9 | 44.1 |
| $ 2.00 | 38.9 | 61.1 |
| $ 2.50 | 35.0 | 65.0 |

**Figure 17. Willingness to Visit New African Exhibit**

| | % Yes | % No |
|---|---|---|
| $ 0.50 | 95.0 | 5.0 |
| $ 1.00 | 89.9 | 10.1 |
| $ 1.50 | 72.6 | 27.4 |
| $ 2.00 | 54.9 | 45.1 |
| $ 2.50 | 46.9 | 53.1 |

In general, the price elasticities implied by the responses indicate a much greater sensitivity to any immediate price rise. The implicit elasticity value for an increase to $6.00 from $5.00 was slightly above one (1.1) indicating that current visitors will reduce attendance by roughly 1.1 percent for every one percent increase in the admission price. For price scenarios beyond $6.00, the markets' willingness or capacity to maintain current attendance levels is greatly reduced; with elasticity values going to 4.0 and above.

The survey sought responses to similar admission price increase scenarios under the assumption that the African Exhibit had opened. Generally, visitors revealed a willingness to pay more for the existing plus the new exhibit. Implicit sensitivity values were inelastic (that is, less than one) up to a $6.00

admission price. But once again, price increases beyond $6.00 met with resistance with elasticity values rising to two and above.

In summary, the markets' capacity to absorb immediate and significant admission price increases may well be much lower than that suggested by the regression analysis of the time series data. To be sure, positive changes in other attendance predictor variables may well offset that from price increases. In addition, aggressive promotion of the new African Exhibit will be critical in attracting current as well as new visitors to the Zoo.

## Intangible Benefits

The above quantitative analysis indicates the importance of the El Paso Zoo on the local economy. In addition to these economic benefits, the zoo provides many other qualitative impacts that enhance the local community's quality of life. For instance, the zoo provides educational and cultural services, engages in community outreach programs, and leads conservation efforts. These qualitative impacts, however, are difficult to measure in dollar terms. Thus, the El Paso Zoo's measurable economic benefits are conservative. Because the qualitative activities of the zoo are an important part of the zoo's mission and impact on the local community, some of these qualitative activities are described below.

<u>El Paso Zoological Society</u>

The El Paso Zoological Society was formed in 1963 and serves as "the catalyst for the El Paso Zoo to provide a premier wildlife and natural habitat experience for residents of and visitors to the Paso del Norte region."[6] The Society's financial support helps the zoo with capital improvements, animal acquisitions, and conservation and educational programs. Among other things, the Society serves as the sponsor for all volunteers at the zoo, solicits grants, assists in planned giving, supports the Traveling Safari Educational Outreach Program, hosts the annual Summer Camp at the El Paso Zoo, manages the Adopt an Animal at the El Paso Zoo program, and sponsors special events and general fundraising activities. The Society also helps the City of El Paso in expanding, upgrading, and promoting the El Paso Zoo.

<u>Educational Programs</u>

Educational programs help the zoo achieve its mission "to celebrate the value of animals and natural resources and to create opportunities for people to rediscover their connection to nature."[7] The *Zoo Adventure Program* serves as the zoo's primary educational program. Some of the programs offered as part of the *Zoo Adventure Program* include:

- *Daily Animal Encounter Programs and Scheduled Programs*. Each day, zoo visitors can learn about sea lions at the California Sea Lion Encounters and Question and Answer Sessions, and discover how elephants are trained at the Asian Elephant Training Encounters. Throughout the

year, the zoo provides a variety of scheduled programs, including, among others, Zoo Toddler Treks and Behind the Scenes events.

- *Zoo on Demand Programs*. The El Paso Zoo offers a variety of programs that are available upon request. Teachers, home school groups, scout troops, civic groups, and others may request these programs. Some of the programs include Asia Sleepover, Elephant Produce Hunt, Night Prowl, and Photo Safaris.
- *Curriculum based Animal Encounters*. The two main curriculum based programs include Animal Encounters at Your School and Classes at the Zoo. These programs provide opportunities to interact with the zoo's education animals and animal biofacts at one's school or at the Cisneros Paraje and the El Paso Water Utilities Discovery Center Classroom. The zoo provides many curriculum based programs, some of which include All about Water, Our World Our Friend, Rainforest Revenues, and El Paso's Venomous Animals.

Conservation Programs

Conservation programs also assist the zoo in achieving its mission. The zoo supports or is a member of a number of local conservation organizations, including the Chihuahuan Desert Education Coalition, Chihuahuan Desert Wildlife Rescue, El Paso/Trans-Pecos Audubon Society, Franklin Mountain Wilderness Coalition, Friends of Rio Bosque, Groundwork El Paso, Keystone Heritage Park, and Mesilla Valley Audubon Society. In addition to supporting or being a member of these organizations, the zoo has a number of wildlife conservation programs under its Take Action initiative, some of which include:

- *Elephant Flying Squad*. As the number one sponsor of the World Wildlife Fund Flying Squad in central Sumatra, the El Paso Zoo is helping to protect the last free ranging heard of Sumatran elephants near Tesso Nilo National Park. The elephant habitat near this Sumatran national park is being threatened by logging. Native elephants, forced to wander for food, threaten to enter villages and eat up farms and commercial plantations. The Elephant Flying Squad drives off crop-raiding elephants and helps the wild elephants return back into the forest.
- *Help Spectacled Bears*. Spectacled bears come from South America and live in the Andes Mountains. According to the International Union for the Conservation of Nature, spectacled bears are threatened in Columbia and Venezuela, and are decreasing in numbers in Ecuador, Peru, and Bolivia. The El Paso Zoo leads the spectacled bear conservation efforts here in El Paso.
- *Help the Burrowing Owls*. Burrowing owls are losing their homes in the area due to new development projects. The El Paso Zoo, in partnership with the Texas Parks and Wildlife Department, builds artificial nesting sites for the owls.

## Appendix

EL PASO ZOO

### Economic Impact Survey[1]

The Institute for Policy and Economic Development at UTEP is conducting a short survey for the El Paso Zoo to better understand the zoo's visitor base and to receive feedback on visitors' experiences at the zoo. This survey is voluntary and answers will be kept confidential. Your feedback is valuable to help the El Paso Zoo improve the zoo experience. Please complete the survey and return it to an IPED employee. If you have any questions you can contact Guadalupe Corral at (915) 747-7974. Thank you.

1. What is the main reason for your visit to the El Paso Zoo today? Please check all that apply.
   ❑ Pleasure ❑ Education ❑ Business ❑ Other (please specify) _____

2. How many persons, including yourself, are in your group visiting the zoo? _____
   a. How many are 0 to 2 years old? _____
   b. How many are 3 to 13 years old? _____
   c. How many are 14 to 17 years old? _____
   d. How many are 18 to 64 years old? _____
   e. How many are 65 years old or older? _____
   f. How many are in the military (include spouses and dependents)? _____

3. Please tell us where you and the persons in your group live:
   a. How many in your group live in El Paso? _____
      a1. Please provide your zip code(s): _____
   b. How many in your group live in a U.S. city other than El Paso? _____
      b1. Please provide your city/cities and state(s): _____
   c. How many in your group live in Mexico or outside of the U.S.? _____
      c1. Please provide your city/cities and state(s): _____

   If anyone in your group is from out of town, please GO TO Question 4.
   If no one in your group is from out of town, please GO TO Question 5.

4. For the persons from out of town and visiting the zoo, estimate the expenses for the entire stay in El Paso for the following activities. (Note: only include persons from out of town.)
   $_____ Lodging (Hotel/Motel) $_____ Transportation in El Paso
   $_____ Food and Drink $_____ Other Purchases & Expenses
   $_____ Entertainment **(do not count expenses at the El Paso Zoo)**

5a. Did you know that the zoo has a support organization called the El Paso Zoological Society? ❑ Yes ❑ No

5b. Are you a member of the El Paso Zoological Society? ❑ Yes ❑ No

6. In total, how many **hours** did you/your group spend at the zoo today?
   ❑ Less than 1 ❑ Between 1 and less than 2 ❑ Between 2 and less than 3 ❑ Between 3 and less than 4 ❑ More than 4

7. Excluding admission prices, did anyone in your group spend money while visiting the zoo?

❑ Yes (GO TO Question 8) ❑ No (GO TO Question 9)

8. How much was spent at the following places?

| Gift Shop | Café |
|---|---|
| ❑ $0 – $14.99 | ❑ $0 – $14.99 |
| ❑ $15 – $29.99 | ❑ $15 – $29.99 |
| ❑ $30 – $44.99 | ❑ $30 – $44.99 |
| ❑ $45 – $59.99 | ❑ $45 – $59.99 |
| ❑ $60 – $74.99 | ❑ $60 – $74.99 |
| ❑ $75 – $99.99 | ❑ $75 – $99.99 |
| ❑ $100 and up | ❑ $100 and up |

9. Excluding this visit, how many times have you or anyone in your group visited the El Paso Zoo over the past 12 months?

❑ 0 ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ More than 4

10. Please give us your opinion of the various features and aspects of the El Paso Zoo listed below:

| Features and Aspects of the El Paso Zoo | Excellent | Very Good | Average or Fair | Poor | No Opinion |
|---|---|---|---|---|---|
| a. Signage or directions to the zoo | ❑ | ❑ | ❑ | ❑ | ❑ |
| b. Availability of parking | ❑ | ❑ | ❑ | ❑ | ❑ |
| c. Admission prices compared to "quality" of exhibits | ❑ | ❑ | ❑ | ❑ | ❑ |
| d. Overall atmosphere of the facility | ❑ | ❑ | ❑ | ❑ | ❑ |
| e. Animal information/educational signs | ❑ | ❑ | ❑ | ❑ | ❑ |
| f. Courtesy of staff/volunteers | ❑ | ❑ | ❑ | ❑ | ❑ |
| g. Cleanliness of the facility overall | ❑ | ❑ | ❑ | ❑ | ❑ |
| h. Price compared to "value" of food | ❑ | ❑ | ❑ | ❑ | ❑ |
| i. Price compared to "value" of souvenirs | ❑ | ❑ | ❑ | ❑ | ❑ |

11. Please tell us how increases in admission prices would affect your willingness to visit the **current** El Paso Zoo exhibits. Would you still visit the zoo the same number of times per year if admission prices increased by:

a. $0.50 ❑ Yes ❑ No
b. $1.00 ❑ Yes ❑ No
c. $1.50 ❑ Yes ❑ No
d. $2.00 ❑ Yes ❑ No
e. $2.50 ❑ Yes ❑ No

12. Please tell us whether you would be willing to pay more in admission prices to see a **new** African exhibit at the El Paso Zoo with lions, zebras, meerkats, and a train. Would you visit the new African Exhibit if admission prices increased by:

a. $0.50 ❑ Yes ❑ No
b. $1.00 ❑ Yes ❑ No
c. $1.50 ❑ Yes ❑ No
d. $2.00 ❑ Yes ❑ No
e. $2.50 ❑ Yes ❑ No

13. What 2 changes or improvements would you most like to see take place at the El Paso Zoo?

    a. _____

    b. _____

If anyone in your group lives in El Paso, please GO TO Questions 14.

If no one in your group lives in El Paso, please GO TO Question 16.

14. If the City of El Paso decided to increase its financial support for the zoo, assume this would be accomplished by increasing taxes/fees on El Paso households by an average of $24 per year (or $2 per month)[2] from 2010 and on. With this in mind: Generally, do you favor increased City financial support for the El Paso Zoo?

    ❑ Yes (GO TO Question 15) ❑ No (GO TO Question 16)

15. Please rank each of the following using the provided scale:

    **1 – You believe the issue deserves STRONG financial support**

    **2 – You believe the issue deserves SOME financial support**

    **3 – You believe the issue deserves NO financial support**

    **4 – No opinion**

| | |
|---|---|
| | Support for an increase in educational programs such as Toddler Trek (play-time activities for parents and their little ones), sleepovers, etc. |
| | Support for an increase in the number of exhibits to attract more tourists and increase revenue for the city and area. |
| | Support for expanding the physical capacity of the zoo. The zoo is too small and additional monies would allow for both improved quality and expansion. |
| | Support for zoo conservation efforts such as the Neighborhood Burrowing Owl Project (building artificial nesting areas for burrowing owls). The zoo helps preserve and conserve wildlife and wild places. Additional monies would further the efforts to protect the environment. |
| | Support zoo attendance by keeping admission prices low. |

16. What is your total household income before taxes?

    ❑ $10,000 or Less
    ❑ $10,001 – $20,000
    ❑ $20,001 – $30,000
    ❑ $30,001 – $40,000
    ❑ $40,001 – $50,000
    ❑ $50,001 – $60,000
    ❑ $60,001 – $70,000
    ❑ $70,001 – $80,000
    ❑ $80,001 – $90,000
    ❑ $90,001 – $100,000
    ❑ Over $100,000

17. Are you a Lone Star Card (or similar program) recipient? ❑ Yes ❑ No

    (The zoo is considering the feasibility of a reduced entrance fees program.)

[1] This survey instrument was also provided in Spanish.

[2] This question was asked with three different increases in taxes/fees: $24 per year (or $2 per month), $48 per year (or $4 per month), and $96 per year (or $8 per month). Three separate survey versions were used to accommodate these different increases in taxes/fees.

## Endnotes

[1] IMPLAN Professional®, Version 2.0, Minnesota IMPLAN Group, Inc.

[2] Rickman, Dan S. and Keith Schwer. 1995. "A Comparison of the Multipliers of IMPLAN, REMI, and RIMS II: Benchmarking Ready‐Made Models for Comparison," *The Annals of Regional Science*, Vol. 29, p 363‐374.

[3] Alan Pankratz. *Forecasting with Dynamic Regression Models* (New York: John Wiley and Sons, 1991).

[4] George E. P. Box and Gwilym M. Jenkins, *Time Series Analysis, Control, and Forecasting*, 2nd Ed. (San Francisco, CA: Holden Day, 1976); George C. Tiao and Ruy S. Tsay, "Multiple Time Series Modeling and Extended Sample Cross-Correlations," *Journal of Business and Economic Statistics*, 1 (1983): 43–56.

[5] R. S. Pindyck and D. L Rubinfeld, *Econometric Models and Economic Forecasts* (New York: Irwin McGraw-Hill, 1998).

[6] The El Paso Zoo. The El Paso Zoological Society. "About Us." Available at http://www.elpasozoosociety.org/aboutus.asp. Accessed 09/11/2009.

[7] The El Paso Zoo. "El Paso Zoo Mission." Available at http://www.elpasotexas.gov/elpasozoo/Mission.htm. Accessed 09/11/2009.