Socioeconomic Impact of Gambling on Iowans

Final Draft Report

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"The Universe is wider than our views of it.
It is remarkable how easily we fall into a particular route,
and make a beaten track for ourselves" (Thoreau)

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EXECUTIVE SUMMARY

STUDY PURPOSE AND SCOPE

The purpose and scope of the Socioeconomic Impact of Gambling on Iowans Study, as required by the Iowa Legislative Council, was to determine:

- Socioeconomic characteristics of gamblers
- Economic impact of gambling at existing Iowa casinos on the local community
- Social impact of gambling on the local community
- Impact of problem gambling

The above objectives were met through addressing the following Pertinent Key Issue Questions as set forth by the Iowa Legislative Council:

1. What are the socioeconomic characteristics of casino gamblers?

2. What are the economic and social impacts of existing casinos in Iowa on the local community?

3. What is the impact of problem gambling on the local community?

The baseline year for the socioeconomic impact of existing casinos in Iowa was 2004. The economic and social benefits and costs of gambling on adjacent states were not analyzed in this study.

METHODOLOGY

Information for this study was elicited through surveys (telephone and electronic) of local residents and key personnel in Iowa. The later included law enforcement officers, economic development officers, social service providers, county engineers, recreation/attraction managers, and beneficiaries of charitable contributions awarded by the nonprofit organizations of Iowa. Additional information was obtained through secondary sources and existing literature. Four study areas were used. Study Area I refers to all the counties of Iowa and represents the entire State of Iowa. Study Area II is comprised of communities located within a 50-mile radius of the existing casinos. However, communities in the neighboring states were excluded if located within a 50-mile radius. Study Area III covers only the casino counties: Clarke, Clayton, Clinton, Des Moines, Dubuque, Lee, Monona, Polk, Pottawattamie, Scott, Tama, and Woodbury. Finally, Study Area IV, defined for the purpose of economic impact analyses through casino employee zip codes, comprises of multiple counties. A control group of counties was selected based similar age, income, and population characteristics. Counties in this group are Black Hawk, Cerro Gordo, Delaware, Hardin, Linn,

Palo Alto, Pocahontas, Marshal, Muscatine, and Story. Aggregated counts are used to contrast data between casino counties and control group of counties.

A minimum of 100 residents (Study Area II) per casino were interviewed to solicit information on local perceptions of economic well-being, tourism, crime, gambling behavior, quality of life, and the effect of gambling on those perceptions. A total of 1722 surveys were collected. Approximately 300 key personnel in the casino counties were interviewed. The estimated response rate was 65%.

After identifying average expenditures for all pertinent recreation sectors, ten IMPLAN (Impact Analysis for Planning) models were used to calculate the economic impact of casino gambling on the State of Iowa. IMPLAN is an input-output model that helps to understand the economic structure, interdependencies of different sectors of the economy, the size and structure of the recreation and tourism industry in a given region and its linkages to the economy. An eight latent construct scale was used to determine social impact perceptions of Iowans. The constructs are quality of life, community safety, community involvement, social changes in the community, congestion/crowding changes in the community, job opportunity changes, desirability of gaming, and personal benefits from gaming. A set of potential measurement items was developed for each scale. The item scales follow a typical format of "strongly disagree" to "strongly agree" on a five point Likert scale. Factor analysis was used to determine the extent to which shared variance existed among the selected items. Based on clusters created by factor analysis, items were grouped into different categories.

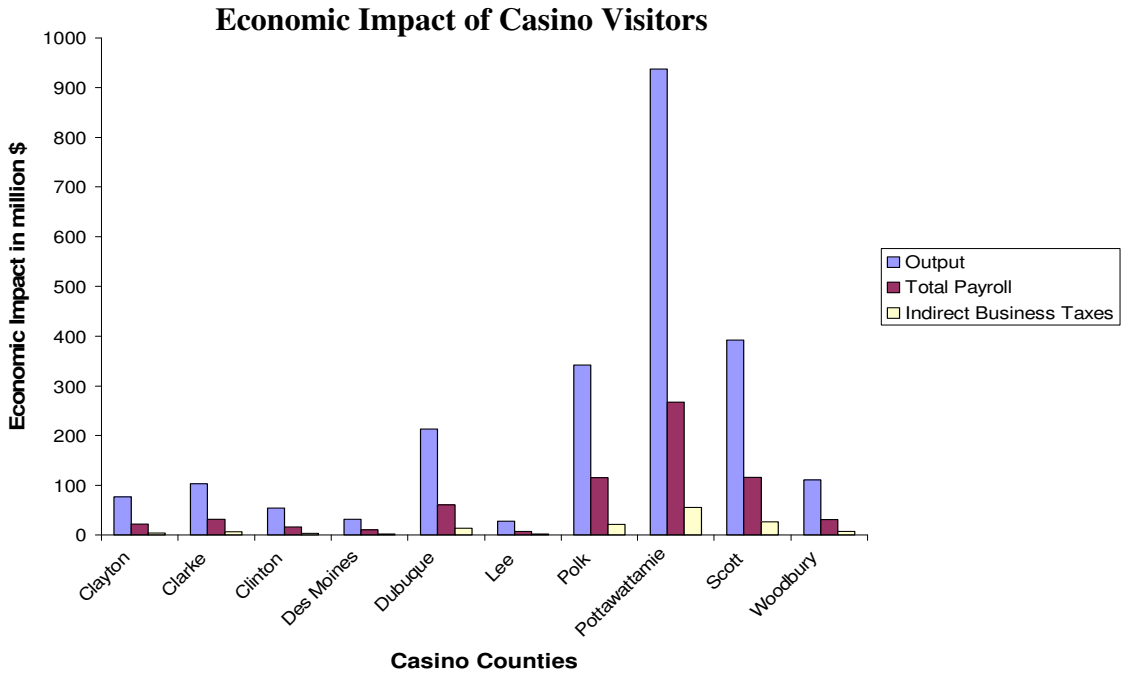
FINDINGS

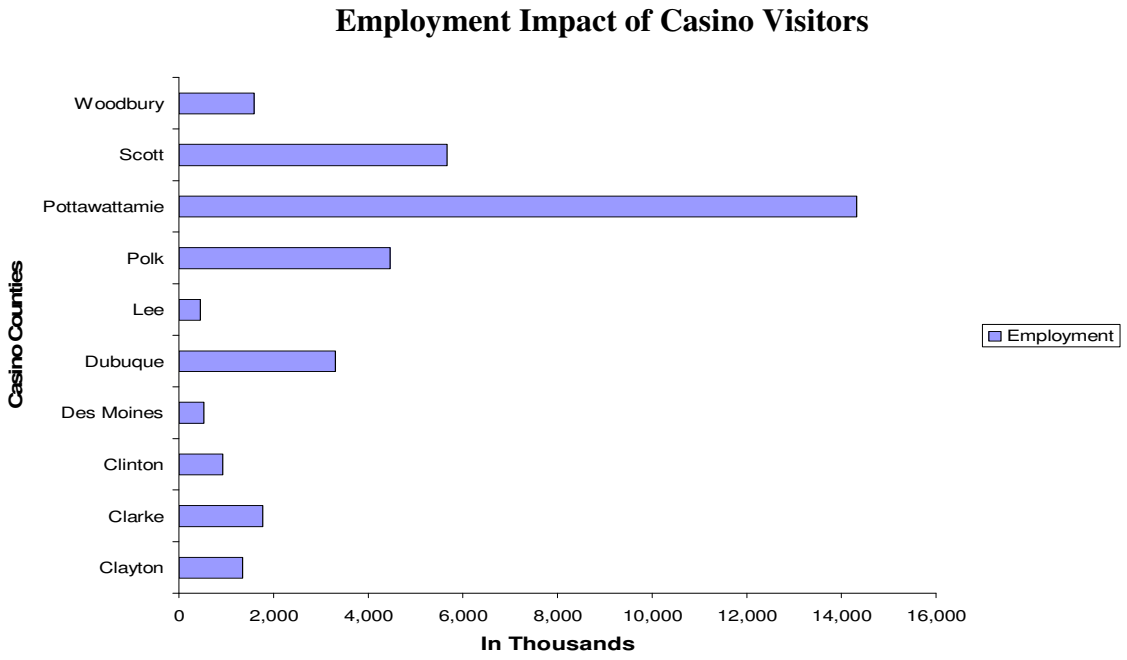
Socioeconomic Characteristics of Gamblers: Players club member demographics are similar to the Iowan gamblers. The majority of the gamblers are above 40 years of age and female with 60% married and 13% divorced. Forty-four percent of the respondents have an annual income above $50,000. Average party size is two. Forty-two percent are high school graduates or less and 18% have a Bachelor's degree. Approximately 7% percent have a masters' or a doctorate degree.

Gambling Behavior and Intentions of Iowans: 38% of the local residents have gambled in the past twelve months and the average distance traveled one way is 24.1 miles. Average spending each month on casino gambling in or out of Iowa to the most frequented casino is $73.30 and average number of times gambled on one trip in the past 12 months is 7.9. Fifty-five percent of the gambling residents will not gamble and 25% will go to another state to gamble if a casino did not exist in their area.

Economic Impact of Existing Casinos in Iowa: The cumulative impact of casino visitor expenditures is $3.5 billion for the 2004 calendar year out of which $2.3 billion are output (industry production) and $1.2 billion are value added (total payroll, proprietary income, other property taxes, and indirect business taxes) impacts. The output represents 1.24% of Iowa State total industry output for 2004 of about $185 billion, and the value added represents 1.33% of the Iowa State total value added of approximately $93 billion. Employment impacts add up to 34,364 jobs. The casinos are responsible for 9,394 secondary (indirect and induced) jobs. These jobs are in addition to the 24,970 direct jobs associated with casino visitor

spending. The 34,364 jobs represent about 1.9% of the total 2004 Iowa employment by industry of 1,882,214. State, city, and county taxes and charitable donations have created a direct impact of $327.7 million. The economic impacts in terms of output, total payroll, and indirect business taxes (paid by area businesses) and employment for each casino county are demonstrated in the following two graphs.

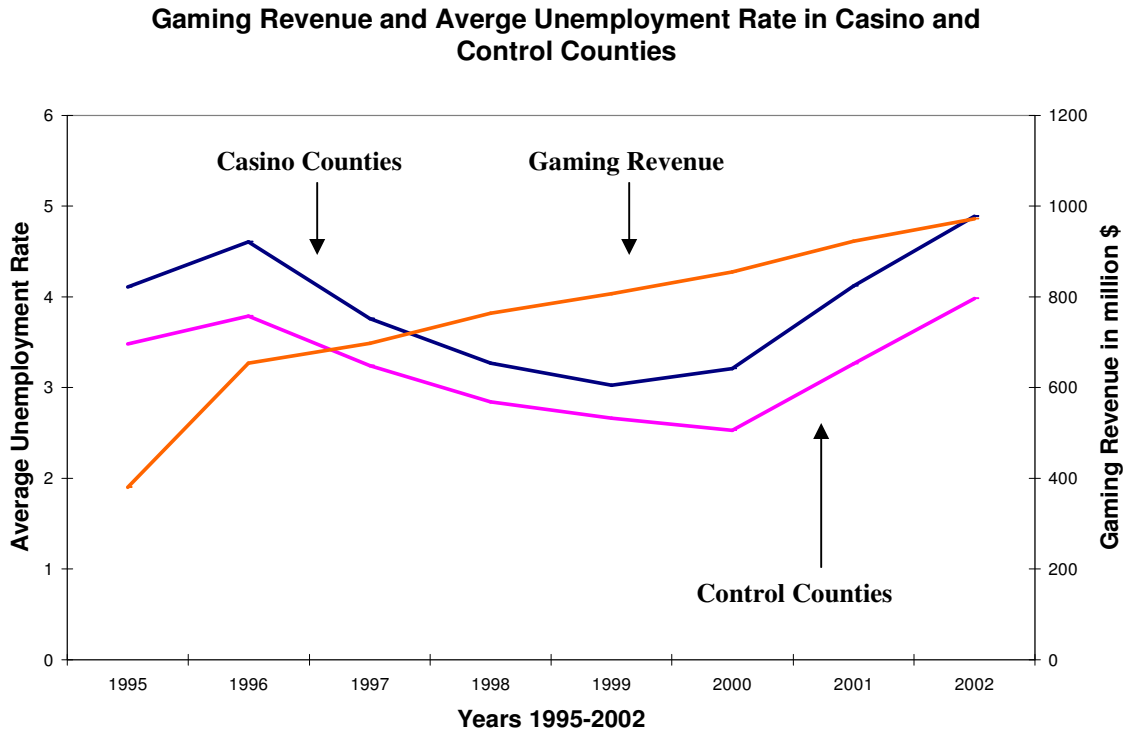




As the above graphs reveal, casinos in Pottawattamie County generate the maximum economic impacts in Iowa in terms of output, total payroll, indirect business taxes, and

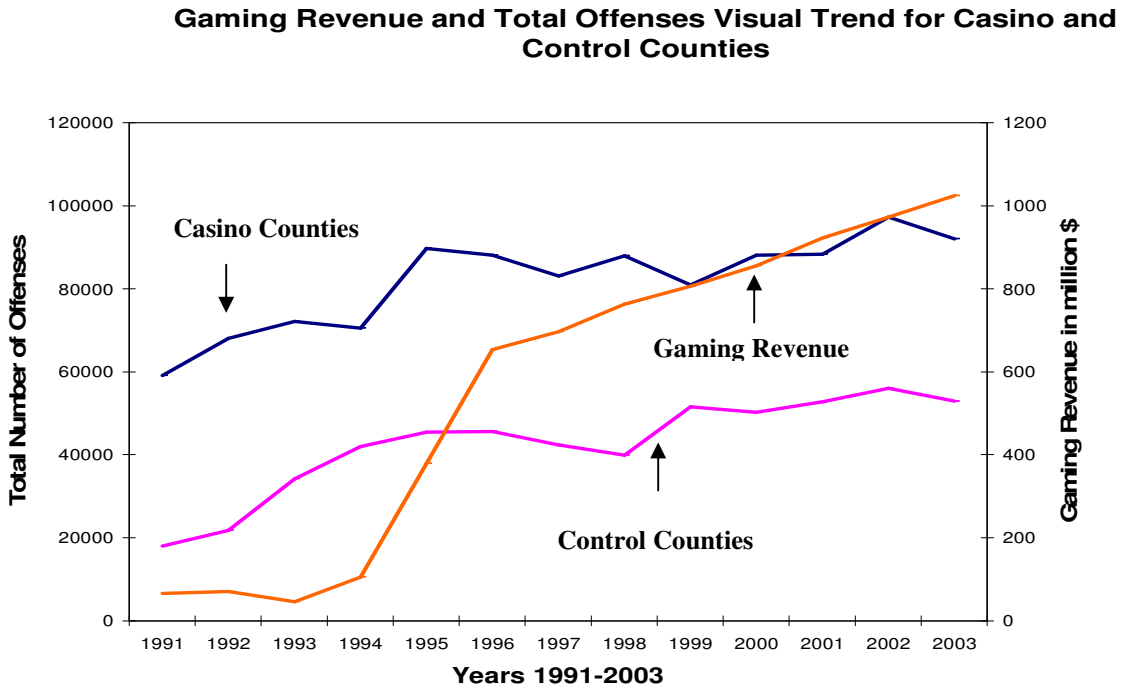
employment. Thirty percent of the gambling expenditures incurred by local gamblers are displaced expenditures. In other words, these expenditures would have been spent on other forms of recreation and entertainment if the casinos were absent. An analysis of induced impact dispersion indicates that Iowan residents lose 31.5% of casino-generated jobs to the neighboring states.

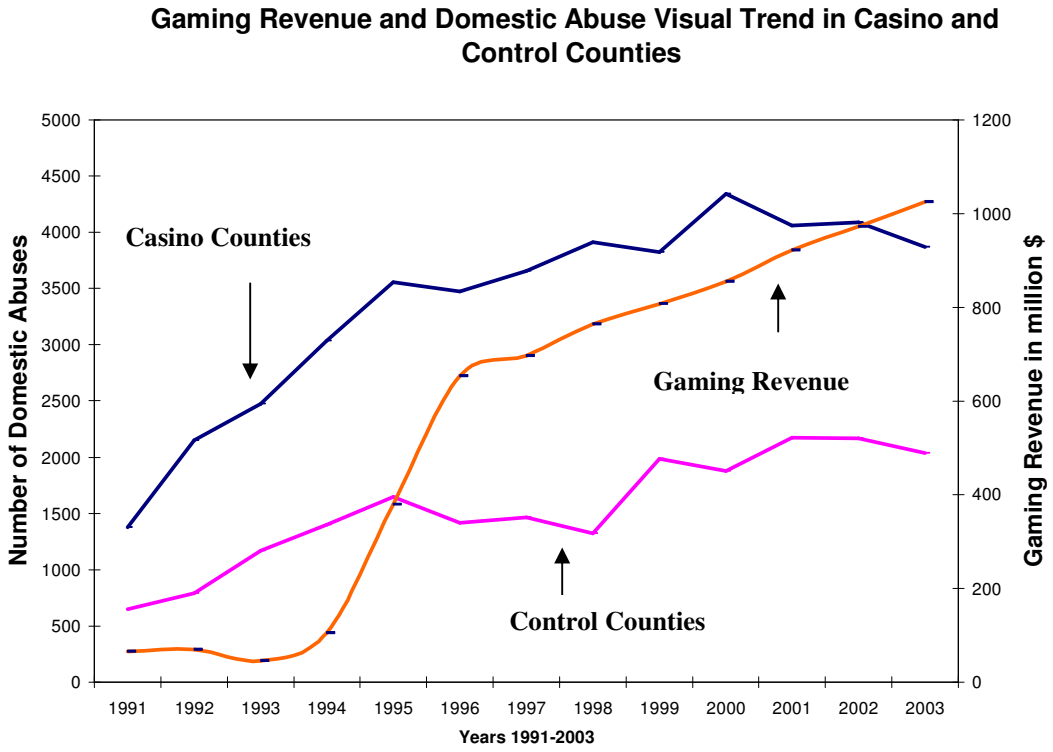
With regard to resident perceptions, the majority of the residents disagree that the existing casinos have increased the prices of goods and services, high spending of visitors has affected their cost of living, areas businesses have been negatively affected, less investment has come to their community, employment opportunities have decreased, and the local taxpayers' money is wasted to improve public facilities for casino visitors. However, a substantial percentage (between 30% and 40%) of residents agrees that the employment opportunities have decreased and there is less investment in the community. This view is supported by the secondary data on average unemployment rate. the average unemployment rate in the casino and control groups of counties is similar as seen in the following graph. Contrary to expectations, the unemployment rate in casino counties has increased, while the total adjusted gaming revenue from the non-tribal Indian casinos has grown.



Social Impact: A majority of the residents and key personnel (law enforcement officers, economic development officers, social service providers, county engineers, and the Iowa Department of Transportation) agree that crime, infrastructure, and the environment of the casino counties and those within a 50-mile radius have not been negatively affected by the existing casinos. The majority of the residents feel safe in their community. However, a substantial percentage (between 30% and 40%) of residents perceive that the quality of recreation opportunities has not increased, roads and public facilities have not been kept at a high standard, and new and improved facilities have not been built. In addition, the

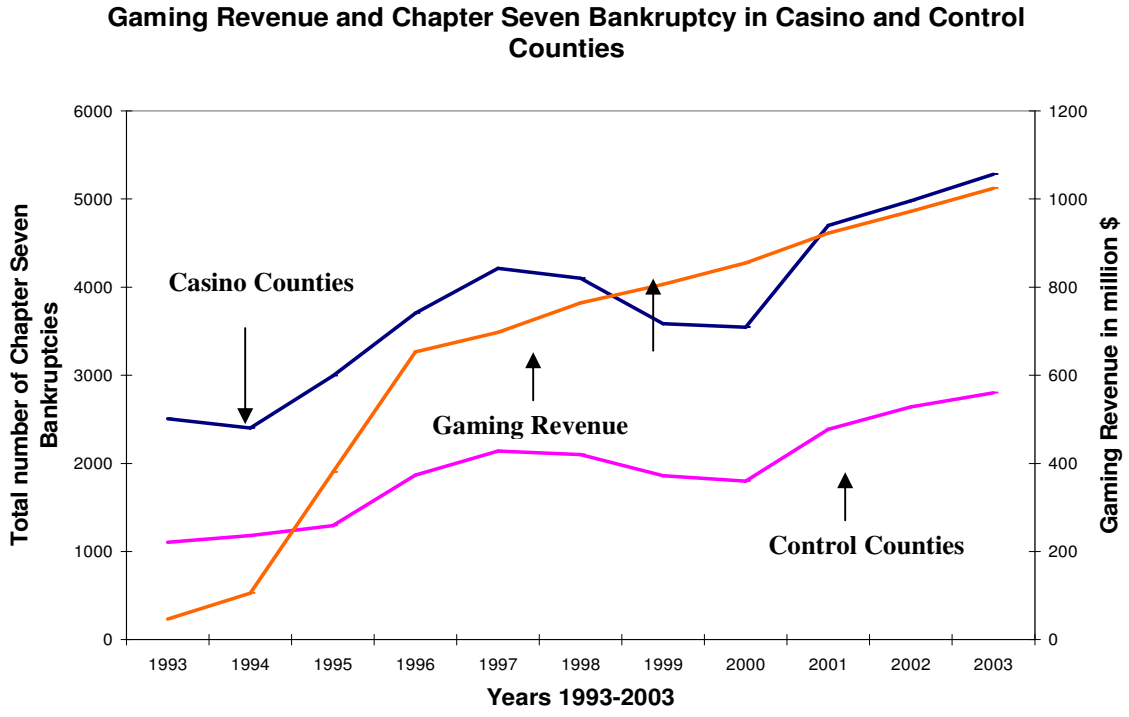
aggregated secondary data show that crime in casino counties is higher than that in the control group of counties. The following graphs on total offenses and domestic abuse crime support this assertion. However, the disparity between the casino and control counties existed before casinos were built.

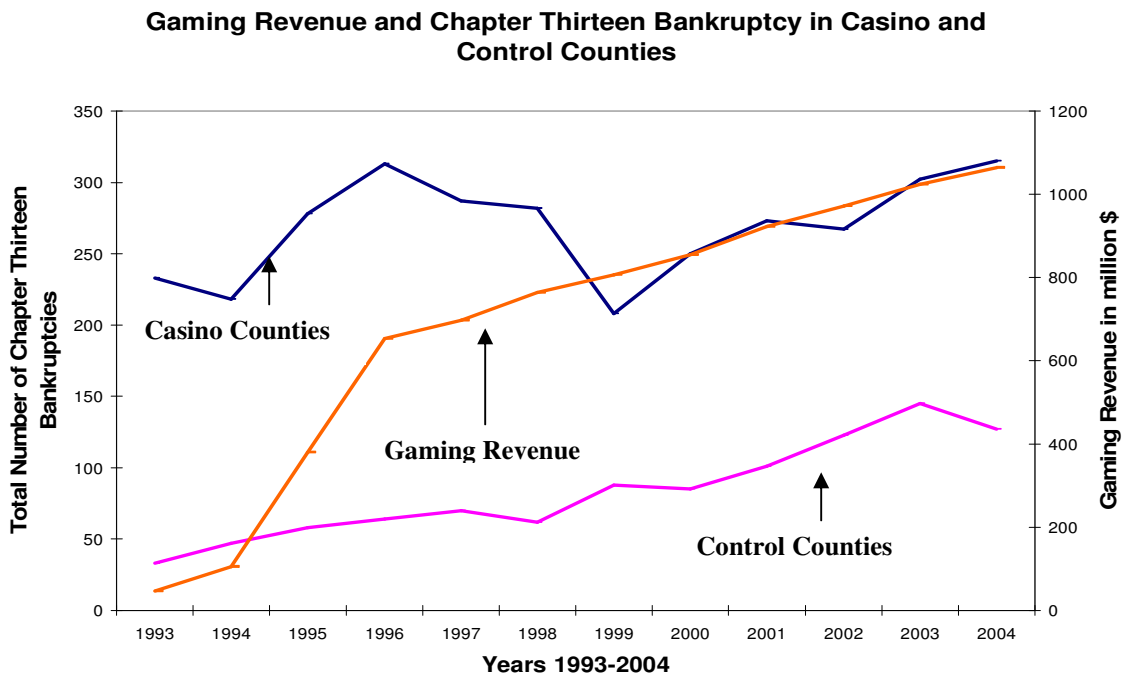




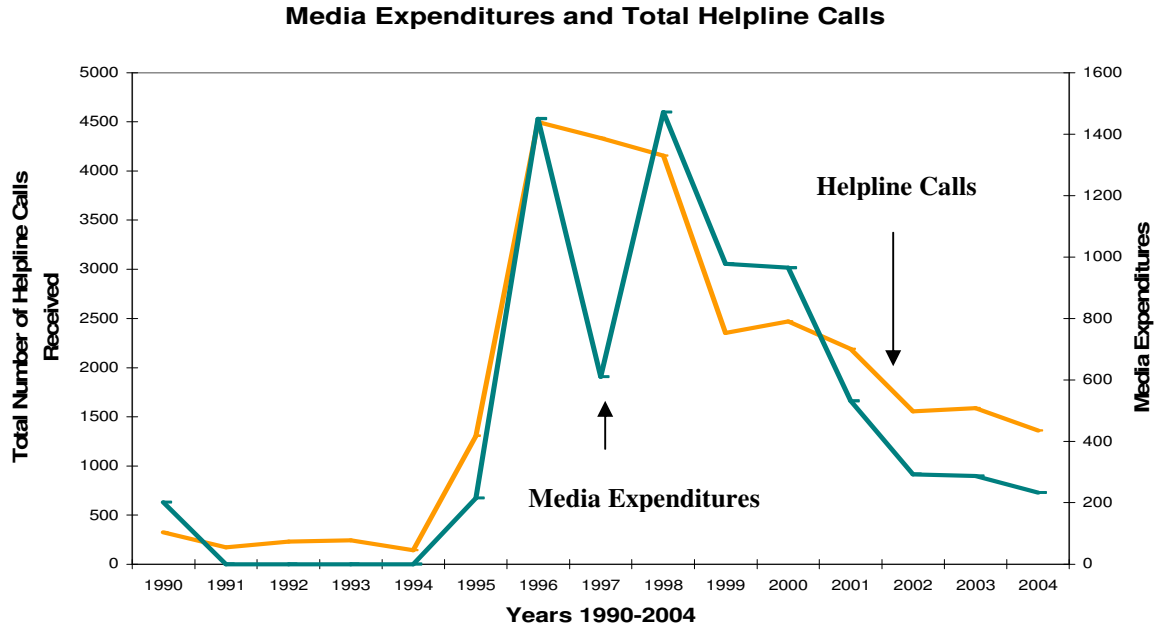
A further analysis of the data indicates that significant differences in perceptions exist among residents based on marital status, annual household income, education, and gambling inclination categories. Analysis of the causal effects of socioeconomic characteristics and pathological gambling perceptions indicates that residents earning less income are more supportive of the benefits provided by the casinos. However, they agree more with the economic costs associated with gambling relative to the other income groups. Problem gambling perceptions were highly correlated with disruption and cost perceptions. Non-gamblers agreed more with the costs and disruptions and disagreed more with the benefits associated with casinos relative to gamblers. Households with more children and residents in the widowed category agreed more with the costs. With regard to safety, the females felt less safe.

Possible Impact of Problem Gambling: Approximately 40% of the residents and a substantial percentage (37%) of key personnel perceive that local people borrow money to gamble and bankruptcies have resulted because of gambling. The aggregate historical data show that chapter seven (business) and chapter thirteen (personal) bankruptcies are higher in the casino counties relative to the control group of counties as indicated in the following graphs.





The majority of the local residents are of the opinion that tax money should be spent on education, fire and police protection, and youth programs. They also want to see the reduction of property taxes and allocation of funds to rehabilitation programs associated with problem gambling. Historical data show that the number of 1-800-BETSOFF calls has declined relative to the growth in total gaming revenue. However, according to the Iowa Department of Public Health (Iowa Gambling Treatment Program), this is because of the withdrawal of funds allocated for media expenditures. Consequently, the number of educational messages on problem gambling to the public has been fewer. The following graph shows the relationship between calls received and media expenditures.



SUMMARY

The existing casino industry has generated both benefits and costs for the State of Iowa. On one end of the continuum, it is portrayed by residents as a legitimate and family-friendly spur to economic development. On the other end of the continuum, it is regarded as an industry responsible for bankruptcies.

- The combined economic benefits for the year 2004 are estimated to be $3.5 billion with 34,364 new jobs.

- The gambling sector has generated an output and value added of $1.1 billion and $555.9 million respectively with 11,425 jobs. In addition, it has resulted in $306.6 million in total payroll and $70 million in indirect business taxes.

- Of the 4,825 induced jobs, approximately 31.5% are held by the out-of-state employees.

- Historical data do not show a decrease in unemployment rate for casino counties.

- The study results show that 69% of the casino visitor expenditures are retained (not siphoned-off from other businesses) and 30% are displaced (would have been spent elsewhere). The displacement effect is competition offered to other sources of entertainment by the gaming facilities for a fixed portion of the customer's discretionary income.

- The casinos contributed $327.7 million last year in taxes and charitable contributions. The charitable contributions made by the existing casinos through the nonprofit organizations are estimated to be $31.4 million.

- Problem gambling is perceived to be a serious concern by the Iowa residents.

    - The survey data points to significant ties between bankruptcy and gambling.

- The study respondents emphasize the need for more funds to communicate educational messages about problem gambling and the establishment of rehabilitation programs for problem gamblers.

    - They believe funds should be allocated to education, fire and police protection, youth programs, and senior citizens.

    - Residents also feel that the gambling tax revenue should be applied towards lower property taxes.

- In general, the residents are evenly divided in their opinion of the positive and negative impacts of the existing casinos.

SOCIOECONOMIC IMPACT OF GAMBLING ON IOWANS

1. INTRODUCTION

Gambling can be viewed as economic development in different guises. It can be considered a conventional tourist sector that exports gambling services and serves non-local demand. It can also be perceived as a local service that serves local demand and simply redistributes existing economic activity. It can be an extractive industry that serves only external demand, generates few positive benefits locally, but leaves behind a legacy of local negative externalities. The literature offers many arguments for and against gambling. On the positive side, researchers have discovered that casinos have accelerated tax revenue and economic development in terms of local income, employment, and output with gambling being accepted as a leisure activity (Dense & Borrow, 2003; Eadington, 1996; Gabe, Kinsey, & Loveridge, 1996; Gazel, 1997; Hing et al., 2001; Ham, 2004; Nicholas, Stitt, & Giacopassi, 2002; Piscitelli & Albanese, 2000). Gambling has also been viewed as an import substitution activity serving local demand that would have flowed out of the economy, had gambling not existed. On the negative side, increased spending on gambling has been noted to come from local residents, leading to more crimes and pathological gambling (Moffet & Peck, 2001; Piscitelli & Albanese, 2000). Gambling is sometimes presented as an economic development activity that creates undesirable outputs and externalities at the local level (Felsentein & Freeman, 1998).

This study investigates the positive and negative socioeconomic impacts of non-tribal casino gambling on the State of Iowa, which has13 casinos and racetracks: Ameristar Casino and Hotel (Pottawattamie), Argosy of Sioux City (Woodbury), Bluffs Run Casino and Harrah's (Pottawattamie), Catfish Bend Casino (Lee and Des Moines), Diamond Jo Casino and Dubuque Greyhound Park and Casino (Dubuque), Isle of Capri Bettendorf and Rhythm City Casino (Scott), Isle of Capri Marquette (Clayton), Terrible Lakeside Casino Resort (Clarke), Mississippi Belle II (Clinton), and Prairie Meadows Racetrack and Casino (Polk). Six Casinos provide lodging facilities: Rhythm City (121 rooms), Lakeside Casino Resort (60), Isle of Capri Marquette (25 rooms), Harrah's (251 rooms), Isle of Capri Bettendorf (256 rooms), and Ameristar Casino and Hotel (160 rooms). The social impact includes the casino counties that have tribal Indian casinos.

Recently, a need for a study of the socioeconomic impact of casino gambling was recognized because of the 2003 referendum that resulted in approval by several Iowa counties to permit excursion boat gambling. As a result, several casino proposals are currently being considered. Under the 2004 Iowa Acts, House File 2302, section 61, the Iowa Legislative Council was required to commission a study to assess the socioeconomic impact of gambling on Iowans in terms of benefits and costs. On October 27, the contract to conduct the impact study was awarded to the University of Northern Iowa.

2. STUDY OBJECTIVES

This study strived to assist the decision makers in understanding the impacts of existing casinos. In addition to secondary data, the researchers collected primary data to determine the economic impact of casino visitors. Furthermore, this study used primary data to ascertain the impact of existing casinos on local residents' quality of life and lifestyle. The

local residents' perceptions of gambling and their gambling behavior in terms of frequency and losses were ascertained. Residents within a 50-mile radius of the existing casinos were randomly interviewed over the telephone. One hundred surveys per casino trade area were collected.

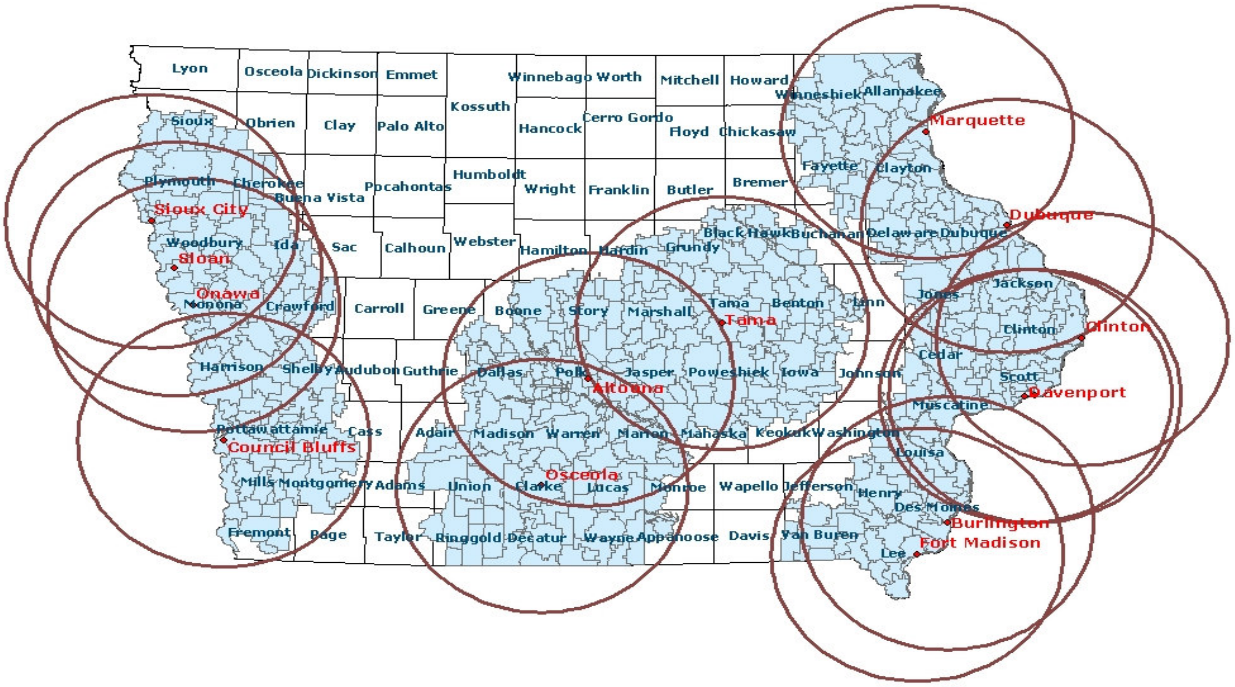
In summary, the proposed study fulfilled the objectives of understanding the impacts of Iowa casinos by assessing:

1. Socioeconomic characteristics of gamblers
2. Economic impact of gambling at existing Iowa casinos on the local community
3. Social impact of gambling on the local community
4. Impact of problem gambling

3. METHODOLOGY

3.1 Methods: The study gathered data from various communities of Iowa. Four types of study area were used for data collection. Study Area I refers to all the counties of Iowa. As illustrated in Exhibit 1, Study Area II consisted of communities located within a 50-mile radius of the existing casinos. Approximately 50% to 60% of the casino visitors have club player memberships (a tracking mechanism employed by each casino through which club player memberships are offered to all new consumers). An analysis of the player club member data shows that the major primary (average per capita winning is over $200) and secondary (average per capita winning between $50 and $200) trade areas are located within a 50-mile radius of the casino locations (Stone, Otto & Siegelman, 2004).

Exhibit 1: Study Area II



Source: Socioeconomic Impact of Gambling on Iowans Study (SIGIS), School of Health, Physical Education, and Leisure Services (HPELS): University of Northern Iowa (UNI)

The trade area was mapped for Iowa counties. Communities in the neighboring states located within the 50-mile radius were excluded. Study Area III was comprised of the casino counties. Finally, Study Area IV was ascertained for economic impact analyses through casino employee zip codes and consisted of multiple counties. In addition, 11 control communities were selected with age, income, and population characteristics comparable to casino counties. These were Black Hawk, Cerro Gordo, Delaware, Hardin, Johnson, Linn, Marshal, Muscatine, Palo Alto, Pocahontas, and Story counties.

3.1.1 Historical Data: secondary data were congregated for casino counties and control communities on Iowa demographics, family relations, family finances, education, employment and crime. The sources used were the U.S. Census Bureau, Iowa Workforce Development, Bureau of Labor statistics, Office of Social and Economic Trend Analysis, Iowa Department of Public Safety, Iowa Gambling Treatment Program (Iowa Department of Public Health), Consumer Credit of Des Moines, Federal Financial Institutions Examination Council, Iowa Finance Authority, and Iowa Institute of Community Alliances. Rates per 100,000 of the population are provided wherever possible. In the event of non-availability of rates, percentage of the population is ascertained to permit cross-county comparisons.

3.1.2 Social Impact: Telephone interview surveys were conducted in Study Area II to ascertain the social impact of casino gambling on Iowans. The information elicited from the survey consisted of data on local gambling behavior and perceived social impact on the local residents. A modified version of an eight latent construct scale discussed by Perdue, Kang, and Long (1999) was used. The constructs were quality of life, community safety, community involvement, social changes in the community, congestion/crowding changes in the community, job opportunity changes, desirability of gaming, and personal benefits from gaming. A preliminary list of measurement items and the pretest instrument were submitted for comments to Black Hawk County residents and academicians with expertise on social impacts. The pretesting process reduced the set of items. Construct validity assessment and convergent validity were used to test content validity. Most variable scales used followed a typical format of "strongly disagree" to "strongly agree" on a five point Likert scale. Basic information on the residents included number of years of residence, age, annual household income, gender, number of adults in the family, number of children in the family, age of the youngest child, marital status, education, and gambling behavior. The questionnaire was finalized after rigorous examination of the coverage of relevant subject matter, comprehension by public adults, and ease of administration. These included reviews by the Center for Social Behavior Research staff and mock interviews. Some questions were reworded to be more specific. Some were reordered to improve the flow for the respondents. The questionnaire went through eight drafts to reach the final version. Testing suggested the actual interview length would be approximately 14 minutes on average.

Interviewing at the CSBR lab used CATI (Computer Assisted Telephone Interviewing) software that required questionnaire programming. This programming displayed the questions in the correct order on a screen for the interviewer to read, and the responses were entered automatically into a database from the keyboard. The sample of telephone numbers was distributed to the calling stations by the program; however, the numbers were manually dialed to avoid any annoying connect sounds or delays for the respondent. Call dispositioning occurred at the same time as the interviewing to track the history of call attempts and call outcomes for every number dialed. The staff Assistant Interviewer Supervisor and Information Technologist worked together to complete this

programming and to test it. With only slight modifications, the programming was quickly put into place and was ready for use for actual social impact data collection. Finally, the sampling plan for the general public interviews called for devising 50-mile radius zones around each of Iowa's 17 casino sites. Those zones excluded any areas outside the state boundaries. Using GIS (Geographic Information System) technology, these zones were constructed, and the zip codes that fell within these boundaries were identified. This information was provided to a reliable vendor (Survey Sampling, Inc. of Connecticut) of telephone samples. The vendor associated the zip codes with telephone exchanges and drew a sample of 900 residential telephone numbers for each of the 17 casino areas. The numbers were cleaned of known business numbers and sent to CSBR. The goal was to complete 100 interviews within each of these 17 areas. A total of 1722 surveys were assimilated.

SPSS was used to analyze the data and split-half method based upon means was used to test sample reliability. Average value of age, household size, and selected Likert scale items on the first half of the sample were compared with the measure on the remaining half to determine if the halves had similar means. The estimated sampling error is 2.5%. Frequencies were calculated for categorical variables, and univariate analyses were used for continuous variables. Scale purification of the data began with factor analysis.

Items in the social impact survey were subject to principal axis factoring method with varimax rotation. Rotation is a process by which a factor solution is made more interpretable without changing the underlying mathematical structure. Varimax rotation results in a loading matrix (a matrix of correlations between all observed variables and factors). Here the size of the loading reflects the extent of the relationship between each observed variable and each factor. After factor analysis, Cronbach's alpha was computed to determine item-to-item correlation. According to Zaichokowsky (1985), items with corrected item-to-item correlation values below .50 should be eliminated. Analysis of Variance tests were conducted to test differences in social impact perceptions among male and female respondents, gamblers and non-gamblers and the various income, marital status, and education level categories. Bivariate regression models were used at the initial stage. However, the R_2 value of these models was negligible. R_2 values determine the explanatory power of the model. In other words, they tell us what variation in the model is explained by the independent variables. For the purpose of this study, it was decided to use multiple regression models to identify the influence of demographics on perceptions. Such models make use of multiple independent variables (explanatory attributes), with the underlying rationale that several factors can influence perceptions and controlling for those characteristics is imperative. Independent variables used were age, family size, number of children in the household, gender, and age of the youngest child. Age of the youngest child was dropped because it did not have a significant effect on any of the factorial perceptions.

3.1.3 Key Personnel Interviews: Key personnel of the casino counties (Study Area III) were interviewed to solicit their perceptions and opinion of casino gaming. They were the social service providers, law enforcement and economic development officers. The interview survey incorporated questions that were both quantitative (numeric) and qualitative. Qualitative questions were open-ended and were designed to seek personal opinions. SPSS was used to analyze quantitative data, and the qualitative data were tested for content validity.

3.1.4 Economic Impact: This study made use of IMPLAN to assess economic impacts of gambling. IMPLAN is a computer database and modeling system that makes use of Input/Output (I/O) models for any combination of U.S. counties. IMPLAN was selected

because its database represents economic activity at county level and shows effects of changing demand or supply of some product in the economy, in addition to describing regional economies. The IMPLAN package includes the following: final demands and payments estimation developed from government data, average matrix of technical coefficients at the national level, user-friendly structure of the input/output model, and flexible tools to enable the user to modify data, conduct impact analysis, and generate reports. Ten IMPLAN models were built in this study to analyze the contribution of casino visitor expenditures for ten casino counties in terms of direct, indirect, and induced impacts. In addition, the Iowa Department of Transportation, law enforcement officers from Study Area II, and county engineers from Study Area III were asked to provide information on additional costs on infrastructure because of the existing casinos.

3.2. LIMITATIONS

The methodologies used above were subject to several limitations. The first limitation was non-availability of historical data at the county level or the longitudinal level or both for several variables such as health insurance, pension benefits, job absenteeism rates, changes in type of employment, car purchases, home improvements, homelessness, and average school attendance rates. The second limitation was non-availability of visitor statistics from the Convention and Visitor Bureaus of the casino counties and control counties. Attractions had to be contacted on an individual basis to elicit annual visitation counts from the pre-casino period. Many of them do not maintain records. In addition, some of the annual visitations were not all available from the pre-casino period (1991, 1992, or 1993). The third limitation was lack of cooperation on telephone interviews from several key personnel (social service providers, economic development officers, and law enforcement officers) of the casino counties. Economic development officers stated that it was their policy not to comment on gambling impacts. Social service personnel stated that CSBR should talk with those who provide the gambling addiction treatment services (they were also being contacted). Both these groups were trying to avoid providing information. The law enforcement officers were less resistant, but still not very eager to provide information. Everyone seemed reluctant to express either a personal opinion or a view that would be interpreted as representing their agency.

Several historical data were not accessible. The research team was not able to obtain data on suicide rate, health quantity and type, and average age of death for the pre-casino period from the vital statistics section of the Department of Public Health. The Division of Motor Vehicles at the state level was not able to provide data on new car purchases because of software update. According to the Iowa Division of Motor Vehicles (J. Johnson, personal communication, April 4, 2005), the State of Iowa underwent a major vehicle title and registration redesign that was implemented early this year and the new system is still in the process of being updated. In addition, data on Emergency 911 (E-911) calls from many PSAPs (Public Safety Answering Points) could not be collected because of extensive work involved in retrieving the requested data by the PSAP administrators. The percentage visitors who gambled in the casino counties could not be assessed because casino visitors calculated from the total admissions to the existing casinos include local residents and repeat visitors.

Finally, the research team acknowledges limitations of the economic impact data. It was not possible to include the tribal casino data in the economic impact analysis. In addition, admission counts provided by the existing casinos are ambiguous when equated to casino

visitors. According to the Iowa Gaming Association, "admissions are defined as each time a person walks through the entrance to the casino gaming area which is electronically tallied" (W. Ehrecke, personnel communication, 3 March, 2005). The Iowa Gaming Association further states that admissions are very close to the actual number of visitors to a casino, as employees and those visiting administrative offices, go through a separate entrance and are not counted. However, information from a casino shows that there is no way to distinguish between casino visitors and those visiting administrative offices or to track down repeat visitors in one day. There is also a possibility of double counting for casinos with lodging facilities. The research team was not able to assess percentage error associated with the estimation of casino visitors. In addition, it was not possible to assess the percentage of local visitors who were non-club players. It is estimated that casino expenditures of 30% of the local non-club players are displaced expenditures. For this reason, the economic impacts ascertained for this study are subject to overestimation. Furthermore, because the percentage of visitors who stay overnight could not be assessed, lodging expenditures could not be included in the economic impact. This indicates a possibility that the economic impact is underestimated. Furthermore, the IMPLAN model was based upon several assumptions. The model assumes that the production function has constant returns to scale (all inputs will increase the same proportion with additional output), supply is unconstrained (unlimited access to raw materials), commodity input structure is fixed (a firm will not buy substitute goods because of price changes), sector output is homogeneous (regardless of output, all commodity proportions produced by the industry remain the same), and industry makes use of the same technology to produce all its products (MIG, Inc., 2000). Nevertheless, a significant number of studies in the United States have employed the Input/Output model to explore total economic effects. This study substituted input data in the gambling sector with actual data on total employee count and payroll provided by each casino for its respective county.

4. DEFINITIONS

Adjusted Gross Revenue
Consumer spending is referred by gaming industry analysts as *"adjusted gross revenues*," that are defined as gross dollars wagered minus the dollars casinos pay in the form of winnings (Barron, Staten, & Wilshusen, 2000). Adjusted Gross Revenue is referred to as gaming revenue in this study.

Average Daily Attendance
Average Daily Attendance is calculated by days present by 180 student contact days.

Business-related Crimes
The Iowa Department of Public Safety defines *business-related crimes* as crimes that include burglary/breaking and entering, credit card/automatic teller machine fraud, embezzlement, shoplifting, theft from a building, and theft from a coin-operated machine or device.

Economic impact
Total economic impact in this study is defined as an aggregate of direct, indirect, and induced effects in terms of output, value added, and employment. Direct impacts happen from the initial spending (demand) of the visitors, and indirect impacts result when businesses purchase from other businesses to meet the initial demand. The induced impacts indicate the increase in

household spending that happens as a result of increase in employee compensation in businesses that experience direct and indirect impacts. These impacts were measured in terms of output, value added, and employment. Output represents the value of the total production of the industry in millions of dollars. Four components represent value added: employee compensation (total payroll costs), proprietary income (income of self-employed individuals), other property type income (payments for rents, royalties, and dividends), and indirect business taxes (excise taxes, property taxes, licenses, and sales taxes). Finally, the single number of jobs for each industry or all the industries defines employment.

Factor Analysis

Factor analysis is a procedure that determines shared variance among a set of variables. This variance is defined by the intercorrelations among a set of variables. Factor analysis attempts to allocate variances in terms of a smaller number of underlying hypothetical variables that are called factors (Williams, 1992). In other words, factor analysis reduces variables by determining which of them cluster together, and factors are groupings of variables that measure a common construct (Mertler & Vannata, 2002). The main set of results obtained from this kind of analysis is comprised of factor loadings, which is interpreted as the Pearson correlation of an original variable with a factor. These loadings range from -1.00 through 0 to +1.00. The decision on how many factors to retain and interpret is based upon a commonly accepted criterion known as "Kaiser's rule." This rule states that components with eigenvalues higher than 1 should be retained. An eigenvalue is the amount of total variance explained by each factor subject to the total amount of variability in the analysis being equal to the number of original variables in the analysis (Mertler & Vannata, 2002). Factor analysis is referred to as a purification process because items with lower loadings are dropped.

Gambling Offenses

Gambling offenses are defined as offenses that are comprised of unlawfully betting or wagering money or something else of value; assisting or operating a game of chance for money or some other stake; possessing or transmitting wagering information, manufacturing, selling, purchasing, possessing, or transporting gambling equipment, devices, or goods; or tampering with the outcome of a sporting event or contest to gain a gambling advantage.

Health Insurance

The Census Bureau broadly classifies *health insurance* coverage as either private or government-sponsored coverage (Census Bureau, 2004). Private health insurance plan is defined as a health plan that is either employment based (through one's own employment or a relative's) or directly purchased from a private company. Government health insurance includes plans funded by governments at the federal, state, or local level.

Input/Output Model

Input/Output models describe the flows of money within a region's economy. Flows are predicted by knowing what each industry must buy from every other industry to produce a dollar's worth of output. Using each industry's function, I/O models also determine the proportions of sales that go to wage and salary income, proprietor's income, and taxes. Thus, the models emphasize economic interdependence and are readily available to calculate multipliers for delineations. An economic base model is a special case of an I/O. It consists of a grouping of export and local support industries in a two-sector framework.

Multipliers
Type I and Type SAM *multipliers* are used to study the direct, indirect, and induced effects. Type I multipliers measure direct and indirect effects, and Type SAM measure direct, indirect, and induced effects.

Pathological Gambling
Pathological gambling (PG) is characterized by a persistent maladaptive pattern of gambling behavior (Grant, Kushner, & Kim, 2002). It is described as a preoccupation with and loss of control related to gambling behaviors (American Psychiatric Association, 1994). Pathological gamblers are often categorized as Level 3 gamblers (Shaffer, Hall & VanderBilt, 1999). According to Shaffer, Hall, and VanderBilt (1999), and approximately 1.6% of Americans fall into the Level 3 category at some point in their lives.

Stealing from Others
According to the Iowa Department of Public Safety, *stealing from others* comprises of bribery, impersonation, kidnapping/abduction, larceny/theft offenses, and robbery.

Substitution Effects
Substitution refers to the question of whether spending on gambling activity has been diverted from non-casino businesses. Gambling can siphon off money from other tourism-related businesses and other local enterprises.

5. FINDINGS

Findings are broadly divided into six sections. The first section discusses casino visitor demographics. The second focuses on the economic impact of casino gambling; it also discusses beneficiaries of county, state, and city revenue and charitable donations. The third section provides an analysis of the data collected on the social impact perceptions from Study Area II and the key personnel of casino counties. Sections 4 and 5 discuss the negative impacts of gambling in terms of substitution and pathological gambling. Section 6 provides historical data on Iowa, while tracking changes from the pre-casino period for the casino and control counties on demographics, family relations, family finances, education, and employment.

5.1. Casino Visitor Demographics

Casino visitor demographics were elicited from the 13 non-tribal Indian casinos and the social impact survey of Iowa residents. The casino data offers statistics on age, gender, and place of residence (local, in-state, and out-of-state) of players club members. Alternatively, gambler demographic information as solicited from the social impact survey is provided. As Exhibits 2 and 3 illustrate, players club members 40 and above make up the largest group, and more than half are females. The majority of the casinos, with the exception of Prairie Meadows and the Lakeside Casino, serve the out-of-state market.

Exhibit 2: Visitor Demographics (Players Club Members) from Iowa Casinos

	Argosy	**Ameristar**	**Isle of Capri Marquette**	**Diamond Jo**	**Catfish Bend**	**Dubuque Greyhound**	**Mississippi Belle II**
Gender							
Male	37.6%	48.5%	47.0%	36.0%	47.0%	39.4%	42.0%
Female	43.3%	48.8%	52.0%	42.0%	53.0%	57.0%	58.0%
Residence							
Local	33.0%	5.6%	7.0%	13.0%	29.0%	17.5%	8.0%
In-State[a]	24.0%	13.6%	26.0%	24.0%	22.0%	25.0%	17.0%
Out-of-State	43.0%	80.8%	67.0%	63.0%	49.0%	57.5%	75.0%
Age							
21-29	11.0%	11.5%	6.0%	4.7%	14%	2.0%	2.0%
30-39	13.2%	12.7%	10.0%	5.9%	12%	4.0%	7.0%
40-49	17.2%	19.4%	17.0%	12.0%	18%	11.0%	14.0%
50-59	17.9%	22.4%	24.0%	20.5%	20%	22.0%	20.0%
> 60	35.0%	34.0%	43.0%	50.3%	36%	61.0%	57.0%

a: In-State (non-local)
Note: Some of the percentage allocations do not total 100% because of an unknown category due to some patrons registering with their initials only.
Source: SIGIS, HPELS: UNI

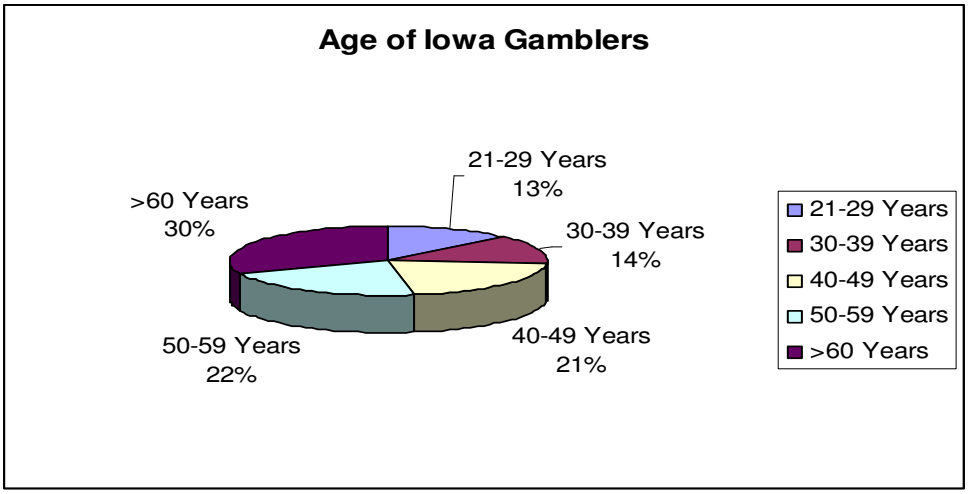
Exhibit 3: Visitor Demographics (Players Club Members) from Iowa Casinos

	Lakeside	Rhythm City	Isle of Capri, Bettendorf	Harrah's	Harrah's Bluffs Run	Prairie Meadows
Gender						
Male	48.0%	44.3%	43.4%	49.0%	44.0%	45.8%
Female	46.0%	55.7%	56.6%	51.0%	56.0%	53.6%
Residence						
Local	4.0%	17.0%	7.0%	6.0%	12.0%	61.5%
In State[a]	96.0%	27.0%	19.0%	13.0%	13.0%	23.3%
Out of State		56.0%	74.0%	81.0%	75.0%	15.1%
Age						
21-29	7.0%	7.8%	6.1%	10.0%	6.0%	6.7%
30-39	9.0%	11.4 %	8.8%	13.0%	9.0%	8.2%
40-49	15.0%	16.3%	14.4%	20.0%	19.0%	15.9%
50-59	22.0%	20.6%	21.7%	25.0%	26.0%	23.4%
> 60	47.0%	43.9%	49.0%	32.0%	40.0%	45.9%

a: In State (non-local)
Note: Some of the percentage allocations do not total 100% because of an unknown allocation category due to some patrons registering with their initials only.
Source: SIGIS, HPELS: UNI

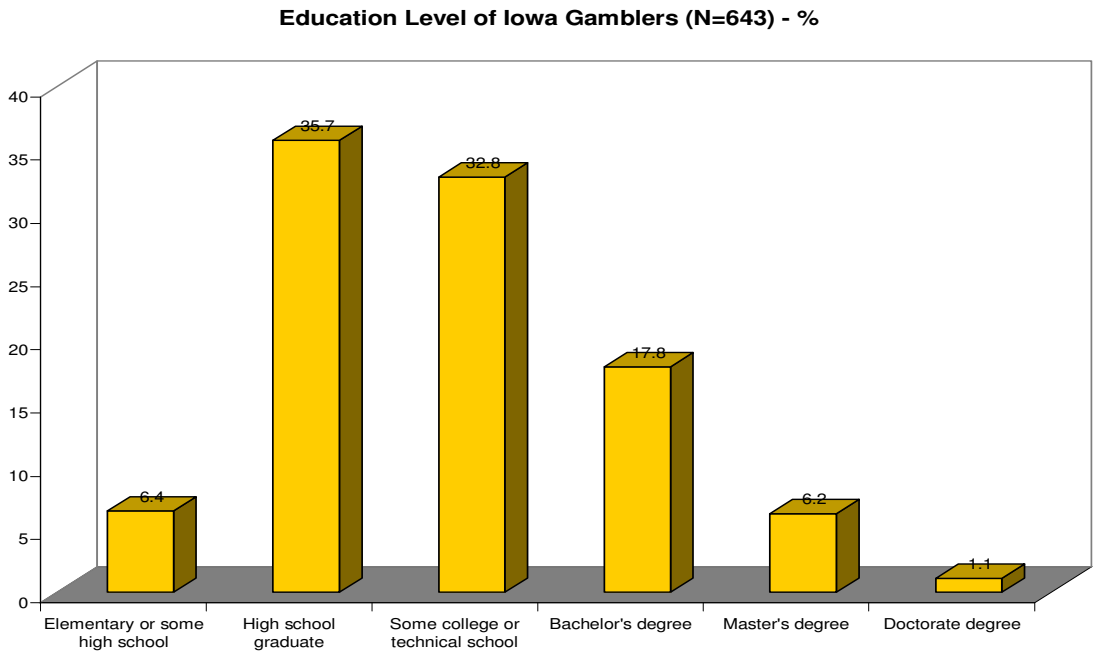
Exhibits 4, 5, 6, and 7 present demographics of Iowa casino gamblers from the social impact survey. Average age of the respondents was 51.6 years with a median value of 50 years and standard deviation of 16.3 years. The majority of the gamblers were married (60.4%) and 53% were females. Approximately, 13% and .4% were divorced and separated respectively. Eleven percent were widowed, 10.8% were single (never married), and 3.6% were a member of an unmarried couple. Forty-four percent had an annual household income of above $50,000. With regard to education, 42% had earned a high school education or less, 32% had some college, 17% had a bachelor's degree, and 7.3% had either earned a master's or a doctorate degree.

Exhibit 4: Age Breakdown of Iowa Gamblers (N=639) - %



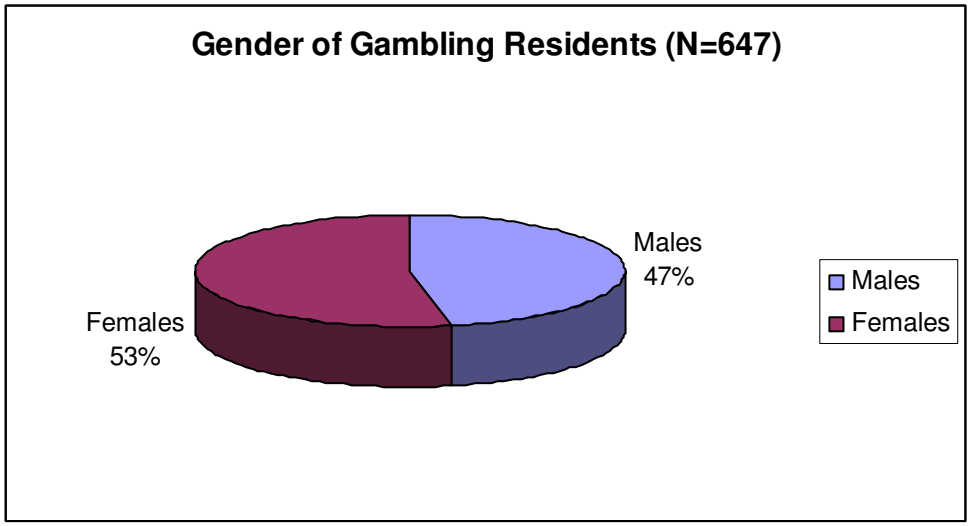
Source: SIGIS, HPELS: UNI

Exhibit 5: Education Level of Gambling Residents



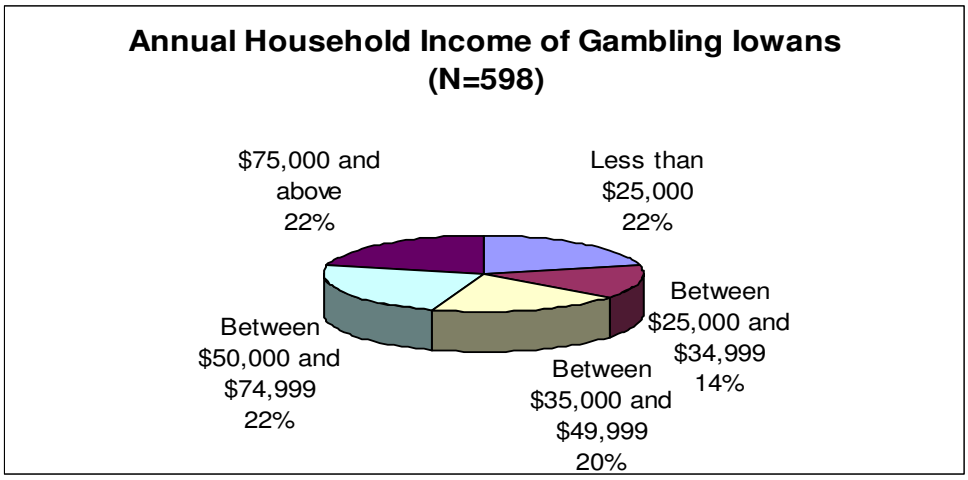
Source: SIGIS, HPELS: UNI

Exhibit 6: Gender of Gambling Residents



Source: SIGIS, HPELS: UNI

Exhibit 7: Annual Household Income of Gambling Residents



Source: SIGIS, HPELS: UNI

Data for the players club members parallels those for the general casino visitor population. There are striking similarities across both categories, implying that club player demographics are representative of the total casino visitor population. These visitor statistics are akin to the general visitor statistics provided by the Iowa Department of Economic Development Tourism Office (Iowa Welcome Centers, 2003).

5.2 Economic Impact

This section first provides information on all visitors to Iowa. Second, the casino visitor expenditures on gambling, restaurants, gasoline, shopping, recreation and entertainment, and lodging are estimated. Consequently, the next step requires a breakdown of visitor expenditures by category. Using the total casino visitor counts, all but the lodging sector spending were transformed to total expenditures for each casino county. It was not possible to assess total expenditure on lodging because the casinos with hotels were not able to provide an estimate of the percentage of visitors staying overnight at their lodging facilities. Finally, direct, indirect, and induced economic impacts of the available sectors were assessed in terms of output, value added (includes employee compensation and indirect business taxes), and employment.

5.2.1 General Visitor Information: Fifteen Welcome Centers of Iowa asked travelers who stopped at their centers to complete a survey. A minimum of one survey for every 46th travel party was administered. Data were collected on demographics, trip behavior, and spending of the visitors (Iowa Welcome Centers Survey Results, 2003). According to the data collected in 2003, the average age of the visitor was 54.6 years and average party size was 2.5. Average days in Iowa were 3.8. With regard to expenditures, a travel party daily spent an average of $59.35, $23.49, $35.53, $43.66, and $27.73 on lodging, entertainment, transportation, food, and shopping, respectively.

5.2.2. Expenditure Estimation of Casino Visitors: The next step was to ascertain average per person per day expenditures for the following categories: restaurants, lodging, gasoline, recreation/entertainment, events, and shopping. Because the casinos did not have data on the listed sectors and they declined the research team's request to conduct an onsite survey of

residents, estimates of average expenditures per sector were ascertained for the entire State of Iowa. These were based on estimates provided by previous studies conducted on the visitors in Iowa (Cedar Falls/Waterloo Tourism Advertisement Conversion Study, 2003-2004; Cedar Rapids Tourism Advertisement Conversion Study, 2003-2004), data from Iowa Welcome Centers (2003), and the literature review (Borden et al., 1996; Roehl, 1996; Truitt, 1996). The estimated average party size was 2. Average expenditures per person per day on restaurants, lodging, gasoline, recreation/entertainment, and shopping sectors were estimated to be $11.25, $73.48, $7.50, $9.37, and $13.67, respectively. These were multiplied by total visitors (excluding 30% of the local players club members because their expenditures were displaced) to each casino to estimate total expenditures for the year 2004. For the gaming expenditures, win per capita per casino was multiplied with the total number of estimated casino visitors. Exhibit 8 provides total expenditures for the selected casino visitor spending sectors.

Exhibit 8: Total Expenditures for Each Casino County (million $)

	Gambling	Restaurants	Gas	Shopping	Recreation/ Entertainment	Total County Expenditures
Clayton	42.58	7.15	4.77	8.69	5.95	69.14
Clarke	58.59	10.82	7.21	13.15	9.01	98.78
Clinton	27.02	5.76	3.84	7.00	4.80	48.42
Des Moines	15.69	3.18	2.12	3.86	2.65	27.50
Dubuque	94.49	22.41	14.94	27.22	18.66	177.72
Lee	15.69	3.18	2.12	3.86	2.65	27.50
Polk	161.29	28.31	18.87	34.40	23.58	266.45
Pottawattamie	421.04	91.91	61.28	111.69	76.55	762.47
Scott	182.44	35.88	23.92	43.60	29.88	315.72
Woodbury	49.81	10.92	7.28	13.27	9.10	90.38
Total for Iowa	**1068.64**	**219.52**	**146.35**	**266.74**	**182.83**	**1884.08**

Source: SIGIS, HPELS: UNI

The above expenditures were used to assess economic impact on casino and adjacent counties. Total expenditures for counties with more than one casino were aggregated to represent the whole county (Exhibit 8). As Exhibit 8 shows, total expenditures generated by the casino visitors were approximately $1.9 billion. Pottawattamie County produced the highest total visitor expenditures of $762 million followed by Scott and Polk counties.

5.2.3 Economic Impact Assessment: Multipliers were generated for all the casino counties. Exhibits A10.1.1-A10.1.10 (Appendix 10.1) provide a detailed breakdown of Type I and SAM multipliers. Type I Output multiplier was the smallest for Lee County (1.04) in the amusement/gambling sector and highest for Dubuque County in the recreation/entertainment sector. SAM output multiplier was lowest for Lee County (1.15) in the amusement/gambling sector and highest for Polk County (1.94) in the recreation/entertainment sector. Type I Value Added multipliers ranged from 1.02 (Lee County in the amusement/gambling sector) to 2.77 (Woodbury County in the recreation/entertainment sector), and Type SAM Value Added multipliers ranged from 1.10 (Lee County in the gasoline sector) to 3.79 (Woodbury County in the recreation/entertainment sector). Finally, Type I Employment multiplier was the lowest for Clarke and Clayton counties (1.02 for the miscellaneous retail sector) and the highest for Polk County (1.43 for the recreation/entertainment sector). Type SAM Employment multiplier ranged from 1.06 (Clarke County in the miscellaneous retail sector) to 1.87 (Polk

County in the entertainment/recreation sector). The magnitude of a multiplier suggests linkages internal to the economy. Low multipliers indicate substantial leakages out of the local economy. In other words, area businesses have outside suppliers.

Exhibit 9: Total Impacts (Output + Value Added) (million $)

	Direct	Indirect	Induced	Total
Clayton	90.39	14.54	14.22	119.17
Clarke	126.68	15.0	18.13	159.80
Clinton	61.03	10.08	13.18	84.28
Des Moines	34.16	7.26	7.61	49.04
Dubuque	218.03	59.53	49.27	326.83
Lee	39.32	3.15	5.09	47.56
Polk	367.26	90.96	100.57	558.80
Pottawattamie	868.43	273.47	229.16	1,371.06
Scott	426.14	95.04	115.92	637.08
Woodbury	112.34	30.78	27.92	171.04
Total for Iowa	**2343.78**	**599.81**	**581.06**	**3524.66**

Source: SIGIS, HPELS: UNI

Exhibit 10: Employment Impacts

	Direct	Indirect	Induced	Total
Clayton	1,137	95	108	1,340
Clarke	1,490	113	168	1,771
Clinton	711	92	118	921
Des Moines	396	65	68	529
Dubuque	2,409	473	426	3,308
Lee	368	28	49	446
Polk	3,110	621	725	4,456
Pottawattamie	10,215	2,128	1,985	14,319
Scott	4,023	705	942	5,669
Woodbury	1,111	249	236	1,595
Total for Iowa	**24,970**	**4,569**	**4,825**	**34,364**

Source: SIGIS, HPELS: UNI

As Exhibits 9 and 10 show, maximum total impact was generated by Pottawattamie County which also produced the highest number of jobs (14,318). Scott County and Polk County generated 5,669 and 4,456 jobs, respectively. The above exhibits show induced impacts generated by the casino county; however, all the induced benefits did not stay in the casino counties. Several regions inside Iowa and the neighboring states have benefited from the induced impacts. As Exhibit 11 shows, Dubuque and Polk counties were able to retain the maximum portion of induced benefits. A substantial percentage of employees working in Pottawattamie casinos reside in Nebraska. The neighboring states that have benefited the most from the induced impacts are Nebraska, Wisconsin, and Illinois. Approximately 31.5% of the overall induced impacts leak to the neighboring states.

Exhibit 11: Breakdown of Induced Impacts

	Casino County	Adjacent Counties	Neighboring State(s)
Ameristar	Pottawattamie (49%)	Mills (4%), Harris (2%)	43%
Argosy	Woodbury (69%)	Negligible	24%
Catfish Bend	Lee (43%), Des Moines (41%)	Henry (2%), Louisa (.5%), Van Buren (.5%)	13%
Harrah's Bluffs Run	Pottawattamie (52%)	Negligible	48%
Diamond Jo	Dubuque (71%)	Jackson (5%)	23%
Dubuque Greyhound	Dubuque (83%)	Negligible	17%
Harrah's Council Bluffs	Pottawattamie (43%)	Mills (4%), Harrison (3%)	50%
Isle of Capri, Bettendorf	Scott (50%)	Clinton (2%)	47%
Isle of Capri, Marquette	Clayton (46%)	Allamakee (12%)	42%
Lakeside Casino Resort	Clarke (49%)	Decatur (17%), Lucas (9%), Union (5%), Warren (4%)	Negligible
Mississippi Belle II	Clinton (70%)	Dubuque (10%)	18%
Prairie Meadows	Polk (82%)	Jasper (8%), Warren (4%)	Negligible
Rhythm City	Scott (52%)	Negligible	44%

Source: SIGIS, HPELS: UNI

Next, direct, indirect, and induced impacts were calculated from these expenditures in terms of output, employee compensation, labor income, and indirect business taxes. The aggregate economic impact of existing casinos on the State of Iowa was $3.5 billion. A total of 34,364 jobs were created in the recreation and tourism industry because of casino visitor spending. Exhibits 12-14 provide information on these impacts. As the exhibits show, the aggregated economic impact was the highest for Pottawattamie County and the lowest for Lee and Des Moines counties. Employee compensation (total payroll) and indirect business taxes were also highest for Pottawattamie County followed by Scott County. Total payroll generated for the State of Iowa was $679.31 million. Total indirect businesses were $141.25 million.

Exhibit 12: Output and Value Added Impacts (million $)

	Direct		Indirect		Induced		Total	
	Output	VA	Output	VA	Output	VA	Output	VA
Clayton	58.16	32.23	9.66	4.88	8.79	5.43	76.62	42.55
Clarke	82.39	44.29	9.65	5.35	11.02	7.11	103.05	56.75
Clinton	39.79	21.24	6.44	3.64	8.14	5.04	54.36	29.92
Des Moines	22.72	11.44	4.62	2.64	4.69	2.92	32.03	17.01
Dubuque	144.50	73.53	37.99	21.54	30.77	18.49	213.27	113.57
Lee	22.72	16.60	2.01	1.14	3.15	1.94	27.88	19.68
Polk	223.20	144.06	56.69	34.28	61.81	38.76	341.70	217.10
Pottawattamie	625.18	243.25	171.13	102.34	140.06	88.10	937.37	433.68
Scott	261.58	164.56	59.68	35.36	71.48	44.43	392.73	244.35
Woodbury	74.07	38.27	19.49	11.29	17.31	10.61	110.87	60.17
Total for Iowa	**1554.31**	**789.47**	**377.36**	**222.46**	**358.22**	**222.83**	**2289.88**	**1234.78**

Source: SIGIS, HPELS: UNI

Exhibit 13: Employee Compensation (million $)

	Direct	Indirect	Induced	Total
Clayton	18.33	2.17	1.97	22.48
Clarke	27.14	2.29	2.84	32.27
Clinton	11.84	1.79	2.16	15.79
Des Moines	7.46	1.40	1.40	10.26
Dubuque	40.88	10.97	9.28	61.13
Lee	6.15	.57	.87	7.59
Polk	78.62	16.78	19.01	114.41
Pottawattamie	181.83	44.41	41.78	268.02
Scott	77.67	16.85	21.81	116.32
Woodbury	20.58	5.33	5.13	31.04
Total for Iowa	**470.54**	**102.56**	**106.25**	**679.31**

Source: SIGIS, HPELS: UNI

Exhibit 14: Indirect Business Taxes (million $)

	Direct	Indirect	Induced	Total
Clayton	3.6	.37	.66	4.59
Clarke	5.53	.39	.83	6.75
Clinton	2.27	.28	.55	3.10
Des Moines	1.36	.19	.32	1.86
Dubuque	9.51	1.86	2.04	13.41
Lee	1.49	.09	.21	1.79
Polk	13.72	3.00	4.27	21.03
Pottawattamie	35.91	9.34	10.07	55.32
Scott	18.04	3.23	4.96	26.23
Woodbury	5.02	.98	1.16	7.16
Total for Iowa	**96.45**	**19.73**	**25.07**	**141.25**

Source: SIGIS, HPELS: UNI

In addition, Law enforcement officers from non-casino counties of Study Area II, casino county engineers, and the Iowa Department of Transportation were asked to specify costs that might have occurred because to the existing casinos. The majority of the law enforcement officers and the county engineers were of the opinion that there were no additional costs. Some of the answers from the law enforcement officers were as follows (individual answers are separated by semicolons): I don't know about other counties, I do know our crime rate has increased due to meth problems in our county (Sioux); Yes, our county's (Warren) crime rate is slightly higher than other Iowa counties of the same population. However, most of that crime rate can be attributed to the proximity of our county to Des Moines and not so much to casinos or gambling; I have not seem any cost increases in our county that could be linked directly or indirectly to casinos; We certainly have citizens who frequent these establishments, however as I stated, we do not specifically track or document casino related crime (Dallas County). No additional employees have been hired or facility expansion undertaken due to the proximity of any nearby casino. Any increase in crime could be attributed to the growth and increase in population; We occasionally get someone distraught over gambling losses, but I think it is very infrequent. We do have a higher crime rate than most counties of similar population, but I do not lay that at the feet of

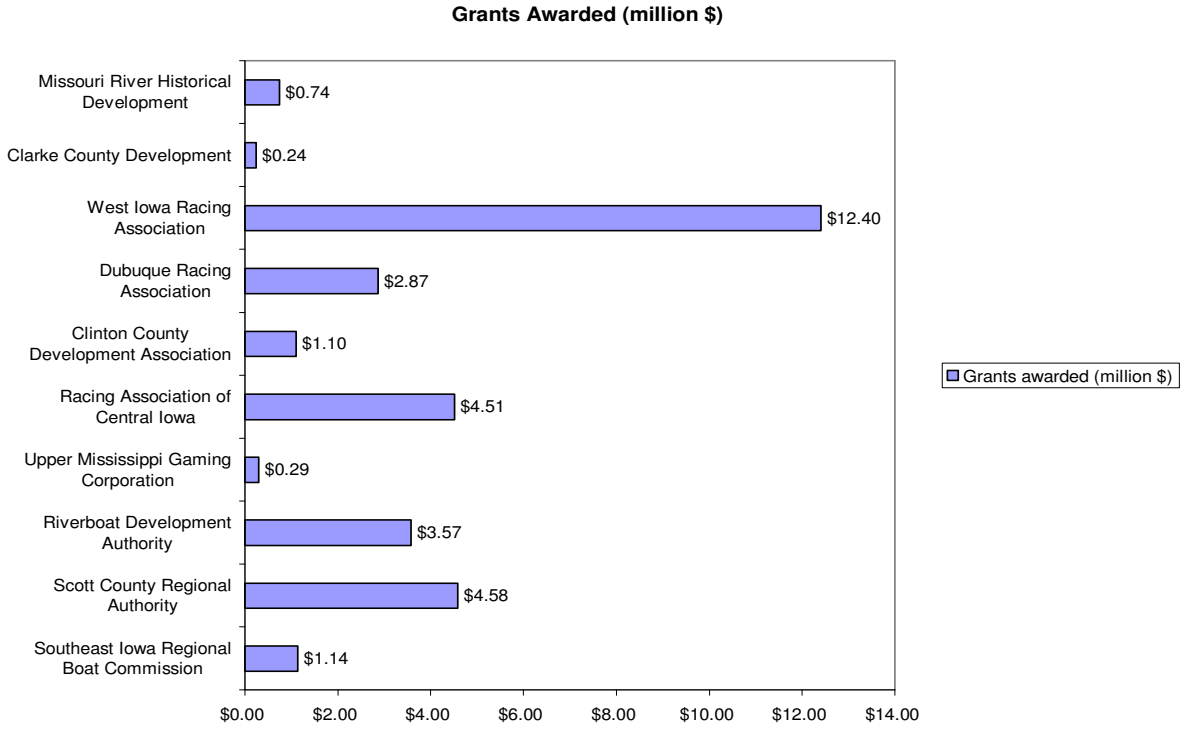
the casino. We have a large packing plant and a large meth problem. Both those factors are bigger attributes to our crime rate (Louisa County); I can't say for sure if increase in serving papers on people who have not paid rent/house payment or other bills is due to the slower economy or gambling problems; A lot of our serious crimes seem to be related to drug/alcohol activity (Muscatine County). A side note, a fellow police officer who has a riverboat casino in his city told me that at the first of the month he does notice an increase in traffic from people who appear to have their social security checks/retirement checks in hand, headed to the boat; No additional costs (Cass, Plymouth, and Linn counties). Furthermore, according to the Highway Division of the Iowa Department of Transportation, casino development is looked at as any other development and no additional costs on the highways have been recorded over the past ten years (K. Mahoney, personal communication, March 20, 2005).

5.2.4 Beneficiaries of gambling tax revenue

Economic benefits are provided by the casinos through taxes and charitable donations. Iowa casinos paid over $249 million in local, county, and state taxes in 2004. State tax revenue funded a variety of significant projects, including the renovation and building of Iowa's Capitol Complex, school infrastructure and teacher salaries, Vision Iowa, historic preservation, state and county fairs, school and university improvements, and numerous environmental initiatives and programs. In addition, charitable requests were funded, including lifesaving equipment for fire and ambulance services, laptops for schools, United Way, Red Cross, Make-a-Wish, and funding for daycare and community centers.

Gaming licenses have been awarded to ten nonprofit community-based organizations to guide Iowa's gaming facilities to respond to the needs of the state and the regions they serve. An estimated sum of $31.4 million was awarded to them. Clarke County Development sponsors the license for Terrible's Lakeside Casino; Clinton County Gaming Association is the sponsor of the license for Mississippi Belle II Casino; Dubuque Racing Association is the nonprofit sponsor of the license for Diamond Jo Casino and Dubuque Greyhound Park and Casino. Iowa West Racing Association sponsors the license for Ameristar Casino Hotel, Bluffs Run Casino & Greyhound Park, and Harrah's Council Bluffs Casino & Hotel. The recipient of funds from the Iowa West Racing Association (IWRA) is the Iowa West Foundation, which further distributes the receipts in the form of grants. The Iowa West Foundation provides grants over two periods per year for nonprofit and governmental projects to improve the quality of life of Iowa citizens. Missouri River Historical Development is the sponsor of the license for Argosy's Belle of Sioux City; Racing Association of Central Iowa is the sponsor of the license for Prairie Meadows; and Riverboat Development Authority is the nonprofit sponsor of the license for Rhythm City Casino. Finally, Southeast Iowa Regional Riverboat Commission sponsors the license for Catfish Bend Casino; Scott County Regional Authority sponsors the license for Isle of Capri Casino (Bettendorf); and Upper Mississippi Gaming Corporation is the sponsor of the license for Isle of Capri (Marquette). Exhibit 15 provides a comparison of charitable contributions through ten licensee holders.

Exhibit 15: Charitable Contributions from Nonprofit Associations

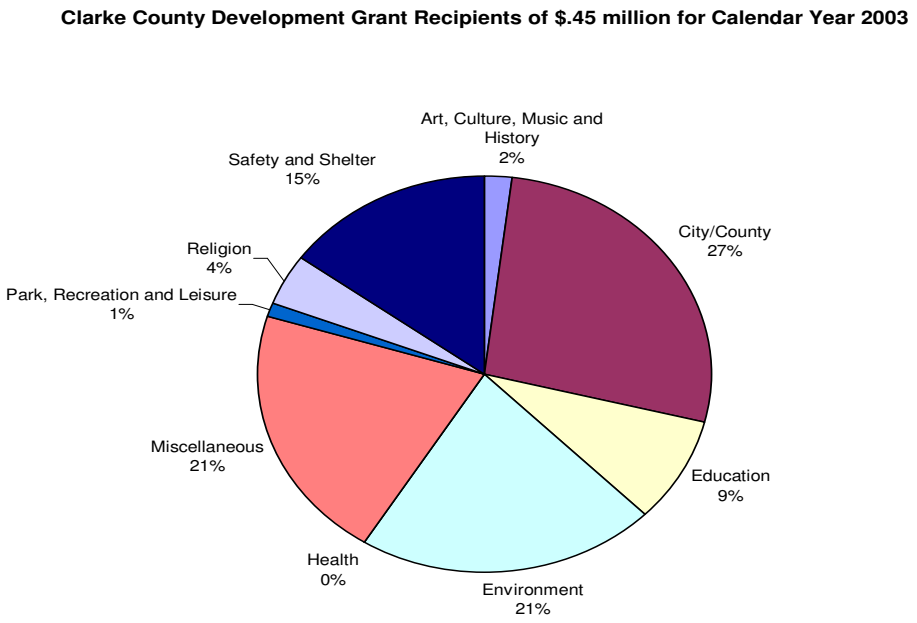


Source: SIGIS, HPELS: UNI

As Exhibit 15 shows, the highest contribution was made by the West Iowa Racing Association followed by Scott Regional Authority, Riverboat Development Authority, Racing Association of Central Iowa. These also include out-of-state benefactions to Nebraska, Illinois, and Wisconsin.

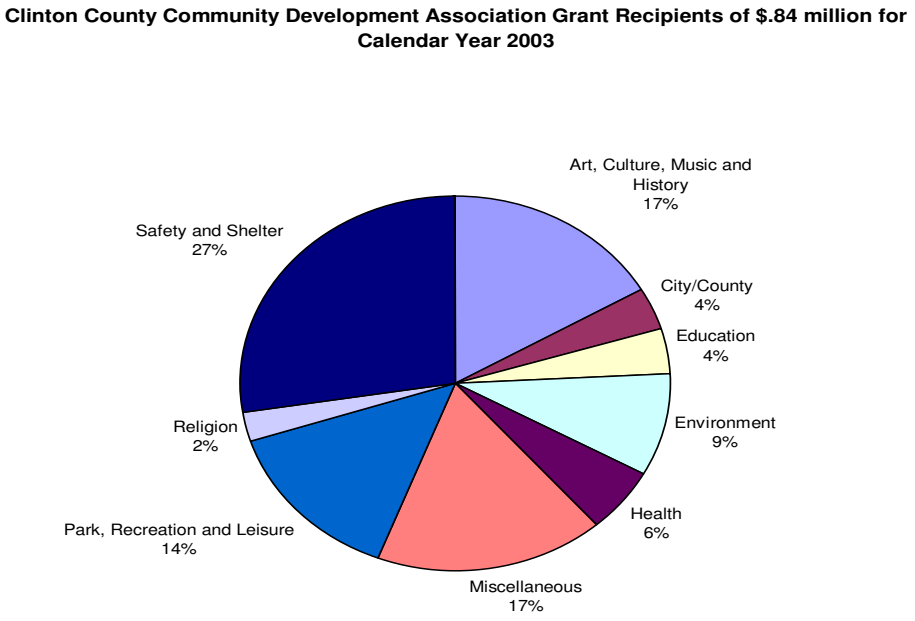
In addition, nine categories of recipients within each association were identified. These were randomly contacted over the telephone to obtain an insight on the use of funds. It is important to note that some of the estimates represent the 2003 calendar year. All except the contributions made by Dubuque Racing Association are for the calendar year 2003 or 2004. Exhibits 16 to 24 provide a breakdown of estimated contributions made in the following categories: education; art, culture, music, and history; safety and shelter; religion; park, recreation and leisure; city/county; health; environment; and miscellaneous. The miscellaneous category includes recipients such as clubs, humane society, American Legions, county fair associations, etc. Some of the exhibits show 2003 contributions because it was not possible to obtain a breakdown for the 2004 calendar year. It was not possible to identify grant recipients within the Southeast Iowa Regional Riverboat Commission. Their proceeds were evenly split among the cities of Burlington, Keokok, and Fort Madison (W. Ehrecke, personal communication, April 13, 2005). Burlington directed its proceeds to economic development in 2004.

Exhibit 16: Grant Recipient Categories of Clarke County Development



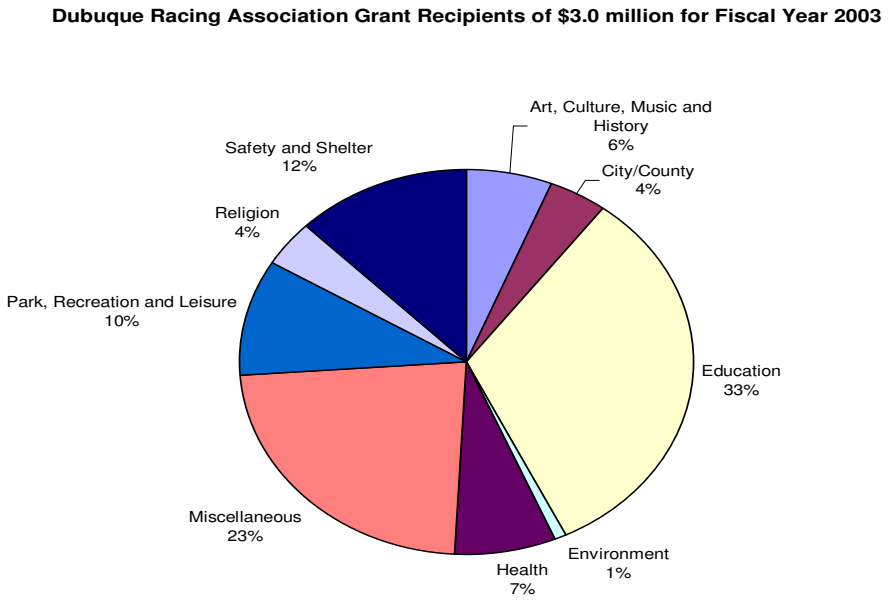
Source: SIGIS, HPELS: UNI

Exhibit 17: Grant Recipient Categories of Clinton County Development Association



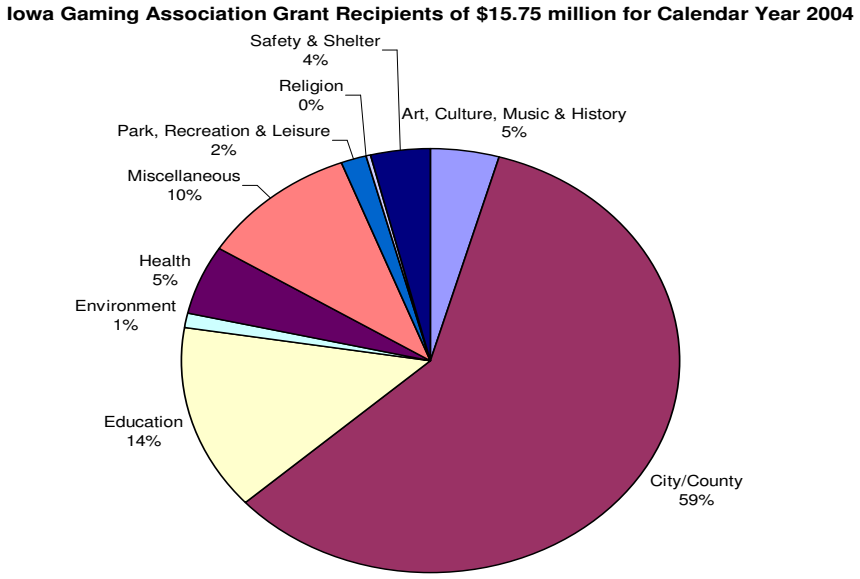
Source: SIGIS, HPELS: UNI

Exhibit 18: Grant Recipient Categories of Dubuque Racing Association



Source: SIGIS, HPELS: UNI

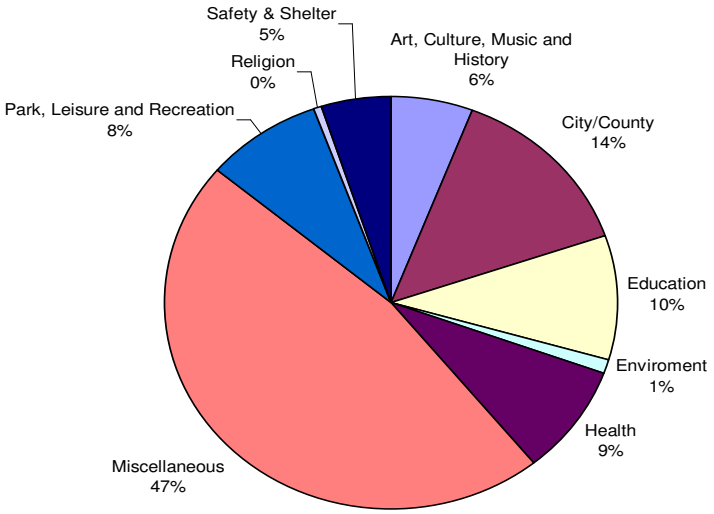
Exhibit 19: Grant Recipient Categories of Iowa West Racing Association



Source: SIGIS, HPELS: UNI

Exhibit 20: Grant Recipient Categories of Racing Association of Central Iowa

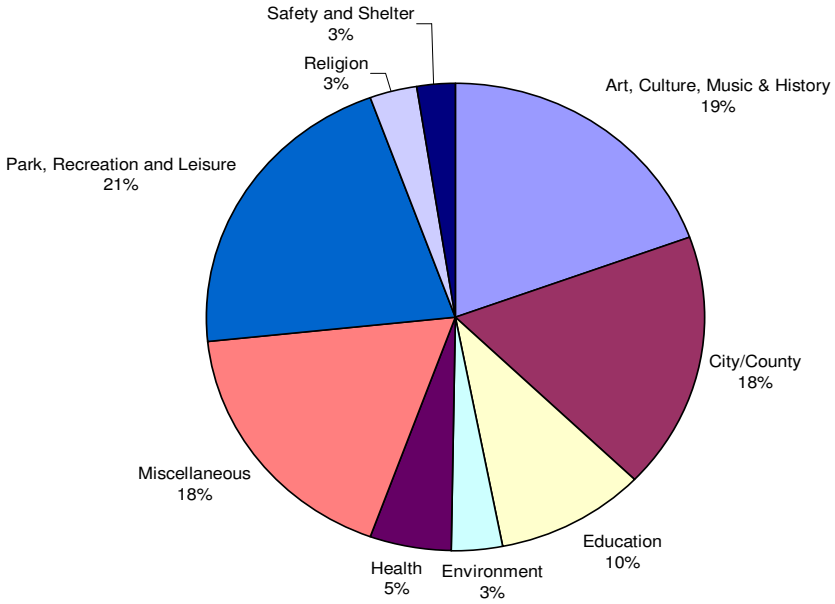
Racing Association of Central Iowa Grant Recipients of $3.64 million for Calendar Year 2004



Source: SIGIS, HPELS: UNI

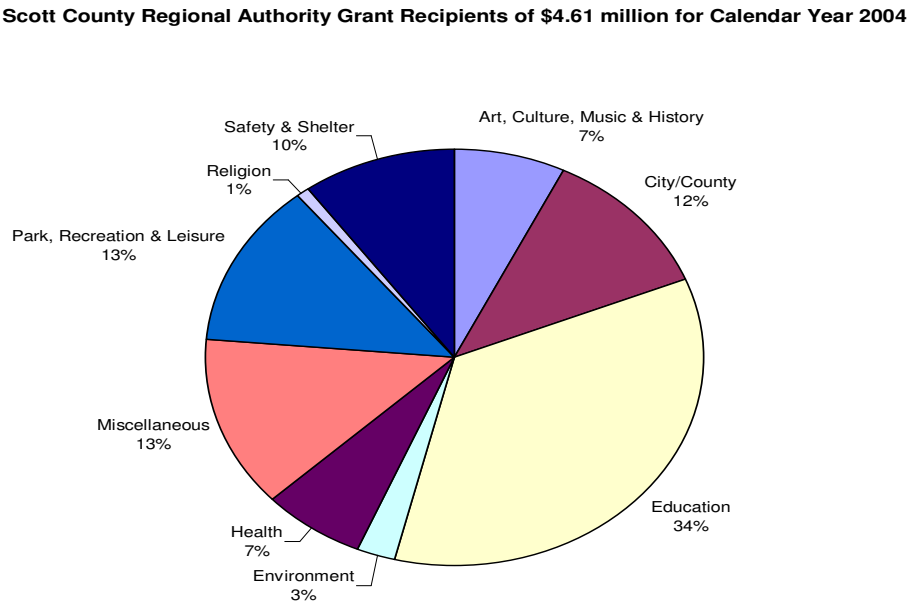
Exhibit 21: Grant Recipient Categories of Riverboat Development Authority

Riverboat Development Authority Grant Recipients of $3.48 million for Calendar Year 2004



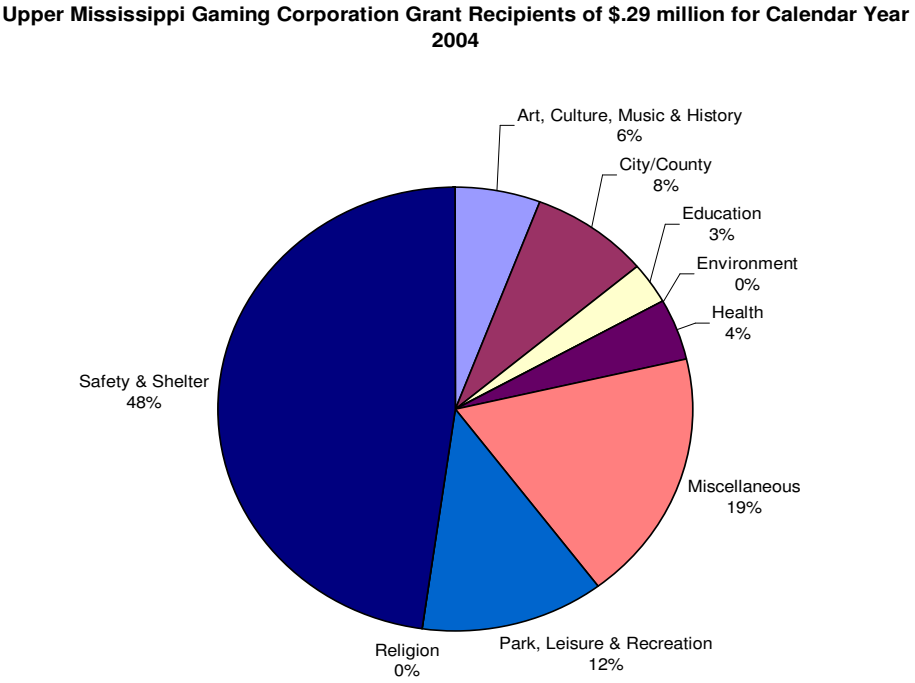
Source: SIGIS, HPELS: UNI

Exhibit 22: Grant Recipient Categories of Scott County Regional Authority



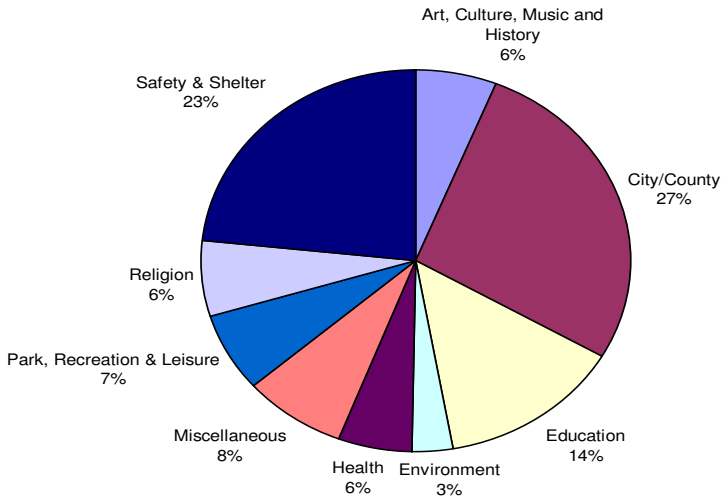
Source: SIGIS, HPELS: UNI

Exhibit 23: Grant Recipient Categories of Upper Mississippi Gaming Corporation



Source: SIGIS, HPELS: UNI

Exhibit 24: Grant Recipient Categories of Missouri River Historical Development Corporation



Source: SIGIS, HPELS: UNI

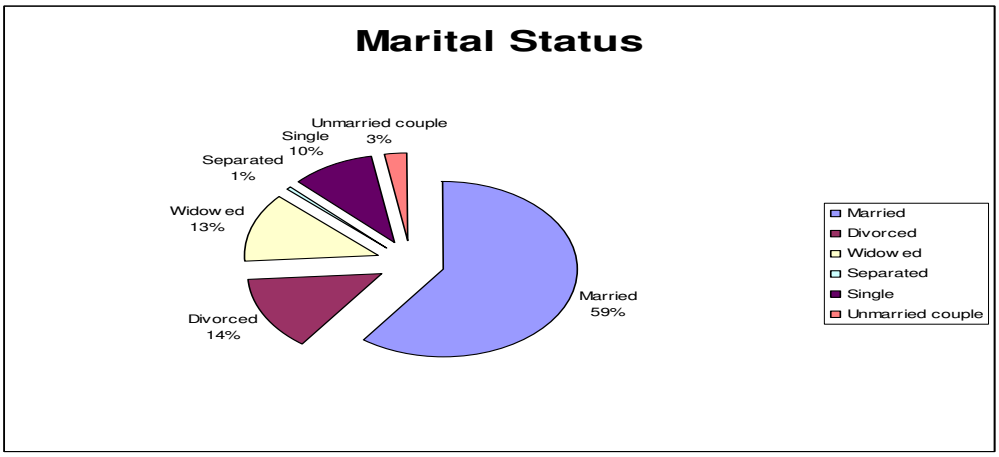
As the exhibits show, percentage contributions were not consistent across the associations. Most of the contributions were made in the city and county, safety and shelter, education and miscellaneous categories. Education did not appear to be a priority for the Upper Mississippi Gaming Commission, Clinton Development Association, Clarke County Development Association, Riverboat Development Authority, and Racing Association of Central Iowa. Grant awardees for each of the categories were randomly interviewed over the telephone to elicit information on disbursement of funds in 2003. Grants awarded in the education category had been used for new playground equipment at an elementary school, educational programs, guest speakers, installation of fiber-optic cabling to improve education through better technology, an air- conditioning unit, white boards, supplies, personnel, and new windows for a school, etc. Grants awarded in the art, culture, and music category were spent on annual museum events, musical entertainment in the annual festivals, symphony, etc. City/county grants focused on new office equipment for a Chamber of Commerce, new Little League fields, bullet proof vests for the police department, build a community center, equipment for historical slide shows, Missouri River Historical Development nature center, and build a community center. For the miscellaneous category, grants were for children with special needs, vacation Bible School, a software circulation system at a public library, educational programs for children and family, and the Humane Society. The health category was focused on hospices, Midwest cardiovascular Center, children's clubs, promotion for the 2003 Race for the cure and breast health, and the American Red Cross. The environment category focused on County Conservation and Living Lands and Water.

5.3. Social Impact

This section provides information on the demographics and gambling behavior of Iowa residents. In addition, perceived impacts of gambling by Iowa residents, factor analysis of residents' perceptions, differences in perceptions, and determinants of causal effects on perceptions are provided. Finally, casino impact perceptions of casino counties key personnel are given.

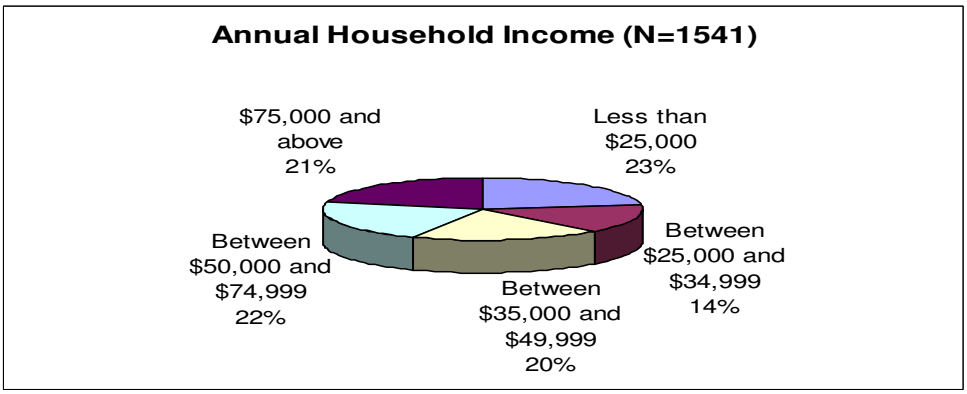
5.3.1. Demographics of Iowa Residents: The results show that the median age of the respondents was 50 years (with a median value of 50 years and standard deviation of 16.5 years). Average number of people in the household was 2.1 with a standard deviation of 4.8, and 57% were females. Average age of the youngest child in the household was 97 months (8.1 years), with a median value of 84 months (7 years) and standard deviation of 99 months (8.3 years). Exhibits 25, 26, and 27 provide a breakdown of marital status, annual household income, and number of years of education. As the figures illustrate, the majority of the respondents were married, with 43% earning annual household income above $50,000; 37% were high school graduates, followed by 30% who had completed some college or technical school, and 20% who had obtained a bachelor's degree.

Exhibit 25: Marital status of Iowa Residents



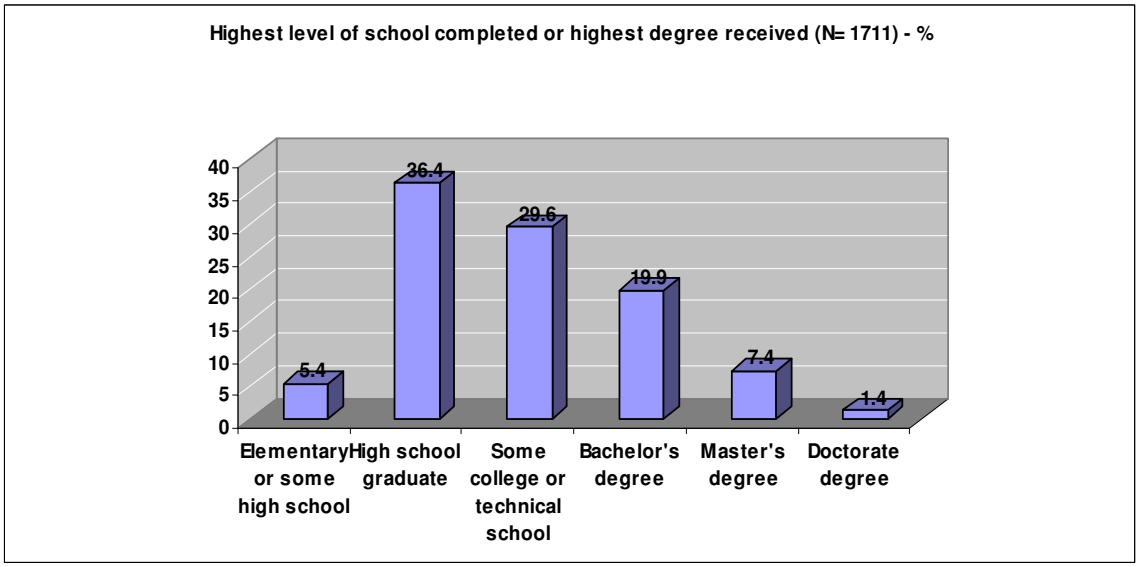
Source: SIGIS, HPELS: UNI

Exhibit 26: Annual Household Income of Iowa Residents



Source: SIGIS, HPELS: UNI

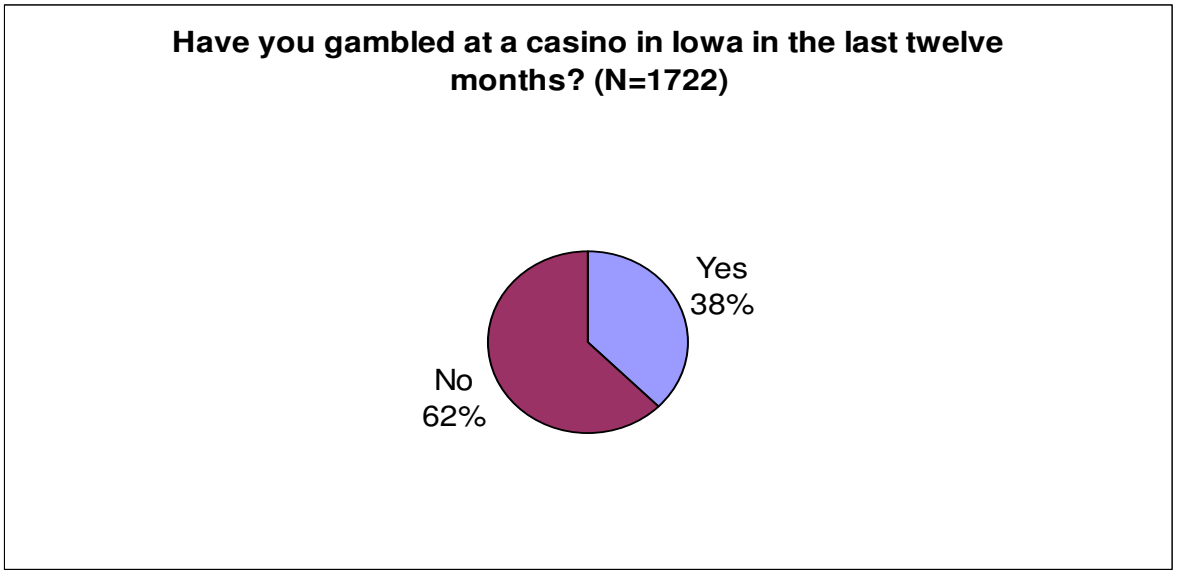
Exhibit 27: Education Level of Iowa Residents



Source: SIGIS, HPELS: UNI

5.3.2. Gambling Behavior of Iowa Residents: Exhibit 28 indicates that approximately 62% of residents had not gambled in Iowa in the past 12 months. Exhibit 29 shows that the gambling residents traveled an average of 24 miles (median value of 19 miles) to visit a casino, with a standard deviation of 19 miles. Average number of times gambled at the most frequented casino in the last twelve months was 7.9 with a median value of 3.

Exhibit 28: Gambling in Iowa



Source: SIGIS, HPELS: UNI

Exhibit 29: Gambling Behavior of Iowans (within the last 12 months)

	Average	Median	Standard Deviation	Maximum
Distance Traveled[a] (miles)	24.10	19.00	28.52	300.00
Spending each month on casino gambling ($)	73.30	25.00	314.93	5000.00
Largest amount lost in Iowa[b] ($)	90.62	37.50	426.57	10,000.00
Largest amount lost outside Iowa[b] ($)	127.10	25.00	445.78	5000.00
Number of times gambled	7.9	3.00	19.64	260.00

a: one way in or out of Iowa to the most visited casino
b: in one trip
Source: SIGIS, HPELS: UNI

Exhibit 29 also reveals that the average spending on gambling each month in the last 12 months was $73.30. The median value was $25 and the maximum money wagered was $5000 per month. The largest amount lost inside Iowa in one trip in the last 12 months was $90.62, and the largest amount lost outside Iowa in one trip was $127.10.

To determine the influence of casino proximity on gambling decisions, three questions were asked: If a casino was not available in your town, would you be willing to drive to the next town in Iowa? If a casino was not available in your town, would you be willing to drive to the farthest town in Iowa? If a casino was not available in your town, would you be willing to go to another state to gamble? As Exhibit 30 indicates, 75% of the gambling residents said they would not drive to the next closest town, and 86% said they would not travel far in Iowa to gamble. Approximately, 75% said they would not travel to another state to gamble, and 56% said they would not have participated in another form of gambling such as bingo or the lottery in the absence of casino gambling in their area.

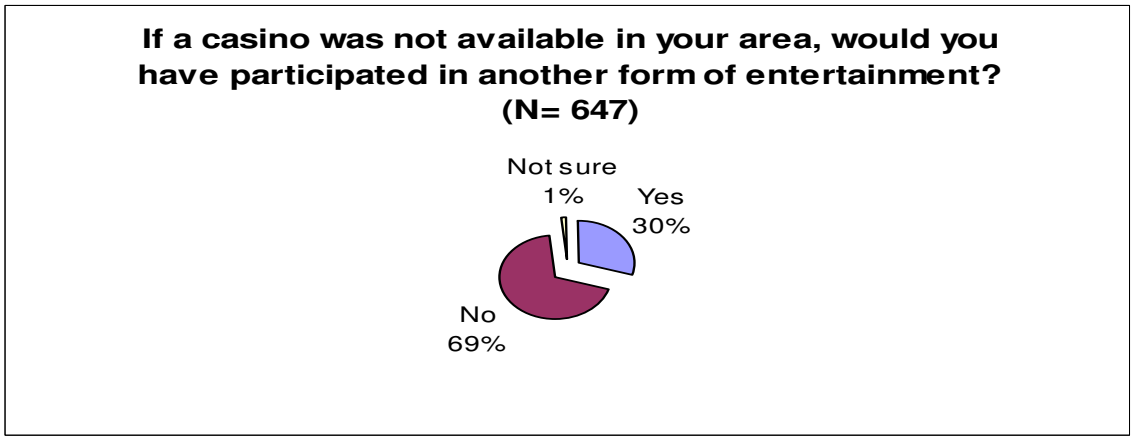
Exhibit 30: Gambling Intentions of Iowa Residents

Source: SIGIS, HPELS: UNI

In addition, as Exhibit 30 reveals, 45% of the gamblers would not indulge in gambling if the existing casinos were absent. Finally, to determine the impact on substitute sites, the following question was asked: If a casino was not available in your town, would you have

participated in another form of entertainment such as theater, museum, or recreation? Thirty percent said yes and 69% said they would not participate in another form of entertainment (Exhibit 31).

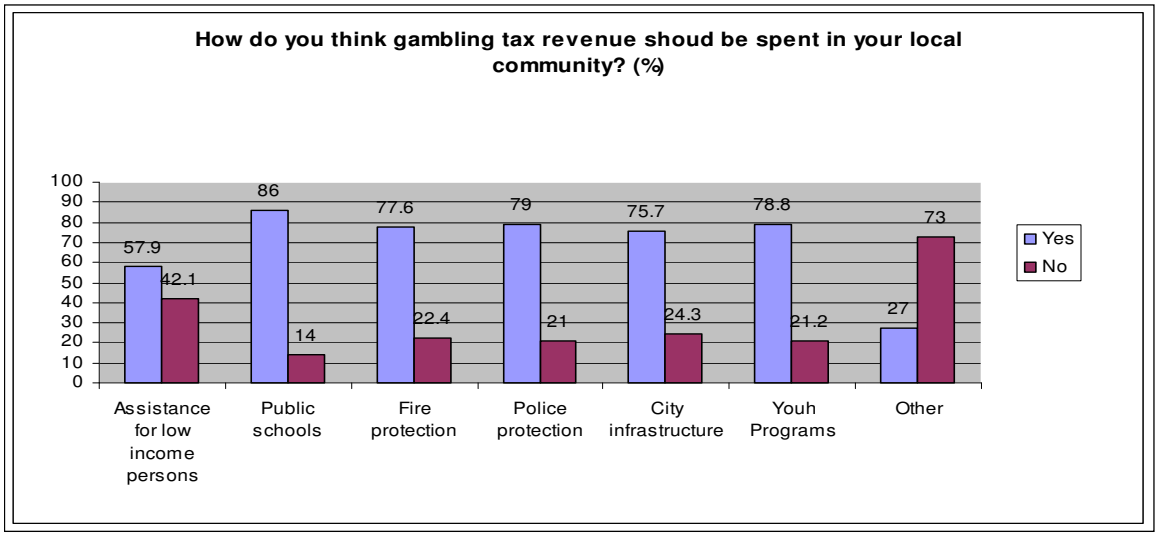
Exhibit 31: Retained and Displaced Expenditures



Source: SIGIS, HPELS: UNI

Exhibit 31 indicates that 30% of the gambling expenditures by local residents are displaced. In other words, this money is taken from other substitute businesses. However, 69% of these expenditures would not have occurred in the absence of a casino. This implies that the majority of the casino visitor expenditures are retained expenditures. Next, the residents were asked to provide their opinion on how the gambling tax revenue should be spent. As seen in Exhibit 32, the majority of the residents were of the opinion that tax revenue should be spent on public schools, followed by police protection and youth programs.

Exhibit 32: Opinion of Gambling Tax Revenue Allocations



Source: SIGIS, HPELS: UNI

Exhibit 32 also shows that 27% of the respondents selected the 'Other' category. This category lists suggestions made by respondents in addition to the categories offered in the

question. Most of the suggestions indicated that the gambling tax revenue should be applied to property tax relief and gambling rehabilitation programs (gambling education, counseling, gambling addiction clinics, and treatment programs). A substantial number of residents recommended a focus on senior citizens. Some of these suggestions (verbatim) are given as follows: try to keep the elderly away from Prairie Meadows; senior housing; should be put in business development; bigger percentage should go to property tax relief; rehabilitation program for those with proven mental problems that led to gambling addiction; counseling programs for those with gambling problem; cleaning up the river; gambling should not be in my area. Money should not be generated from gambling; anti-gambling programs; financial counseling; overall tax relief.

The residents were also asked to provide comments on the socioeconomic impact of gambling on Iowans. Their responses were both positive and negative. The positive comments were as follows (individual comments are separated by semicolons): They have given a lot of money to the community; gambling is a relaxing trip to me; Council Bluffs has improved 200% because of the casino; The casino gives a lot of money in the form of grants to the community; The casino brings a lot of people to Dubuque, a city that has a lot to offer; Dubuque Greyhound Park and Casino has had a lot of great impact on the community; Will be good if tax revenue money could be used to shut down abortion clinic in Bettendorf; My daughter has a nice job at the casino. Some of the negative comments were: Gambling is harder on older people; When gambling was legalized, it was said to bring down taxes, but it has no effect so far on the taxes; Gambling is fine in the right context, but is bad if people who cannot afford to eat do it; Can see the lure of making money to people who are easily deceived. The State can come up with more creative ways of making money; People lose their money on the boat and then have to do other illegal activities to get their money back. Some examples are prostitution, selling drugs, and stealing; those riverboats have created so much havoc. I have seen many of her friends lose everything; It is an addiction; When it comes to gambling, my wife works in a bank and has said that many people are spending assets and money at the casino; Overall the net result of gambling and casinos is negative. I am opposed to the state supporting more casinos for the revenue. The casinos are profiting from the loss of people who cannot afford it; Very opposed to gambling and expansion of it in Iowa; People spend too much money and time at casinos when they should be spending their time and money in more deserving and appropriate places; I have seen too much negative from the gambling with families and kids. I am strongly against it. Older people have lost homes and businesses because it has become a vice. You cannot regain what you have lost; It is not worth it because it does not benefit the community in the long run; My job is in jeopardy because the casinos have put the city in financial ruins; no effect on taxes; The money that goes out to help the social problems far outweigh the revenue the community gets back from the casino.

One survey respondent said that if the survey pertained to the possibility of a casino in Waterloo, then the money generated should be given back to the community. According to this respondent, too much money falls through the cracks and a new casino should be located at the Greyhound Park, with the rights going to the Cattle Congress and there should be no alcohol served. Another respondent could see gambling as an activity that could be fun but could also see the negative impacts. This person said that since Iowa has committed to invest its money on casino gambling, it should allow all counties who have voted to support gambling have licenses to open casinos. This respondent thought that demand for services should determine who prospers and who does not.

5.3.3. Perceived Impacts of Gambling by Iowa Residents: The following discussion provides information on perceived frequencies and average ratings on items that represent possible impacts of gambling. The perceptions are divided into four categories: economic impact, social and environmental impact, attitudes, and gambling problem.

Exhibit 33 shows perceptions on economic impact. Approximately, 53% of the residents disagreed that the prices of goods and services had increased, and 63% disagreed that area businesses had been negatively affected because of gambling. In addition, 57% disagreed that local taxpayers' money had been wasted to improve public facilities for casino visitors. Many local residents agreed that employment opportunities had increased, roads and facilities had been kept at a high standard, new and improved facilities had been built, and more investment had come to their community. However, a substantial percentage of respondents perceived that the casinos had not increased employment opportunities, roads and public facilities had been not been kept at a high standard, new and improved facilities had not been built, area businesses had been negatively affected, and it was a waste of taxpayers' money to improve public facilities for gambling visitors. Eighty-four percent of the respondents reported they did not receive personal benefits from gambling.

Exhibit 33: Economic Impact Perceptions

	Strongly Disagree/Disagree	Neutral	Strongly Agree/Agree	Average Rating
The prices of goods and services have increased	52.7%	14.6%	14.6%	2.5 (N=837)
High spending of visitors negatively affected way of living	65.6%	8.0%	13.8%	2.4 (N=904)
Roads and public facilities kept at a high standard	31.4%	10.1%	51.0%	3.2 (N=982)
New and improved facilities have been built	34.8%	5.2%	49.5%	3.2 (N=945)
More investment has come to my community	38.6%	7.4%	44.9%	2.5 (N=962)
Area businesses have been negatively affected	62.6%	8.1%	20.5%	2.5 (N=972)
Waste of local taxpayers money to improve public facilities	56.6%	7.7%	25.3%	2.7 (N=943)
Increased employment opportunities in the community	36.9%	5.5%	51.5%	3.2 (N=989)
Price of real estate has increased	44.0%	9.5%	35.3%	2.9 (N=950)
Personal economic benefits from gambling	83.7%	3.3%	9.4%	2.0 (N=1034)

Note: The perceptions do not total 100%. The count is inclusive of non-responses.
Source: SIGIS, HPELS: UNI

Exhibit 34 shows that the majority of the residents did not perceive social, environmental, and crime impacts of gambling as negative in their communities. The majority of the respondents felt that casinos had not produced crime and environmental degradation in their community. Although substantial portion of the residents perceived casinos to be a source of pride in their community, almost half of the respondents disagreed with this perception. Residents were split in their perception on the statement that qualities of recreation opportunities had increased because of the existing casinos. A substantive percentage of residents perceived that casinos had increased driving hazards (24%) and traffic

congestion (28%). A majority of the respondents disagreed that they had personally benefited from interactions with the casino visitors.

Exhibit 34: Social, Environmental, and Crime Impact Perceptions

	Strongly Disagree/Disagree	Neutral	Strongly Agree/Agree	Average Rating
Larger crowds decrease my enjoyment of activities in public areas	75.5%	6.0%	12.2%	2.3 (N=990)
There is more traffic congestion	63.3%	4.4%	27.8%	2.6 (N=1018)
There are more driving hazards	66.4%	4.6%	23.9%	2.6 (N=1007)
Noise levels have increased	77.1%	5.6%	11.5%	2.3 (N=1000)
There is more vandalism in my community	72.9%	6.9%	14.2%	2.4 (N=995)
Local crime has increased	67.5%	7.3%	18.4%	2.5 (N=994)
Historic value of my community has been affected	75.7%	5.3%	13.3%	2.3 (N=1009)
There are more opportunities to learn about different cultures and practices of people	52.1%	11.6%	27.6%	2.7 (N=990)
Local residents feel pride in my community	49.1%	15.1%	28.4%	2.8 (N=986)
Lower quality in some natural areas due to construction of casino facilities	63.4%	7.5%	21.6%	2.5 (N=972)
Quality of recreation opportunities has increased	40.3%	8.9%	44.0%	3.0 (N=990)
There are more opportunities to meet interesting people	46.4%	11.5%	35.3%	2.9 (N=987)
I have personally benefited from interactions with casino visitors	77.1%	7.0%	12.3%	2.7 (N=1030)

Note: The perceptions do not total 100%. The count is inclusive of non-responses.

Source: SIGIS, HPELS: UNI

The majority of the residents were not morally against gambling, and they disagreed that casino gambling was associated with crime. They felt safe residing in a casino town with their family, and they were satisfied with their community as a place to live. Conversely, almost half disagreed that casino gambling was a positive leisure activity and agreed that it was a vice. A substantial percentage was morally against gambling (27%) and agreed that gambling was associated with crime (30%) (Exhibit 35).

Exhibit 35: Attitudes Toward Gambling

	Strongly Disagree/Disagree	Neutral	Strongly Agree/Agree	Average Rating
I am morally against gambling	61.5%	11.1	26.9%	2.7 (N=1069)
I think casino gambling is associated with crime	59.8%	8.8%	29.8%	2.7 (N=1052)
Casino gambling has contributed positively to my community	40.2%	12.1%	45.1%	3.0 (N=1040)
Casino gambling is a positive leisure activity	44.4%	16.1%	37.5%	2.9 (N=1049)
Casino gambling is a vice	26.1%	13.2%	54.9%	3.4 (N=1011)
I am glad we have a casino in our area	36.2%	20.3%	42.8%	3.0 (N=1064)
I am satisfied with my community as a place to live	5.1%	1.8%	92.8%	4.0 (N=1072)
I feel safe here	3.5%	1.8%	94.5%	4.0 (N=1072)
My family is safe here	3.4%	2.6%	93.2%	4.0 (N=1064)

Note: The perceptions do not total 100%. The count is inclusive of non-responses.
Source: SIGIS, HPELS: UNI

As Exhibit 36 shows, almost half of the residents disagreed with the statement that casino gambling resulted in family quarrels, even though a substantial percentage of respondents were in the agreed category. Many felt that the local residents borrowed money to gamble (40%) and that alcoholism had increased (23%). Many also believed that it has resulted in higher divorce rates and decreased participation in other recreation activities. Finally, a substantial percentage felt that casino gambling had created bankruptcy problems (44%).

Exhibit 36: Perceptions on Gambling-related Problems

	Strongly Disagree/Disagree	Neutral	Strongly Agree/Agree	Average Rating
It has resulted in quarrels	47.2%	13.6%	24.8%	2.7 (N=895)
It has resulted in negative thoughts of life	58.7%	12.0%	17.8%	2.5 (N=921)
Loosing/quitting jobs is frequent because of casino gambling	57.9%	11.9%	18.4%	2.6 (N=923)
Local residents borrow money to gamble	24.9%	13.0%	40.4%	3.2 (N=824)
Local residents engage in illegal activities	56.3%	11.6%	19.0%	2.6 (N=917
Local residents have lost interest in their work	65.9%	10.2%	13.3%	2.4 (N=940)
Alcoholism has increased	50.5%	13.1%	23.4%	2.7 (N=910)
Prostitution has resulted	56.0%	11.8%	20.3%	2.4 (N=829)
Divorce rates have increased	44.1%	13.3%	35.3%	2.8 (N=880)
Bankruptcies have resulted	29.8%	10.9%	44.2%	3.2 (N=903
Attendance has decreased at other entertainment centers such as museums and cinema	50.4%	7.5%	32.5%	3.1 (N=948)

Note: The perceptions do not total 100%. The count is inclusive of non-responses.
Source: SIGIS, HPELS: UNI

5.3.4. Factor Analysis of Residents' Perceptions: All the items were subjected to principal axis factoring method with varimax rotation. Exhibits 37 and 37A show the items and factors that remained after varimax rotation. None of the items was eliminated because the loadings were above .40. Eleven items loaded on factor 1, eight loaded on factor 2, ten items loaded on factor 3, seven items loaded on factor 4, three items loaded on factor 5, and four items loaded on factor 6. Each factor was named on the basis of a close examination of the loaded items. Factor 1 was related to the pathological problems of gambling and was named "pathology." Factor 2 was related to disruptions in day-to-day life of the community and was named "disruption." Factor 3 was associated with the positive benefits of gambling and was therefore named "benefit." Factor 4 represented gambling influence on the personal life and beliefs of the residents and was named "personal." Factor 5 was associated with community satisfaction and feelings of safety and was named "safety." Finally, factor 6 was associated with negative effects of gambling and was therefore named "costs." The Kaiser-Meyer-Olkin measure of sampling adequacy and Bartlett's test of sphericity were examined to determine appropriateness of the analysis. Both tests indicated robust results confirming that it was appropriate to perform a factor analysis. In addition, Cronbach's Alpha reliability test yielded a score higher than .70 for each factor.

Exhibit 37: Perception Factors

	Pathology	Disruption
Larger crowds decrease my enjoyment of activities in public areas		.653
There is more traffic congestion		.752
There are more driving hazards		.763
Noise levels have increased		.732
There is more vandalism in my community		.663
Local crime has increased		.601
Historic value of my community has been affected		.579
Lower quality in some natural areas due to construction of casino facilities		.582
It has resulted in quarrels	.670	
It has resulted in negative thoughts of life	.686	
Loosing/quitting jobs is frequent because of casino gambling	.666	
Local residents borrow money to gamble	.658	
Local residents engage in illegal activities	.731	
Local residents have lost interest in their work	.720	
Alcoholism has increased	.748	
Prostitution has resulted	.655	
Divorce rates have increased	.749	
Bankruptcies have resulted	.690	
Attendance has decreased at other entertainment centers such as museums and cinema	.500	

Exhibit 37 A: Perception Factors (continued)

	Benefit	Personal	Safety	Costs
The prices of goods and services have increased				.701
High spending of visitors negatively affected way of living				.748
Roads and public facilities kept at a high standard	.571			
New and improved facilities have been built	.726			
More investment has come to my community	.762			
Area businesses have been negatively affected				.497
Waste of local taxpayers money to improve public facilities				.463
Increased employment opportunities in the community	.652			
Price of real estate has increased	.429			
Personal economic benefits from gambling		.455		
Larger crowds decrease my enjoyment of activities in public areas				
There is more traffic congestion				
There are more driving hazards				
Noise levels have increased				
There is more vandalism in my community				
Local crime has increased				
Historic value of my community has been affected				
There are more opportunities to learn about different cultures and practices of people	.503			
Local residents feel pride in my community	.599			
Lower quality in some natural areas due to construction of casino facilities				
Quality of recreation opportunities has increased	.636			
There are more opportunities to meet interesting people	.578			
I have personally benefited from interactions with casino visitors		.455		
I am morally against gambling		-.686		
I think casino gambling is associated with crime		-.614		
Casino gambling has contributed positively to my community	.579			
Casino gambling is a positive leisure activity		.603		
Casino gambling is a vice		-.470		
I am glad we have a casino in our area		.643		
I am satisfied with my community as a place to live			.783	
I feel safe here			.906	
My family is safe here			.897	
Eigenvalue	5.18	2.21		
Variance Explained	39.87%	16.96%		
The Kaiser-Meyer-Olkin measure of sampling adequacy	.896			
The Barlett's test of sphericity (significance level)	.000			

Source: SIGIS, HPELS: UNI

5.3.5. Differences in Perceptions: Next, a series of ANOVA tests were performed to assess differences in each of the identified factorial perceptions based upon socioeconomic characteristics of respondents and gambling behavior (Exhibit 38). With regard to marital status, significant differences existed in benefit, disruption, and safety perceptions. Marital status was broadly represented by four categories: married, divorced or separated, widowed or unmarried couples, and single. Divorced or separated and widowed or unmarried couples and single respondents agreed more with the benefits associated with casino gambling relative to the married couples. However, divorced or separated respondents tended to agree more with the disruptions in comparison with the rest. It is also interesting to note that married couples disagreed the most with the disruptions. Married couples felt more safe than those in the other

marital status categories. The education variable was broadly segmented into four levels: high school graduate or less, 1 to 3 years of college, college graduate, and master's or doctorate degree. The less educated respondents (high school graduate or less) agreed more with the costs and the benefits than those who had a higher level of education. Respondents with a master's or a doctorate degree tended to disagree more with the costs. College graduates and those with higher degrees disagreed with the disruptions more than those with a lower level of education (high school graduate or less and 1 to 3 years in college). Respondents with a lower level of education agreed with the personal items, such as benefits through interactions, personal gains, glad to have a casino in the area, not being morally against gambling, and feeling that gambling was a vice. No differences were observed among the different education groups on safety and problem gambling perceptions.

Exhibit 38: Identifying Differences in Perceptions

	Marital Status	Education	Gender	Income	Gamblers and Non-gamblers
Cost	1.587	5.286*	.407	9.270*	15.355*
Benefit	2.941*	4.208*	.011	.890	52.477*
Disruption	4.765*	4.020*	5.649*	7.898*	9.423*
Personal	2.071	7.810*	2.828	3.921*	24.104*
Safety	2.870*	.358	.643	6.652*	6.262*
Pathology	2.227	.126	.564	1.990	226.213*

** $p \leq .05$*
Source: SIGIS, HPELS: UNI

The above exhibit also reveals differences between various income, gender and gambling inclination groups. The annual household income was broadly divided into four categories: below $35,000, between $35,000 and $49,000, Between $50,000 and $75,000 and above $75,000. Respondents with lower income ($35,000 and below) agreed more with the costs and those in the highest income category (above $75,000) disagreed more with the costs associated with gambling relative to the other categories. The results indicate that as income increased, the respondents became less concerned with the costs. With regard to disruptions, the lowest income category agreed more than the other categories. Those earning an income above $50,000 disagreed more than the rest of the group about the disruptions. Personal perceptions were split across different categories with below $35,000 and between $50,000 and $75,000 agreeing more on the personal items than the rest. Above $75,000 income, respondents felt more safe in their community. Next, males and female respondents differed in their perceptions on disruptions. Females tended to agree more with the disruptions brought by casino gambling such as traffic congestion, driving hazards, crowding, noise levels, vandalism, crime, negative effect on the historic value of the community and the environment. Finally, gamblers and non-gamblers differed on all perception categories. Gamblers agreed more with the benefits and non-gamblers agreed more with the costs, disruptions, problem gambling, and personal perceptions.

5.3.6. Determining Causal Effects on Perceptions: Finally, six ordinary least squared (OLS) multiple regression models were used to determine what factors were influencing the resident perceptions. Dependent (response) variables were cost, benefit, disruptions, safety, personal, and pathology. The independent (explanatory) variables were age, number of adults in the household (adults), number of children in the household (children), age of the youngest child

(childage), gender, gamblers/non-gamblers, marital status, and household income. All except the first four were used as dummy variables.

Resident perceptions were estimated with the following function:

Perceptions = a + b_1(age) + b_2(adults) + b_3(children) + b_4(childage) + b_5(gender) + b_6(gambler/non-gambler) + b_7(marital status1) + b_8(marital status2) +b_9(marital status3) + b_{10}(marital status4) + b_{11}(income1) +b_{12}(income2) + b_{13}(income3) + b_{14}(income4)

Where $b_{1\text{-}14}$ are the estimated coefficients; gender is a dummy variable with males =1 and females =0; gambler/non-gambler is a dummy variable with gambler=1 and non-gambler =0; marital status1 is a dummy variable with married = 1 and other = 0; marital status2 is a dummy variable with divorced = 1 and other = 0; marital status3 is a dummy variable with widowed =1 and other = 0; marital status4 is a dummy variable with single =1 and the rest=0; income1 is a dummy variable with below $25,000 =1 and above $25,000 =0; income2 is a dummy variable with between $25,000 and $49,999=1 and the rest =0; income3 is a dummy variable with between $50,000 and $74,999 =1 and the rest=0; and income4 is a dummy variable with above $75,000 =1 and the rest=0. Income4 was dropped because of high multicollinearity with income3. Childage was dropped because it was significant on all the dependent variables and it marked down the sample size.

Exhibit 39 and 40 reveal the regression model outcomes. Variables affecting the benefit perceptions were gamblers/non-gamblers, and resident perceptions on problem gambling. The variables that were influencing the benefit perceptions were problem gambling perceptions and gambling inclination. Both had a negative effect. In other words, respondents that agreed more with the problem gambling items had a tendency to disagree with the benefits associated with gambling. Non-gamblers differed from gamblers in their perceptions of benefits. They tended to disagree more with the benefits. No significant differences were observed among the marital status, income, and gender categories. Age, number of adults and children in the household did not influence the perceptions. Next, the cost model shows that number of children in the household had a positive influence on perceptions. In other words, the more children, the more the agreement that casino gambling brought high economic costs. The widowed category of marital status had a significant effect on cost perceptions. Widowed people agreed more with the costs relative to other marital status categories. Respondents with an annual household income below $50,000 disagreed more than the other income categories on the economic costs of gambling. In addition, the non-gamblers and the respondents who agreed more with problem gambling had a tendency to agree more with the economic costs.

Exhibit 39: Regression Models on Benefit and Cost Perceptions Variables

Independent Variables	Model 1: Benefit (N=548)		Model 2: Cost (N=548)	
	Parameter	Significance	Parameter	Significance
Age	-.031	.500	-.004	.935
Adults	-.058	.219	.044	.321
Children	.045	.296	.078	.050
Gender	.058	.170	.004	.923
Married	.065	.156	-.060	.157
Widowed	.031	.465	.084	.037*
Divorced/separated	-.055	.274	-.044	.351
Single	-.263	.793	-.048	.264
Below $25,000	.050	.960	-.111	.019*
Between $25,000 and $49,999	-.004	.941	-.092	.049*
Between $50,000 and $74,999	.019	.694	-.056	.218
Gamblers and non-gamblers	-.130	.002*	.112	.005*
Pathology	-.207	.000*	.429	.000*
R Squared	**.09**		**.235**	
F value	**4.224**	**.000**	**12.395**	**.000**

** Significant at p≤.05*
Source: SIGIS, HPELS: UNI

Exhibit 40: Regression Models on Disruption and Safety Perceptions

Independent Variables	Model 3: Disruptions (N=187)		Model 4: Safety (N=188)	
	Parameter	Significance	Parameter	Significance
Age	-.024	.525	-.017	.717
Adults	.036	.351	.016	.748
Children	-.014	.685	.000	.995
Gender	.024	.476	-.113	.009
Married	.061	.100	.075	.107
Widowed	.012	.724	.055	.211
Divorced/separated	.010	.802	.004	.945
Single	-.007	.850	.031	.513
Below $25,000	-.084	.043*	-1.07	.041*
Between $25,000 and $49,999	-.088	.032*	-.107	.040*
Between $50,000 and $74,999	-.040	.313	-.013	.792
Gamblers and non-gamblers	.004	.912	-.127	.004*
Pathology	.615	.000*	-..067	.116
R Squared	.405		.054	
F value	27.904	.000	2.332	.005

** Significant at p≤.05*
Source: SIGIS, HPELS: UNI

As Exhibit 40 reveals, the disruption model was highly significant. Respondent income and problem gambling perceptions were influencing the disruption perceptions to a large extent. Respondents with below $50,000 disagreed with the disruptions caused by casino gambling relative to the respondents in the above $50,000 category. Respondents who gave a higher rating to problem gambling perceptions agreed more with the disruptions

associated with casino gambling. The safety model was also found to be statistically significant. Respondents with an annual household income below $25,000 perceived their community to be more safe relative to the other income categories. Non-gamblers tended to perceive their community to be less safe. No significant differences were observed among males and females, and marital status and income categories.

In addition to the models presented above, the personal model was found to be statistically significant in terms of gender, income, and gambling inclination. Females tended to disagree more than males with the personal benefits of interactions, monetary compensation, and feeling happy to have a casino in the neighborhood. Respondents with an annual household income below $50,000 and non-gamblers also disagreed with the personal benefits. Finally, the pathology model was not significant. There were no statistically significant differences in perceptions based upon marital status, income categories, gender, and among the gamblers and non-gamblers

5.3.7: Social Impact Perceptions of Key Personnel from Casino Counties

Social service providers, law enforcement officers, and economic development officers in casino counties were interviewed over the telephone to solicit their socioeconomic perceptions of casino gambling. One hundred and twenty-three usable surveys were gathered. Items similar to those on the resident survey were used to assess perceptions on benefits, costs, safety, disruptions, and pathology of gambling. In addition, five open-ended questions were asked: 1) Overall, have the casinos had a negative or positive impact on the quality of life in the county in which you work? 2) Has the impact of the closest casino been limited to the immediate county or has it impacted a wider area? 3) What specifically are some of the positive impacts you have observed, if any? 4) What are some of the negative impacts you have observed, if any? 5) Have there been any additional costs in the county as a result of the existing casino(s)? 6) Are you personally in favor of having a casino in the county? This subsection first presents univariate analyses of the numeric data.

As Exhibit 41 reveals, most of the respondents were affirmative in their rating of economic impact perceptions. However, it is important to note that a substantial percentage of them disagreed that real estate prices had increased (30%), roads and public facilities were maintained at a high standard (22%), and new and improved facilities had been built (23%). Approximately 33% of the interviewees received personal economic benefits from gambling.

Exhibit 41: Economic Impact Perceptions of Key Personnel

	Strongly Disagree/Disagree	Neutral	Strongly Agree/Agree	Average Rating
The prices of goods and services have increased	69.1	17.1	13.9	2.2 (N=110)
Roads and public facilities are kept at a high standard	21.9	17.9	50.4	3.4 (N=111)
New and improved facilities have been built	22.8	8.1	61.0	3.5 (N=113)
More investment has come to my community	13.0	9.8	69.1	2.3 (N=112)
Area businesses have been negatively affected	65.0	17.9	8.1	2.1 (N=117)
Waste of local taxpayers money to improve public facilities	78.8	12.2	2.4	4.2 (N=122)
Increased employment opportunities in the community	4.9	2.4	91.9	3.0 (N=102)
Price of real estate has increased	30.1	26.0	26.9	3.0 (N=102)
Personal economic benefits from gambling	54.5	5.7	33.4	2.7 (N=115)

Source: SIGIS, HPELS: UNI

With regard to average rating, the above exhibit shows that the highest rating was given to the item on waste of taxpayers' money to improve public facilities followed by the new and improved facility and roads and public facility items. This indicates that the majority of the respondents agreed with positive impact on the infrastructure.

Exhibit 42 shows that the perceived social impacts have not been negative in the working community. Over one third of the respondents perceived casinos as a source of pride in their community. The majority of the respondents felt that crime and environmental degradation had not happened in their community because of the casino(s). However, a substantial number of respondents perceived that casinos had caused traffic congestion (33%) and driving hazards (20%). Many respondents disagreed that there were more opportunities to learn about other cultures.

Exhibit 42: Social, Environmental, and Crime Impact Perceptions of Key Personnel

	Strongly Disagree/Disagree	Neutral	Strongly Agree/Agree	Average Rating
Larger crowds decrease my enjoyment of activities in public areas	77.8	4.9	7.4	2.1 (N=119)
There is more traffic congestion	55.3	8.9	33.4	2.8 (N=120)
There are more driving hazards	67.4	8.9	20.4	2.5 (N=119)
Noise levels have increased	83.7	5.7	10.6	2.1 (N=116)
There is more vandalism in my community	78.9	11.4	9.7	2.1 (N=114)
Local crime has increased	68.3	8.1	16.2	2.4 (N=114)
Historic value of my community has been affected	81.3	8.9	9.8	2.1 (N=116)
There are more opportunities to learn about different cultures and practices of people	62.7	26.8	10.6	2.9 (N=111)
Local residents feel pride in my community	22.0	30.1	36.5	3.2 (N=109)
Lower quality in some natural areas due to construction of casino facilities	78.8	5.7	15.4	2.2 (N=120)
Quality of recreation opportunities has increased	13.8	12.2	69.1	3.7 (N=117)
There are more opportunities to meet interesting people	41.5	46.3	12.2	3.4 (N=114)

Source: SIGIS, HPELS: UNI

In addition, the above exhibit reveals that the highest rating was given to the item on quality of recreation opportunities (3.7) followed by more opportunities to meet interesting people (3.4). The next exhibit (43) shows that most of the respondents demonstrated positive attitudes toward gambling. They felt safe residing in a casino town and were satisfied with their community as a place to live. However, a substantial percentage of residents disagreed that casino gambling was a positive leisure activity (28%).

Exhibit 43: Attitudes Toward Gambling

	Strongly Disagree/Disagree	Neutral	Strongly Agree/Agree	Average Rating
I am morally against gambling	74.8	8.9	13.0	2.3 (N=119)
Casino gambling has contributed positively to my community	10.5	15.4	69.9	3.7 (N=118)
Casino Gambling is a positive leisure activity	28.5	29.3	42.3	3.1 (N=118)
I am satisfied with my community as a place to live	7.3	3.3	87.8	4.0 (N=121)
I feel safe here	4.9	4.1	89.4	4.1 (N=121)

Source: SIGIS, HPELS: UNI

The highest rating in the above exhibit was given to the safety-related items. Many residents agreed that their community was safe. Exhibit 44 shows that many respondents agreed with the statement that casino gambling resulted in family quarrels (approximately

32%) even though a substantial percentage of respondents were also in the disagreed category (29%). More than a third agreed that local residents borrowed money to gamble, and that bankruptcies had resulted (34.2%). Finally, several respondents (20.3%) felt that casino gambling had resulted in less interest in work. Conversely, the bulk of the key personnel disagreed that local residents had lost interest in their work, engaged in illegal activities, and that attendance had decreased at other entertainment centers such as museums and cinema.

Exhibit 44: Perceptions of Gambling-related Problems

	Strongly Disagree/Disagree	Neutral	Strongly Agree/Agree	Average Rating
It has resulted in quarrels	29.4	18.7	32.6	3.1 (N=99)
It has resulted in negative thoughts of life	69.8	13.0	17.1	2.2 (N=106)
Loosing/quitting jobs is frequent because of casino gambling	59.3	14.6	8.1	2.4 (N=101)
Local residents borrow money to gamble	14.6	15.4	36.6	3.3 (N=82)
Local residents engage in illegal activities	61.8	10.6	15.4	2.5 (N=108)
Local residents have lost interest in their work	79.7	12.2	20.3	2.3 (N=104)
Alcoholism has increased	52.0	14.6	14.6	2.6 (N=100)
Prostitution has resulted	63.4	8.9	27.7	2.1 (N=96)
Divorce rates have increased	39.0	21.1	9.8	2.6 (N=86)
Bankruptcies have resulted	17.1	13.8	34.2	3.3 (N=80)
Attendance has decreased to other entertainment centers such as museums and cinema	63.4	9.8	16.2	2.9 (N=111)

Source: SIGIS, HPELS: UNI

According to the above exhibit, the highest rating on the Likert scale was given to the 'bankruptcy' and 'local residents borrow money to gamble' items. In other words, more respondents agreed that bankruptcies had resulted and local residents borrowed money to gamble.

Furthermore, the response to the open-ended question on whether the casino had a positive or negative impact on the quality of life in the county where they work was mixed. Some of the answers were (individual comments are separated by semicolons): At my end, we provide financial resources, that are beneficial, but I wonder how many lives gambling ruins, if it is one life, it is not worth it; Provides things that would not normally be provided on their own; Dollars to city government, had attracted more retail businesses; Positives outweigh the negatives; Negatives outweigh the positives.

For the question designed to ascertain whether the respondents thought that the impact of the closest casino had been limited to the immediate county or it had impacted a wider area, most of the answers were split. In response to the question on some of the perceived positive impacts, many mentioned charitable contributions, economic growth in general, more hotels, drawing card for tourism, employment opportunities, donations, better infrastructure, and redevelopment of riverfront. In response to the question on negative impacts, many answers commented on the increase in the crime rate, bankruptcies, negative mental health, increase in financial crimes, grocery money going to gambling, ugly on riverfront, betting house payments, domestic abuse, family fights, shoplifting, traffic congestion, public

intoxication, money problems for people who cannot pay their bills or control their addiction, not a lot of extra shoppers in town, and alcohol and drug abuse.

Many answers to the question on additional costs in the county resulting from casino gambling mentioned were methamphetamine use, business leakage of dollars, emergency services, public safety, increase in the civil legal and criminal justice systems, prosecution costs, the toll taken on schools, not good for families, loss of farms, and high property taxes. However, several respondents also thought that there were few costs and that budget problems were minimal.

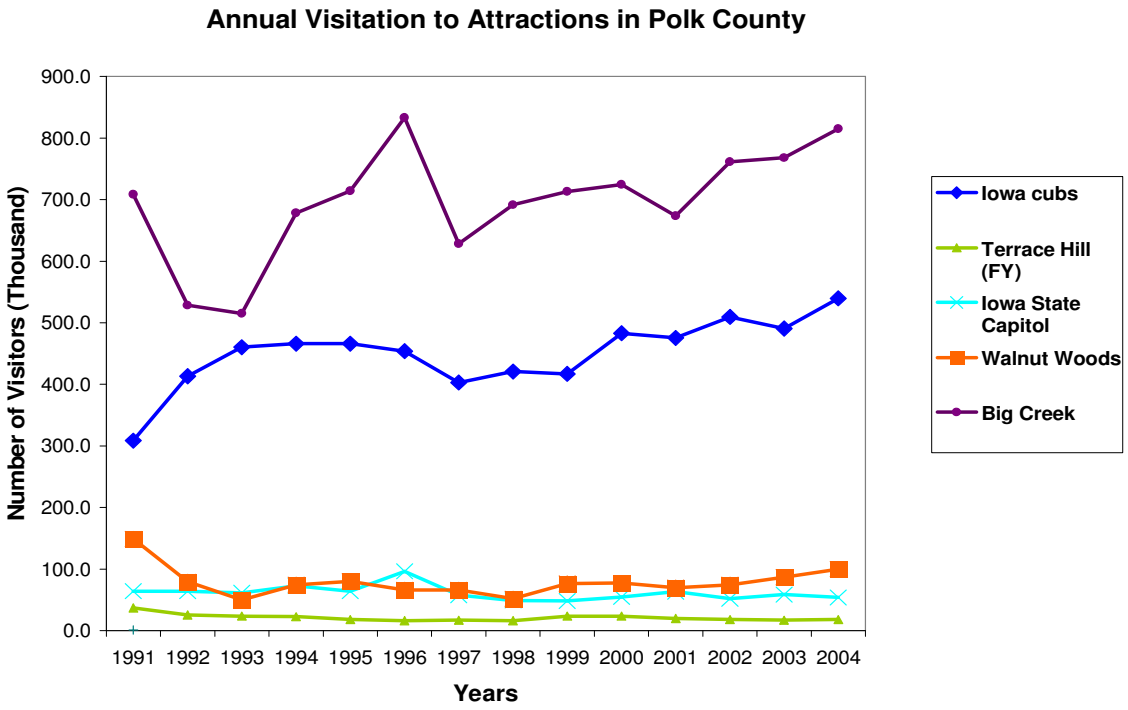
Finally, the respondents were asked to provide comments about the impacts of casinos in Iowa. Some of the answers were as follows: Not enough programs to deal with problems; A real attraction to the elderly on fixed incomes; Casinos are not economic development, they just move the money around but do not create wealth; More recreation opportunities, abundance of people; No idea where the rest of the casino money is, not in favor of expansion; Students not able to have food because parents gamble the money away; Just one more choice for tourism and entertainment; Do not think the disabled people who get tax dollars should be allowed to gamble their money away; Large impact on community betterment; Legislature should not have arbitrarily passed the law for table gaming at Prairie Meadows without a public vote; Less disruption and crime due to casinos than we originally thought; The dilemma of adding casinos is whether the community will derive the advantages they perceive they will. The direction the new licenses are approaching are modeled after the boat (greyhound) which does not return money to the community; The effect is not that horrible or not as wonderful as expected; and we do not want to be saturated with them.

5.4 Substitute Sites

Because the Convention and Visitor Bureaus did not have annual visitation statistics on attractions in their geographic area, an average of eight recreational sites in the casino counties and control counties were contacted by telephone. Personnel at the sites were asked to provide annual visitation statistics from 1990 to 2004. Many attraction sites did not keep records of visitor attendance. Approximately 30% of the area attractions responded. In this section, an attempt is made to compare the visitation patterns in association with the total gaming revenue patterns from 1991 to 2004.

5.4.1. Casino counties: Attractions of Polk County that provided data on annual visitations were the Iowa Cubs, Terrace Hill, the Iowa State Capitol, Walnut Woods and Big Creek State Park. Exhibit 45 shows visitation trends for Polk County from 1991 to 2004. Most of the visitations take a curvilinear form from the pre-casino to post-casino period in comparison with the steady rise in Iowa gaming revenue. Statistics provided at the Iowa Gaming and Racing Association website (2004) show a linear growth in Iowa gaming revenue from 1994. According to the information obtained from the attractions, several reasons can be attributed to the increase and decrease of visitation levels. The Iowa Cubs had an increase of visitors in 1992 due to the construction of a larger stadium, and the Iowa State Capitol had a major increase in 1996 because it was the Iowa sesquicentennial. Attendance at the State Capitol dropped in 1998, which can be attributed to the building renovation.

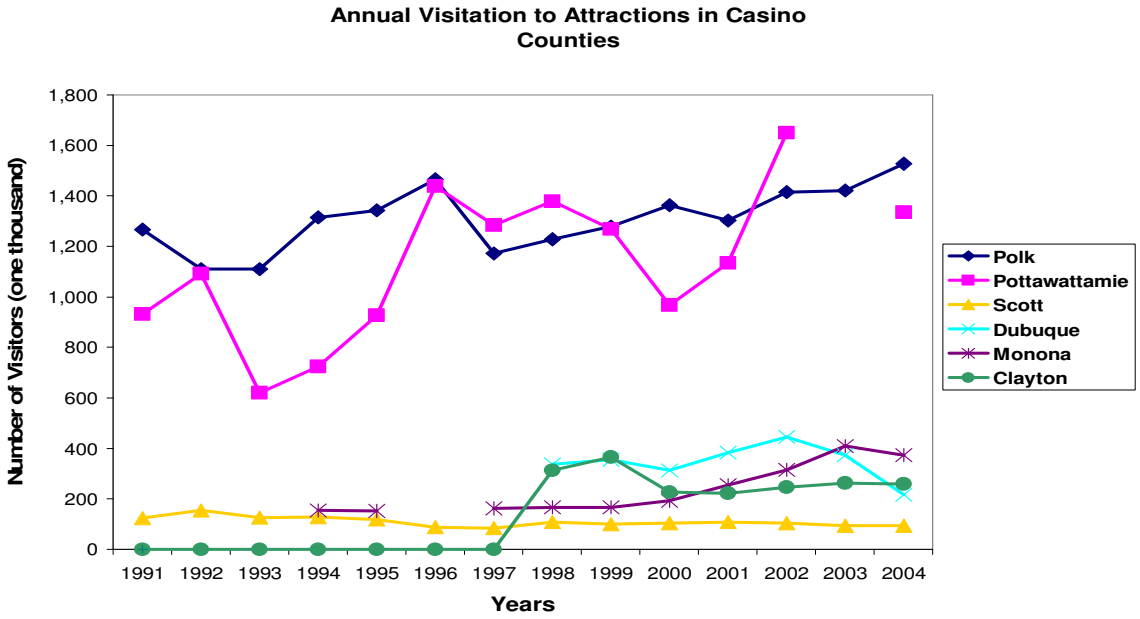
Exhibit 45: Visual Visitation Trends For Polk County



Source: SIGIS, HPELS: UNI

Because of low response rate, the visitations were aggregated for other casino counties and their trend was compared with the rise or decline of Iowa gaming revenue (Exhibit 46). No data were received from Clarke County. Pottawattamie County attraction visitation counts included Wilson Island State Park, Lake Manawa, and the Nishna Heritage Museum. The attraction response from Scott County was only from the Mississippi Welcome Center. Dubuque County attractions included the Dubuque Museum of Art, Mines of Spain State Park, and the Spirit of Dubuque and Miss Dubuque River Ride (a boat tour on the Mississippi). Monona County was represented by Lewis and Clark State Park and Preparation Canyon State Park. Clayton County attractions that provided visitation data were Pikes Peak State Park and the Elkader Opera House. Several of these attractions indicated other reasons for visitation fluctuations. The exhibits are not conclusive of non-association with the gaming revenue patterns because visitation counts were missing from several sites.

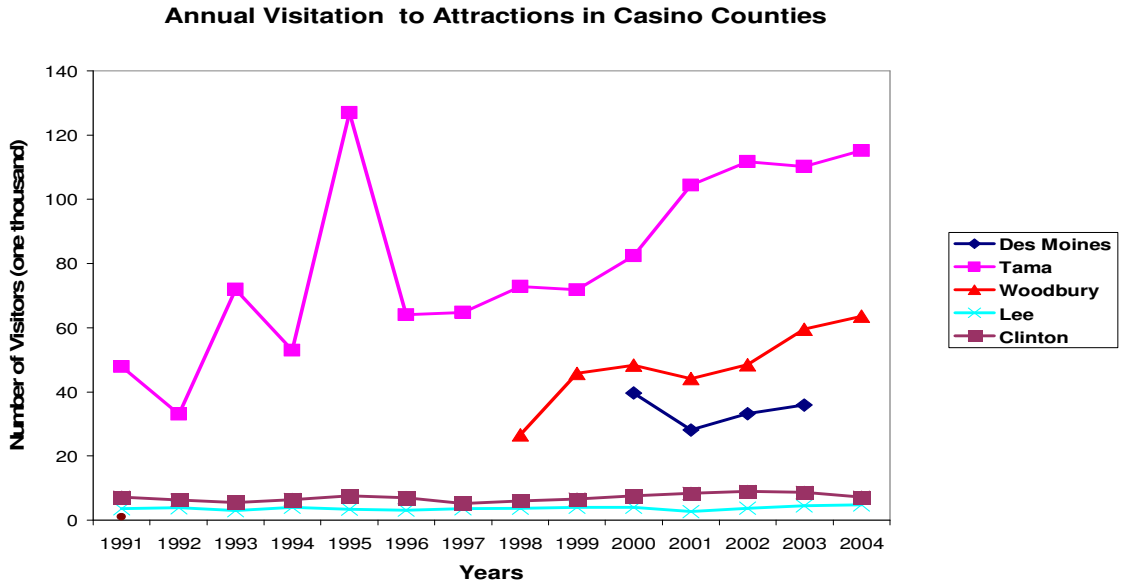
Exhibit 46: Visual Visitation Trends for Casino Counties



Source: SIGIS, HPELS: UNI

Exhibit 47 represents the visitation pattern of Des Moines County's recreational sites (Port of Burlington Welcome Center and Starr's Cave Nature Center). Tama County's substitute site is Union Grove State Park. Attractions sites in Woodbury County for which data were received were the Sioux City Public Museum and Sergeant Floyd River Museum and Welcome Center. Lee County's visitation patterns are from data from the Miller House Museum and camping attendance at Stephens Forest State Park. The Clinton County's attraction used in this study is the Clinton Area Showboat Theatre.

Exhibit 47: Visual Visitation Trends in Casino Counties

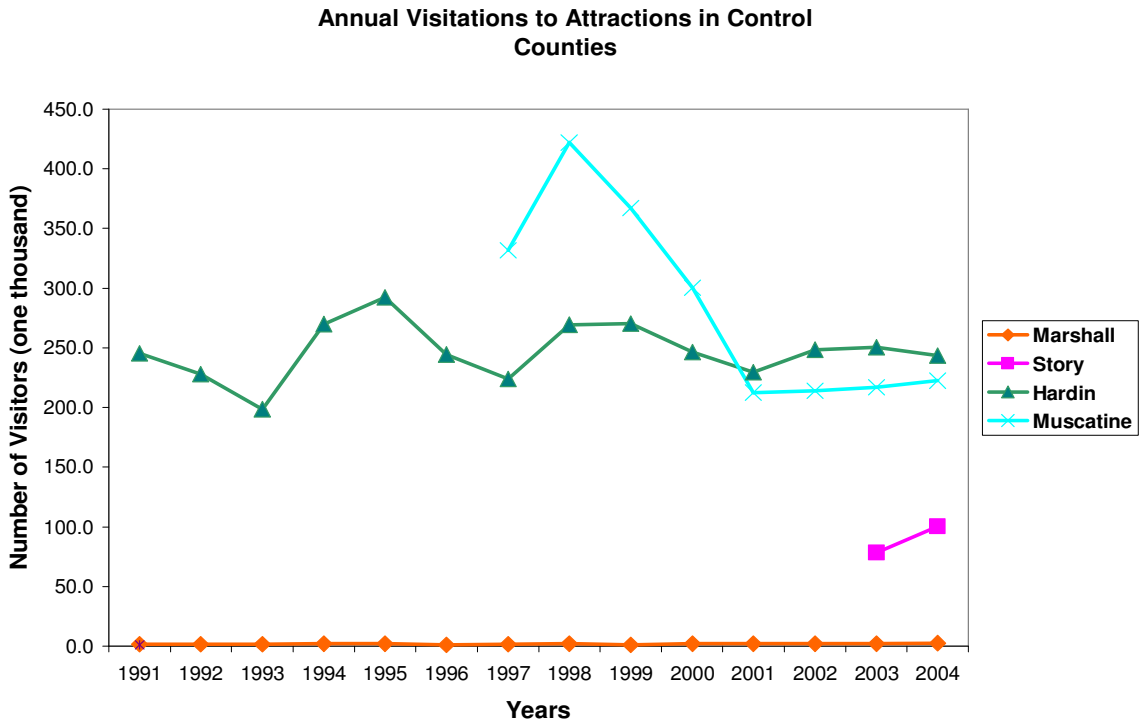


Source: SIGIS, HPELS: UNI

5.4.2. Control counties

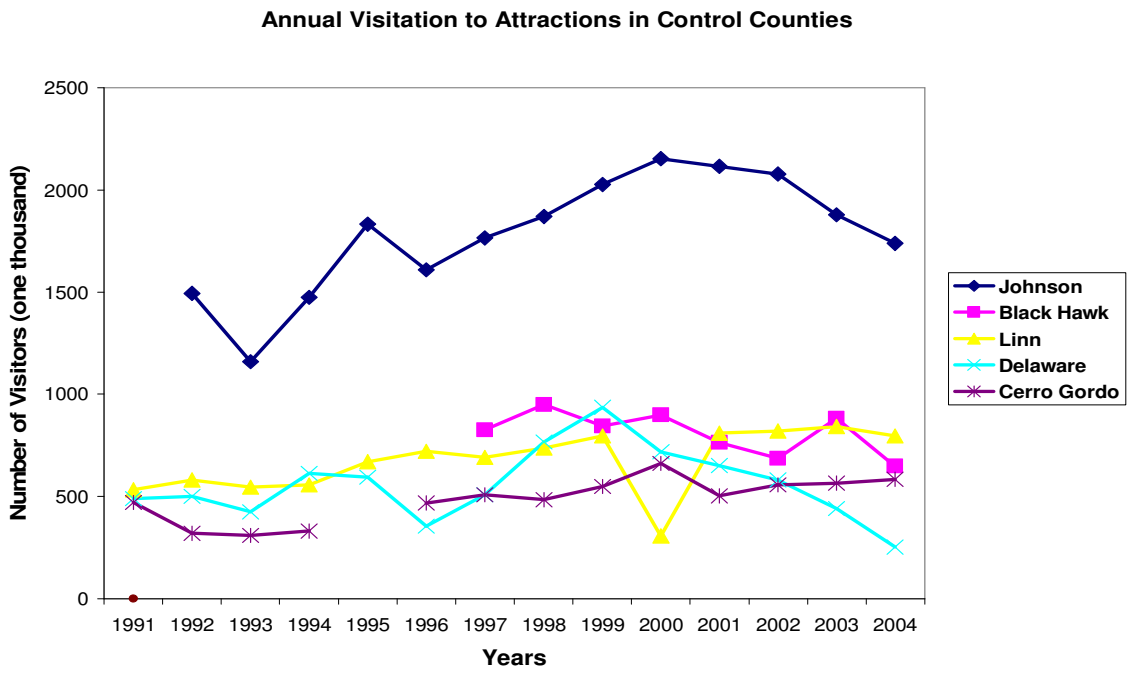
Data on visitation levels were also collected for control counties (Exhibits 48 and 49). Pocahontas and Palo Alto counties were not included due to non-availability of data. Attractions that provided visitations for Johnson County were Coralville Lake, Hancher Auditorium, Lake MacBride, the Museum of Natural History, and the University of Iowa Museum of Art. Black Hawk County's substitute site data represent George Wyth State Park, the University of Northern Iowa Museum, the Marshall School, and the Hearst Center for the Arts. Linn County's attractions included the National Czech and Slovak Museum and Library, Palisades-Kepler State Park, Pleasant Creek State Park, and the campers of the Linn County Conservation Department. Delaware County visitations were provided by Backbone State Park, and Cerro Gordo County includes Clear Lake and McIntosh Woods State Park. Marshall County provided attractions data on Grimes Farm. The research team received cooperation from Reiman Garden (opened since 2002) for Story County and Pike's Peak State Park for Hardin County. Finally, visitation data for Muscatine County were received from the Muscatine Art Center, Wildcat Den, and Fairport State Park. As the exhibits illustrate, attraction visitations have followed individual patterns of rise and decline. As stated earlier, these patterns are not noticeably associated with gaming revenue. However, it is important to note that the exhibits are suggestive not conclusive because visitation statistics could not be obtained from all the attractions contacted. Trends observed in the control counties are similar to those in the casino counties.

Exhibit 48: Visual Visitation Trends for Control Counties



Source: SIGIS, HPELS: UNI

Exhibit 49: Visual Visitation Trends for Control Counties



Source: SIGIS, HPELS: UNI

The above exhibits do not provide conclusive evidence of an association between gambling revenue and visitations. Because of small response rate, some of the counties represent single attraction visitations. In addition, reasons offered for most of the visitation fluctuations were associated with site specific characteristics, such as renovation and special events.

5.5. Pathological Impact of Gambling

Data for this section were elicited from the treatment agencies that deal with pathological gamblers. The Gambling Treatment Program of the Iowa Department of Public Health represents 11 treatment agencies in Iowa: Alcohol and Drug Dependency Services of Southeast Iowa, Inc., Allen Hospital Gambling Treatment Program, Northwest Iowa Alcoholism & Drug Treatment Unit, Inc., Community and Family Resources, Jackson Recovery Centers, Inc., Central Iowa Gambling Treatment Program, Eastern Iowa Center for Problem Gambling, Heartland Family Service, Jennie Edmundson Hospital Gambling Treatment Program, Iowa Gambling Treatment Program, and Substance Abuse Services Center. The following discussion includes a pathological gambler profile, socioeconomic indicators of pathological gamblers for 2004, and the opinion of the key personnel in treatment agencies. Crisis gamblers are people who receive crisis services by way of a call or visit, and crisis-concerned people are spouses or family members who receive services by way of a call or a visit (Iowa Gambling Treatment Program, 2004). Treatment gamblers are those who eventually seek treatment, and treatment-concerned are relatives of the gambler

who receive outpatient services such as individual, family, group, and continuing-care counseling (Iowa Gambling Treatment Program, 2004).

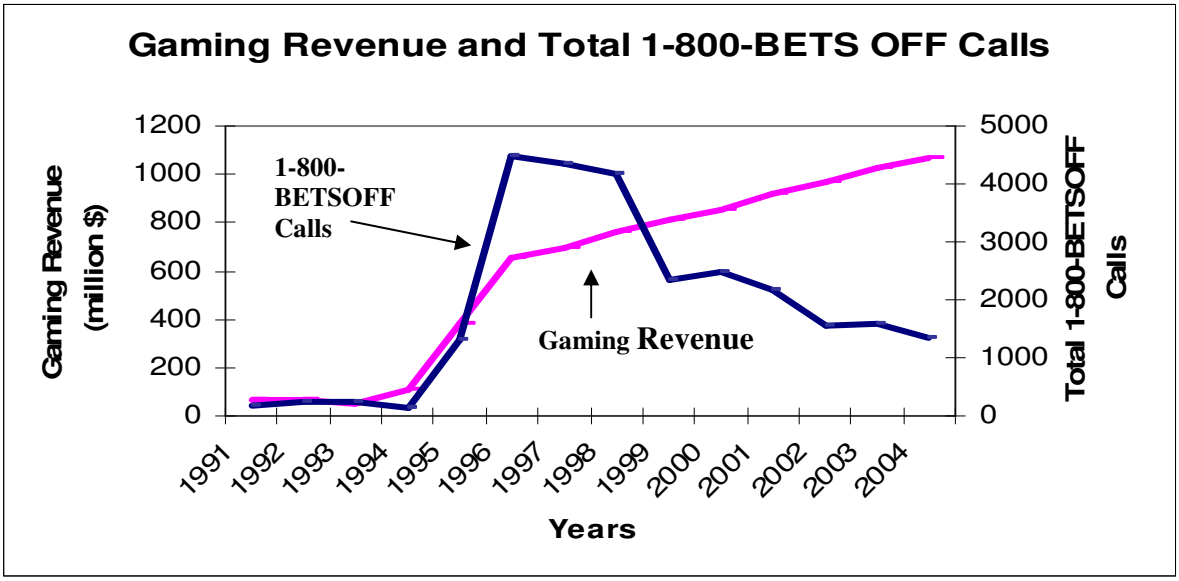
5.5.1. Profile of Pathological Gamblers for 2004

Approximately 90% had a high school education and beyond, and 79% of the gamblers were between 30 and 59 years of age. Sixty-eight percent of them reported that the maximum amount of money they lost in any one week during the last six months was above $500. Weekly amount lost was above $100 by 77% of the gamblers. Fifty-nine percent were employed full-time, 54% percent of these gamblers were male, and 49% were married. Fifty-eight percent reported that their debt as a result of gambling was greater than $5000 (the Iowa Gambling Treatment Program does not have information on the kind of debt reported). Forty-two percent reported that their credit card debt was higher than $5000, 32% reported bankruptcy or other defaults, and 15% had lost at least one job due to a gambling-related problem. With regard to social factors, 14% of the respondents had been arrested in the last 12 months, and 14% reported one or more gambling-related arrests. Primary wagering of 61% was slots, followed by table games (12%), video (8%), and lottery/scratch tickets (4%). With regard to health risk behaviors, 59% reported any tobacco use and 25% reported being treated for a drinking/drug problem. In addition, the single and multiple treatment episode clients had missed an average of 2 and 3 days of work respectively during the last 6 months of 2003.

Statistics were retrieved for all Iowa counties for the year 2004 and for casino counties and comparable non-casino counties from 1990 onward on crisis gambler, crisis concerned, treatment gambler, and treatment-concerned counts. Statistics for 2004 indicate that maximum demand (numeric) on services came from the Polk County (261 crisis gamblers, 144 gamblers seeking treatment, and 116 crisis concerned services). These were followed by Pottawattamie (19), Black Hawk (19), and Scott (7) for crisis gamblers; Pottawattamie (19), Black Hawk (11), and Scott (7) for crisis concerned services; Scott (87), Pottawattamie (86), Dubuque (65), Woodbury (62), and Black Hawk (45) for gamblers undergoing treatment; and Scott (76), Dubuque (45), Woodbury (39), and Pottawattamie (23) for treatment-concerned people. For the other years, demand was in a curvilinear form for casino counties, while services rendered were not consistently substantial for the control counties except for Linn and Black Hawk.

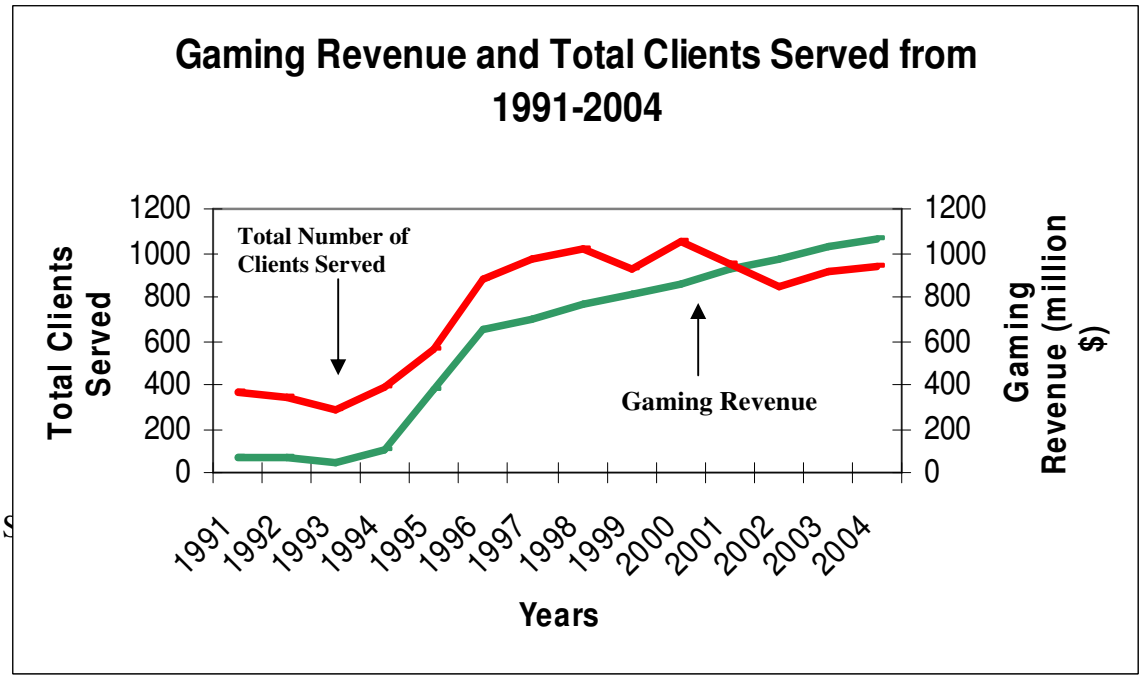
Exhibit 50 illustrates trends in gaming revenue and 1-800-BETS OFF Helpline calls from 1991 to 2004. There seems to be a possible association between helpline calls and total adjusted gaming revenue in Iowa till 1996; calls increase as revenue increases in that time period. However, after 1995, calls take a curvilinear form while the gaming revenue takes a linear form in 1994 and maintains linearity till 2004. Next, Exhibit 51 shows that number of clients served by the treatment agencies peaked in 1996 as gaming revenue increased, but the client count take a downward dip after 1996. However, the decline in calls and clients did not happen because there were fewer pathological gamblers after 1996 (F. Biagioli, 2005, personal communication). As advertising declined, fewer people called.

Exhibit 50: Gaming Revenue and Helpline Calls Visual Trends



Source: SIGIS, HPELS: UNI

Exhibit 51: Gaming Revenue and Total Clients Served by the Iowa Gambling Treatment Program Visual Trends



Source: SIGIS, HPELS, UNI

5.5.2. Interviews with Key personnel from the Iowa Treatment Agencies

Open-ended questions were asked of the key personnel of treatment agencies to assess their opinion on gambling from a protocol designed for the study: 1) Overall, have casinos had a positive or negative impact on the quality of life in your community? 2) Has the impact of casinos been limited to the immediate vicinity or impacted the community in general? 3) What specifically are some of the positive impacts you have observed? 4) What are some of the negative impacts you have observed? 5) What effect have casinos had on the volume of crime/types of crime? 6) Are you in favor of a casino in your community? 7) Have additional costs been incurred in your area as a result of the existing casino(s)? 8) Are there any comments or observations you would like to make about the casino(s)? Responses were received from 18 treatment agency key personnel from one treatment agency. The majority of the respondents were females (80%). All except one (2.5 years) had held their respective positions for a minimum of 4 years. A summary of answers is as follows:

In response to the question on the quality of life, five stated that casino gambling had a negative impact on the quality of life. The answers of the respondents were as follows (individual comments are separated by semicolons): I am only aware of the negative impact; Negative, remembering that we work with problem gamblers and their significant others; We don't have a casino. However, the revenue generated that goes into the general fund of the State of Iowa has allowed for paying of state government, in part, without raising taxes. Casinos also are contributing to funding that is used for treatment services, and in some cases other charitable efforts. The research is inconclusive of the total impact. However, disposable income does get diverted to the casinos, some people (3% to 5%) will develop a serious problem with gambling. We must continue to put funds into the research, education and treatment of problem gamblers; Neutral, both positive (jobs, revenue, charitable contributions) and negative; Positive in that they've brought economic growth and played a key role in Dubuque's growing tourist industry. The community is growing and expanding since the tourist industry took off. The nonprofit group that owns the Greyhound Park/Casino annually distributes millions of dollars into both the City of Dubuque and the non-profit agencies and groups in the tri-state area who benefit from their charitable contributions; it depends on who you ask. I think most people in the community can see benefits while compulsive gamblers and their families tend to see the negative impact.

In response to the question on the dispersion of the casino impact, the following answers were given: Impact is limited to the immediate community but people will travel from one casino to another if their "luck" runs out at the closest one; It impacts both the local and nearby business I would state within a 90-mile radius. It takes away business from other forms of entertainment, it affects family finances and relationships; Even though we have no casino locally, we have seen an increase of those affected by problem gambling. People from our area go to Prairie Meadows, and Tama casinos. However, we have individuals who are also engaging in illegal gambling as well. Almost every bar in rural areas has "fruit machines" that are operating like a slot machine, with illegal payouts to "special" customers in the form of cash. We also have other forms of illegal gambling. Gambling behavior has become "normative" in our society, so the consequence of normative change is increased gambling of both illegal and legal. Areas that don't have a casino also have individuals with significant social and economic problems as a result of gambling; We also have other forms of gambling that also impact on some individuals including, lotto, scratch tickets, bingo, etc.; Casinos

impact a wider area. There are so many venues for gambling in the two-state area, many people in outlying communities travel to Sioux City to gamble; Impact is on the entire tri-state area (Iowa, Illinois, and Wisconsin).

In response to the question on observed positive impacts, three respondents stated none and other provided detailed answers as follows: Meskwaki only seems to contribute to their own Native American community; It eases the problem for our Governor and legislature in trying to find monies to support community and state wide programs. It allows for more services to be provided for those in need; Prairie Meadows pays taxes and money into a fund that supports treatment and education efforts. They also have a grant program that has helped some charities in our area. Tama takes and gives nothing back that I am aware of; The impacts are decent-paying jobs, stimulating local economy, charitable activity in the community; Positive impact has directly to do with the financial benefits of Iowa West Foundation, for example, the library, entrance into community, landscaping in front of a high school, new movie theater, water park, Mid America Center, new library, etc; Some of the beautification things; Employment for individuals who don't have degrees.

In response to the question on observed negative impacts of the casino(s), respondents answers were as follows: Bankruptcy, marital problems, depression, suicidal thoughts & attempts, break-up of families, neglect of children & pets; I have seen both financially, separations/divorces, health issues, loss of employment, increase in crimes, loss of healthy support systems, promotion of depression & isolation, increase in bankruptcy; I have seen research and have seen in practice that problem gamblers have a higher rate of suicide than the normal population and higher rate of suicide than mental health and substance abuse clients. Many of our clients suffer severe depression and suicidal ideation. Nothing is worse for a therapist than murder or suicide of a client and their spouse. My client who failed outpatient gambling treatment services three times (no funding for intense residential type services was available), ended up killing his wife, then himself, in front of their three children. All that was ever said publicly was, suffering serious financial difficulties. This is a very hidden illness that goes undetected. Money is easy to get for ongoing bailouts. Debt is remedied, temporarily for many through bankruptcy or illegal activities. So often I have worked with clients who identify crimes such as company embezzlement or forgery of a spouse's signature that never gets reported. When it does get reported, the truth about the problem gambling is not revealed (SIGIS Survey, 2005).

Other responses to the above question are as follows: Many persons who gamble cannot afford to lose, so they may increase financial hardships, bankruptcy, crime; Increased bankruptcy – either due to gambling or business losing viability; Increase in check cashing and pawnshop venues; Divorce, legal consequences, foreclosures; Hundreds of people who have contacted our agency because they (or family members) are in difficulty due to their gambling behavior; The establishment of multiple pawnshops that were never visible before legalized gambling in Dubuque; The large numbers of elderly/retired folks who spend their days at the casinos; I have met people who have divorced, lost jobs, children, homes and developed incredible debt because of gambling. I have also known individuals who have attempted suicide and/or have such incredible amounts of debt even with filing bankruptcy some will spend as much as 10 years to pay what they owe; High debt, anywhere from $25,000 to $75,000 and broken marriages/homes and families falling apart; Higher crime, bankruptcy, and divorce rates which negatively impact the community. In addition, there is depression and suicidal behavior due to unemployment; the way the casinos market to the elderly by sending coupons out at the same time as SSI/SSDI checks come in; Financial, emotional, relationship, legal impacts; Increased bankruptcies, divorces, white collar crime

(embezzling) to support gambling addiction, neglect of children, and elder abuse (SIGIS Survey, 2005).

Response to the question on whether the key personnel were in favor of having a casino in the community was: No, it will drain other resources such as restaurants, entertainment; No, I believe the devastation far outweighs the benefits; Our official position is that we neither support nor oppose a casino. It does not matter whether we have a casino, or not, when it comes to individuals with problem gambling issues. However, I would expect that a casino would bring a greater concentration/number of new people with gambling problems. It also may have positive economic benefit in some aspects. Our position is the problem exists and adequate funding for treatment, education and prevention needs to be provided; No, I didn't think it is a valid business enterprise and I don't think it is a valid form of entertainment; neutral; I appreciate what the casino has brought to the community and recognize that gambling is a legal, recreational activity for adults. For me personally, it's not a leisure activity in which I choose to participate; No, I think casinos are like bars. The more access you have the more people will become addicted, thus the more problems a community will have; No, the result is high debt, broken marriages/homes, higher crime rate, bankruptcies and divorce rate, depression & suicidal behavior as well as unemployment; No, due to increased crime and other financial troubles; Yes, only if it is strictly regulated and monitored so that guidelines cannot be altered once a casino is in operation. If this cannot be done, then the answer is no; I have seen too many negative consequences in the lives of the people I work with.

For the question on additional costs resulting from the existing casinos, the answers were as follows: Yes, mental health costs, substance abuse costs; I believe that it impacts healthcare costs, the need of services provided, i.e., TX program, bankruptcies, assistance programs, daycare cost, divorces, small business failure, suicides, insurance costs, other entertainment & merchandise stores; No casinos locally. While expenses are not greater, positive economic impact is also non-existent; A lot of money is being spent for beautification & easy accessibility to riverfront and casino areas. We have many homeless in the area that would benefit if the community leaders put more focus on them and the residents instead of focusing on bring gamblers to the area; Not sure what you're asking; I am not sure but the casinos open the door to more possibility of crime and they seem to attract not only the gambler who is sad but also the drug user who is always in the middle of the night and vacationers, this doesn't seem like a healthy mixture; Added strain on services for the lower socioeconomic class – i.e., medical, psychiatric, housing, shelters, food stamp and unemployment programs; Jail time increases, health care loss, bankruptcy, increased debt ratio, increased stressing on relationships, increased divorce rate; Yes, the costs associated with pathological gambling, low debt repayments after unsecured debts are used to gamble with; loss of revenue from restaurants/local businesses due to excessive amounts of money being wagered at casinos.

Additional comments provided by respondents were: I only seem to be in contact with the negatives, so I'm mostly unaware of positives; I am glad you are doing this study and if you would like, I could arrange for you to interview some of the clients; Casinos and gambling already exist, so do the problems associated with problem gambling. With the expansion of gambling, the legislature has made the right step in funding treatment, education, and prevention. What they need to do is give us time to expand the services and not pull the money in a future year. Historically the treatment money has been reduced and used in the general fund. When the state legislature cut the budget for advertising the 1-800-BETSOFF, the number seeking services dropped. We need to restore the media, especially

TV advertising for problem gambling with the 1-800-BETSOFF number. We will reach more problem gamblers when this occurs; my impression is that the gambling industry profits from the less sophisticated and less affluent, and the State is willing to accept this to get the revenue; Legislators have seen the need for treatment in communities and surrounding areas with casinos. We need always look at and project efforts to residents and see both negative and positive attributes of casinos; None; N/A; Gambling affects any race & social class. But it is the lower socioeconomic class that suffers the most due to their inability to pay back debts (higher socioeconomic class tends to have family members who financially bail them out); I would love for there to be no more casinos within the community; There are negative consequences associated with casino gaming as well as benefits. The laws regulating casinos have become relaxed which is not healthy.

5.6 Historical Data

The section provides historical data on family demographics, family relations, family finances, school, health, employment, and crime. The data were obtained from the U.S. Census Bureau, Office of Social and Economic Trend Analysis, Consumer Credit of Des Moines, State Library of Iowa, Iowa Department of Education, Iowa Department of Public Safety, Federal Financial Institutions Examination Council, Iowa Finance Authority, and Iowa Institute of Community Alliances.

5.6.1 Family Demographics

Live births by sex were 51.6% males and 48.4% females for 2002. Aggregate data for the State of Iowa show median age of Iowans as 36.6 years with 51% females for the year 2000. In addition, 36.1% of the population in Iowa was high school graduates, 21.4% had obtained some college, no degree, 14.7% had earned a bachelor's degree, and 6.5% had a graduate or professional degree in 2000. The Greatest Change column in the following Exhibit (52) traces change from the pre-casino period for the casino and control counties. It is interesting to note that the statistics show an overall decline in female residents for all counties of Iowa with the biggest change in the casino county of Clarke. With regard to education, Clarke County shows the greatest negative change in the number of high school graduates and the largest negative change occurred in the control county of Black Hawk. The some College, no Degree percentage is similar for the state as a whole, casino counties, and control counties. Residents with a bachelor's degree are predominant in Polk and Johnson Counties because of their proximity to Iowa State University, University of Iowa, and Drake University. Exhibits 10:2:1-6 in the Appendices provide a more detailed breakdown of family demographics.

Exhibit 52: Family Demographics

	Highest	Lowest	Greatest Change
Median Age (years)	*Year 2000*	*Year 2000*	*1990 to 2000*
Iowa	Dickenson (43.3)	Story (26.5)	
Casino	Monona (43.0)	Polk (34.4)	Clayton (4.3)
Control	Pocahontas (42.5)	Story (26.5)	Delaware (4.4)
Gender (% Females)	*Year 2000*	*Year 2000*	*1990 to 2000*
Iowa	Montgomery (52.6)	Jones (47.8)	
Casino	Des Moines (51.7)	Lee (50.5)	Clarke (-1.4)
Control	Black Hawk (52.0)	Story (48.9)	Marshal (-.9)
	Year 2000	*Year 2000*	*1990 to 2000*
Education (%)			
High School Graduate	Adair (48.4)	Johnson (19.8)	
Iowa	Clayton (45.6)	Polk (29.5)	Clarke (-4.3)
Casino	Delaware (47.2)	Johnson (19.8)	Black Hawk (-4.6)
Control			
Some College, No Degree	Clay (26.3)	Allamakee (17.0)	
Iowa	Tama (24.2)	Dubuque (18.2)	Tama (8.5)
Casino	Palo Alto (25.2)	Delaware (18.5)	Palo Alto (7.8)
Control			
Bachelor's Degree	Johnson (26.1)	Davis (8.1)	
Iowa	Polk (21.0)	Clarke (8.9)	Polk (4.4)
Casino	Johnson (26.1)	Delaware (9.9)	Linn (4.7)
Control			
Master's or Professional Degree	Johnson (21.4)	Adair (2.3)	
Iowa	Polk (8.7)	Tama (2.9)	Scott (1.8)
Casino	Johnson (21.4)	Pocahontas (2.9)	Black Hawk (3.0)
Control			

As Exhibit 54 shows, Johnson County, a control county, had the highest percentage of population pursuing a master's or a professional degree. Polk County among the casino counties had the highest percentage which was 8.7%. Greatest positive increase in this degree happened in the control county of Black Hawk.

5.6.2 Family Relations: Historical data on family relations is represented by average family size, percentage of single householders, married couples, and dissolutions (divorces). Average family size for the States of Iowa was 2.5 in 2000. The percentage of single householders and married couples were 17.8% (12.8% females and 5% males) and 82.3% respectively. The percentage of population in the State with dissolutions was .28% in 2003. As Exhibit 53 shows, Sioux County, which is a non-study county had the highest average family size of 3.2. Average family size for both the casino and the control counties was similar. The greatest change from 1990 in average family size occurred in a casino county relative to several control counties. Pottawattamie County had the largest percentage of single householders, and the greatest change occurred in a casino county in terms of increase in the number of single householders. The percentage of married couples was higher in the control counties than in the casino counties. However, the percentage of married couples had declined since 1990 in both casino and control counties, with the decline more prominent in the casino counties. Exhibits (10.2.2-4) in the Appendices provide a detailed breakdown.

Exhibit 53: Family Relations

	Highest	Lowest	Greatest Change
Family size (average)	*Year 2000*	*Year 2000*	*1990 to 2000*
Iowa	Sioux (3.2)	Dickinson (2.8)	
Casino	Des Moines (3.1)	Monona (2.8)	Several (.1)
Control	Delaware (3.1)	Several[a] (2.9)	Several (.1)
Single Householders (%)	*Year 2000*	*Year 2000*	*1990 to 2000*
Iowa	Pottawattamie (23.2)	Shelby (7.9)	
Casino	Pottawattamie (23.2)	Clayton (14.3)	Clarke (4.1)
Control	Linn (18.9)	Delaware (12.9)	Marshal (3.8)
Married Couple (%)	*Year 2000*	*Year 2000*	*1990 to 2000*
Iowa	Shelby (92.1)	Pottawattamie (76.8)	
Casino	Clayton (85.6)	Pottawattamie (76.8)	Clarke (-4.2)
Control	Delaware (87.1)	Black Hawk (78.1)	Marshal (-3.8)
Dissolutions (%)	*Year 2003*	*Year 2003*	*1990-2003*
Iowa	Union (.56)	Appanoose (.00)	
Casino	Pottawattamie (.42)	Clayton (.19)	Lee (-.23)
Control	Muscatine (.44)	Johnson & Story (.17)	Black Hawk (-.22)

a: Pocahontas, Cerro Gordo, and Story

Exhibit 55 also reveals that population with for the state as a whole, more dissolutions were found in a non-study (non-casino and non-control) county (Union). The percentage of the population with dissolutions was higher in a control county (Muscatine) than in a casino county (Pottawattamie). The highest percentage decrease from 1990 in the number of dissolutions was similar for casino and control counties.

5.6.3 Family Finances: Family finances consist of median household income, percentage of home ownerships, families in poverty, percentage of homeless people served, and percentage of the population with chapter thirteen bankruptcies and credit counseling (Exhibit 54). Data was not available for the pre-casino period for homeless people served and people who had credit counseling. Median household income in casino and control counties was similar, with similar growth from 1990. Warren County (which is not in the casino or control group) had the highest median income.

Exhibit 54: Family Finances

	Highest	Lowest	Greatest Change
Household Income (median)	*1990*	*2000*	*1989 to 1999*
Iowa	Warren ($50,349)	Decatur ($27,343)	
Casino	Polk ($46,016)	Monona ($33,235)	Polk ($14,895)
Control	Linn ($46,206)	Palo Alto ($32,409)	Linn ($14,069)
Homeownerships (%)	*2000*	*2000*	*1990 to 2000*
Iowa	Several[a] (14.0)	Story (8.0)	
Casino	Monona (14.0)	Several[b] (10.0)	Scott (2.0)
Control	Pocahontas (14.0)	Story (8.0)	Johnson & Pocahontas (2.0)
Families in Poverty (%)	*2000*	*2000*	*1989 to 1999*
Iowa	Decatur (10.9)	Bremer (2.9)	
Casino	Des Moines (8.2)	Dubuque (4.9	Clayton (-5.6)
Control	Black Hawk (7.9	Linn (4.3)	Palo Alto (-5.1)
Homeless in Residence	*2004*	*2004*	*NA*
Iowa	Clinton (1.27)	Several (0)	
Casino	Clinton (1.27)	Tama (.02)	
Control	Muscatine (.62)	Delaware and Palo Alto (.04)	
Personnel Bankruptcy (%)	*2003*	*2003*	*1993 to 2003*
Iowa	Scott (.06)	Several[e] (0)	
Casino	Scott (.06)	Several[f] (.01)	Clarke (.04)
Control	Muscatine (.05)	Palo Alto & Pocahontas (.0)	Muscatine (.03)
Credit Counseling (%)	*2004*	*2004*	
Iowa	Polk (.31)	Several[g] (.00)	*NA*
Casino	Polk (.31)	Pottawattamie (.00)	
Control	Muscatine (.16)	Delaware (.00)	

Note: NA means not available
a: Audubon, Monona, Pocahontas, Wayne, and Dickenson
b: Woodbury, Dubuque, Pottawattamie, and Polk
c Des Moines and Tama
d: Linn, Story, and Johnson
e: Adair, Adams, Allamakee, Audubon, Carroll, Chickasaw, Floyd, Fremont, Hamilton, Hancock, Lyon, Mitchell, Montgomery, Palo Alto, Pocahontas, Ringgold, Taylor, Van Buren, Wayne, Winnebago, Worth, and Wright.
f: Lee, Dubuque, Des Moines, and Clayton
g: Harrison, Howard, Lyon, Montgomery, Obrien, Osceola
h: Clinton, Monona, Clarke, Tama, Clayton
i: Palo Alto, Pocahontas, Delaware, Hardin

As Exhibit 54 indicates, the percentage of population with homeownerships was similar for casino and control counties, with similar growth from 1990. Pottawattamie County served the highest percentage of homeless people. The percentage of the population with personal bankruptcies was higher in the casino counties. The percentage of the population with credit counseling was also high for casino counties relative to the control counties. Exhibits A.10.4.1-6 provide a detailed breakdown. A longitudinal comparison (from 1993 to 2003) of aggregated counts of chapter thirteen bankruptcies between casino counties and

control counties shows that the casino counties had more bankruptcies than the control counties.

Data on home improvement loans was only available for Metropolitan Statistical Areas (MSA) for recent years. The total number of loans generated (in 000's) in 2003 were: 19,699 for Cedar Rapids (Benton, Jones, and Linn counties), 38,610 for Davenport-Moline-Rock Island (Scott county of Iowa, Mercer, Rock Island, and Henry counties of Illinois), 48,705 for Des Moines (Dallas, Madison, Polk and Warren counties of Iowa), 5,395 for Dubuque (Dubuque County of Iowa), for Iowa City (Johnson and Washington counties of Iowa), 6,844 Iowa City (Johnson and Washington counties of Iowa), 12,388 for Sioux City (Woodbury County of Iowa, Dakota and Dixon counties of Nebraska, and Union county of South Dakota), 71,152 for Omaha Council Bluff (Harrison, Mills, Pottawattamie counties of Iowa, Cass, Douglas, Sarpy, Saunders, and Washington counties of Nebraska), and 7,282 for Waterloo-Cedar Falls (Black Hawk, Bremer, and Grundy counties of Iowa). As some of the MSA consisted of out-of-state counties, counts for Iowa counties were difficult to ascertain.

5.6.4. School: School statistics (Exhibit 55) are represented by school drop-out rates, percentage of population with certified enrollment, and average attendance rate for 2004. Data were not available for the pre-casino period for certified enrollments and average attendance rate. Casino counties had higher drop-out rates and these have declined from 1990. A control county has shown the highest decline.

Table 55: School Statistics

	Highest	**Lowest**	**Greatest Change**
Drop-out (rate)	*Year 2001/2002*	*Year 2001/2002*	*1991/1992 to 2001/2002*
Iowa	Woodbury (4.2)	Adair and Kossuth (0)	
Casino	Woodbury (4.2)	Clayton (.8)	
Control	Black Hawk (4.1)	Palo Alto (.3)	Scott (-2.1) Black Hawk (-2.9)
Certified Enrollment (%)	*Year 2002*	*Year 2002*	NA
Iowa	Louisa (25.3)	Johnson (11.72)	
Casino	Clarke (19.78)	Dubuque (13.80)	
Control	Hardin (20.01)	Story (13.21)	
Attendance (average)	Years 2004	Year 2004	NA
Iowa	Polk (58,985)	Adams (647)	
Casino	Polk(58,985)	Clarke (1,667)	
Control	Linn (30,962)	Palo Alto (1,562)	

Note: NA means not available

In addition, the highest percentage of certified enrollment was found in a non-casino and non-control county (Louisa). Average attendance rate from 1994 to 2004 was higher for the casino counties relative to the control counties.

5.6.5 Health: The health variables are represented by suicide, mental illness and drug and alcohol abuse rates. In addition, statistics for the most recent year on the five top health problems were obtained from the Iowa Department of Health website. The study team was not

able to procure data for the pre-casino period for all the health variables from the Iowa Department of Public Health (vital statistics section).

Exhibit 56A: Health Statistics

	Highest	**Lowest**	**Greatest Change**
Suicide (rate)	*Year 2002*	*Year 2002*	NA
Iowa	Adams (45.6)	Several (0.0)	
Casino	Monona (30.5)	Dubuque (8.9)	
Control	Cerro Gordo (19.9)	Palo Alto (0.0)	
Mental Illness (rate)	*Year 2003*	*Year 2003*	NA
Iowa	Lee (1498)	Delaware (260.8)	
Casino	Lee (1498)	Pottawattamie(362.6)	
Control	Palo Alto (1310.7)	Story (326.3)	
Drug and Alcohol Abuse (rate)	*Year 2003*	*Year 2003*	NA
Iowa	Wapello (1816.9)	Warren (302.4)	
Casino	Scott (1455.8)	Monona (608.8)	
Control	Cerro Gordo (1629.8)	Story (556.1)	

Note: NA means not available

The Exhibit 56A shows that for the year 2002, the suicide rate was found to be higher in the casino counties relative to the control group of counties. However, Adams County (a non-study county) had the highest suicide rate in Iowa. The mental illness rate was higher for the casino counties. Drug and alcohol abuse rate was the highest for a non-stay county (Wapello). Historical data show that heart disease was the most common health problem, followed by cancer, cerebrovascular disease, chronic respiratory disease, and pneumonia and influenza. In the highest category, the population of Appanoose County had the highest percentage of residents with heart disease. The control county population had a bigger percentage of people with cancer relative to the casino counties (Exhibit 56B).

Exhibit 56B: Health Statistics – Top Five Health Problems in Iowa

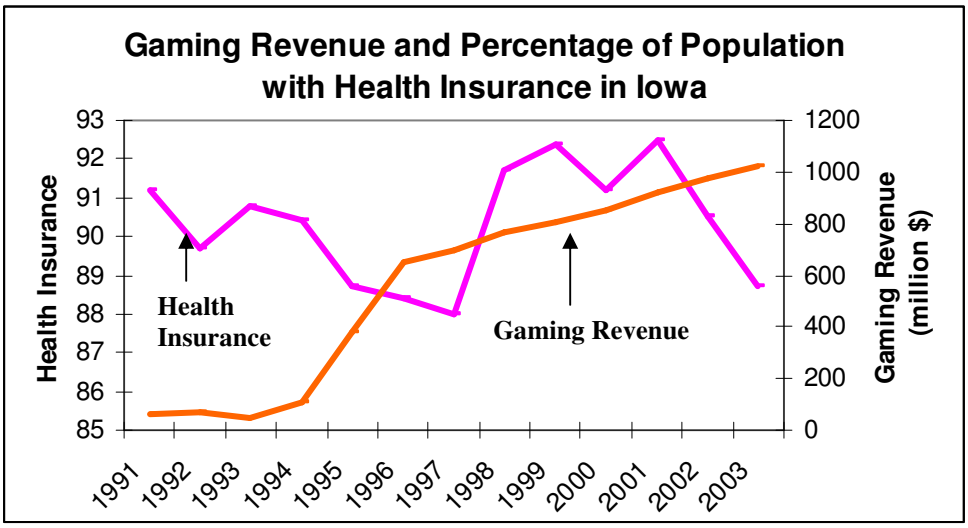
	Highest	Lowest
Heart Disease (%)	*Year 2003*	*Year 2003*
Iowa	Appanoose (.67)	Johnson (.09)
Casino	Clinton (.50)	Scott (.19)
Control	Pocahontas (.46)	Johnson (.09)
Cancer (%)	*Year 2003*	*Year 2003*
Iowa (%)	Pocahontas (.38)	Johnson (.13)
Casino	Monona (.36)	Polk (.18)
Control	Pocahontas (.38)	Johnson (.13)
Cerebrovascular Disease (%)	*Year 2003*	*Year 2003*
Iowa	Franklin (.17)	Benton (.02)
Casino	Clayton (.12)	Polk and Clinton (.05)
Control	Palo Alto (.12)	Story and Johnson (.04)
Chronic Respiratory Disease (%)	*Year 2003*	*Year 2003*
Iowa	Monroe (.17)	Adair (.01)
Casino	Several[a] (.08)	Dubuque (.03)
Control	Pocahontas (.08)	Story and Johnson (.03)
Pneumonia and Influenza (%)	*Year 2003*	*Year 2003*
Iowa	Decatur and Fremont (.10)	Adams and Osceola (0)
Casino	Monona (.12)	Several[b] (.02)
Control	Pocahontas (.06)	Johnson (.01)

a: Pottawattamie, Monona, and Clarke
b: Scott, Clinton, and Clarke

In addition, the above exhibit shows, non-study counties have a higher percentage of population with diseases with the exception of cancer. The percentage of the population with cerebrovascular diseases was similar for casino and control counties. The casino county with the highest percentage of population with pneumonia and influenza was Monona, which had a higher percentage than the control county.

Health insurance statistics on individual counties of Iowa were not available. Exhibit 59 shows percentage of population with health insurance from the pre-casino period to the post-casino period for the State of Iowa. The Census Bureau broadly classifies health insurance coverage as either private coverage or government-sponsored coverage. The data in the following exhibit represents both. As the exhibit shows, health insurance has taken a downward dip since 2001.

Exhibit 57: Percentage of Population with Health Insurance



Source: SIGIS, HPELS, UNI

5.6.6 Employment: Exhibit 58 provides information on employment statistics. Average earnings were $29,645 for the State of Iowa in 2000. Unemployment rate for the State of Iowa was 6%. Approximately .39% of the population of Iowa declared Chapter 7 Bankruptcy in 2003. Average earnings in the upper bound category were found to be approximately similar for casino and control counties with the similar growth over a period of 10 years. The unemployment rate was higher for a casino county, both in the upper bound and lower bound categories. The biggest increase was also observed in a casino county relative to a control county. A non-study county (Ringgold) had the highest percentage of self-employed people in their own, not corporate, business. The percentage of the population in casino and control counties was close, with the casino county slightly leading in the highest category. Percentage change over the 10-year period was higher in the control county than in the casino county.

Exhibit 58: Employment in Iowa

	Highest	Lowest	Greatest Change
Average Earnings (average)	*Year 2000*	*Year 2000*	*1990-2000*
Iowa			
Casino	Polk (37,646)	Monona (19,766)	Polk (12,270)
Control	Linn (37,463)	Pocahontas (22,348)	Linn (12,145)
Unemployment Rate	*Year 2002*	*Year - 2002*	*1995-2002*
Iowa			
Casino	Lee (8.0)	Pottawattamie (3.4)	Lee (2.9)
Control	Delaware (6.2)	Story (2.8)	Linn (1.6)
Self Employed in Own not Corporate Business (%)	*Year 2000*	*Year 2000*	*1990-2000*
Iowa	Ringgold (19.0)	Polk (4.9)	
Casino	Clayton (16.5)	Polk (4.9)	Clayton (6.2)
Control	Pocahontas (16.1)	Linn (5.1)	Pocahontas (8.0)
Chapter 7 Bankruptcy (%)	*Year 2003*	*Year 2003*	*1993-2003*
Iowa	Des Moines (.76)	Sioux (.15)	
Casino	Des Moines (.76)	Clayton (.22)	Des Moines (.43)
Control	Muscatine (.47)	Johnson (.21)	Several[a] (.24)
Retail Sales (000,000)	*Year 2004*	*Year 2004*	*1990 to 2004*
Iowa	Polk (6,035.17)	Adams (21.00)	
Casino	Polk (6035.17)	Monona (50.23)	Polk (2245.13)
Control	Linn (2,832.70)	Pocahontas (35.10)	Linn (1321.06)

a: Delaware, Palo Alto, Black Hawk

In addition, Exhibit 58 shows that Chapter 7 Bankruptcy was observed to be higher for the casino county, in terms of population with the biggest percentage and highest growth. Retail sales were high for the casino county with respect to the highest rank and greatest change.

Exhibits 10.7.1-9 show historical data on employment. They also provide a ten year comparison between 1990 and 2000 for the casino and control counties. Data are also provided for five main types of occupation. Exhibits 10.7.6-9 show that the percentage of population with managerial, professional, and related occupations has increased from 1990 for both the casino and control counties. Sales and office occupations have decreased for the study counties while service-related occupations have increased for the majority of the casino and control counties. Finally, the data shows that the percentage of occupations related to farming, fishing, forestry have declined over the 10-year period

5.6.7 Crime: Crime is represented by total offenses, total arrests, stealing from others, business-related crimes, domestic abuse, and gambling offenses. Total offenses consist of all kinds of crime committed in Iowa counties. Exhibit 59 shows that crime rate and percentage population that has committed crimes has increased over the past decade in the State of Iowa. A non-study county (Wayne) has the highest upper bound rate for total arrests. Moreover, a higher percentage of the population of a non-study county (Sioux) falls into the stealing-from-others and business- related crime categories relative to the study counties. The change rate for total offenses is higher for the casino county. However, the change rate for total arrests is

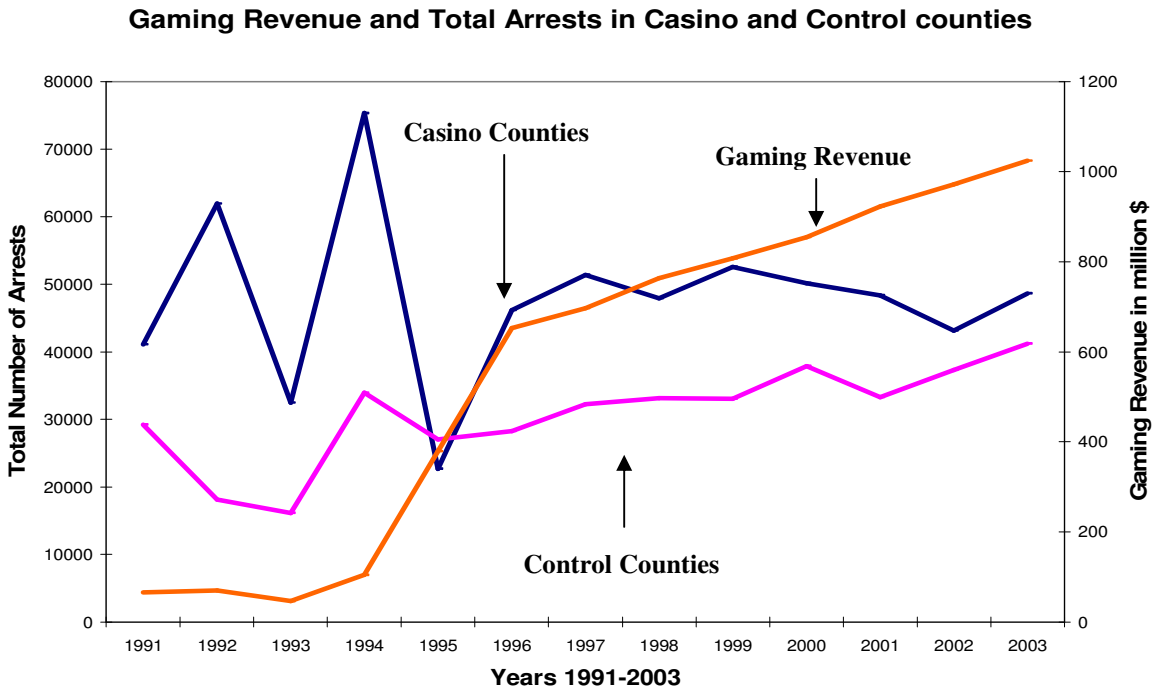
the highest for a control county (Johnson) followed closely by a casino county (Pottawattamie). Total offense rate and the percentage of population stealing from others, business-related crimes, and domestic abuse for casino counties (Pottawattamie, Dubuque, and Pottawattamie, respectively) show the greatest change in terms of proliferation. It is important to note that Black Hawk and Linn counties from the control group of counties show the highest increase in most of the crime categories relative to other control counties. Exhibits 10.8.1-16 in the appendices provide detailed information on crime.

Exhibit 59: Crime

	Highest	**Lowest**	**Greatest Change**
Total Offenses (rate)	*Year 2003*	*Year 2003*	*1991-2003*
Iowa	Pottawattamie (15570.1)	Allamakee (9.5)	
Casino	Pottawattamie (15570.1)	Clayton (1628.7)	Pottawattamie (13341.3)
Control	Black Hawk (8646.9)	Pocahontas (718.4)	Black Hawk (8389.2)
Total Arrests (rate)	*Year 2003*	*Year 2003*	*1991-2003*
Iowa	Wayne (8638.3)	Ringgold (18.8)	
Casino	Woodbury (7786.6)	Clayton (1020.6)	Pottawattamie (6695.1)
Control	Cerro Gordo (8448.5)	Palo Alto (513.8)	Johnson (7417.4)
Stealing From Others (%)	*Year 2003*	*Year 2003*	*1991-2003*
Iowa	Sioux (10.09)	Several (0)	
Casino	Pottawattamie (3.49)	Scott (0)	Dubuque (1.93)
Control	Linn (1.67)	Palo Alto (.04)	Black Hawk (2.15)
Business Related Crimes (%)	*Year 2003*	*Year 2003*	*1991-2003*
Iowa	Sioux (10.9)	Several (0)	
Casino	Dubuque (1.95)	Scott (.02)	Pottawattamie (3.31)
Control	Cerro Gordo (2.10)	Palo Alto (.21)	Black Hawk (.75)
Domestic Abuse (%)	*Year 2003*	*Year 2003*	*1991-2003*
Iowa	Woodbury (.69)	Several (0)	
Casino	Woodbury (.69)	Clinton (.02)	Pottawattamie (.54)
Control	Linn (.40)	Delaware (.07)	Linn (.39)
Wireless E 911 Calls (%)	*Year 2004*	*Year 2004*	**NA**
Iowa			
Casino	Scott (29.66)	Shelby (0)	
Control	Scott (29.66)	Clayton (4.87)	
	Black Hawk (25.70)	Pocahontas (4.11)	

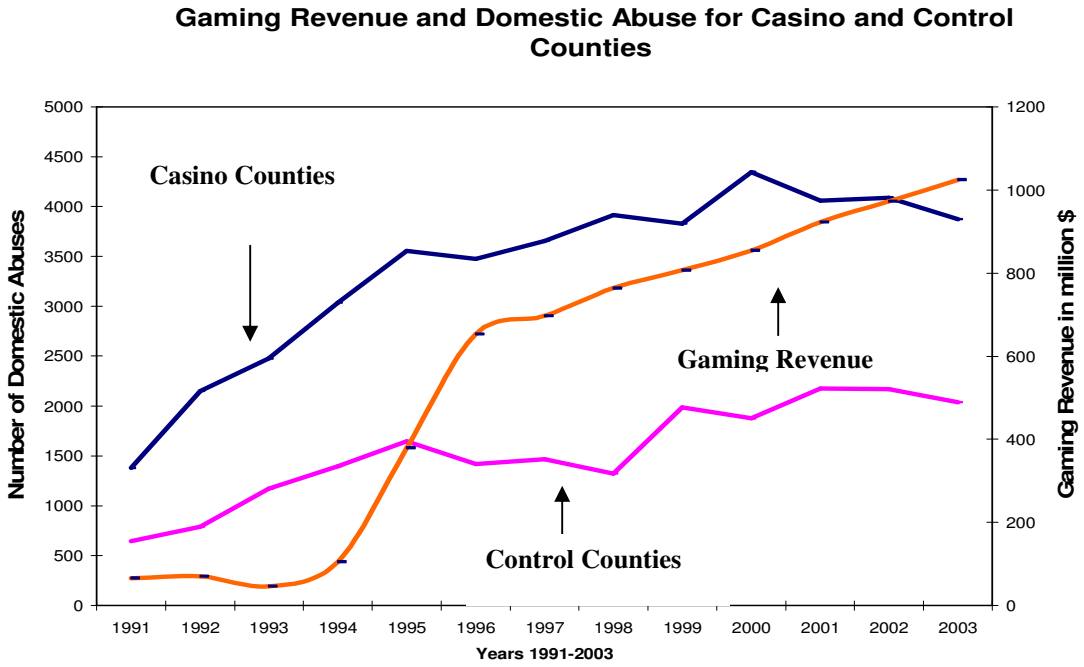
In addition to the above exhibit, the following graphs (Exhibits 60-63) show the number of total arrests, business-related crimes, stealing-from-others crime and domestic abuse aggregated for casino and control counties. Please note that data from Story County were added twice because the income and population characteristics of Story were similar to two casino counties (Dubuque and Pottawattamie). The data over the 12-year period show that the crime is higher in the casino counties in contrast to the control counties. The visual trends show higher number of total arrests and total offenses reported in the casino counties.

Exhibit 60: Gaming Revenue and Total Arrests Visual Trends for Casino and Control Counties



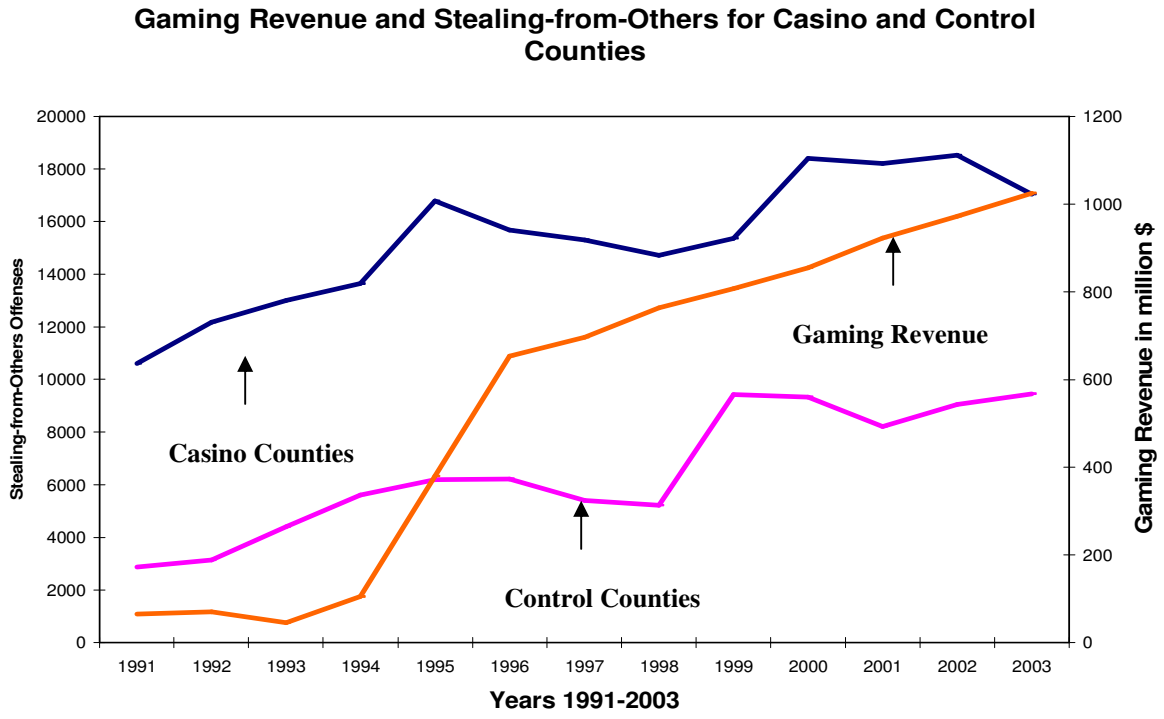
Source: SIGIS, HPELS, UNI

Exhibit 61: Gaming Revenue and Domestic Abuse Visual Trends for Casino and Control Counties



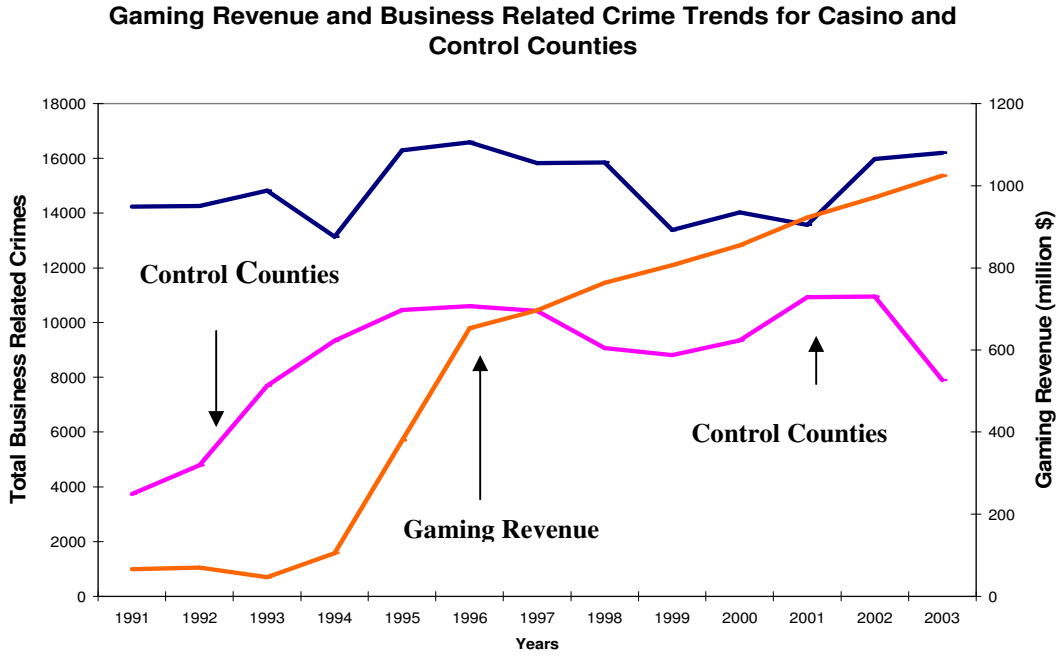
Source: SIGIS, HPELS, UNI

Exhibit 62: Gaming Revenue and Stealing-from-Others Visual Trends Crime for Casino and Control Counties



Source: SIGIS, HPELS, UNI

Exhibit 63: Gaming Revenue and Business-related-Crime Visual Trends for Casino and Control Counties



Source: SIGIS, HPELS, UNI

Exhibit 64 provides a breakdown of the top ten offenses in the upper bound and lower bound categories for all counties and casino and control counties. Casino counties had the highest upper bound rate for several categories. For example, Pottawattamie appears as an upper bound offense county for larceny, burglary, theft from motor vehicles, and aggravated assault. Scott County had the highest number of simple assaults. Although Webster County (a non-study county) had the highest rate for vandalism, Pottawattamie's rate was close to it.

Exhibit 64: Top Ten Offenses

	Highest	**Lowest**	**Biggest Change**
Vandalism (rate)	*2003*	*2003*	*1991-2003*
Iowa	Webster (3714.9)	Several (0.0)	
Casino	Pottawattamie (3103.0)	Clayton (304.0)	Pottawattamie (2408.9)
Control	Cerro Gordo (1964.7)	Pocahontas (95.8)	Black Hawk (1872.8)
	2003	*2003*	*1991-2003*
Larceny (rate)	Pottawattamie (3374.5)	Several (0.0)	
Iowa	Pottawattamie (3374.5)	Clayton (141.2)	Clarke (1091.3)
Casino	Linn (1659.5)	Palo Alto (66.3)	Linn (1557.0)
Control			
Simple Assaults (rate)	*Year 2003*	*Year 2003*	*1991-2003*
Iowa	Scott (1679.2)	Several (0.0)	
Casino	Scott (1679.2)	Clinton (139.3)	Pottawattamie (1163.2)
Control	Linn (996.2)	Pocahontas (119.7)	Linn (984.8)
Burglary (rate)	*Year 2003*	*Year 2003*	*1991-2003*
Iowa	Pottawattamie (1377.5)	Several (0.0)	
Casino	Pottawattamie (1377.5)	Clayton (114.0)	Pottawattamie (934.5)
Control	Marshall (970.2)	Delaware (108.9)	Black Hawk (876.2)
Theft - Motor Vehicles (rate)	*Year2003*	*Year 2003*	*1991-2003*
Iowa	Pottawattamie (1137.8)	Several (0.0)	
Casino	Pottawattamie (1137.8)	Clayton (27.1)	Scott (-1250.2)
Control	Linn (860.2)	Palo Alto (0.0)	Linn (794.6)
Drug/Narcotics (rate)	*Year 2003*	*Year 2003*	*1991-2003*
Iowa	Monroe (763.7)	Pocahontas, Taylor (0.0)	
Casino	Pottawattamie (662.9)	Clinton (107.8)	Pottawattamie (662.9)
Control	Black Hawk (674.2)	Pocahontas (0.0)	Black Hawk (670.9)
			1991-2003
Shoplifting (rate)	*Year 2003*	*Year 2003*	
Iowa	Louisa (801.0)	Several (0.0)	Woodbury (-608.1)
Casino	Woodbury (753.0)	Clayton (0.0)	Black Hawk (552.8)
Control	Cerro Gordo (787.6)	Palo Alto (0.0)	
Aggravated Assault (rate)	*Year 2003*	*Year 2003*	*1991-2003*
Iowa	Pottawattamie (4325.0)	Several (0.0)	
Casino	Pottawattamie (4325.0)	Clinton (49.4)	Pottawattamie (4269.2)
Control	Marshall (568.5)	Pocahontas (35.9)	Story (297.4)

Exhibit 64: Top Ten Offenses (Continued)

	Highest	Lowest	Biggest Change
Theft – Buildings (rate)	*Year 2003*	*Year 2003*	*1991-2003*
Iowa	Cass (1962.0)	Several (0.0)	
Casino	Lee (540.6)	Tama (13.1)	Dubuque (-353.4)
Control	Marshall (929.8)	Palo Alto (16.6)	Story (-740.9)
Drug Equipment (rate)	*Year 2003*	*Year 2003*	*1991-2003*
Iowa	Montgomery (575.8)	Several (0.0)	
Casino	Pottawattamie (540.7)	Clayton (0.0)	Pottawattamie (540.7)
Control	Marshall (320.9)	Pocahontas (0.0)	Marshall (305.4)

It is important to note that for offenses such as possession of drug/narcotics, drug equipment, theft from a building, and shoplifting, non-study counties had the highest upper bound rate (Exhibit 64). A comparison between casino and control counties showed that casino rates were higher. Pottawattamie County showed the greatest growth for seven out of ten offenses. Out of ten offenses, theft seems to be declining while other offenses have grown in Iowa.

6. DISCUSSION

The average gambler in Iowa is 50 years old and female. Demographics for gambling visitors provided by this study are similar to those presented by other studies. A study conducted by Park et al. (2002) on gamblers to Black Hawk, Colorado, indicated that 67.3% of the gamblers were above 50 years of age, and approximately 19% were between 41 and 50 years of age. Sixty percent were females, and 53% had a college education or graduate school. Approximately 64% were married, 84% were domestic Colorado residents, and 53% had income below $40,000. Approximately 60% of the patrons in Chicago riverboats were found to be female of age 50 and older who played slot machines exclusively (Triplett, 1994). According to recent statistics provided by the American Gaming Association (2004), the median household income of casino customers in the United States was $53,204, and the median age was 48 years. The data further indicated that 45% of the casino customers had not been to college, and 44% were white collar workers. Harrah's Survey of Casino Entertainment reported that 46% of the casino visitors had a median household income below $55,000 (Harrah's Casinos, 2004).

This study reveals significant economic impacts in terms of output, value added, and employment. Total economic impact of casino visitor expenditures totaled $3.5 billion, and total number of jobs were 34,364. The literature is replete with studies that deliberate on the economic benefits associated with casino gambling, such as job creation, investment stimulation, tourism development, capture of economic rents, and the revenue benefits of taxation (Borden, Fletcher, & Harris, 1996; Christiansen, 1998; Hing, Dickerson, & Mckeller, 2001; Nicholas, Stitt, & Giacopassi, 2002; Thompson, 1995). State governments have benefited from casino revenues, and their support has often been attributed to economic necessity. In other words, gambling has been looked at as a way to generate tax revenues. Iowa casinos generated total tax revenue of $249 million in 2004 in addition to the charitable

contributions ($78.70 million).

In discussing the economic impact of casino gambling, it is imperative to consider substitution effects. According to Blois, Cunningham, and Lott (1995), casinos often undercut some local hospitality operations by subsidizing restaurants, bars, and lodging onsite. A study conducted by Gazel, Thompson, and Rickman (1995) stated that 83% of Illinois patrons were residents, and the Minnesota Gaming Commission (1993) stated that 80% of the patrons of the state's native American casinos were residents. The authors asserted that local resident expenditure was substitute money to the region. Leven and Phares (1998) estimated a 75% substitution rate in Missouri counties. On the contrary, some studies have stated lower rates such as 20% or 30% (KPMG, 1995; Thompson & Gazel, 1995). Thalheimer (1992) estimated casino substitution effects for horse racing in Maryland at 25%. This study estimates a 30% substitution rate. In other words, 30% of gambling expenditures are displaced from other area attractions.

A measurable negative impact of casino gambling discussed by several studies has been the cost of increased crime and crime prevention in casino neighborhoods and even in adjacent communities (Rose, 1998; Piscitelli & Albanese, 2000). Pizam and Pokela (1985), in their study of two Massachussets communities where casino/hotels were proposed, found that on a 5 point Likert scale, residents believed that the prevalence of drugs and prostitution, presence of organized crime, outside control of government, cost of public services, and theft and violent crime would increase. Giapcopassi and Stitt (1993) reported similar concerns from the residents' perspective. This study did not find similar concerns of residents. A majority of the residents perceived that casino gambling was not related to crime. This view was shared by law enforcement officers, social service providers, and economic development officers. Approximately 90% of the residents felt safe residing in the casino and adjacent counties. However, the historical data on crime revealed that aggregate crime totaled for casino counties is higher than the control group of counties (with similar characteristics).

Several studies have shown that geographical proximity to a casino is directly associated with problem gambling and criminal behavior. Welte et al. (2003) indicated neighborhood disadvantage to be positively related to gambling frequency and pathological gambling. Neighborhood disadvantage in this case was measured by percentage of households on public assistance, percentage of families headed by a female, percentage of adults unemployed, and percentage of adults in poverty (Welte et al., 2003). The authors stated that the presence of a casino within 10 miles of the respondent's home was positively related to problem/pathological gambling. Researchers at the National Opinion Research Center found that the probability of pathological gambling doubled for adults living within 50 miles of a casino (National Opinion Research Center, 1999). The problem gambling treatment agency personnel in this study have also suggested a correlation between proximity and problem gambling.

Several studies have linked gambling to bankruptcy. SMR Research (1997) declared gambling to be the single greatest cause for growing rates of bankruptcy. Their study was based upon a comparison of aggregated bankruptcy filing rates of 298 counties in the United States that had at least one major legal gaming facility with non-casino counties (counties with no legalized gambling). The comparison indicated that casino counties had an 18% higher bankruptcy rate than non-casino counties. In addition, the proximity of casino gambling was found to be associated with higher bankruptcy rates (Barron et al., 2000; SMR Research, 1997). A study conducted by the National Opinion Research Center (1999) found no significant change in per capita bankruptcy rates in casino communities. However, based upon follow-up telephone surveys, they found a higher incidence among pathological

gamblers as compared with low-risk gamblers. Another study conducted by Nichols, Stitt, and Giacopassi (2000) indicated that the pre-casino filing rate in casino counties was significantly higher than the post-casino filing rate. Their study also concluded that towns that had the casinos for a longer period of time were more pronounced for Chapter 13 (personal) bankruptcies than Chapter 7 (business) ones and that these bankruptcy rates were lower for towns that had casinos with resort amenities. Bankruptcies in casino counties have been found to be more responsive to gambling revenues. In other words, bankruptcies have increased with the growth of gambling revenues. A survey conducted by the Consumer Credit of Des Moines revealed that 15% of its clients have gambling as the core reason for their debt in Iowa and many gamblers have taken out a high interest 2nd mortgage on their house to finance their gambling habit (Coates, 1998). According to Coates (1998), bankruptcy and debt are linked with gambling. However, plausible arguments have also appeared on the reverse side. Connecticut, with several types of legalized casinos, has had lower bankruptcy rates than Tennessee which does not have a legalized casino. Nichols, Still, & Giacopassi (2000) have also stated that the increase is not universal; they studied in one of the eight counties, bankruptcy per capita had decreased.

This study supports findings that assert that bankruptcies in casino counties are responsive to the adjusted gaming revenue. Secondary data on chapter 7 and chapter 13 bankruptcies in Iowa show that bankruptcies have increased since the advent of the casino industry. These were found to be higher in the casino counties than in the control group of counties. In addition, the survey data indicate that many (44%) residents perceive bankruptcies have resulted from gambling. This view is also shared by a substantial percentage of law enforcement officers, economic development officers, and social service providers in casino counties.

7. SUMMARY

In summary, this study shows both negative and positive impacts of casino gambling. In general, residents have positive perceptions of the existing casinos. The casino industry in Iowa generates significant economic impacts in terms of output, value added, and employment. However, the unemployment rate for casino and control counties is similar. Data on casino employee residence show that 31% of the induced effects are lost because of out-of-state employees. In addition, residents and social service providers are concerned to see senior citizens squander their retirement funds on gambling. This study indicates a positive correlation between aggregated bankruptcy filings for casino counties and gambling. Many Iowans (44%) perceive bankruptcies have resulted from gambling. Furthermore, more research is needed to investigate the disparity of crime between casino counties and control group of counties. Iowans want to see a better use of the existing gambling tax revenue. They want more funds allocated to problem gambling rehabilitation programs and the senior citizens.

8. RESEARCH TEAM

The research team consisted of three professors, two supervisors, five post-graduate students, twelve graduate students, and five merit employees. Information on key members of the study team is offered below:

Deepak Chhabra, Ph.D., is the principal investigating officer and the author of the report. She is an assistant professor of leisure and tourism in the School of HPELS (Health, Physical Education, and Leisure Services). She has served as a principal investigator for several studies in the field of recreation and tourism funded by both profit and nonprofit organizations. This includes a socioeconomic impact study of Crystal Basin Recreation Area on El Dorado County, California, marketing studies for the Sacramento Convention and Visitor Bureau, the North Carolina Division of Tourism, and the Bureau of Reclamation, California. She has made numerous presentations at national and international conferences and published in academic journals on socioeconomic impacts of recreation and tourism, and authenticity of heritage.

Gene Lutz, Ph.D. is the first investigating officer for social impact data collection. He is Professor of sociology and, since 1988, director of the Center for Social and Behavioral Research (CSBR) and Professor of Sociology at the University of Northern Iowa. He has been the principal investigator for several studies in the field of public health funded by local, state, and federal sources. This includes the Iowa Behavioral Risk Factor Surveillance System survey since 1995 (funded by the Iowa Department of Public Health and the Centers for Disease Control and Prevention) and numerous studies of substance abuse, tobacco and gambling addiction, health needs assessments, and special population health risks.

Melvin E. Gonnerman, Jr., Ph.D. is the second investigating officer for social impact data collection. He is assistant professor of psychology and projects coordinator at UNI-CSBR. He has had primary responsibility for data analysis for several externally funded projects in the fields of public health, environment and recreation, public perceptions and priorities for strategic planning activities, and various other areas

Jenny Hall is a graduate student in the School of HPELS. She works as the project associate and intern director of Opportunity Works. Projects are focused around economic empowerment, education, financial education, health, leadership and safety. Renee Peiper is currently a senior in the School of HPELS. Her emphasis areas are tourism and programming. Matt Voss has a B.S. in journalism from Iowa State University. He has a B.A. in geography from UNI and currently is a graduate student in the Geography Department. He has been involved in a joint research project with NASA's Kennedy Space Center, which is aimed at determining water quality utilizing hyperspectral aerial imagery. His current research involves using hyperspectral and high-resolution imagery to identify tree species. Shriram Ilavajhala is currently pursuing a master's in computer science at UNI. He is also working on a research project for the Iowa Department of Transportation, developing a Web-based spatial decision support system for efficient snow removal planning. Tomoe Kitajima received her B.A. in Geography from Japan and her M.A. in Leisure Programming Management from the University of Northern Iowa and is currently working on her Doctoral dissertation.

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10. APPENDICES

Appendix 10.1. Multipliers for Casino Counties

Exhibit 10.1.1: Multipliers for Clayton County

Industries	Total Industry Output		Value Added		Employment	
	Type I	SAM	Type I	SAM	Type I	SAM
Restaurants	1.34	1.45	1.51	1.76	1.08	1.12
Misc. Retail Stores	1.08	1.28	1.06	1.23	1.02	1.08
Recreation/entertainment	1.18	1.43	1.26	1.64	1.16	1.40
Gambling/amusement	1.15	1.28	1.13	1.27	1.09	1.20
Gasoline Stations	1.08	1.24	1.06	1.20	1.02	1.08

Exhibit 10.1.2: Multipliers for Clarke County

Industries	Total Industry Output		Value Added		Employment	
	Type I	SAM	Type I	SAM	Type I	SAM
Restaurants	1.69	1.29	1.24	1.47	1.06	1.12
Misc. Retail Stores	1.07	1.26	1.05	1.23	1.02	1.06
Recreation/entertainment						
Gambling/amusement	1.11	1.24	1.11	1.27	1.11	1.26
Gasoline Stations	1.07	1.23	1.05	1.20	1.03	1.10

Exhibit 10.1.3: Multipliers for Clinton County

Industries	Total Industry Output		Value Added		Employment	
	Type I	SAM	Type I	SAM	Type I	SAM
Restaurants	1.18	1.36	1.28	1.60	1.08	1.17
Misc. Retail Stores	1.10	1.38	1.08	1.31	1.05	1.19
Recreation/entertainment	1.25	1.54	1.47	2.05	1.27	1.54
Gambling/amusement	1.15	1.34	1.14	1.34	1.14	1.36
Gasoline Stations	1.10	1.33	1.08	1.28	1.06	1.20

Exhibit 10.1.4: Multipliers for Des Moines County

Industries	Total Industry Output		Value Added		Employment	
	Type I	SAM	Type I	SAM	Type I	SAM
Restaurants	1.23	1.41	1.36	1.68	1.09	1.19
Misc. Retail Stores	1.11	1.38	1.09	1.32	1.04	1.14
Recreation/entertainment	1.32	1.60	1.67	2.29	1.32	1.57
Gambling/amusement	1.19	1.38	1.20	1.42	1.20	1.41
Gasoline Stations	1.11	1.34	1.09	1.28	1.06	1.18

Exhibit 10.1.5: Multipliers for Dubuque County

Industries	Total Industry Output		Value Added		Employment	
	Type I	SAM	Type I	SAM	Type I	SAM
Restaurants	1.34	1.57	1.50	1.89	1.12	1.23
Misc. Retail Stores	1.13	1.46	1.11	1.38	1.04	1.13
Recreation/entertainment	1.47	1.71	2.60	3.48	1.37	1.54
Gambling/amusement	1.22	1.41	1.22	1.41	1.29	1.57
Gasoline Stations	1.14	1.42	1.11	1.34	1.07	1.21

Exhibit 10.1.6: Multipliers for Lee County

Industries	Total Industry Output		Value Added		Employment	
	Type I	SAM	Type I	SAM	Type I	SAM
Restaurants	1.20	1.33	1.34	1.60	1.07	1.14
Misc. Retail Stores	1.09	1.32	1.07	1.27	1.03	1.13
Recreation/entertainment	1.27	1.48	1.61	2.12	1.28	1.47
Gambling/amusement	1.04	1.15	1.02	1.10	1.04	1.21
Gasoline Stations	1.09	1.28	1.07	1.23	1.04	1.15

Exhibit 10.1.7: Multipliers for Polk County

Industries	Total Industry Output		Value Added		Employment	
	Type I	SAM	Type I	SAM	Type I	SAM
Restaurants	1.37	1.64	1.51	1.92	1.13	1.25
Misc. Retail Stores	1.21	1.55	1.18	1.47	1.06	1.17
Recreation/entertainment	1.45	1.94	1.70	2.47	1.43	1.87
Gambling/amusement	1.21	1.45	1.18	1.39	1.24	1.52
Gasoline Stations	1.21	1.50	1.18	1.43	1.13	1.33

Exhibit 10.1.8: Multipliers for Pottawattamie County

Industries	Total Industry Output		Value Added		Employment	
	Type I	SAM	Type I	SAM	Type I	SAM
Restaurants	1.30	1.51	1.42	1.77	1.10	1.21
Misc. Retail Stores	1.12	1.41	1.11	1.35	1.03	1.11
Recreation/entertainment	1.26	1.66	1.35	1.93	1.34	1.81
Gambling/amusement	1.29	1.48	1.53	1.88	1.34	1.59
Gasoline Stations	1.12	1.37	1.11	1.32	1.07	1.22

Exhibit 10.1.9: Multipliers for Scott County

Industries	Total Industry Output		Value Added		Employment	
	Type I	SAM	Type I	SAM	Type I	SAM
Restaurants	1.33	1.62	1.49	1.95	1.12	1.26
Misc. Retail Stores	1.17	1.54	1.14	1.46	1.05	1.19
Recreation/entertainment	1.40	1.87	1.67	2.48	1.40	1.84
Gambling/amusement	1.19	1.41	1.16	1.35	1.19	1.46
Gasoline Stations	1.17	1.49	1.14	1.42	1.10	1.31

Exhibit 10.1.10: Multipliers for Woodbury County

Industries	Total Industry Output		Value Added		Employment	
	Type I	SAM	Type I	SAM	Type I	SAM
Restaurants	1.35	1.61	1.51	1.95	1.13	1.25
Misc. Retail Stores	1.14	1.50	1.12	1.43	1.05	1.17
Recreation/entertainment	1.46	1.72	2.77	3.79	1.35	1.53
Gambling/amusement	1.23	1.43	1.22	1.44	1.34	1.68
Gasoline Stations	1.14	1.45	1.12	1.38	1.07	1.22

Appendix 10.2 Family Demographics

Exhibit 10.2.1a: Median Age (years)

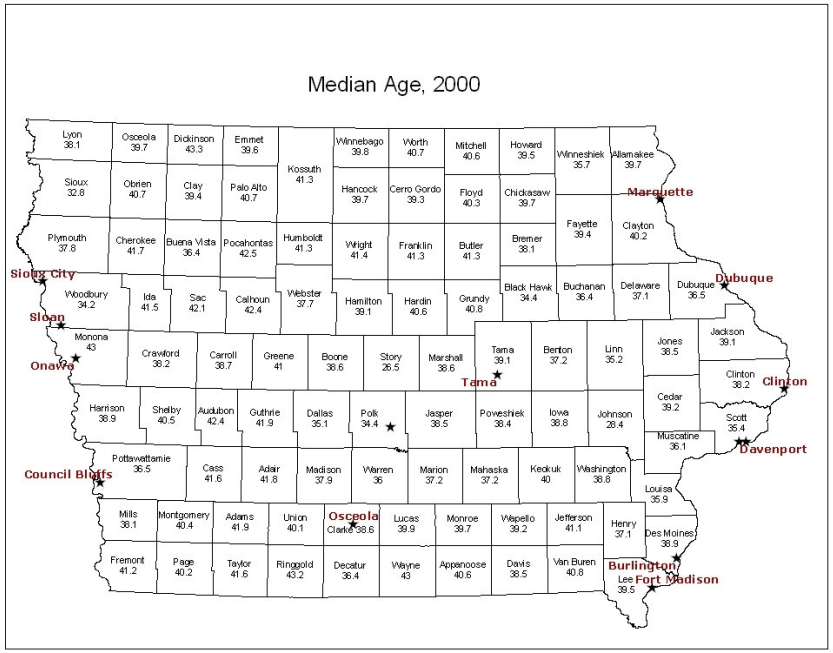


Exhibit 10.2.1b: Time Series Comparison of Median Age for Casino Counties

Casino Counties	1990	2000
Clarke	36.6	38.6
Clayton	35.9	40.2
Clinton	35.1	38.2
Des Moines	35.9	38.9
Dubuque	33.1	36.5
Lee	35.8	39.5
Monona	40.5	43.0
Polk	32.3	34.4
Pottawattamie	33.5	36.5
Scott	32.4	35.4
Tama	37.2	39.1
Woodbury	32.9	34.2

Exhibit 10.2.1c: Median Age Time Series Comparison for Control Counties

Control Counties	1990	2000
Black Hawk	32.9	34.4
Cerro Gordo	35.3	39.3
Delaware	32.7	37.1
Hardin	37.8	40.6
Johnson	27.1	28.4
Linn	33.1	35.2
Marshall	36.7	38.6
Muscatine	33.0	36.1
Palo Alto	37.3	40.7
Pocahontas	39.1	42.5
Story	25.7	26.5

Exhibit 10.2.2a: Percentage of Female Population

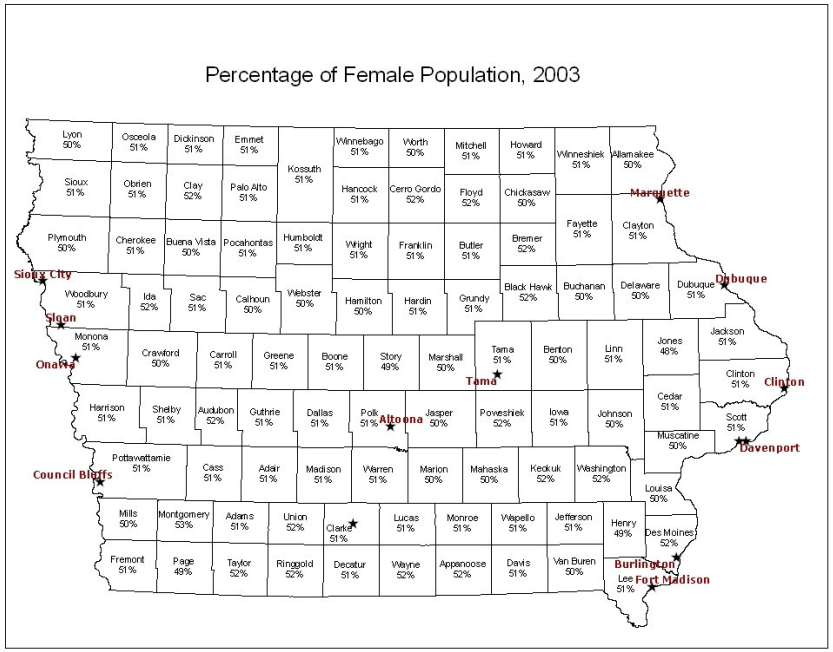


Exhibit 10.2.2b: Time Series Comparison of Female Population for Casino Counties

Casino Counties	1990	2000
Clarke	52.2	50.8
Clayton	50.8	50.6
Clinton	52.0	51.5
Des Moines	52.2	51.7
Dubuque	51.7	51.4
Lee	51.1	50.5
Monona	52.4	51.5
Polk	52.3	51.5
Pottawattamie	51.9	51.1
Scott	51.6	51.1
Tama	51.6	50.9
Woodbury	51.9	51.0

Exhibit 10.2.2c: Time Series Comparison of Female Population for Control Counties

Control Counties	1990	2000
Black Hawk	52.4	52.0
Cerro Gordo	52.7	51.9
Delaware	50.9	50.4
Hardin	51.6	51.1
Johnson	50.5	50.2
Linn	51.4	51.0
Marshall	51.1	50.2
Muscatine	51.1	50.5
Palo Alto	51.7	51.4
Pocahontas	51.6	50.9
Story	48.3	48.9

Exhibit 10.2.3a: Education – High School (%)

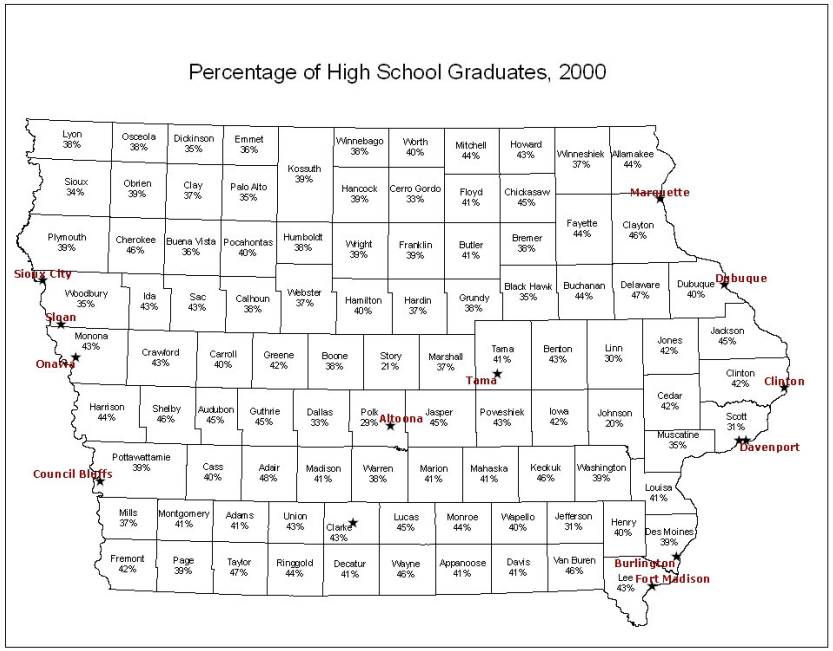


Exhibit 10.2.3b: Time Series Comparison of High School Graduates for Casino Counties

Casino Counties	1990	2000
Clarke	47.3	43.0
Clayton	47.2	45.6
Clinton	40.2	41.5
Des Moines	39.9	39.3
Dubuque	41.7	40.2
Lee	43.9	42.7
Monona	44.6	42.9
Polk	32.8	29.5
Pottawattamie	41.1	39.3
Scott	32.4	30.7
Tama	43.1	40.8
Woodbury	37.8	35.0

Exhibit 10.2.3c: Time Series Comparison of High School Graduates for Control Counties

Control Counties	1990	2000
Black Hawk	39.7	35.1
Cerro Gordo	34.8	33.3
Delaware	47.5	47.2
Hardin	38.6	37.0
Johnson	21.3	19.8
Linn	34.8	30.3
Marshall	39.1	37.2
Muscatine	38.0	34.5
Palo Alto	37.8	35.0
Pocahontas	40.6	39.9
Story	25.8	21.3

Exhibit 10.2.4a Percentage of Population with Some College No Degree

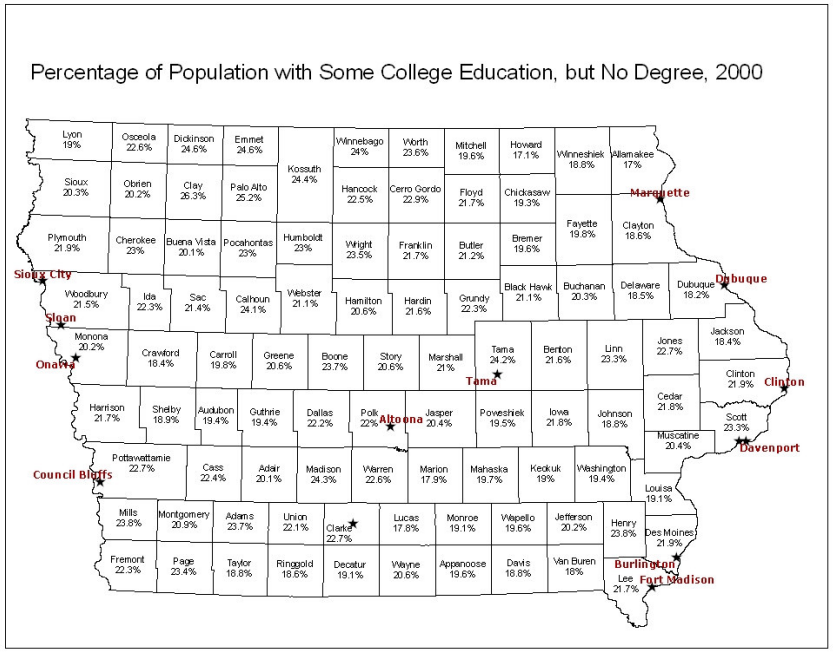


Exhibit 10.2.4b: Time Series Comparison of Population with Some College No Degree for Casino Counties

Casino Counties	1990	2000
Clarke	16.1	22.7
Clayton	12.5	18.6
Clinton	16.0	21.9
Des Moines	18.0	21.9
Dubuque	13.6	18.2
Lee	16.7	21.7
Monona	12.6	20.2
Polk	20.8	22.0
Pottawattamie	18.1	22.7
Scott	19.6	23.3
Tama	15.7	24.2
Woodbury	17.1	21.5

Exhibit 10.2.4c: Time Series Comparison of Population with Some College No Degree for Control Counties

Control Counties	1990	2000
Black Hawk	15.9	21.1
Cerro Gordo	18.7	22.9
Delaware	12.8	18.5
Hardin	17.7	21.6
Johnson	17.4	18.8
Linn	19.3	23.3
Marshall	18.4	21.0
Muscatine	16.5	20.4
Palo Alto	17.4	25.2
Pocahontas	15.9	23.0
Story	17.2	20.6

Exhibit 10.2.5a Percentage of Population with Bachelor's Degree

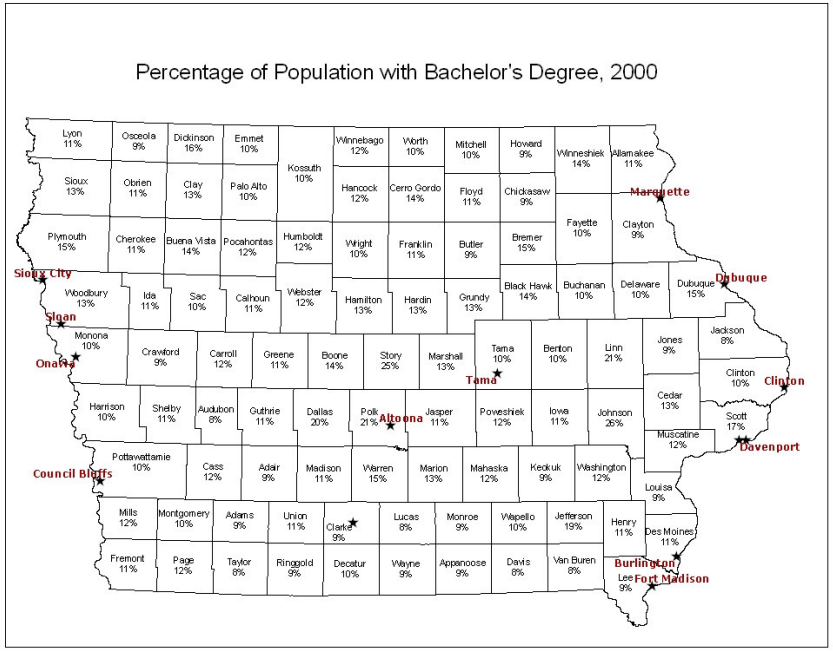


Exhibit 10.2.5b: Time Series Comparison of Population with Bachelor's Degree for Casino Counties

Casino Counties	1990	2000
Clarke	6.6	8.9
Clayton	6.5	9.4
Clinton	9.4	10.3
Des Moines	8.8	10.6
Dubuque	11.7	14.6
Lee	7.3	9.2
Monona	8.0	10.3
Polk	16.6	21.0
Pottawattamie	7.7	10.4
Scott	15.5	16.7
Tama	8.4	10.0
Woodbury	11.8	12.9

Exhibit 10.2.5c: Time Series Comparison of Population with Bachelor's Degree for Control Counties

Control Counties	1990	2000
Black Hawk	11.7	14.3
Cerro Gordo	10.8	14.1
Delaware	8.2	9.9
Hardin	9.2	12.7
Johnson	24.0	26.1
Linn	15.8	20.5
Marshall	11.2	12.5
Muscatine	9.5	12.4
Palo Alto	10.1	10.0
Pocahontas	9.7	12.1
Story	21.0	24.9

Exhibit 10.2.6a: Percentage Population with Graduate or Professional Degrees

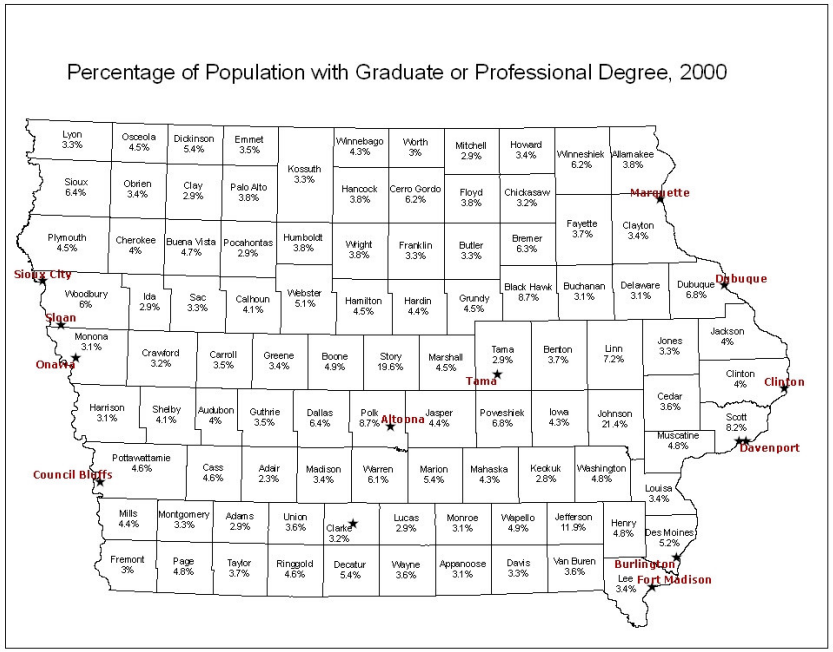


Exhibit 10.2.6b: Time Series Comparison of Population with Graduate or Professional Degrees for Casino Counties

Casino Counties	1990	2000
Clarke	2.2	3.2
Clayton	2.5	3.4
Clinton	3.5	4.0
Des Moines	3.9	5.2
Dubuque	5.1	6.8
Lee	3.4	3.4
Monona	2.4	3.1
Polk	7.3	8.7
Pottawattamie	3.3	4.6
Scott	6.4	8.2
Tama	2.9	2.9
Woodbury	4.8	6.0

Exhibit 10.2.6c: Time Series Comparison of Population with Graduate or Professional Degrees for Control Counties

Control Counties	1990	2000
Black Hawk	5.7	8.7
Cerro Gordo	4.6	6.2
Delaware	2.9	3.1
Hardin	3.3	4.4
Johnson	20.0	21.4
Linn	5.7	7.2
Marshall	4.6	4.5
Muscatine	3.5	4.8
Palo Alto	2.8	3.8
Pocahontas	3.1	2.9
Story	17.3	19.6

Appendix 10.3 Family Relations

Exhibit 10.3.1a: Average Family Size

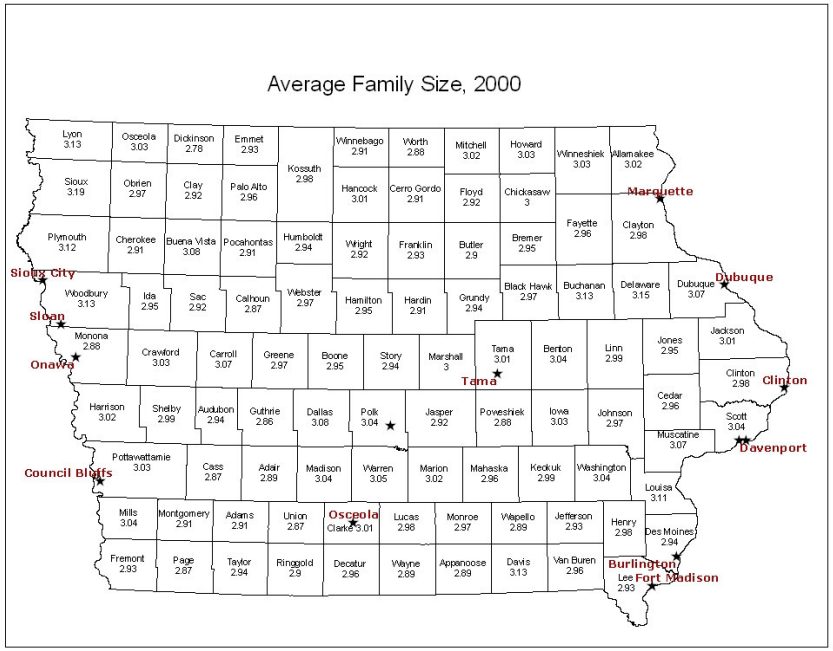


Exhibit 10.3.1b: Time Series Comparison of Population with Average Family Size for Casino Counties

Casino Counties	1990	2000
Clarke	3.0	3.0
Clayton	3.1	3.0
Clinton	3.1	3.0
Des Moines	3.0	2.9
Dubuque	3.2	3.1
Lee	3.0	2.9
Monona	2.9	2.9
Polk	3.0	3.0
Pottawattamie	3.1	3.0
Scott	3.1	3.0
Tama	3.0	3.0
Woodbury	3.1	3.1

Exhibit 10.3.1c: Time Series Comparison of Average Family Size for Control Counties

Control Counties	1990	2000
Black Hawk	3.0	3.0
Cerro Gordo	3.0	2.9
Delaware	3.3	3.1
Hardin	2.9	2.9
Johnson	3.0	3.0
Linn	3.0	3.0
Marshall	3.0	3.0
Muscatine	3.1	3.1
Palo Alto	3.1	3.0
Pocahontas	3.0	2.9
Story	3.0	2.9

Exhibit 10.3.2a: Percentage of Single Householders

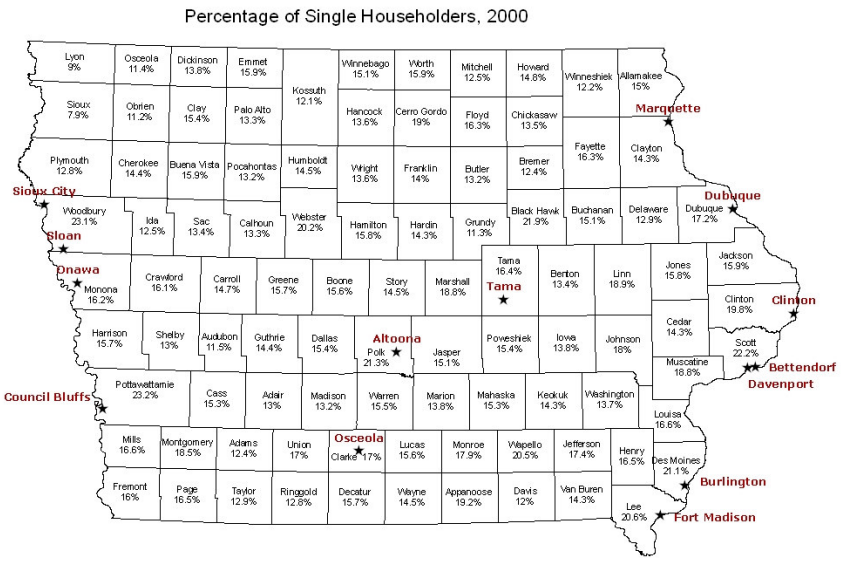


Exhibit 10.3.2b: Time Series Comparison of Single Householders for Casino Counties

Casino Counties	1990	2000
Clarke	12.9	17.0
Clayton	10.6	14.3
Clinton	16.8	19.8
Des Moines	18.2	21.1
Dubuque	15.1	17.2
Lee	17.6	20.6
Monona	13.6	16.2
Polk	19.3	21.3
Pottawattamie	19.4	23.2
Scott	19.9	22.2
Tama	13.2	16.4
Woodbury	19.3	23.1

Exhibit 10.3.2c: Time Series Comparison of Single Householders for Control Counties

Non-casino County	1990	2000
Black Hawk	18.9	21.9
Cerro Gordo	15.9	19.0
Delaware	11.3	12.9
Hardin	10.7	14.3
Johnson	15.5	18.0
Linn	16.2	18.9
Marshall	15.0	18.8
Muscatine	16.6	18.8
Palo Alto	10.1	13.3
Pocahontas	9.5	13.2
Story	12.6	14.5

Exhibit 10.3.3a: Percentage of Married Couples

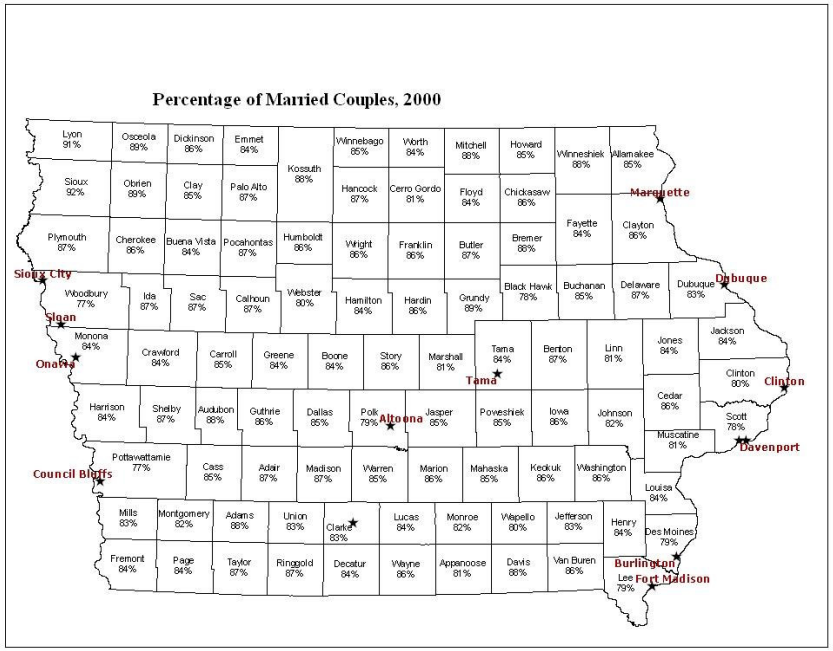


Exhibit 10.3.3b: Time Series Comparison of Married Couples for Casino Counties

Casino Counties	1990	2000
Clarke	87.1	82.9
Clayton	89.3	85.7
Clinton	83.2	80.2
Des Moines	81.8	78.9
Dubuque	84.9	82.8
Lee	82.4	79.4
Monona	86.4	83.9
Polk	80.6	78.7
Pottawattamie	80.6	76.8
Scott	80.1	77.8
Tama	86.8	83.6
Woodbury	80.7	76.9

Exhibit 10.3.3c: Time Series Comparison of Married Couples for Control Counties

Control Counties	1990	2000
Black Hawk	81.1	78.1
Cerro Gordo	84.1	81.1
Delaware	88.7	87.1
Hardin	89.3	85.7
Johnson	84.5	82.0
Linn	83.8	81.1
Marshall	85.0	81.2
Muscatine	83.4	81.2
Palo Alto	89.9	86.6
Pocahontas	90.4	86.8
Story	87.4	85.5

Exhibit 10.3.4a: Percentage of Dissolutions in Iowa

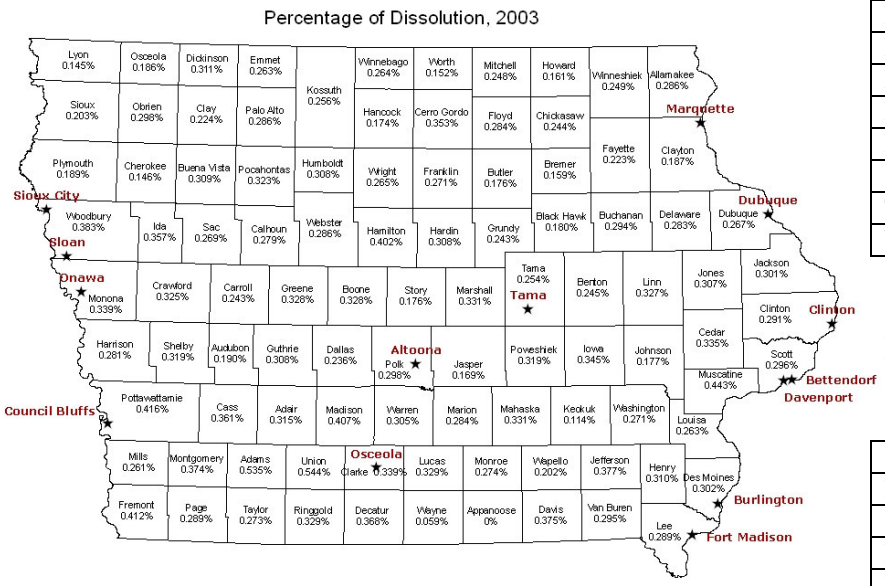


Exhibit 10.3.4b: Time Series Comparison of Dissolutions for Casino Counties

Casino Counties	1990	2003
Clarke	.53	.34
Clayton	.22	.19
Clinton	.37	.29
Des Moines	.44	.30
Dubuque	.36	.27
Lee	.52	.29
Monona	.25	.34
Polk	.50	.30
Pottawattamie	.56	.42
Scott	.48	.30
Tama	.33	.25
Woodbury	.45	.38

Exhibit 10.3.4c: Time Series Comparison of Dissolutions for Control Counties

Control Counties	1990	2003
Black Hawk	.40	.18
Cerro Gordo	.36	.35
Delaware	.23	.28
Hardin	.36	.31
Johnson	.25	.18
Linn	.36	.33
Marshall	.51	.33
Muscatine	.53	.44
Palo Alto	.21	.32
Pocahontas	.31	.32
Story	.28	.18

Appendix 10.4 Family Finances

Exhibit 10.4.1a: Median Household Income for 1999

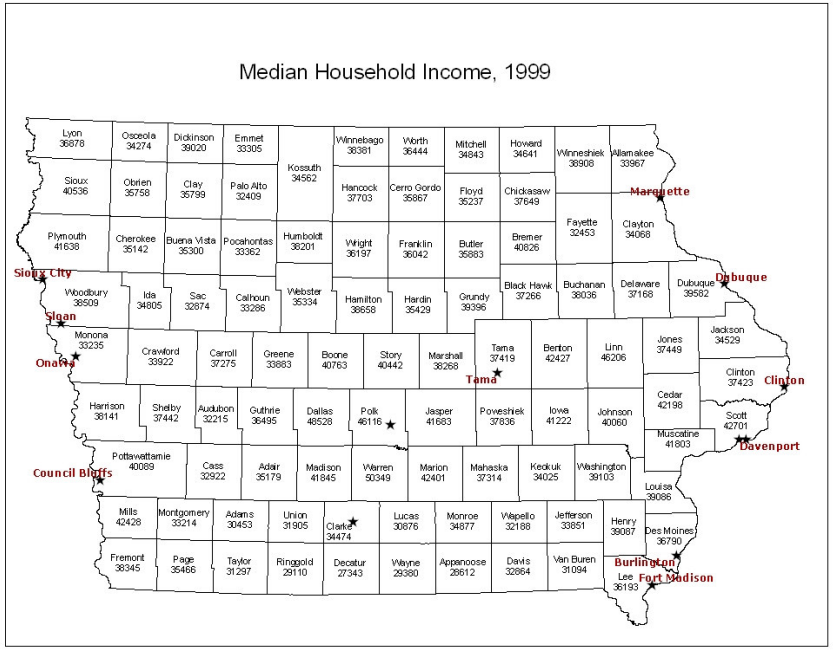


Exhibit 10.4.1b: Time Series Comparison of Median Household Income for Casino Counties

Casino Counties	1989	1999
Clarke	21,735	34,474
Clayton	21,406	34,068
Clinton	25,410	37,423
Des Moines	26,536	36,790
Dubuque	28,276	39,582
Lee	24,671	36,193
Monona	20,714	33,235
Polk	31,221	46,116
Pottawattamie	26,639	40,089
Scott	29,979	42,701
Tama	24,297	37,419
Woodbury	25,186	38,509

Exhibit 10.4.1c: Time Series Comparison of Median Household Income for Control Counties

Control Counties	1989	1999
Black Hawk	25,683	37,266
Cerro Gordo	25,116	35,867
Delaware	25,757	37,168
Hardin	23,457	35,429
Johnson	27,862	40,060
Linn	32,137	46,206
Marshall	28,333	38,268
Muscatine	29,786	41,803
Palo Alto	21,223	32,409
Pocahontas	23,517	33,362
Story	26,668	40,442

Exhibit 10.4.2a: Percentage of Homeownerships

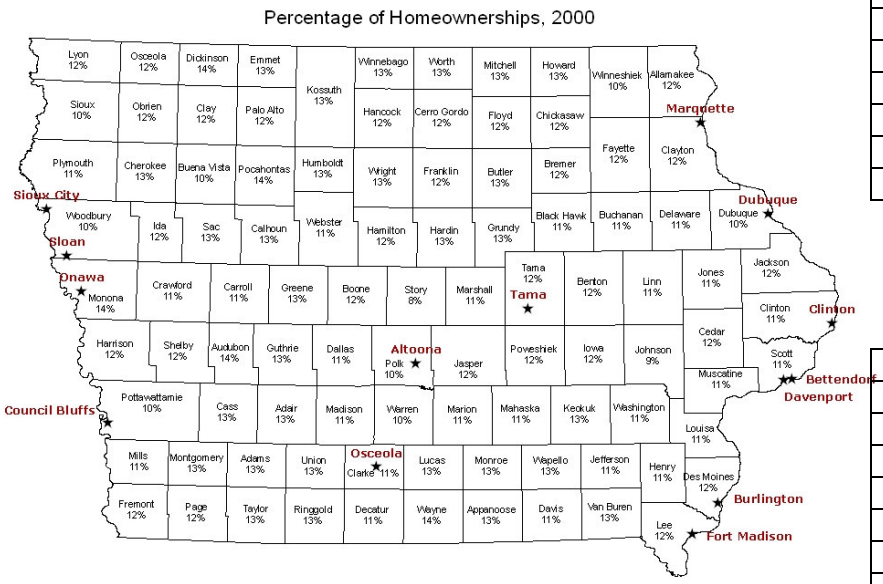


Exhibit 10.4.2b: Time Series Comparison of Homeownerships for Casino Counties

Casino Counties	1990	2000
Clarke	12.0	11.0
Clayton	11.0	12.0
Clinton	10.0	11.0
Des Moines	11.0	12.0
Dubuque	9.0	10.0
Lee	11.0	12.0
Monona	13.0	14.0
Polk	10.0	10.0
Pottawattamie	10.0	10.0
Scott	9.0	11.0
Tama	12.0	12.0
Woodbury	9.0	10.0

Exhibit 10.4.2c: Time Series Comparison of Homeownerships for Control Counties

Control Counties	1990	2000
Black Hawk	10.0	11.0
Cerro Gordo	11.0	12.0
Delaware	9.0	11.0
Hardin	12.0	13.0
Johnson	7.0	9.0
Linn	10.0	11.0
Marshall	11.0	11.0
Muscatine	10.0	11.0
Palo Alto	11.0	12.0
Pocahontas	12.0	14.0
Story	7.0	8.0

Exhibit 10.4.3: Percentage of Population in Poverty

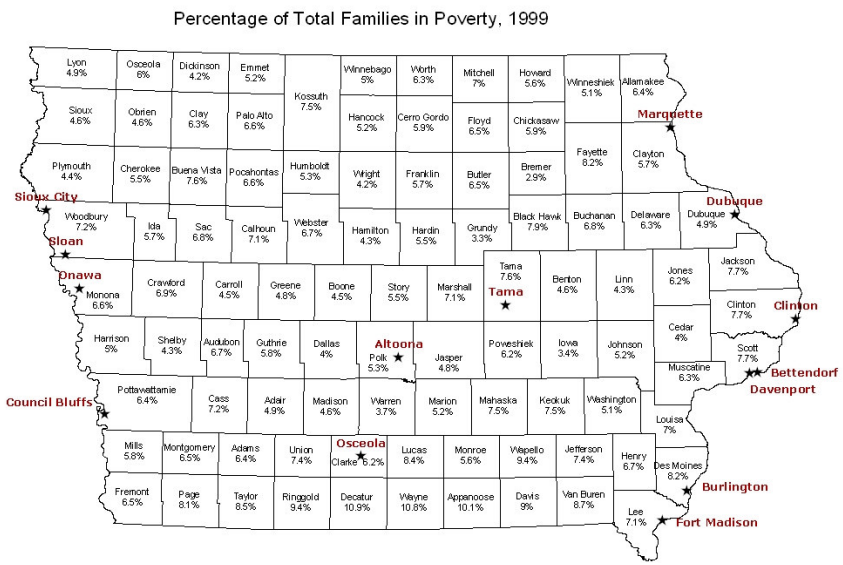


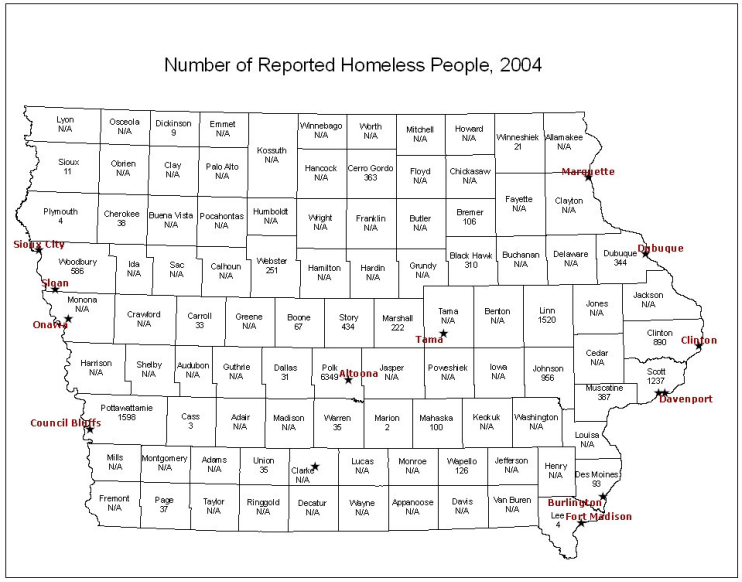
Exhibit 10.4.3b: Time Series Comparison of Families in Poverty for Casino Counties

Casino Counties	1989	1999
Clarke	9.6	6.2
Clayton	11.3	5.7
Clinton	8.6	7.7
Des Moines	9.1	8.2
Dubuque	7.5	4.9
Lee	7.1	5.2
Monona	10.7	6.6
Polk	6.6	5.3
Pottawattamie	8.4	6.4
Scott	9.6	7.7
Tama	8.1	7.6
Woodbury	10.2	7.2

Exhibit 10.4.3c: Time Series Comparison of Families in Poverty for Control Counties

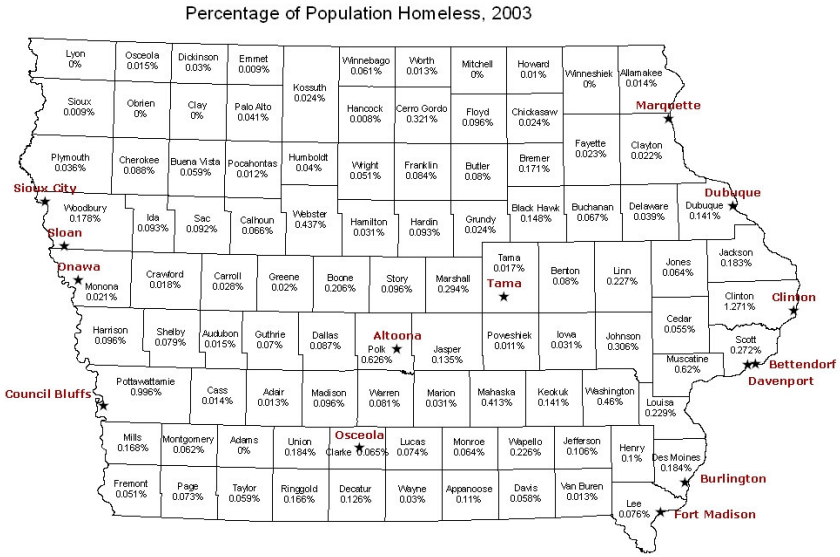
Control Counties	1989	1999
Black Hawk	11.7	7.9
Cerro Gordo	6.7	5.9
Delaware	10.1	6.3
Hardin	7.7	5.5
Johnson	7.1	5.2
Linn	5.8	4.3
Marshall	6.4	7.1
Muscatine	8.8	6.3
Palo Alto	11.7	6.6
Pocahontas	7.8	6.6
Story	7.7	5.5

Exhibit 10.4.4a: Homeless Served in Iowa



Note: Data for the pre-casino period were not available

Exhibit 10.4.4b: Percentage of Population with Homeless People



Note: Data for the pre-casino period were not available

10.4.5a: Percentage Population with Personal Bankruptcy

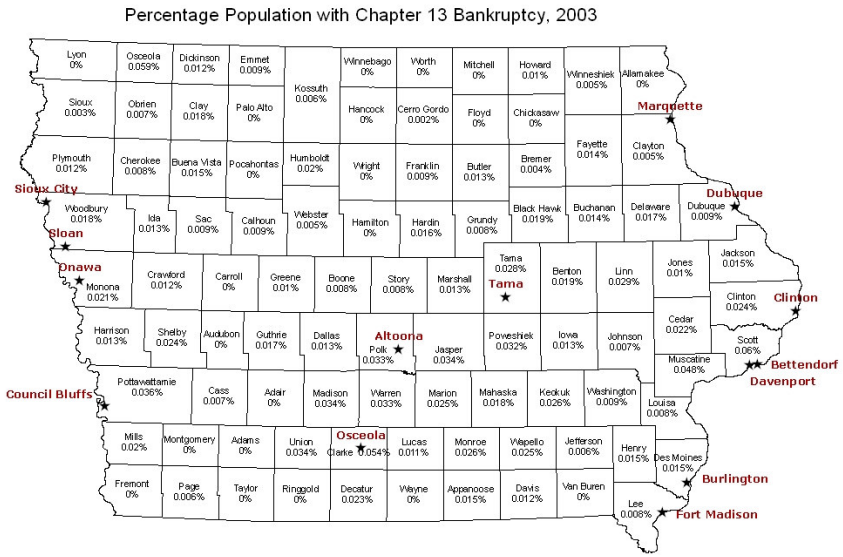


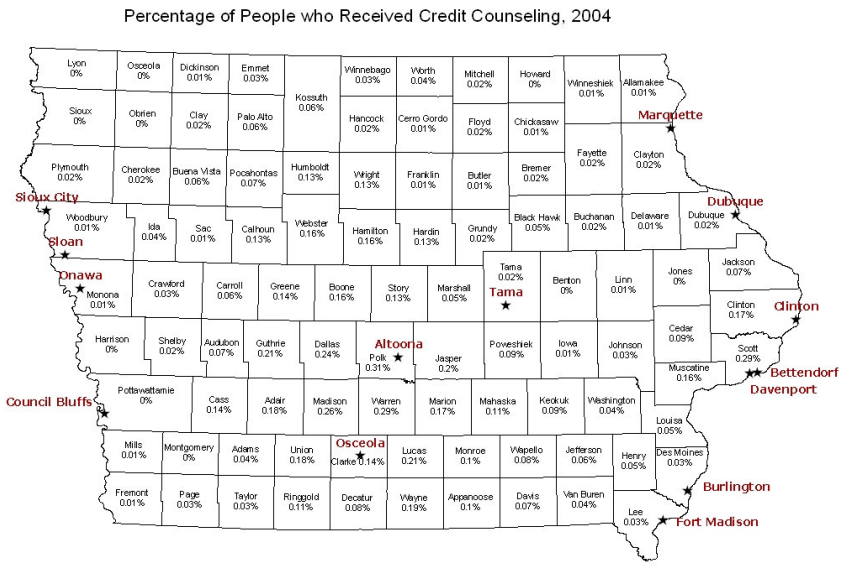
Exhibit 10.4.5b: Time Series Comparison of Personal Bankruptcy for Casino Counties

Casino Counties	1993	2003
Clarke	.01	.05
Clayton	.01	.01
Clinton	.05	.02
Des Moines	.02	.01
Dubuque	.003	.01
Lee	.01	.01
Monona	.02	.02
Polk	.02	.04
Pottawattamie	.01	.04
Scott	.06	.06
Tama	.02	.03
Woodbury	.02	.02

Exhibit 10.4.3c: Time Series Comparison of Personal Bankruptcy for Control Counties

Control Counties	1993	2003
Black Hawk	.01	.03
Cerro Gordo	.00	.002
Delaware	.00	.02
Hardin	.00	.02
Johnson	.003	.01
Linn	.002	.03
Marshall	.00	.01
Muscatine	.02	.05
Palo Alto	.00	.00
Pocahontas	.00	.00
Story	.01	.01

Exhibit 10.4.6: Percentage of Population with Credit Counseling



Note: Data for the pre-casino period were not available

Appendix 10.5: School

Exhibit 10.5.1a: Percentage of Drop Outs

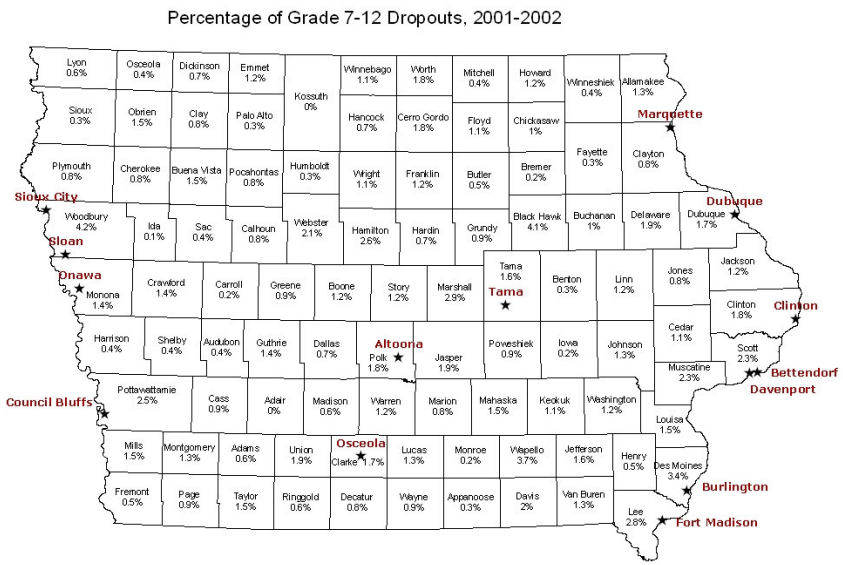


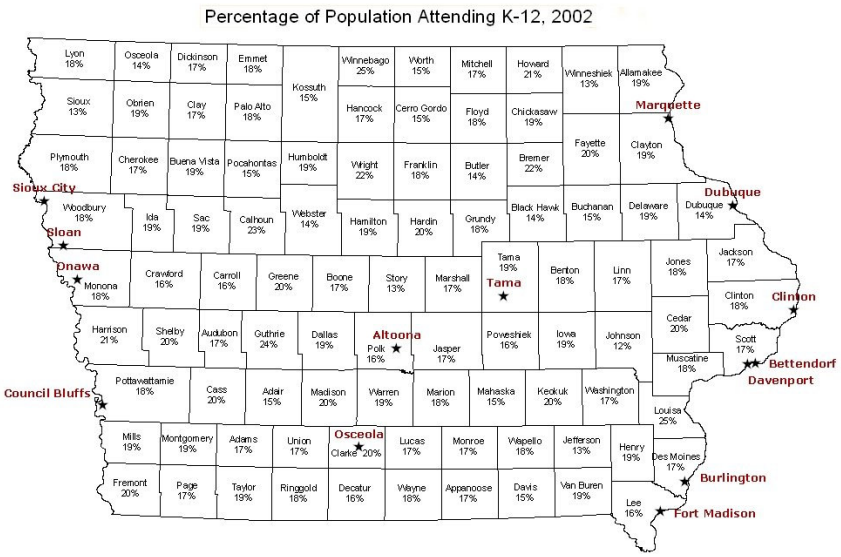
Exhibit 10.5.1b: Time Series Comparison of School Drop Outs for Casino Counties

Casino Counties	1991/1992	2001/2002
Clarke	2.2	1.7
Clayton	.9	.8
Clinton	3.3	1.8
Des Moines	1.5	3.4
Dubuque	2.1	1.7
Lee	2.8	2.8
Monona	1.7	1.4
Polk	3.7	1.8
Pottawattamie	1.7	2.5
Scott	4.4	2.3
Tama	2.1	1.6
Woodbury	3.3	4.2

Exhibit 10.5.1c: Time Series Comparison of School Drop Outs for Control Counties

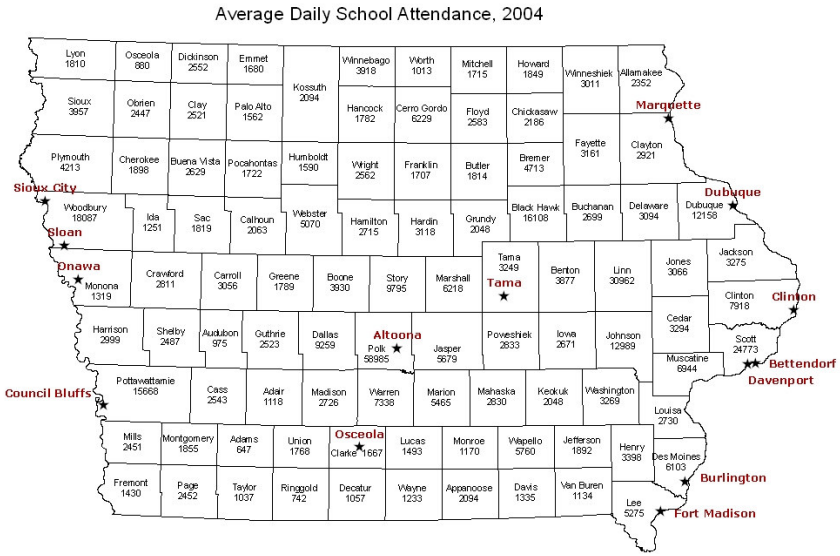
Non-casino County	1991/1992	2001/2002
Linn	1.8	1.2
Story	1	1.2
Cerro Gordo	2.7	1.8
Black Hawk	7	4.1
Johnson	1	1.3
Palo Alto	1.1	0.3
Pocahontas	1.4	0.8
Delaware	0.5	1.9
Muscatine	2.6	2.3
Hardin	1.4	0.7
Marshall	1.6	2.9

Exhibit 10.5.2: Percentage of Population with Certified Enrollment



Note: Data for the pre-casino period were not available

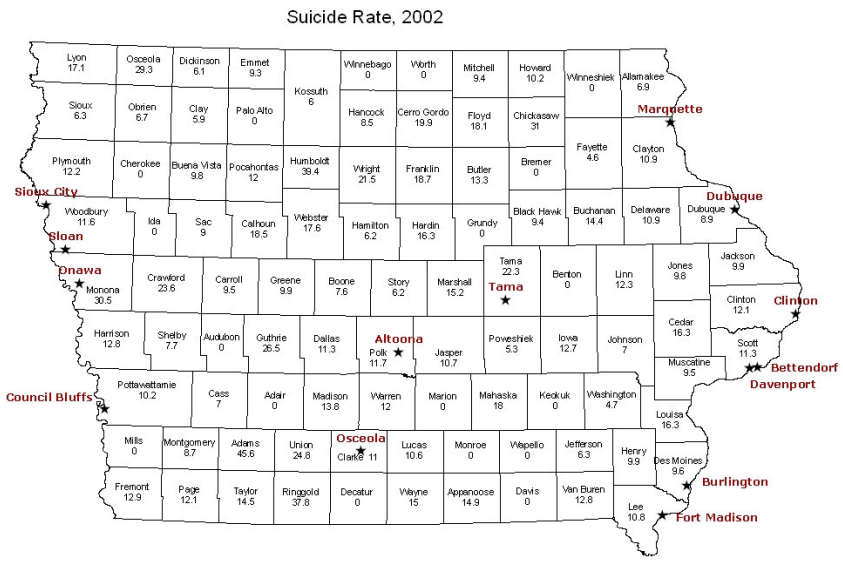
Exhibit 10.5.3: Average Attendance Rate, 2004



Note: Data for the pre-casino period were not available

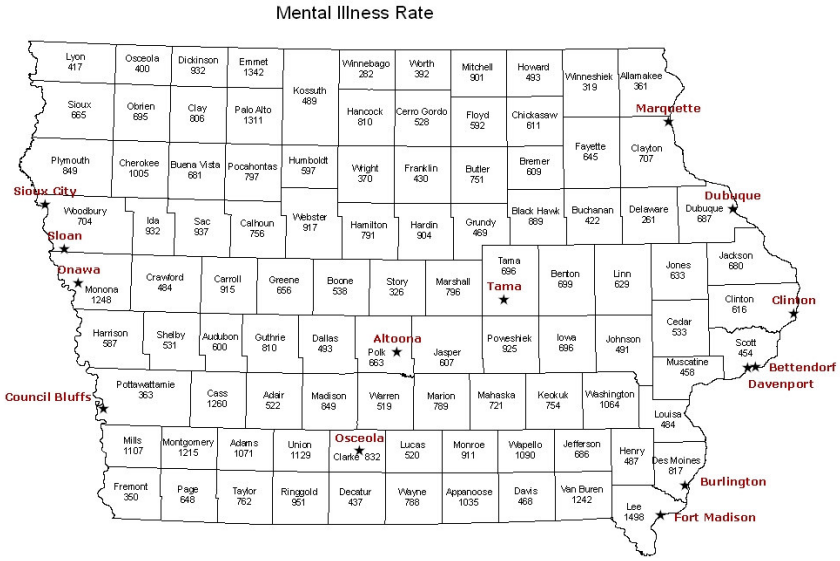
Appendix 10.6 Health

Exhibit 10.6.1: Suicide Rate



Note: Data for the pre-casino period were not available

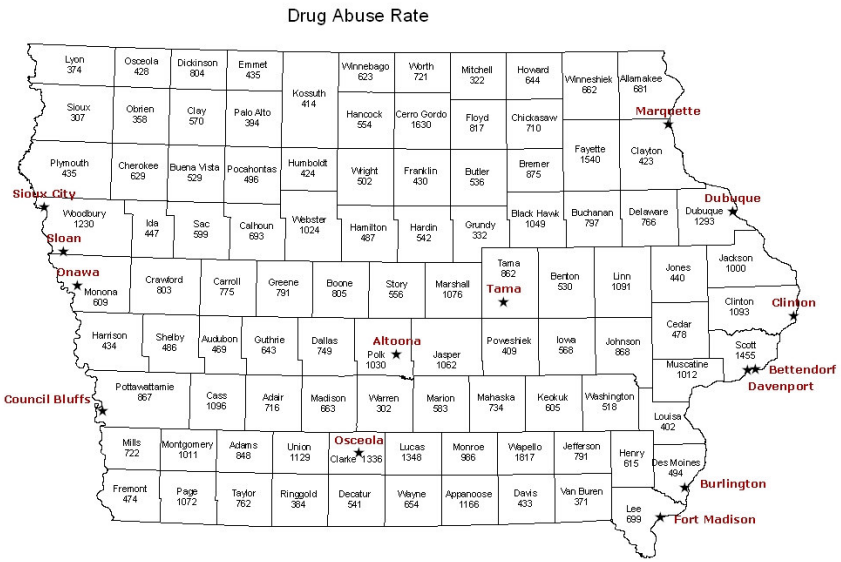
Exhibit 10.6.2: Mental Illness Rate



Note: Data for the pre-casino period were not available

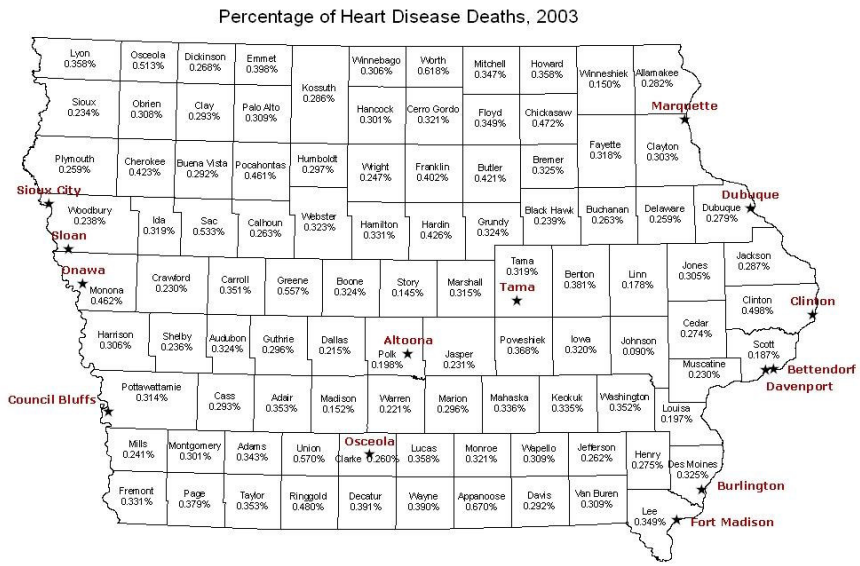
Top Five Diseases in Iowa

Exhibit 10.6.3: Drug and Alcohol Abuse Rate



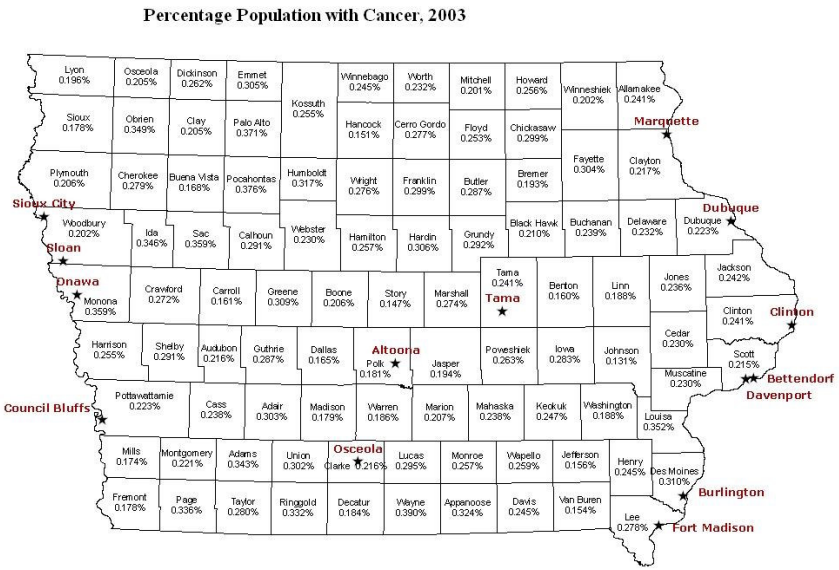
Note: Data for the pre-casino period were not available

Exhibit 10.6.4: Percentage of Population with Heart Disease



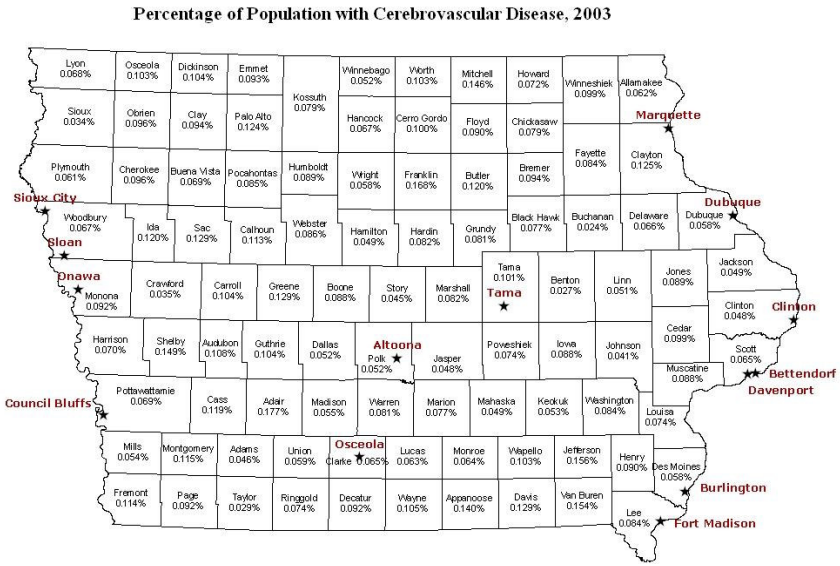
Note: Data for the pre-casino period were not available

Exhibit 10.6.5: Percentage of Population with Cancer



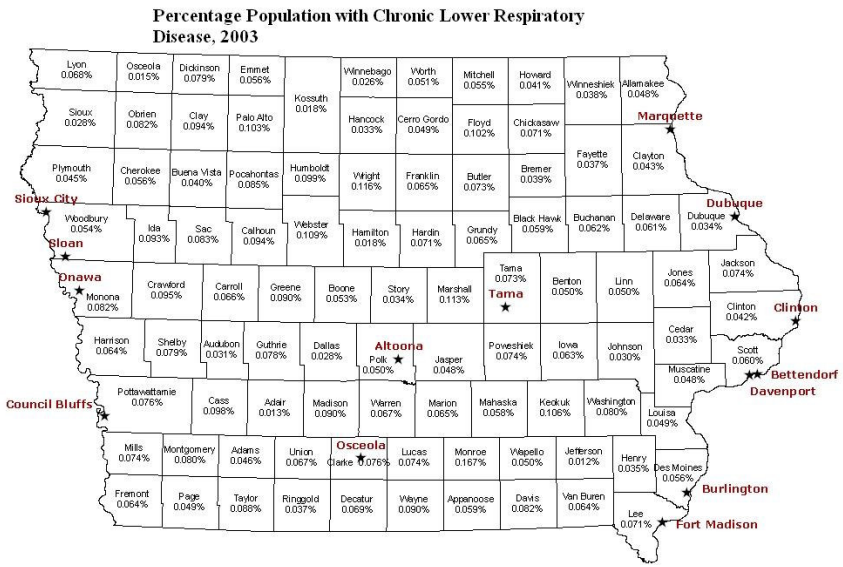
Note: Data for the pre-casino period were not available

Exhibit 10.6.6: Percentage of Population with Cerebrovascular Disease



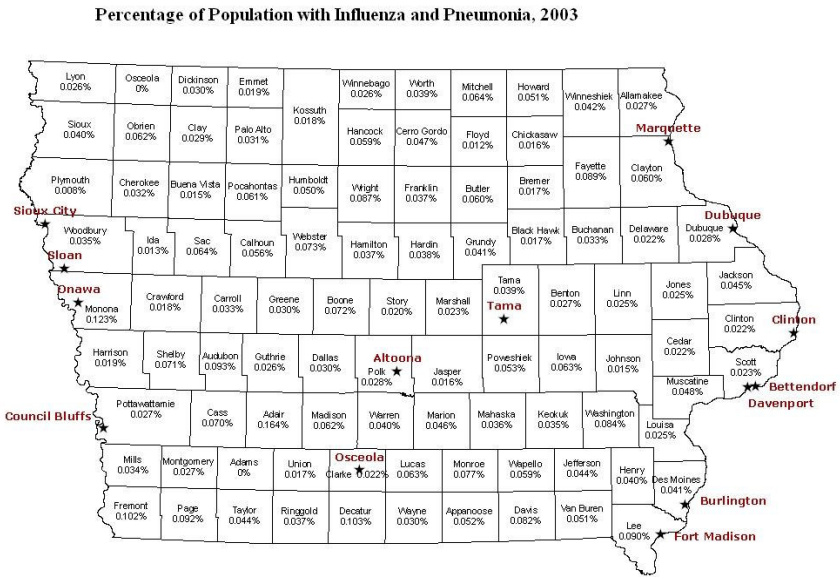
Note: Data for the pre-casino period were not available

Exhibit 10.6.7: Percentage of Population with Chronic Respiratory Disease



Note: Data for the pre-casino period were not available

Exhibit 10.6.8: Percentage of Population with Influenza and Pneumonia



Note: Data for the pre-casino period were not available

Appendix 10.7 Employment in Iowa

Exhibit 10.7.1a: Average Earnings

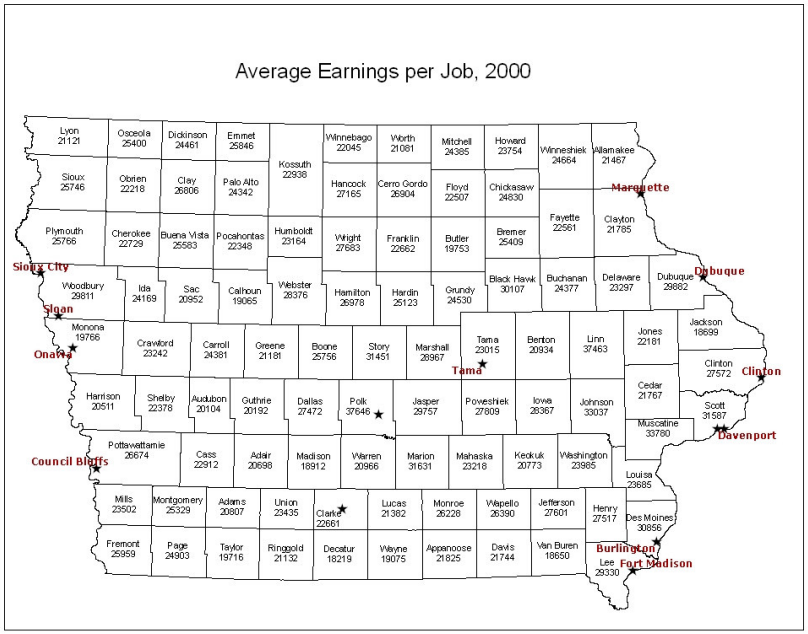


Exhibit 10.7.1b: Time Series Comparison of Average Earnings for Casino Counties

Casino Counties	1990	2000
Clarke	16680	22661
Clayton	18253	21785
Clinton	20749	27572
Des Moines	24325	30856
Dubuque	22196	29882
Lee	23123	29330
Monona	15208	19766
Polk	25426	37646
Pottawattamie	18983	26674
Scott	23703	31587
Tama	16153	23015
Woodbury	21509	29811

Exhibit 10.7.1c: Time Series Comparison of Average Earnings for Control Counties

Control Counties	1990	2000
Black Hawk	23406	30107
Cerro Gordo	20388	26904
Delaware	20504	23297
Hardin	18258	25123
Johnson	22816	33037
Linn	25318	37463
Marshall	22672	28967
Muscatine	24109	33780
Palo Alto	17626	24342
Pocahontas	16446	22348
Story	20313	31451

Exhibit 10.7.2a: Unemployment Rate in Iowa

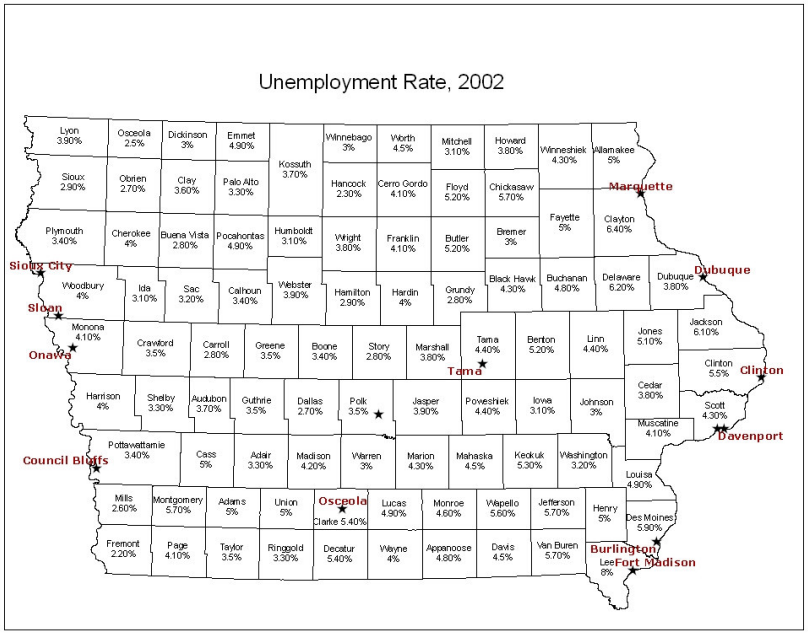


Exhibit 10.7.2b: Time Series Comparison of Unemployment Rate for Casino Counties

Casino Counties	1995	2002
Clarke	6.1	5.4
Clayton	5.3	6.4
Clinton	4.9	5.5
Des Moines	4.5	5.9
Dubuque	3.7	3.8
Lee	5.1	8.0
Monona	3.4	4.1
Polk	2.6	3.5
Pottawattamie	3.2	3.4
Scott	3.6	4.3
Tama	3.9	4.4
Woodbury	3.1	4.0

Exhibit 10.7.2c: Time Series Comparison of Unemployment Rate for Control Counties

Non-casino County	1995	2002
Linn	2.8	4.4
Story	2.8	2.8
Cerro Gordo	3.5	4.1
Black Hawk	4.5	4.3
Johnson	2.7	3
Palo Alto	3.2	3.3
Pocahontas	3.8	4.9
Delaware	5.1	6.2
Muscatine	3.4	4.1
Hardin	3.9	4
Marshall	3.3	3.8

Exhibit 10.7.3a: Percentage of Self-employed Population

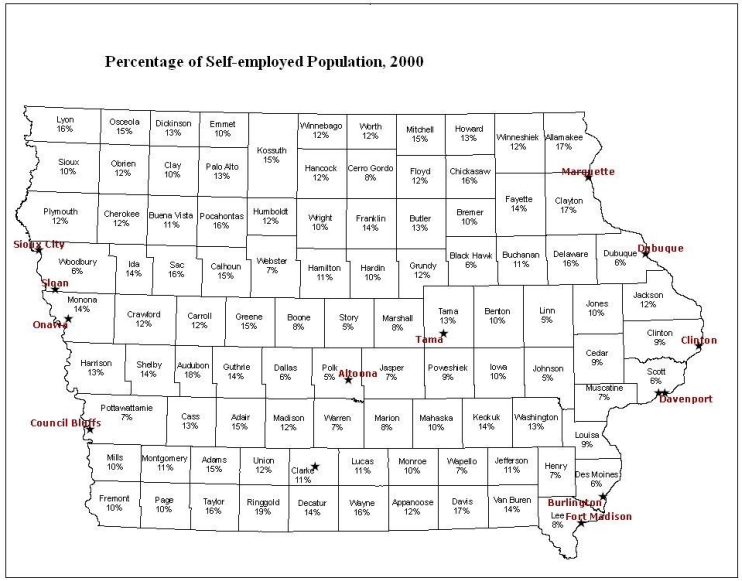


Exhibit 10.7.3b: Time Series Comparison of Self-employment for Casino Counties

Casino Counties	1990	2000
Clarke	15.9	10.4
Clayton	22.7	16.5
Clinton	9.1	8.7
Des Moines	7.2	6.3
Dubuque	7.9	6.1
Lee	8.1	7.8
Monona	19.4	14.4
Polk	5.4	4.9
Pottawattamie	7.8	6.5
Scott	5.9	5.7
Tama	17.6	13.2
Woodbury	7.5	6.3

Exhibit 10.7.3c: Time Series Comparison of Self-employment for Control Counties

Control Counties	1990	2000
Black Hawk	6.7	5.6
Cerro Gordo	9.0	8.0
Delaware	21.4	16.0
Hardin	15.7	10.0
Johnson	6.4	5.2
Linn	6.2	5.1
Marshall	9.7	7.5
Muscatine	7.1	6.7
Palo Alto	19.7	12.8
Pocahontas	24.1	16.1
Story	6.9	5.2

Exhibit 10.7.4a: Percentage of Population with Business Bankruptcy (Chapter Seven)

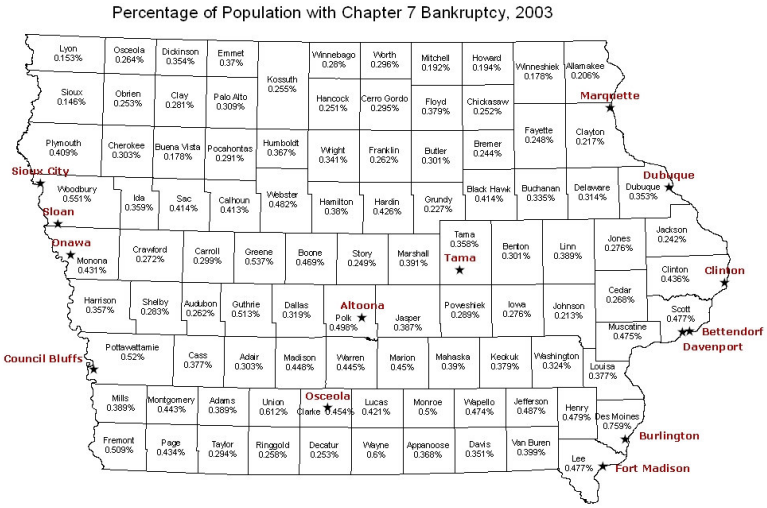


Exhibit 10.7.4b: Time Series Comparison of Business Bankruptcy for Casino Counties

Casino Counties	1993	2003
Clarke	.22	.45
Clayton	.07	.22
Clinton	.28	.44
Des Moines	.33	.76
Dubuque	.15	.35
Lee	.14	.48
Monona	.26	.43
Polk	.29	.50
Pottawattamie	.31	.52
Scott	.29	.48
Tama	.15	.36
Woodbury	.30	.55

Exhibit 10.7.4c: Time Series Comparison of Business Bankruptcy for Control Counties

Control Counties	1993	2003
Black Hawk	.17	.41
Cerro Gordo	.17	.29
Delaware	.07	.31
Hardin	.13	.43
Johnson	.11	.21
Linn	.19	.39
Marshall	.16	.39
Muscatine	.28	.47
Palo Alto	.07	.31
Pocahontas	.06	.29
Story	.09	.25

Exhibit 10.7.5: Retail Sales

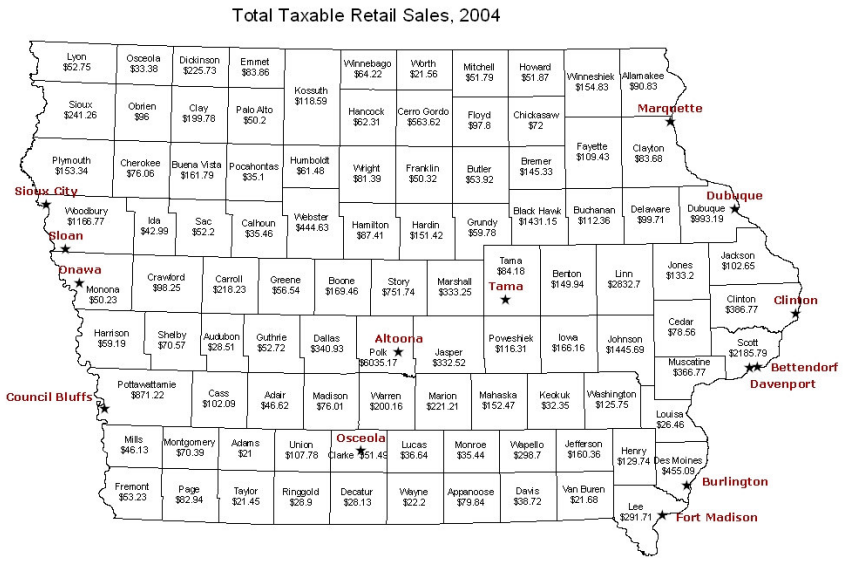


Exhibit 10.7.5b: Time Series Comparison of Retail Sale for Casino Counties

Casino Counties	1990	2004
Clarke	39.95	51.49
Clayton	60.94	83.68
Clinton	277.53	386.77
Des Moines	296.30	455.09
Dubuque	580.91	993.19
Lee	218.90	291.61
Monona	38.64	50.23
Polk	3790.04	6035.17
Pottawattamie	449.01	871.22
Scott	1287.84	2185.79
Tama	63.99	84.48
Woodbury	736.92	1166.77

Exhibit 10.7.5c: Time Series Comparison of Retail Sale for Control Counties

Control Counties	1990	2004
Black Hawk	874.29	1431.15
Cerro Gordo	374.31	563.62
Delaware	64.71	99.71
Hardin	99.67	151.42
Johnson	613.17	1445.69
Linn	1510.64	2832.70
Marshall	244.14	383.25
Muscatine	227.82	366.77
Palo Alto	36.15	50.20
Pocahontas	31.38	35.10
Story	415.95	751.74

Occupations

Exhibit 10.7.6a: Percentage Population with Managerial, Professional, and Related Occupations

Exhibit 10.7.6b: Time Series Comparison of Managerial, Professional, and Related Occupations

Casino Counties	1990	2000
Clarke	17.2	26.7
Clayton	14.4	28.1
Clinton	18.0	25.1
Des Moines	21.6	24.9
Dubuque	22.6	29.7
Lee	17.6	23.2
Monona	18.7	28.6
Polk	27.7	36.1
Pottawattamie	18.8	26.5
Scott	26.1	31.7
Tama	16.3	26.0
Woodbury	22.3	27.9

Exhibit 10.7.6c: Time Series Comparison of Managerial, Professional, and Related Occupations

Control Counties	1990	2000
Black Hawk	23.2	30.3
Cerro Gordo	22.7	28.3
Delaware	14.3	29.2
Hardin	20.8	29.8
Johnson	34.7	43.3
Linn	26.8	34.8
Marshall	22.3	27.6
Muscatine	20.8	26.1
Palo Alto	17.6	31.6
Pocahontas	18.6	35.5
Story	33.1	43.0

Exhibit 10.7.7a: Percentage Population with Sales and Office Occupations

Exhibit 10.7.7b: Time Series Comparison of Sales and Office Occupations

Casino Counties	1990	2000
Clarke	23.7	21.6
Clayton	19.4	19.4
Clinton	28.5	24.8
Des Moines	26.3	24.5
Dubuque	28.3	26.5
Lee	24.5	20.7
Monona	24.2	24.9
Polk	38.9	31.0
Pottawattamie	34.0	30.0
Scott	32.4	27.7
Tama	22.9	23.3
Woodbury	31.7	27.5

Exhibit 10.7.7c: Time Series Comparison of Sales and Office Occupations

Control Counties	1990	2000
Black Hawk	31.1	27.5
Cerro Gordo	29.9	27.1
Delaware	22.3	21.2
Hardin	26.3	22.8
Johnson	31.4	26.1
Linn	33.5	29.5
Marshall	28.1	27.7
Muscatine	24.4	21.4
Palo Alto	20.9	20.8
Pocahontas	22.9	21.2
Story	31.8	25.2

Exhibit 10.7.8a: Percentage Population with Service-related Occupations

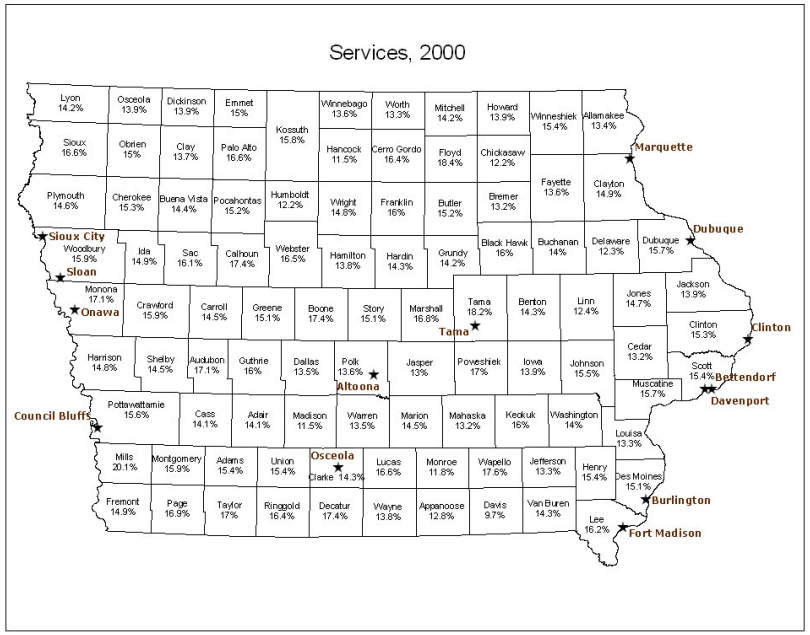


Exhibit 10.7.8b: Time Series Comparison of Service-related Occupations for Casino Counties

Casino Counties	1990	2000
Clarke	14.8	14.3
Clayton	11.4	14.9
Clinton	14.3	15.3
Des Moines	14.3	15.1
Dubuque	16.3	15.7
Lee	15.8	16.2
Monona	16.1	17.1
Polk	12.6	13.6
Pottawattamie	13.8	15.6
Scott	13.8	15.4
Tama	15.7	18.2
Woodbury	15.4	15.9

Exhibit 10.7.8c: Time Series Comparison of Service-related Occupations for Control Counties

Control Counties	1990	2000
Black Hawk	16.9	16.0
Cerro Gordo	16.3	16.4
Delaware	12.9	12.3
Hardin	14.1	15.7
Johnson	16.5	15.5
Linn	13.0	12.4
Marshall	16.1	16.8
Muscatine	15.2	15.7
Palo Alto	17.7	16.6
Pocahontas	14.0	15.2
Story	14.6	15.1

Exhibit 10.7.9a: Percentage of Jobs related to Farming, Fishing, and Forestry Occupations

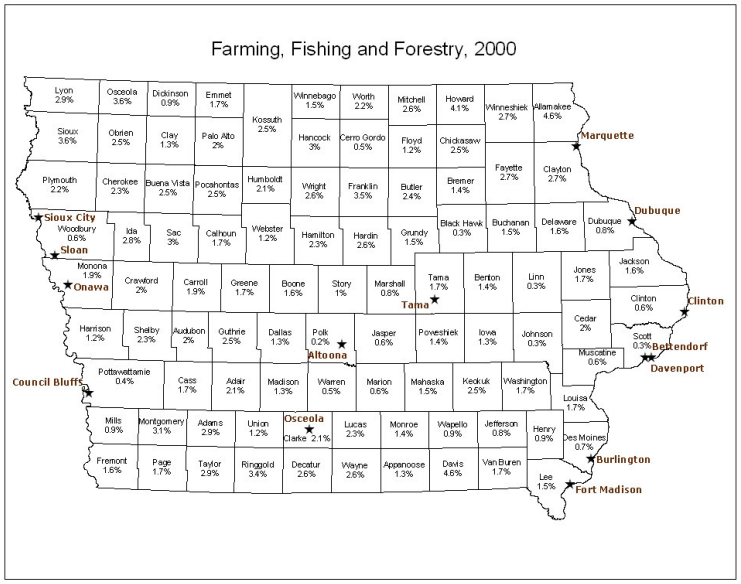


Exhibit 10.7.9b: Time Series Comparison of Jobs related to Farming, Fishing, and Forestry Occupations for Casino Counties

Casino Counties	1990	2000
Clarke	11.2	2.1
Clayton	22.2	2.7
Clinton	5.2	.6
Des Moines	2.5	.7
Dubuque	5.5	.8
Lee	4.6	1.5
Monona	17.6	1.9
Polk	1.0	.2
Pottawattamie	3.9	.4
Scott	1.5	.3
Tama	13.7	1.7
Woodbury	2.8	0.6

Exhibit 10.7.9c: Time Series Comparison of Jobs related to Farming, Fishing, and Forestry for Control Counties

Control Counties	1990	2000
Black Hawk	2.2	.3
Cerro Gordo	3.8	.5
Delaware	19.8	1.6
Hardin	11.4	2.6
Johnson	2.6	.3
Linn	1.8	.3
Marshall	5.0	.8
Muscatine	19.8	1.6
Palo Alto	16.5	2.0
Pocahontas	18.6	2.5
Story	3.8	1.0

Appendix 10.8 Crime

Exhibit 10.8.1: Total Offense Rate

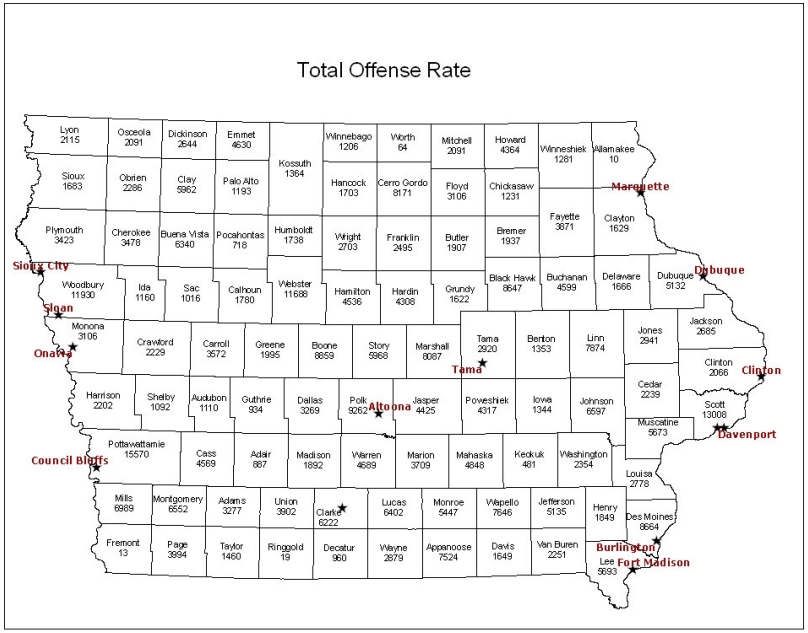


Exhibit 10.8.1b: Time Series Comparison of Total Offense Rate for Casino Counties

Casino Counties	1990	2000
Clarke	3646.8	6221.8
Clayton	1026.2	1628.7
Clinton	2763.1	2066.3
Des Moines	6013.8	8664.4
Dubuque	3281.8	5132.3
Lee	5342.0	5692.8
Monona	4468.9	3106.3
Polk	7630.3	9262.4
Pottawattamie	2228.8	15570.1
Scott	12850.5	13007.9
Tama	878.8	2920.2
Woodbury	8663.7	11930

Exhibit 10.8.1c: Time Series Comparison of Total Offense Rate for Control Counties

Control Counties	1990	2000
Black Hawk	257.7	8646.9
Cerro Gordo	3810.0	8171.3
Delaware	1235.9	1665.7
Hardin	3243.2	4308.0
Johnson	2526.2	6596.9
Linn	655.9	7873.8
Marshall	7190.2	8087.4
Muscatine	4431.9	5673.3
Palo Alto	2286.4	1193.2
Pocahontas	881.3	718.4
Story	6216.3	5967.8

Exhibit 10.8.2a: Total Arrest Rate

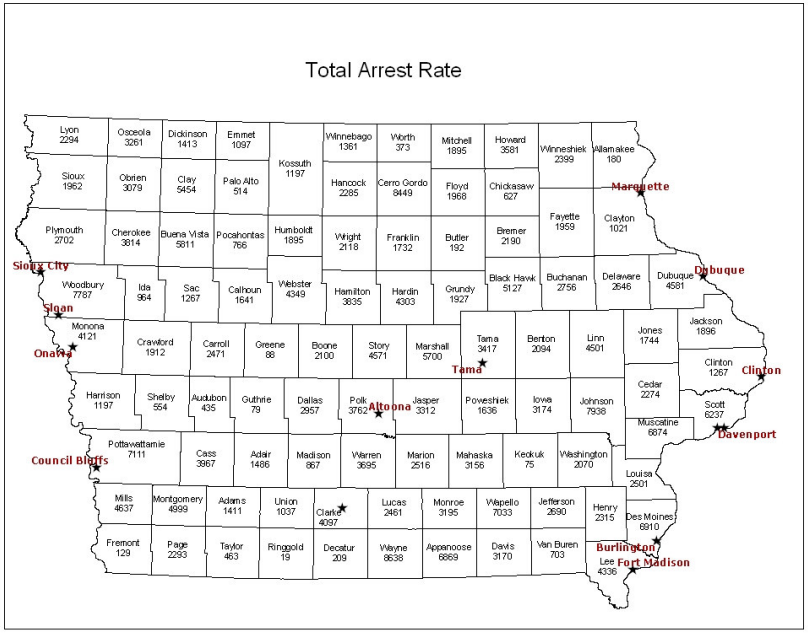


Exhibit 10.8.2b: Time Series Comparison of Total Arrest Rate for Casino Counties

Casino Counties	1990	2000
Clarke	607.8	4096.5
Clayton	747.8	1020.6
Clinton	1013.0	1266.7
Des Moines	4303.5	6910.2
Dubuque	246.7	4581.0
Lee	2427.5	4335.8
Monona	1958.9	4121.4
Polk	3364.9	3761.9
Pottawattamie	415.9	7111.0
Scott	5016.1	6237.0
Tama	714.4	3416.7
Woodbury	5996.8	7786.6

Exhibit 10.8.2c: Time Series Comparison of Total Arrest Rate for Control Counties

Control Counties	1990	2000
Black Hawk	222.9	5127.2
Cerro Gordo	2387.8	8448.5
Delaware	3153.0	2645.5
Hardin	3175.9	4302.5
Johnson	520.9	7938.3
Linn	100.6	4501.4
Marshall	5479.7	5699.8
Muscatine	5149.5	6873.9
Palo Alto	2749.2	513.8
Pocahontas	1420.4	766.3
Story	4216.0	4571.4

Exhibit 10.8.3: Percentage of Population with Domestic Abuse

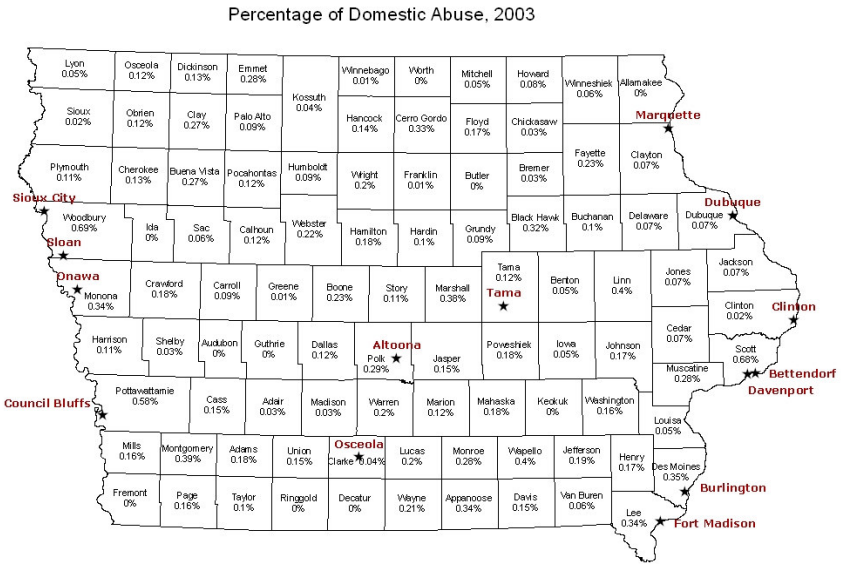


Exhibit 10.8.3b: Time Series Comparison of Domestic Abuse for Casino Counties

Casino Counties	1990	2000
Clarke	.04	.04
Clayton	.07	.07
Clinton	.03	.02
Des Moines	.23	.25
Dubuque	.01	.07
Lee	.05	.34
Monona	.27	.34
Polk	.08	.29
Pottawattamie	.04	.58
Scott	.31	.68
Tama	.06	.12
Woodbury	.43	.69

Exhibit 10.8.3c: Time Series Comparison of Domestic Abuse Crimes for Control Counties

Non-casino Counties	1990	2000
Black Hawk	.002	.32
Cerro Gordo	.10	.33
Delaware	.07	.07
Hardin	.11	.10
Johnson	.05	.17
Linn	.003	.40
Marshall	.47	.38
Muscatine	.41	.28
Palo Alto	.08	.09
Pocahontas	.12	.12
Story	.10	.11

Exhibit 10.8.4: Percentage of Population with Business-related Crimes

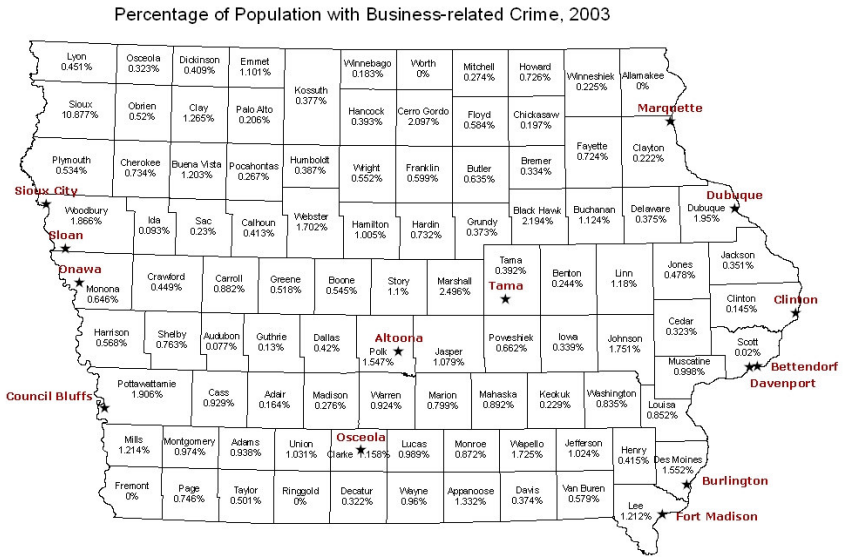


Exhibit 10.8.4b: Time Series Comparison of Business-related Crimes for Casino Counties

Casino Counties	1990	2000
Clarke	.01	1.16
Clayton	.39	.22
Clinton	.10	.14
Des Moines	.97	1.55
Dubuque	.02	1.95
Lee	.39	1.21
Monona	.62	.65
Polk	1.63	1.55
Pottawattamie	.11	1.9
Scott	1.95	.02
Tama	.08	.39
Woodbury	1.48	1.9

Exhibit 10.8.4c: Time Series Comparison of Business-related Crimes for Control Counties

Non-casino Counties	1990	2000
Black Hawk	.05	2.2
Cerro Gordo	.65	2.10
Delaware	.27	.37
Hardin	.69	.73
Johnson	.09	1.75
Linn	.02	1.18
Marshall	.90	2.49
Muscatine	.94	1.00
Palo Alto	.39	.21
Pocahontas	.31	.27
Story	.95	1.10

Exhibit 10.8.5: Percentage of Population with Stealing From Others Crime

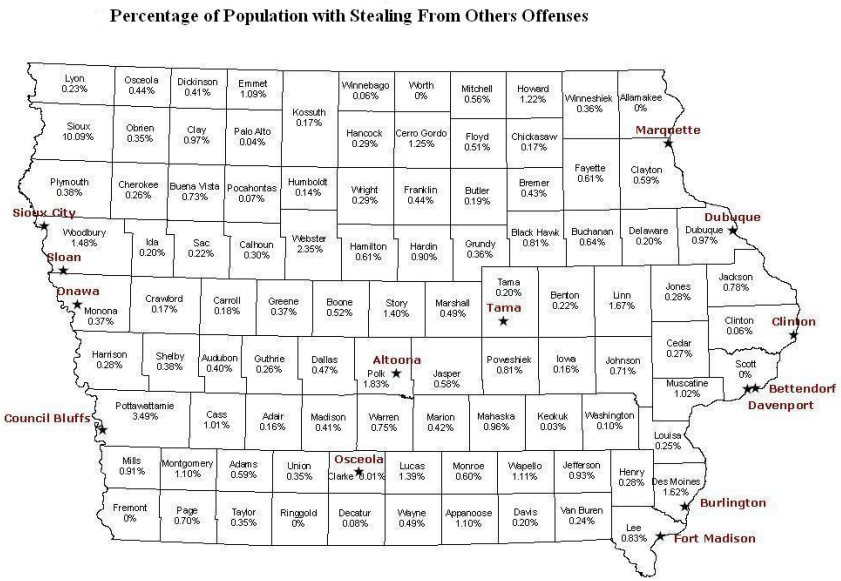


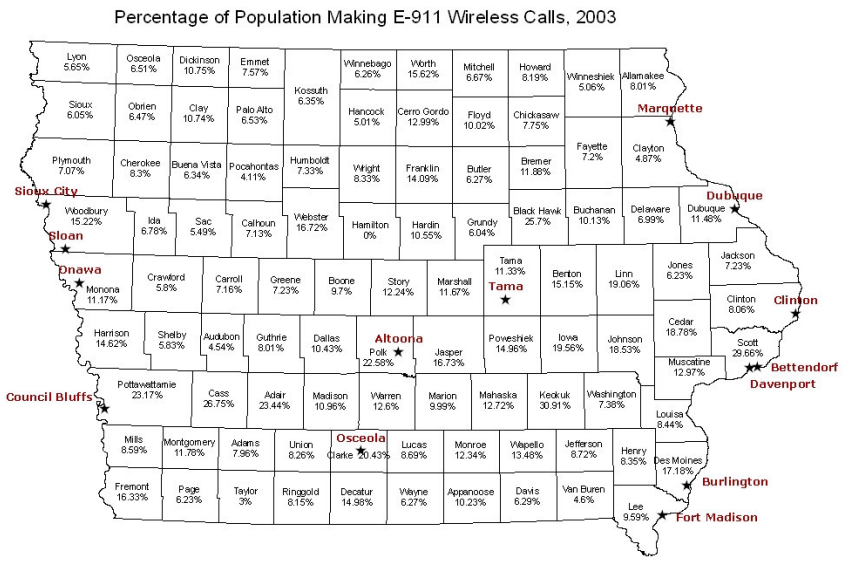
Exhibit 10.8.5b: Time Series Comparison of Stealing From Others for Casino Counties

Casino Counties	1990	2000
Clarke	0.0	.01
Clayton	.06	.59
Clinton	.20	.06
Des Moines	1.54	1.62
Dubuque	.04	.97
Lee	.86	.83
Monona	1.28	.37
Polk	1.79	1.83
Pottawattamie	.18	3.49
Scott	3.20	.00
Tama	.16	.20
Woodbury	2.15	1.48

Exhibit 10.8.5c: Time Series Comparison of Stealing From Others for Control Counties

Non-casino Counties	1990	2000
Black Hawk	.06	.81
Cerro Gordo	.89	1.25
Delaware	.34	.20
Hardin	.81	.90
Johnson	.18	.71
Linn	.04	1.67
Marshall	2.07	.49
Muscatine	1.14	1.02
Palo Alto	.60	.04
Pocahontas	.27	.07
Story	1.97	1.40

Exhibit 10.8.6: Percentage of Population with Wireless E-911 Calls



Note: Data for the pre-casino period were not available

Top Ten Offenses

Exhibit 10.8.7a: Vandalism

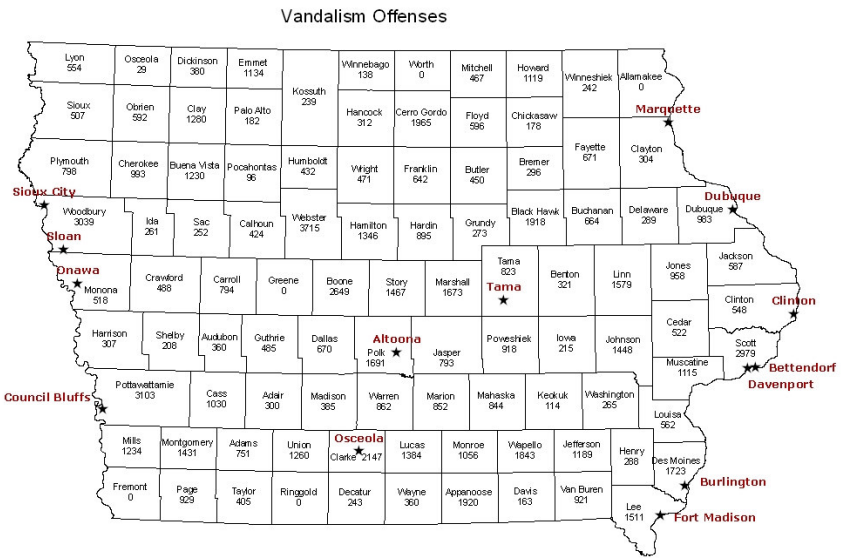


Exhibit 10.8.7b: Vandalism Time Series Comparison for Casino Counties

Casino Counties	1991	2003
Clarke	369.4	2147.3
Clayton	419.8	304.0
Clinton	899.9	548.0
Des Moines	1497.1	1722.8
Dubuque	933.8	983.2
Lee	1903.7	1511.1
Monona	1181.2	517.7
Polk	1719.7	1691.1
Pottawattamie	694.1	3103.0
Scott	2585.5	2979.2
Tama	209.8	823.2
Woodbury	1191.7	3039.0

Exhibit 10.8.7c: Vandalism Time Series Comparison for Control Counties

Non-casino Counties	1991	2003
Black Hawk	44.8	1917.6
Cerro Gordo	984.7	1964.7
Delaware	247.2	288.5
Hardin	382.8	895.2
Johnson	417.2	1447.8
Linn	205.3	1578.5
Marshall	1217.7	1672.6
Muscatine	487.5	1115.2
Palo Alto	462.8	182.3
Pocahontas	93.3	95.8
Story	1585.3	1466.9

Exhibit 10.8.8a: Larceny

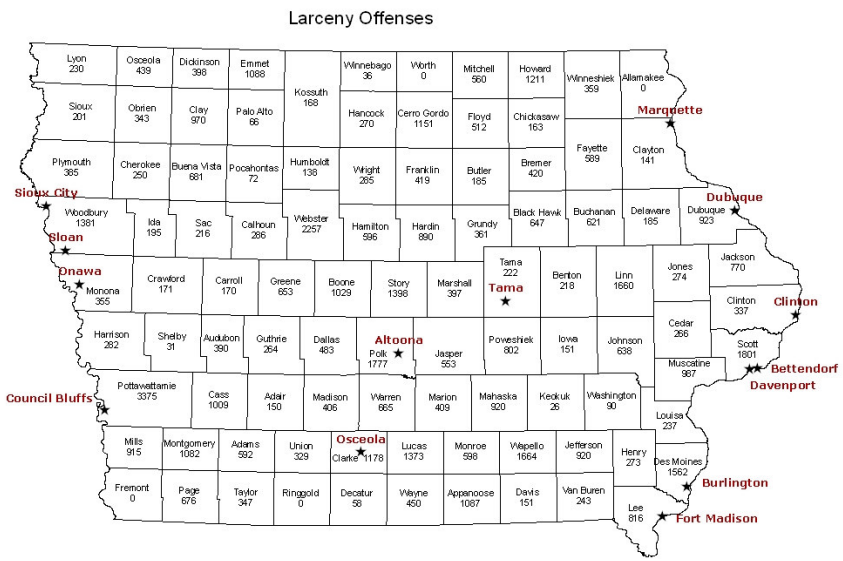


Exhibit 10.8.8b: Larceny Time Series Comparison for Casino Counties

Casino Counties	1991	2003
Clarke	87.0	1178.3
Clayton	264.3	141.2
Clinton	615.0	336.9
Des Moines	924.7	1561.6
Dubuque	453.6	922.9
Lee	603.1	816.3
Monona	590.6	355.3
Polk	1549.0	1776.6
Pottawattamie	303.5	3374.5
Scott	1645.0	1801.2
Tama	56.7	222.1
Woodbury	1392.7	1381.4

Exhibit 10.8.8c: Larceny Time Series Comparison for Control Counties

Non-casino Counties	1991	2003
Black Hawk	47.2	646.8
Cerro Gordo	633.9	1150.7
Delaware	263.7	185.1
Hardin	677.6	889.8
Johnson	314.8	638.0
Linn	102.5	1659.5
Marshall	859.1	396.7
Muscatine	915.6	987.1
Palo Alto	379.5	66.3
Pocahontas	311.0	71.8
Story	872.5	1397.6

Exhibit 10.8.9a: Simple Assaults

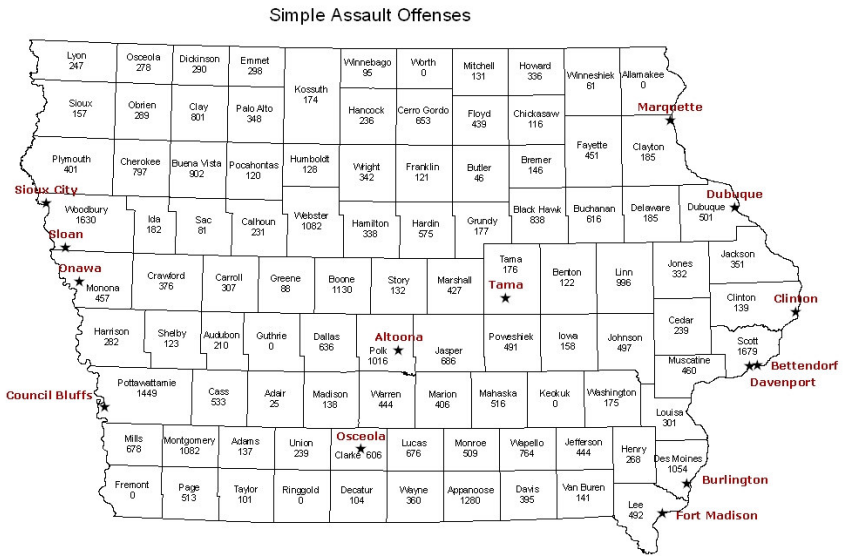


Exhibit 10.8.9b: Simple Assaults Time Series Comparison for Casino Counties

Casino Counties	1991	2003
Clarke	71.5	605.7
Clayton	82.9	184.6
Clinton	185.4	139.3
Des Moines	662.8	1053.9
Dubuque	213.4	501.1
Lee	443.1	492.0
Monona	403.6	456.8
Polk	492.9	1015.9
Pottawattamie	286.0	1449.2
Scott	1366.4	1679.2
Tama	141.7	176.4
Woodbury	1139.5	1629.5

Exhibit 10.8.9c: Simple Assaults Time Series Comparison for Control Counties

Non-casino Counties	1991	2003
Black Hawk	19.1	837.8
Cerro Gordo	336.0	653.4
Delaware	115.4	185.1
Hardin	346.6	575.1
Johnson	144.1	496.6
Linn	11.4	996.2
Marshall	1184.2	427.0
Muscatine	932.9	460.3
Palo Alto	333.2	348.0
Pocahontas	93.3	119.7
Story	321.9	132.3

Exhibit 10.8.10a: Burglary

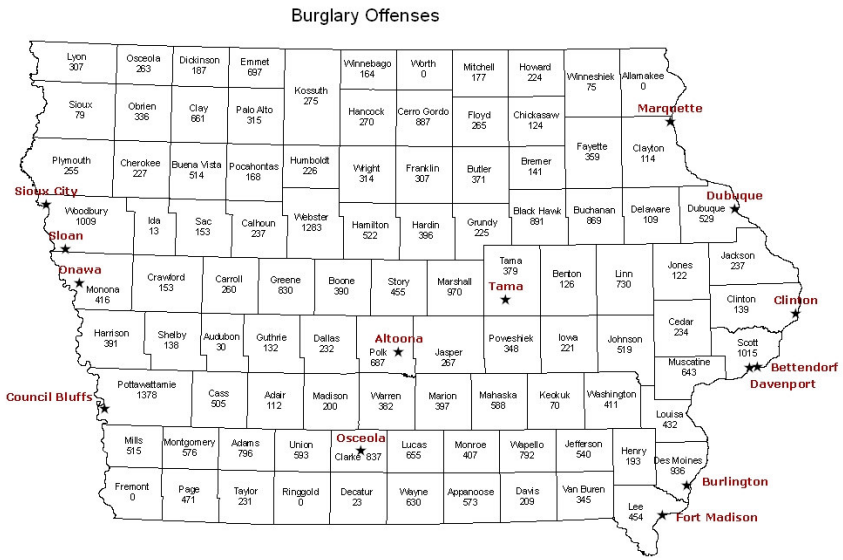


Exhibit 10.8.10b: Burglary Time Series Comparison for Casino Counties

Casino Counties	1991	2003
Clarke	1072.6	836.9
Clayton	46.6	114.0
Clinton	36.2	139.3
Des Moines	741.6	936.0
Dubuque	346.9	529.0
Lee	590.8	454.1
Monona	925.3	416.2
Polk	704.4	686.9
Pottawattamie	443.0	1377.5
Scott	1738.5	1015.1
Tama	39.7	378.9
Woodbury	1160.6	1008.8

Exhibit 10.8.10c: Burglary Time Series Comparison for Control Counties

Non-casino Counties	1991	2003
Black Hawk	14.9	891.1
Cerro Gordo	42.9	886.6
Delaware	126.3	108.9
Hardin	341.4	396.1
Johnson	421.0	519.3
Linn	116.9	729.9
Marshall	910.7	970.2
Muscatine	477.6	643.0
Palo Alto	333.2	314.9
Pocahontas	134.8	167.6
Story	461.5	455.2

Exhibit 10.8.11a: Theft of Motor Vehicles

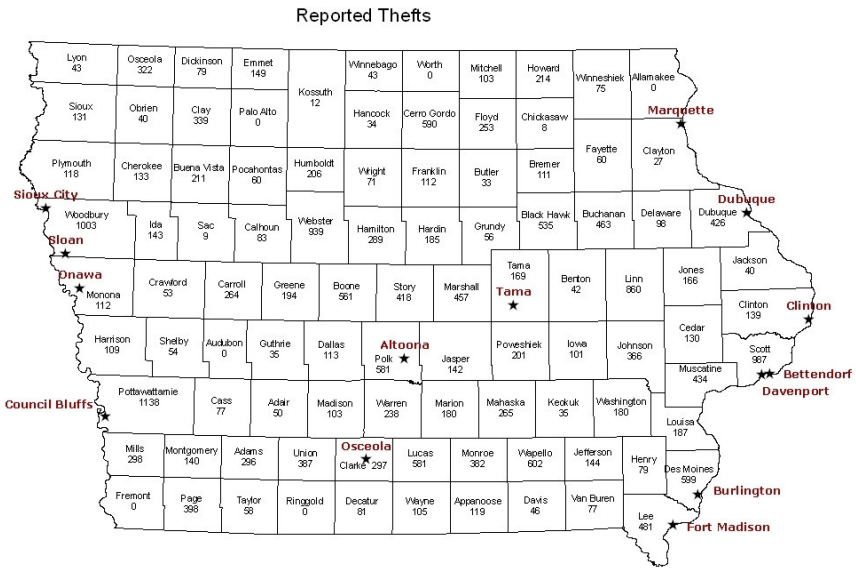


Exhibit 10.8.11b: Theft of Motor Vehicles Time Series Comparison for Casino Counties

Casino Counties	1991	2003
Clarke	679.3	297.3
Clayton	124.4	27.1
Clinton	262.3	139.3
Des Moines	644.2	599.1
Dubuque	240.1	426.3
Lee	570.3	481.2
Monona	315.0	111.7
Polk	600.3	580.7
Pottawattamie	104.6	1137.8
Scott	1253.2	986.6
Tama	79.4	169.1
Woodbury	546.6	1003.0

Exhibit 10.8.11c: Theft of Motor Vehicles Time Series Comparison for Control Counties

Non-casino Counties	1991	2003
Black Hawk	49.7	535.0
Cerro Gordo	198.6	590.0
Delaware	93.4	98.0
Hardin	206.9	185.0
Johnson	129.0	386.0
Linn	34.2	860.0
Marshall	552.1	457.0
Muscatine	118.8	434.0
Palo Alto	129.6	0.0
Pocahontas	134.8	60.0
Story	1147.8	418.0

Exhibit 10.8.12a: Drug/Narcotics

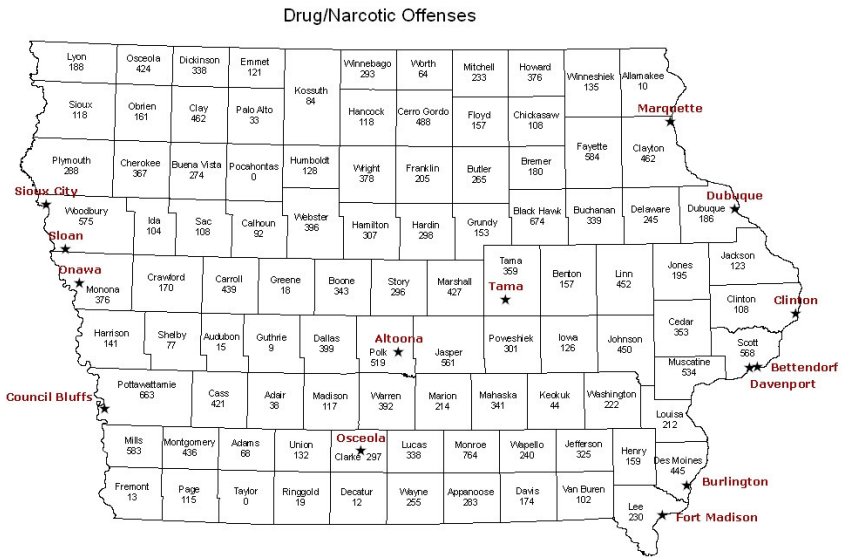


Exhibit 10.8.12b: Drug/Narcotics Time Series Comparison for Casino Counties

Casino Counties	1991	2003
Clarke	0.0	297.3
Clayton	15.5	461.5
Clinton	22.6	107.8
Des Moines	11.6	445.1
Dubuque	26.7	186.4
Lee	4.1	229.8
Monona	68.9	375.6
Polk	123.7	518.8
Pottawattamie	0.0	662.9
Scott	172.0	568.1
Tama	34.0	359.3
Woodbury	155.7	575.4

Exhibit 10.8.12c: Drug/Narcotics Time Series Comparison for Control Counties

Non-casino Counties	1991	2003
Black Hawk	3.3	674.2
Cerro Gordo	46.5	488.4
Delaware	11.0	245.0
Hardin	56.9	298.4
Johnson	110.0	449.5
Linn	14.3	451.1
Marshall	118.7	427.0
Muscatine	74.2	533.9
Palo Alto	9.3	33.1
Pocahontas	10.4	0.0
Story	27.9	295.6

Exhibit 10.8.13a: Shoplifting

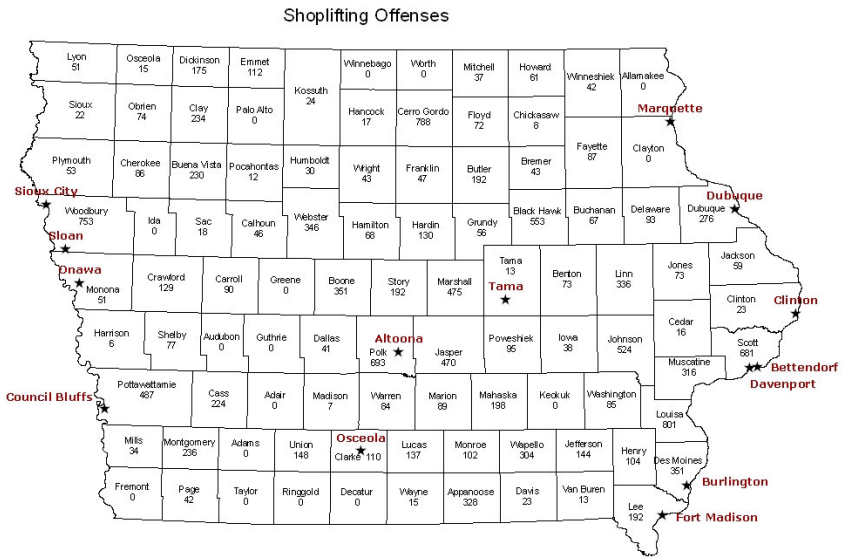


Exhibit 10.8.13b: Shoplifting Time Series Comparison for Casino Counties

Casino Counties	1991	2003
Clarke	47.7	110.1
Clayton	0.0	0.0
Clinton	36.2	22.5
Des Moines	363.8	351.3
Dubuque	106.7	275.6
Lee	426.7	191.9
Monona	147.7	50.8
Polk	765.3	692.7
Pottawattamie	55.8	486.6
Scott	867.3	681.3
Tama	73.7	13.1
Woodbury	1361.1	753.0

Exhibit 10.8.13c: Shoplifting Time Series Comparison for Control Counties

Non-casino Counties	1991	2003
Black Hawk	0.0	552.8
Cerro Gordo	238.8	787.6
Delaware	115.4	92.5
Hardin	232.8	130.2
Johnson	75.9	523.6
Linn	8.6	336.1
Marshall	510.8	475.0
Muscatine	527.1	315.6
Palo Alto	129.6	0.0
Pocahontas	0.0	12.0
Story	292.6	191.7

Exhibit 10.8.14a: Aggravated Assaults

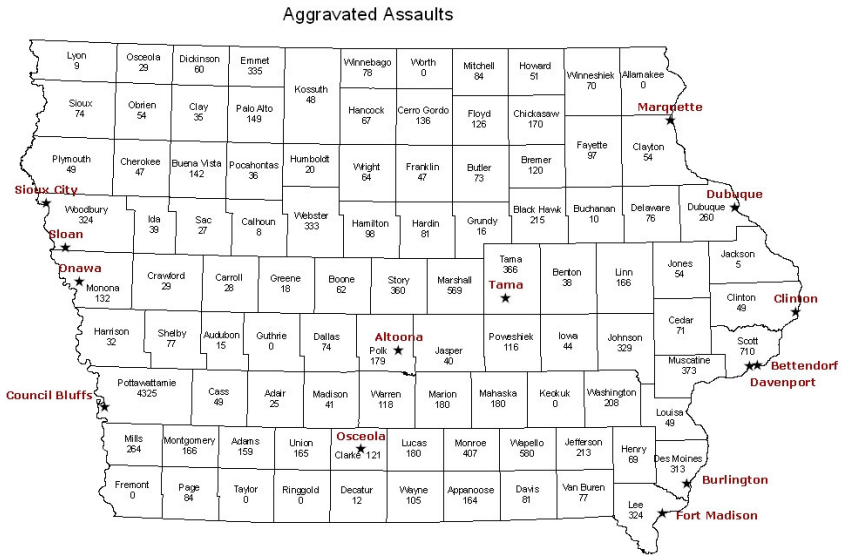


Exhibit 10.8.14b: Aggravated Assaults Time Series Comparison for Casino Counties

Casino Counties	1991	2003
Clarke	11.9	161.1
Clayton	10.4	54.3
Clinton	18.1	49.4
Des Moines	120.5	312.8
Dubuque	106.7	260.0
Lee	131.3	324.4
Monona	157.5	132.0
Polk	18.4	179.2
Pottawattamie	55.8	4325.0
Scott	775.7	710.1
Tama	45.4	365.8
Woodbury	429.1	324.4

Exhibit 10.8.14c: Aggravated Assaults Time Series Comparison for Control Counties

Non-casino Counties	1991	2003
Black Hawk	2.5	215.3
Cerro Gordo	240.9	136.4
Delaware	71.4	76.2
Hardin	36.2	81.4
Johnson	280.7	329.0
Linn	25.7	165.7
Marshall	387.0	568.5
Muscatine	146.0	372.5
Palo Alto	92.6	149.2
Pocahontas	0.0	35.9
Story	62.5	359.9

Exhibit 10.8.15a: Theft from Buildings

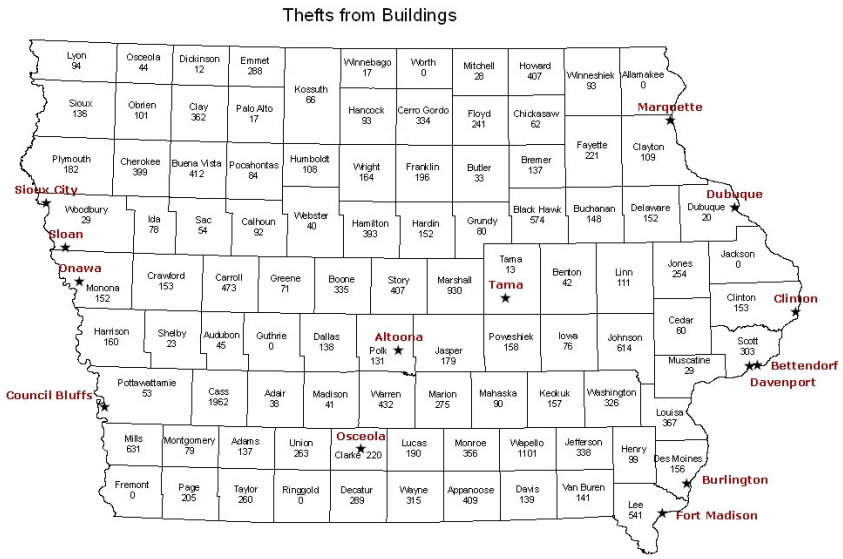


Exhibit 10.8.15b: Theft from Buildings Time Series Comparison for Casino Counties

Casino Counties	1991	2003
Clarke	226.4	220.2
Clayton	10.4	108.6
Clinton	171.8	152.7
Des Moines	391.6	156.4
Dubuque	373.5	20.1
Lee	348.7	540.6
Monona	137.8	152.3
Polk	237.7	130.9
Pottawattamie	20.9	52.9
Scott	453.9	302.8
Tama	45.4	13.1
Woodbury	51.2	29.0

Exhibit 10.8.15c: Theft from Buildings Time Series Comparison for Control Counties

Non-casino Counties	1991	2003
Black Hawk	49.7	574.0
Cerro Gordo	198.6	334.4
Delaware	93.4	152.4
Hardin	206.9	151.9
Johnson	129.0	614.4
Linn	34.2	111.2
Marshall	552.1	929.8
Muscatine	118.8	28.5
Palo Alto	129.6	16.6
Pocahontas	134.8	83.8
Story	1147.8	406.9

Exhibit 10.8.16a: Drug Equipment

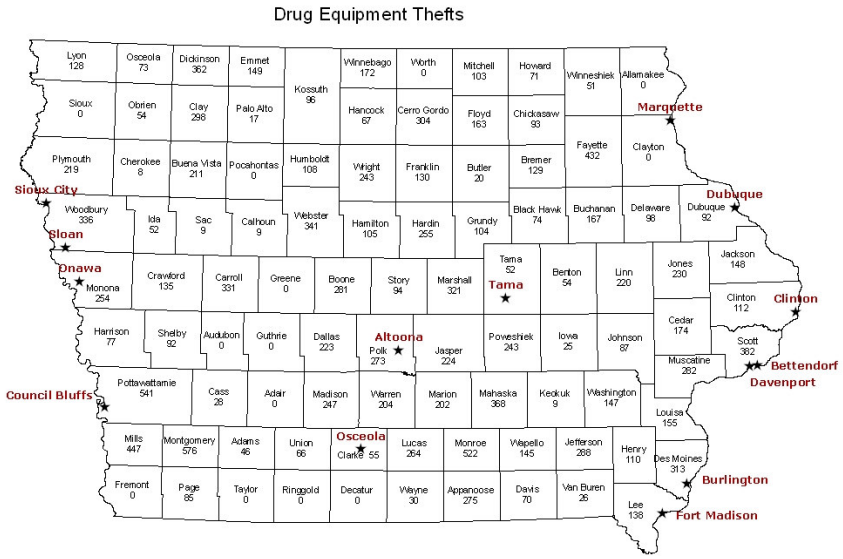


Exhibit 10.8.16b: Drug Equipment Time Series Comparison for Casino Counties

Casino Counties	1991	2003
Clarke	0.0	55.1
Clayton	0.0	0.0
Clinton	0.0	112.3
Des Moines	0.0	312.8
Dubuque	0.0	91.5
Lee	0.0	137.9
Monona	0.0	253.8
Polk	4.5	273.2
Pottawattamie	0.0	540.7
Scott	79.8	381.6
Tama	0.0	52.3
Woodbury	41.2	335.9

Exhibit 10.8.16c: Drug Equipment Time Series Comparison for Control Counties

Non-casino Counties	1991	2003
Black Hawk	0.0	73.6
Cerro Gordo	0.0	303.6
Delaware	0.0	98.0
Hardin	0.0	255.0
Johnson	0.0	87.3
Linn	2.9	220.2
Marshall	15.5	320.9
Muscatine	0.0	282.4
Palo Alto	9.3	16.6
Pocahontas	0.0	0.0
Story		94.0