THE INNOVATION GROUP

Iowa Statewide Gaming Market Assessment and Socio-Economic Impact Analysis

Prepared for:

IOWA RACING AND GAMING COMMISSION

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Iowa Gaming Market Assessment & Socio-economic Impact Analysis

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EXECUTIVE SUMMARY

Introduction

The Innovation Group was retained by the Iowa Racing and Gaming Commission (IRGC) to conduct a statewide gaming market analysis and socio-economic impact study. The gaming market analysis assesses historical trends, including the impact of the pandemic, and a three-year revenue forecast for the following three scenarios:

1. A Baseline scenario to serve as the benchmark for measuring the impact of Scenario 2.
2. The impact on Iowa casinos of impending new casino development in Nebraska, Rockford, Illinois and Beloit, Wisconsin.
3. The impact on the Iowa gaming market if a casino is developed in Cedar Rapids.

The Gaming Market Analysis is conducted with the use of a drivetime gravity model. Gravity models are commonly used in location studies for commercial developments, public facilities and residential developments. The model is an analytical tool that defines the behavior of a population based on travel distance and the availability of goods or services at various locations; it quantifies the effect of distance on the behavior of a potential patron and considers the impact of competing venues.

The socio-economic impact study is comprised of two sections, economic and social/community. The Economic Impact Analysis quantifies the direct, indirect and induced effects of the gaming industry (collectively, casinos and racetracks) on the Iowa economy in terms of employment, income, GDP, and total output. For ongoing impacts from operations of gaming facilities, we have used calendar year 2019 because of the disruptions of the pandemic, which forced casinos to close for two months in 2020. For one-time construction impacts, we compiled costs for the 2012-2021 period; the 2014 economic impact study assessed construction impacts through 2011. Inputs for the IMPLAN modeling were derived from data from operators and the IRGC's "2019 Economic Reports."

The Social and Community Impact Analysis assesses the impacts of casinos on factors such as problem gambling, crime, local businesses, community services, household finances and health, and unemployment.

Gaming Market Analysis

Introduction

The gaming market analysis focused on two critical questions facing Iowa: 1) what are the projected impacts from new casino development in adjacent states, particularly Nebraska? and 2) what would be the projected impact on the Iowa gaming industry if a casino were to be developed in Cedar Rapids?

There are six existing licensed racetracks eligible for casino gaming in Nebraska, all in eastern Nebraska. The two tracks of primary concern to Council Bluffs casinos are Horsemen's Park in Omaha and Lincoln Race Course, both of which are proposed to be $220 million casinos operated under the WarHorse brand, a subsidiary of Ho Chunk, Inc (Nebraska tribe). The other track of most concern to Iowa is Atokad Park, just across the border from Hard Rock Sioux City. The three other licenses are Columbus Exposition and Racing west of Omaha, Fonner Park in Grand Island, and Fairplay Park in Hastings.

Two new casino developments in Rockford, Illinois and Beloit, Wisconsin have implications for eastern Iowa casinos. A Hard Rock casino has been approved for Rockford, and a Ho-Chunk Nation (Wisconsin tribe) casino has received approval by the Department of Interior and the Wisconsin governor.

Voters in Linn County recently re-affirmed approval for casino development, and officials in Cedar Rapids have been in support of development. This market study assesses the impact on existing Iowa casinos and the net Iowa gain in gaming revenue from a Cedar Rapids casino.

Baseline Calibration

The gravity model was calibrated for last 12 months (through October 2021) using publicly reported data from the Iowa Racing & Gaming Commission and Illinois Gaming Board and proprietary player data from operators. Competitive casinos were input into the model as discussed in the Competitive Environment section. To protect confidentiality, we have grouped the results by region rather than individual properties.

Table 1: Regional Groupings

Council Bluffs	Northwest	North	Central	East Central	Southeast	Northeast
Ameristar CB	Hard Rock Sioux City	Wild Rose Emmetsburg	Wild Rose Jefferson	Isle Waterloo	Catfish Bend	Diamond Jo Dubuque
Harrah's CB	Grand Falls	Diamond Jo Northwood	Lakeside	Riverside	Isle Bettendorf	Q Casino
Horseshoe CB			Prairie Meadows		Rhythm City	Casino Queen
					Wild Rose Clinton	

Source: The Innovation Group

As in the rest of the nation, the Iowa gaming industry remains in a state of flux from the impacts of the pandemic. While gross gaming revenue (GGR) is actually higher than pre-pandemic levels, visitation has declined by over 17%. As a result, casino win per visit (WPV) has increased dramatically, to $96 from $73 in 2019. In the calibration of the model, we have mirrored the decline in visitation by reducing propensity and frequency from normative pre-COVID levels while increasing WPV.

Table 2: Iowa Commercial Casinos: Recent Trends

	GGR (MM)	Visits (000s)	WPV	Positions	WPP
FY 2019	$1,457	19,863	$73	17,953	$222
FY 2021	$1,575	16,395	$96	18,008	$240
Change	*8.1%*	*-17.5%*	*31.0%*	*0.3%*	*7.8%*

Source: IRGC. The Innovation Group

It is expected that 2024 would be the first full year of operation for Nebraska casinos; therefore, we use 2024 for the future baseline model, which becomes the benchmark against which to measure the impact of Nebraska, Rockford, and Beloit.

What the gaming market will look like in three years is difficult to estimate based on current data. Nationwide, casinos have seen higher revenues from fewer gaming positions and fewer visits. Operators and analysts are doubtful this condition will sustain, but it is the million-dollar question how the gaming market will stabilize once federal relief spending cycles through and as other travel and leisure options open up (for example, cruise ships have recently started sailing again).

Analysts have noted that savings boosts from relief spending have started to taper off, and that for lower income households the extra spending power is expected to run out by early 2022. Therefore, in our forecasting we have assumed GGR will taper off by the second half of 2022.

For the 2024 Baseline model we have assumed that WPV will decline from current levels but still remain higher than pre-COVID levels. On the other hand, we have assumed that some but not all casino patrons who currently are staying home will return; therefore, we have raised propensity and frequency but not to pre-COVID levels. In summary, the model is showing an increase in visitation of 10% but a decline in WPV of 12.4% for a 3.4% decline in gaming revenue compared to 2021's record setting level.

Forecast Results

Table 3 shows the three-year forecast for Iowa statewide gaming revenue (excluding sports betting) under the three competitive scenarios. Hard Rock Rockford opened in November 2021 in a temporary casino with 635 slots and electronic table positions; a small impact is assumed for 2022 compared to the Baseline. The full permanent Rockford casino is scheduled to open in 2023; Nebraska and Beloit are estimated to open by 2024.

Table 3: Iowa Statewide Slot & Table Gaming Revenue Summary (000s)

$000s	Baseline Status Quo	With NE, Rockford & Beloit	With Cedar Rapids
2021*	$1,688,810	$1,688,810	$1,688,810
2022	$1,668,585	$1,664,413	$1,664,413
2023	$1,598,403	$1,575,699	$1,575,699
2024	$1,631,023	$1,375,286	$1,426,372

Source: The Innovation Group; *Last 12 months thru Oct.

Table 4 shows the results by Region for Scenario 1, impact of Nebraska, Rockford & Beloit. The impact of new casino development in adjacent states is estimated to result in a $256 million or 15.7% decline in Iowa GGR compared to a Baseline 2024 forecast.

Table 4: Iowa Gaming Revenue Summary by Region (000s): Scenario 1 Results

	Calibration 2021*	Base 2024	With NE, Rockford & Beloit	Impact	% Impact
Council Bluffs	$438,845	$427,995	$266,277	-$161,718	-37.8%
Northwest	$178,312	$172,429	$141,282	-$31,146	-18.1%
North	$132,274	$125,940	$123,673	-$2,268	-1.8%
Central	$301,996	$296,793	$287,241	-$9,552	-3.2%
East Central	$218,682	$210,271	$206,516	-$3,755	-1.8%
Southeast	$272,236	$257,385	$230,892	-$26,493	-10.3%
Northeast	$146,466	$140,209	$119,404	-$20,806	-14.8%
Total	$1,688,810	$1,631,023	$1,375,286	-$255,737	-15.7%

Source: The Innovation Group; *Last 12 months thru Oct.

Table 5 shows the results by Region for Scenario 2, impact of Cedar Rapids on existing Iowa casinos. A Cedar Rapids casino is estimated to result in a $61 million decline in GGR at existing Iowa casinos.

Table 5: Iowa Gaming Revenue Summary by Region (000s): Scenario 2 Results Impact on Existing

	With NE, Rockford & Beloit	Cedar Rapids Impact on Existing	Impact	% Impact
Council Bluffs	$266,277	$265,942	-$335	0%
Northwest	$141,282	$141,195	-$87	0%
North	$123,673	$122,154	-$1,518	-1%
Central	$287,241	$283,520	-$3,722	-1%
East Central	$206,516	$163,515	-$43,001	-21%
Southeast	$230,892	$223,914	-$6,978	-3%
Northeast	$119,404	$113,737	-$5,666	-5%
Total	$1,375,286	$1,313,978	-$61,308	-4%

Source: The Innovation Group

Including the GGR forecast for Cedar Rapids in the East Central region, total statewide commercial gaming revenue in Iowa is estimated to increase by $51 million with the addition of a Cedar Rapids casino to the market.

Table 6: Iowa Gaming Revenue Summary by Region (000s): Scenario 2 Results including Cedar Rapids

	With NE, Rockford & Beloit	With Cedar Rapids Included	Impact	% Impact
Council Bluffs	$266,277	$265,942	-$335	0%
Northwest	$141,282	$141,195	-$87	0%
North	$123,673	$122,154	-$1,518	-1%
Central	$287,241	$283,520	-$3,722	-1%
East Central	$206,516	$275,909	$69,392	34%
Southeast	$230,892	$223,914	-$6,978	-3%
Northeast	$119,404	$113,737	-$5,666	-5%
Total	$1,375,286	$1,426,372	$51,086	4%

Source: The Innovation Group

Sports Betting

Table 7 shows the three-year forecast for Iowa statewide sports betting net receipts under the three competitive scenarios. Illinois allows mobile sports betting but Nebraska will only allow retail. Sports betting continues to ramp up in Iowa, particularly internet.

Table 7: Iowa Statewide Sports Betting Net Receipt Summary (000s)

$000s	Baseline	With NE, Rockford & Beloit	With Cedar Rapids
Retail			
2021*	$28,161	$28,161	$28,161
2022	$28,845	$24,600	$25,965
2023	$29,546	$25,198	$26,596
2024	$30,265	$25,810	$27,242
Internet			
2021*	$80,496	$80,496	$80,496
2022	$110,617	$110,252	$113,559
2023	$130,990	$130,558	$134,474
2024	$147,781	$147,293	$151,712
Total			
2021*	$108,657	$108,657	$108,657
2022	$139,462	$134,851	$139,524
2023	$160,536	$155,755	$161,070
2024	$178,045	$173,103	$178,954

Source: The Innovation Group: *Last 12 months thru Nov.

Sports wagering brings a net positive impact on Iowa casinos. Sports wagering attracts a new demographic, tending to skew younger and more male than slot machine patrons. Online sports betting dominates the sports market, comprising 74% of the sports revenue over the last twelve months. However, retail sports betting provides diversity to the casino amenity set, and it attracts out-of-state players as well. Notably, the three strongest performing retail sports books in Iowa are Ameristar, Horseshoe, and Diamond Jo Worth, all serving out-of-state markets without retail options available in their states.

Over the next three years, we expect sports wagering to grow in popularity, but otherwise to be relatively static in the state. From a competitive perspective, Nebraska's sports betting launch will impact the Council Bluffs market, and a potential Minnesota bill could impact retail betting at Diamond Jo Worth. From a product standpoint, the industry abounds with mergers and acquisition opportunities. We may see some consolidation in the space, though we also note that there are more than a few global operators seeking entry into emerging US markets. Additionally, several technology companies are developing innovative products in the sports betting space, as one key way that sportsbooks can compete for market share is through a differentiated betting "menu."

Economic Impact Analysis

Ongoing Impacts from Operations

For ongoing impacts from operations of gaming facilities, we have used an Analysis-by-Parts (ABP) method with inputs for calendar year 2019, which was selected since casinos were closed for two months in 2020. The gaming industry remains in flux from the disruptions of the pandemic. Although gaming revenue in 2021 has recovered to levels above 2019, employment has lagged as fewer table games are in operation in many casinos and amenities such as buffets and entertainment remain closed or with reduced operating hours. This lag is by and large involuntary, as operators have unanimously noted tight labor markets, low unemployment, and difficulty in attracting workers.

Analysis-by-Parts separates out the multiplier effects into individual impact components, Intermediate Expenditure and Labor Income. This allows for more flexibility and customization capabilities in the analysis to model actual business operations. We used a Labor Income Change activity to analyze the impact of the payroll of casino operations necessary to meet the demand or production level. The direct input for Labor Income in the casino analysis consisted of Employee Headcounts and Employee Compensation as reported by the Iowa gaming industry, including tips estimated by the Innovation Group. For Intermediate Expenditures (IE), we import an Industry Spending Pattern to specify the goods and services of industry purchases needed for the sector 503 - Gambling industries.

The ABP method results in a much more conservative and we believe realistic estimate of the indirect and induced (or multiplier) effects of the operation of the casino component. The inputs into the IMPLAN casino model consist solely of Iowa employee headcounts and compensation as well as purchases by the casino of goods and services in Iowa. Operating profit and gaming taxes

are excluded from the multiplier effect, although they are included in the displays of direct value added and output.

Inputs for the modeling were derived from data from the IRGC's "2019 Economic Reports," which reports total payroll of $331 million, and the IRGC Annual Report 2019, which reports that of 8,511 people employed by the casinos and racetracks, 6,246 or 73% were Iowans. Only the Iowa portion of employment was utilized in the modeling.

Table 8: Casino & Racetrack Employment Data 2019

Salaries & Wages	$233,389,071
Employee Benefits	$60,248,124
Payroll Taxes	$37,401,181
Total Payroll & Related Expenses	$331,038,376
Iowa Employment	6,246
Iowa Payroll	$242,940,394

Source: IRGC, The Innovation Group.

The "2019 Economic Reports" reported a total operating spending within Iowa of $244 million.

Table 9: Casino & Racetrack Expenditure Data 2019, Iowa Vendors Only

Gaming related equipment & supplies	8,540,232
Other supplies & Services	235,689,499
Total Operating Expenses	244,229,731

Source: IRGC, The Innovation Group.

The following table shows the total inputs utilized in the IMPLAN modeling for ongoing operations. An estimate of tips for table dealers and food and beverage servers of $28.8 million was added to the $243 million in payroll for total employment compensation of $271.7 million.

Table 10: Direct Effect Inputs Iowa Statewide – Ongoing Operations

Industry Spending Pattern & Labor Change	Expenditures	Employment	Labor Income
503 Gambling industries (except casino hotels)	$244,229,731		
5001 Employment compensation		6,246	$271,717,020

Source: IMPLAN Group, LLC, IMPLAN System (data and software); The Innovation Group.

The results in the following section represent total impacts (direct, indirect and induced) of ongoing casino expenditures and employment. The table below shows the statewide annual ongoing impacts of Iowa casinos as of 2019. The ongoing impacts of casinos are estimated to generate annual direct effects of 6,246 jobs, $271.7 million in labor income, and $828.5 million of

value added for the state of Iowa. Based on indirect and induced effects, the total annual impact for the state of Iowa from the ongoing casino operations is approximately 12,473 jobs, $557.7 million in labor income, and $1.3 billion in value added.

Table 11: Iowa Casino Operating Impacts – 2019 Dollars

Impact Type	Employment	Labor Income ($M)	Value Added ($M)	Output ($M)
Direct Effect	6,246	$271.7	$828.5	$1,328.8
Indirect Effect	3,980	$190.5	$301.9	$561.7
Induced Effect	2,247	$95.5	$179.3	$320.1
Total	12,473	$557.7	$1,309.8	$2,210.7

Source: IMPLAN Group, LLC, IMPLAN System (data and software); The Innovation Group

Ongoing Impacts from Donations and Gaming Taxes

The unique structure of the Iowa gaming industry results in a large portion of profits being diverted into payments to state and local governments and not-for-profit organizations and charities. These payments support direct employment in these sectors and generate indirect and induced impacts.

The Innovation Group segmented donations into two sectors within IMPLAN. For donations allocated to not-for-profit and other entities, we utilized sector 522-Grantmaking, Giving, and Social Advocacy Organizations. For city and county donations, we used sector 534-Other Local Government Enterprises.

Table 12: Direct Effect Inputs Iowa Statewide – Casino Donations

Industry Change	Value
522 Grantmaking, giving, and social advocacy organizations	$55,885,690
534 Other local government enterprises	$39,591,408

Source: IMPLAN Group, LLC, IMPLAN System (data and software); The Innovation Group

The table below shows the statewide annual ongoing impacts of donations from Iowa casinos as of 2019. The ongoing impacts of these donations are estimated to generate annual direct effects of 319 jobs, $18.5 million in labor income, and $56.5 million of value added for the state of Iowa. Based on indirect and induced effects, the total annual impact for the state of Iowa from the ongoing donations is approximately 664 jobs, $35.4 million in labor income, and $84.4 million in value added.

Table 13: Iowa Casino Donation Impacts – 2019 Dollars

Impact Type	Employment	Labor Income ($M)	Value Added ($M)	Output ($M)
Direct Effect	319	$18.5	$56.5	$95.5
Indirect Effect	206	$10.9	$16.8	$34.1
Induced Effect	139	$5.9	$11.1	$19.8
Total	664	$35.4	$84.4	$149.5

Source: IMPLAN Group, LLC, IMPLAN System (data and software); The Innovation Group

Iowa casinos generate meaningful tax revenue for the state government in the form of gaming and other taxes paid. Based on reported data for 2019, casinos paid total gaming and other taxes of

$376.9 million, excluding payroll taxes. The Innovation Group utilized the Institutional Spending Pattern function within IMPLAN to model the impacts generated from these taxes paid.

Table 14: Direct Effect Inputs Iowa Statewide – Gaming and Other Taxes

Institutional Spending Pattern	Expenditures
12001 State/Local govt other services	$376,946,142

Source: IMPLAN Group, LLC, IMPLAN System (data and software); The Innovation Group

The following table displays the statewide annual ongoing impacts. The ongoing impacts of these taxes paid are estimated to generate annual direct effects of 3,144 jobs, $200.8 million in labor income, and $249.6 million of value added for the state of Iowa. Based on indirect and induced effects, the total annual impact for the state of Iowa from the ongoing taxes paid is approximately 4,332 jobs, $252.8 million in labor income, and $345.3 million in value added.

Table 15: Iowa Casino Gaming and Other Taxes Paid Impacts – 2019 Dollars

	Employment	Labor Income ($M)	Value Added ($M)	Output ($M)
Direct Effect	3,144	$200.8	$249.6	$292.3
Indirect Effect	193	$9.8	$16.3	$32.8
Induced Effect	994	$42.3	$79.4	$141.7
Total	4,332	$252.8	$345.3	$466.8

Source: IMPLAN Group, LLC, IMPLAN System (data and software); The Innovation Group

Total Ongoing Impacts

Total ongoing impacts include 17,469 jobs supported, $846 million in labor income, and $1.7 billion of value added for the state of Iowa.

Table 16: Total Ongoing Impacts from Operations, Donations and Taxes – 2019 Dollars

	Employment	Labor Income ($M)	Value Added ($M)	Output ($M)
Direct Effect	9,710	$491.0	$1,134.6	$1,716.6
Indirect Effect	4,379	$211.1	$334.9	$628.7
Induced Effect	3,381	$143.7	$269.9	$481.6
Total	17,469	$845.9	$1,739.4	$2,826.9

Source: IMPLAN Group, LLC, IMPLAN System (data and software); The Innovation Group

One-Time Construction Impacts

For one-time construction impacts, we compiled costs for the 2012-2021 period as reported by casino operators; the 2014 economic impact study assessed construction impacts through 2011. The major events were the conversion to landbased by Isle Bettendorf in 2016 and the construction of the Hard Rock casino in 2014, Rhythm City in 2015-16, and Wild Rose-Jefferson in 2015.

Construction impacts are expressed on a single-year basis. Therefore, the employment figures, for example, represent person-year equivalents; for a construction period of two years, the actual number of workers onsite would be half the person-year equivalent. Recognizing that the

construction costs occurred across a wide time horizon, The Innovation Group converted each casino's construction budget into 2021 dollars.

Table 17: Direct Effect Inputs Iowa Statewide – Casino Construction

Industry Change	Industry Sales
57 Construction of New Commercial Structures, including farm structures	$496,569,336

Source: IMPLAN Group, LLC, IMPLAN System (data and software); The Innovation Group

The IMPLAN model estimates that construction of Iowa casinos directly supported 4,266 workers, with labor income equaling $268.2 million and total added value to the economy of $291.5 million. These direct impacts drove a further $204.1 million in added value to the economy and over 2,400 jobs from indirect and induced effects. In total, Iowa is estimated to have benefited from a one-time, single-year equivalent employment impact of 6,689 workers, $382.0 million in labor income and $495.6 million in total value added, as shown in the table below.

Table 18: Iowa Casino Construction Impacts – 2021 Dollars

Impact Type	Employment	Labor Income ($M)	Value Added ($M)	Output ($)
Direct Effect	4,266	$268.2	$291.5	$496.6
Indirect Effect	951	$49.7	$83.8	$156.4
Induced Effect	1,471	$64.1	$120.3	$214.7
Total	6,689	$382.0	$495.6	$867.6

Source: IMPLAN Group, LLC, IMPLAN System (data and software); The Innovation Group

Social and Community Impact Analysis

Casino gaming has been in operation in Iowa for nearly three decades, and there are casinos relatively evenly distributed throughout the state. By now few Iowans have very far to drive to get to a casino, and in our analysis of player databases we see penetration into every zip code in Iowa.

Therefore, the distinction between casino counties and non-casino counties in terms of social and community impacts is highly tenuous at this point in the industry's development in Iowa. However, to maintain consistency with the 2014 study, the analysis compares casino vs. control counties in line with the 2014 socio-economic report in major economic and social categories. The following table shows the casino and control counties utilized and their population changes over the past decade. Iowa has been experiencing population loss in numerous counties although the state total population increased by 4.7%

Table 19. Population Characteristics of Casino and Control Counties

Commercial Casino Counties	2010 Population	2020 Population	Change	PctChg	Designation
Black Hawk	131,090	131,144	54	0.0%	Metropolitan
Clarke	9,286	9,748	462	5.0%	
Clayton	18,129	17,043	-1,086	-6.0%	
Clinton	49,116	46,460	-2,656	-5.4%	Micropolitan
Des Moines	40,325	38,910	-1,415	-3.5%	Micropolitan
Dubuque	93,653	99,266	5,613	6.0%	Metropolitan
Greene	9,336	8,771	-565	-6.1%	
Lyon	11,581	11,934	353	3.0%	
Palo Alto	9,421	8,996	-425	-4.5%	
Polk	430,640	492,401	61,761	14.3%	Metropolitan
Pottawattamie	93,158	93,667	509	0.5%	Metropolitan
Scott	165,224	174,669	9,445	5.7%	Metropolitan
Washington	21,704	22,565	861	4.0%	Metropolitan
Woodbury	102,172	105,941	3,769	3.7%	Metropolitan
Worth	7,598	7,443	-155	-2.0%	Micropolitan
Control Counties					
Cerro Gordo	44,151	43,127	-1,024	-2.3%	Micropolitan
Delaware	17,764	17,488	-276	-1.6%	
Hardin	17,534	16,878	-656	-3.7%	
Johnson	130,882	152,854	21,972	16.8%	Metropolitan
Linn	211,226	230,299	19,073	9.0%	Metropolitan
Muscatine	42,745	43,235	490	1.1%	Micropolitan
Pocahontas	7,310	7,078	-232	-3.2%	
Webster	38,013	36,999	-1,014	-2.7%	Micropolitan
Commercial Casino County Metro Area	1,037,641	1,119,653	82,012	7.9%	
Commercial Casino County Micro Area	97,039	92,813	-4,226	-4.4%	
Commercial Casino County Outlying Area	57,753	56,492	-1,261	-2.2%	
Commercial Casino County Totals	1,192,433	1,268,958	76,525	6.4%	
Control County Metro Area	342,108	383,153	41,045	12.0%	
Control County Micro Area	124,909	123,361	-1,548	-1.2%	
Control County Outlying Area	42,608	41,444	-1,164	-2.7%	
Control County Totals	509,625	547,958	38,333	7.5%	
State Totals	3,046,355	3,190,369	144,014	4.7%	

Source: US Census Bureau

The following table summarizes the results for some of the key socio-economic indicators. The percentage of families receiving financial assistance has declined in all categories, retail sales have increased in all casino counties except Clinton, and personal income has increased in all categories. While there are some differences between casino and control counties in the metro category,

including for crime rates, the data do not present evidence attributing a causal effect to casino operations. Casino counties in the metro category represent a much larger population, 1.12 million versus only 383,153 in the two control metro counties. There are few if any differences in the micro and outlying areas categories.

Table 20. Key Socio-Economic Characteristics of Casino and Control Counties

Commercial Casino Counties	Total Class A Offenses per 100,000	Personal Income 2019	*P.I. Change over 2012*	Change in Retail Sales 2014-19	% of Families Receiving FIP	*FIP Change over 2012*
Black Hawk	5,358	45,986	*7.0%*	4.7%	1.04%	*-45%*
Clarke	4,388	40,721	*15.3%*	12.5%	0.51%	*-63%*
Clayton	779	46,342	*11.8%*	17.5%	0.19%	*-72%*
Clinton	6,418	44,713	*6.2%*	-1.6%	0.84%	*-58%*
Des Moines	7,454	49,282	*12.7%*	6.3%	1.03%	*-49%*
Dubuque	5,232	50,903	*12.6%*	9.9%	0.57%	*-62%*
Greene	2,063	45,337	*4.2%*	12.0%	0.75%	*-38%*
Lyon	2,483	45,810	*13.6%*	21.0%	0.09%	*-81%*
Palo Alto	2,722	44,866	*6.0%*	27.0%	0.26%	*-68%*
Polk	5,825	54,026	*5.7%*	20.2%	0.64%	*-58%*
Pottawattamie	7,849	45,224	*8.7%*	12.8%	0.83%	*-51%*
Scott	7,714	55,022	*3.8%*	6.4%	0.83%	*-65%*
Washington	3,538	56,619	*23.5%*	21.3%	0.34%	*-62%*
Woodbury	7,985	44,370	*9.5%*	8.1%	0.85%	*-39%*
Worth	2,096	41,103	*3.5%*	18.8%	0.32%	*-36%*
Control Counties						
Cerro Gordo	6,667	50,478	*5.6%*	2.0%	0.54%	*-40%*
Delaware	2,571	47,484	*15.5%*	37.6%	0.38%	*-53%*
Hardin	2,472	44,712	*0.9%*	7.0%	0.34%	*-77%*
Johnson	3,559	54,658	*10.8%*	11.4%	0.36%	*-65%*
Linn	5,416	53,530	*5.3%*	6.4%	0.62%	*-49%*
Muscatine	4,145	47,911	*9.2%*	4.2%	0.60%	*-65%*
Pocahontas	1,606	44,676	*15.2%*	9.0%	0.40%	*-67%*
Webster	7,517	45,003	*11.3%*	3.9%	0.81%	*-55%*
Commercial Casino County Metro Areas	6,315	51,375	*7.3%*	13.8%	0.73%	*-55%*
Commercial Casino County Micro Areas	6,509	46,344	*8.8%*	3.3%	0.73%	*-51%*
Commercial Casino County Outlying Areas	2,250	44,906	*10.3%*	18.8%	0.36%	*-61%*
All Commercial Casino Counties	6,154	50,714	*7.6%*	13.2%	0.61%	*-56%*
Control County Metro Areas	4,646	53,983	*7.4%*	8.2%	0.49%	*-56%*
Control County Micro Areas	6,028	47,947	*8.4%*	3.1%	0.65%	*-56%*
Control County Outlying Areas	2,372	45,873	*9.2%*	19.7%	0.37%	*-68%*
All Control Counties	4,785	52,026	*8.1%*	7.5%	0.50%	*-60%*
Statewide	4,462	49,642	*9.3%*	12.2%	0.54%	*-58%*

Source: Various, The Innovation Group. FIP = Family Investment Program Benefits

The major negative impact from casino operations involves problem gambling. The *2016 Survey of Problem Gambling Services in the United States* ranks Iowa fourth in per-capita state-funded problem gambling programs, at approximately $1.00 compared to the national average of $0.37. In total, Iowa spent over $3 million on problem gambling services in 2016. These funds supported an array of problem gambling services, including a helpline, research, program evaluation, counselor training, treatment, prevention, and public awareness services. The State should continue all efforts and the necessary funding to minimize social harms from problem gambling.

Based on our analysis, we do not see any material negative changes to social or community impacts since the 2014 report. Crime rates have declined in Iowa, there have been improvements in problem gambling monitoring and declines in persons receiving treatment, unemployment is low throughout the state, and real personal income has risen in casino and non-casino counties alike.

Conclusion

Iowa's unique enabling legislation requires gaming licenses to be either held or sponsored by nonprofit organizations, enhancing positive community benefits.

For example, the Iowa West Foundation in 2019 celebrated $500 million in funding to nonprofit organizations and governmental entities in Council Bluffs and rural communities in southwest Iowa. The Foundation was established in 1994 as a 501(c)3 charity funded by the Iowa West Racing Association (IWRA), which is the license holder for the Horseshoe Casino and the license sponsor for Ameristar and Harrah's. The Foundation has invested $237 million dollars in partnership with the City of Council Bluffs for infrastructure projects and amenities, $101 million for educational opportunities, $73 million with the human service community through its Healthy Families portfolio, and $165 million dollars in "placemaking."

In Central Iowa, the unique non-profit ownership structure of Prairie Meadows has led to a direct community impact of $2 billion since 1996, supporting vital arts, culture, healthcare, education and infrastructure initiatives across central Iowa. Over the years, these funds have contributed to the Highway 5 expansion, Greater Des Moines Urban Beautification Project, and Wells Fargo Arena.

In terms of economic impact, 2019 is likely to be the high-water mark for Iowa. The pandemic forced the closure of Iowa casinos for two months in 2020, and although gaming revenue in 2021 has recovered to levels above 2019, employment has lagged as fewer table games are in operation in many casinos and amenities such as buffets and entertainment remain closed or with reduced operating hours. This lag is by and large involuntary, as operators have unanimously noted the tight labor markets, low unemployment, and difficulty in attracting workers.

Looking forward, the implementation of casino gaming in Nebraska, and two new casinos in Illinois and Wisconsin, are projected to cause a decline in Iowa gaming revenue and the resulting economic and fiscal benefits to the state and local communities. Furthermore, the phasing out of

the tax on free play credits, while recommended as an industry best practice, will nevertheless further erode the fiscal impact from the gaming industry.

In the last year, industry change has revolved around the continued expansion of sports betting and online gaming, new technologies supporting cashless play, and other lasting trends that emerged and accelerated during the pandemic. However, strategic challenges prominent going into the pandemic remain. These include the diversification of real estate and amenities, the reshuffling of corporate structures, attending to the preferences of millennials, anticipating the future of slot play, the popularity of electronic table games, and the relevance of esports, and finding the next great thing in entertainment.

Amenity development and diversification can enhance a casino's market share as well as a local community's tax base and employment opportunities. The successful PZAZZ/Fun City development in Burlington is an excellent example of a diverse entertainment development in line with the scale of market demand, and amenity investment at Elite Casino properties demonstrates the impact to market share and gaming revenue from diversification. Redevelopment of the greyhound track in Dubuque offers future potential for the Iowa gaming market to broaden its appeal to gaming consumers.

Distributed electronic gaming tends to enhance a state's fiscal benefits on a net basis, but experience in Illinois has shown that it can result in upwards of a 20% impact on casino slot revenue. Furthermore, the employment impact is negligible from VGT/VLT development.

Despite what would seem to make intuitive sense—that online gaming would negatively affect bricks-and-mortar casino revenue—the evidence in New Jersey and other states suggests otherwise. Onsite casino revenue has continued to grow in New Jersey and Pennsylvania following implementation of online slot and table games. The Innovation Group predicted this outcome based on surveys we conducted nearly a decade ago. In-state employment tends to be minimal, however, compared to staffing bricks-and-mortar casinos.

This experience in New Jersey and Pennsylvania would tend to speak to the endurance of bricks-and-mortar casinos. Further, consumer appetite for in-person gaming has been affirmed by recent record-setting trends across the country.

While eSports is a relatively untested product in the casino setting, it is a growing and youth-oriented industry. Prior to the pandemic, the global esports industry had been projected to double by 2023 from 2019's value of US$1.1 billion. Even as a non-wagering amenity, an esports arena might make market sense for at least one casino in Iowa to broaden the demographic reach of the industry.

Fixed-odds-betting on horse racing has proven successful in Australia and would help integrate horse wagering into Iowa's sports betting platforms. Some racing analysts express concern, however, about its impact on pari-mutuel pools and resulting implications on the dedicated handicapper.

The pace of adaptation and change will still be influenced by regulatory activity. While gaming laws are not expected to retract, new forms of gaming like full online wagering, the addition of distributed systems, or the potential relaxation of certain regulations within Iowa or in competing states, may all contribute to the future environment. While modeling overall trends depends on an endless number of potential variables, strategic planning initiatives can assist the State in shaping and adapting to gaming's future.

INTRODUCTION

The Innovation Group was retained by the Iowa Racing and Gaming Commission (IRGC) to conduct a statewide gaming market analysis and socio-economic impact study. The gaming market analysis assesses historical trends, including the impact of the pandemic, and a three-year revenue forecast for the following three scenarios:

4. A Baseline scenario to serve as the benchmark for measuring the impact of Scenario 2.
5. The impact on Iowa casinos of impending new casino development in Nebraska, Rockford, Illinois and Beloit, Wisconsin.
6. The impact on the Iowa gaming market if a casino is developed in Cedar Rapids.

The Gaming Market Analysis is conducted with the use of a drivetime gravity model. Gravity models are commonly used in location studies for commercial developments, public facilities and residential developments. The model is an analytical tool that defines the behavior of a population based on travel distance and the availability of goods or services at various locations; it quantifies the effect of distance on the behavior of a potential patron and considers the impact of competing venues.

Nevada voters approved casino development at licensed racetracks in November 2020. The Nebraska Racing & Gaming Commission (NRGC) released a final draft of casino regulations Nov. 12, 2021, and a public hearing on the regulations was scheduled for the NRGC meeting on Dec. 17, 2021. The proposed regulations have to be approved by the governor and attorney general before official certification by the secretary of state.

The six existing licensed racetracks eligible for casino gaming are all in eastern Nebraska. The two tracks of primary concern to Council Bluffs casinos are Horsemen's Park in Omaha and Lincoln Race Course, both of which are proposed to be $220 million casinos operated under the WarHorse brand, a subsidiary of Ho Chunk, Inc (Nebraska tribe). The other track of most concern to Iowa is Atokad Park, just across the border from Hard Rock Sioux City. The three other licenses are Columbus Exposition and Racing west of Omaha, Fonner Park in Grand Island, and Fairplay Park in Hastings.

Two new casino developments in Rockford, Illinois and Beloit, Wisconsin have implications for eastern Iowa casinos. A Hard Rock casino has been approved for Rockford, and a Ho-Chunk Nation (Wisconsin tribe) casino has received approval by the Department of Interior and the Wisconsin governor.

Voters in Linn County recently re-affirmed approval for casino development, and officials in Cedar Rapids have been in support of development. This market study assesses the impact on existing Iowa casinos and the net Iowa gain in gaming revenue from a Cedar Rapids casino.

The socio-economic impact study is comprised of two sections, economic and social/community. The Economic Impact Analysis quantifies the direct, indirect and induced effects of the gaming industry (collectively, casinos and racetracks) on the Iowa economy in terms of employment, income, GDP, and total output. For ongoing impacts from operations of gaming facilities, we have

used calendar year 2019 because of the disruptions of the pandemic, which forced casinos to close for two months in 2020. For one-time construction impacts, we compiled costs for the 2012-2021 period; the 2014 economic impact study assessed construction impacts through 2011. Inputs for the IMPLAN modeling were derived from data from operators and the IRGC's "2019 Economic Reports."

The Social and Community Impact Analysis assesses the impacts of casinos on factors such as problem gambling, crime, local businesses, community services, household finances and health, and unemployment.

COMPETITIVE ENVIRONMENT

Since the last socio-economic study in 2014, there has been one new license and two other new properties added to the Iowa market. The Wild Rose-Jefferson was a new license that opened in July 2015. Hard Rock Sioux City opened in July 2014, replacing the Argosy riverboat casino. Additionally, a new landbased Rhythm City casino opened in May 2016, replacing the old riverboat casino in Davenport. Only three Iowa properties remain in riverboat form: Ameristar in Council Bluffs, Casino Queen in Marquette, and Lakeside in Osceola.

The following commercial casinos operate in Iowa:

Council Bluffs Market

Three commercial casinos operate in the Council Bluffs market, and a Ponca Tribe of Nebraska casino operates just across the Missouri River in Carter Lake, Iowa. Additionally, the Council Bluffs casinos will face new commercial competition in Nebraska, including a large development in Omaha.

Ameristar Casino opened in January 1996 and is operated by Penn National Gaming. It is a riverboat casino with 1,335 slots, 27 table games, a sportsbook and a 160-room hotel.

Harrah's Casino is one of two Council Bluffs properties operated by Caesars Entertainment. It opened in January 1996 and became landbased in 2013. It has 500 slots, 20 table games, a sportsbook 250-room hotel.

Horseshoe Casino is the larger of the Caesars' operations. It has approximately 1,350 slot machines, 66 table games, a sportsbook, and Hilton Garden Inn. It opened as a slots-only racetrack casino in March 1995. Table games were implemented in 2006 and greyhound racing ended in 2015.

Prairie Flower is a tribal casino that opened in November 2018. It currently is a small slots-only facility but the Ponca Tribe has plans for a major expansion of up to 2,000 gaming machines and 50 table games. Because of a shift in the river, the casino is physically connected to Omaha but is technically in Carter Lake, Iowa.

Dubuque Market

Two commercial casinos operate in the Dubuque market. Video Gaming Terminals (VGTs) operate across the border in Illinois.

Diamond Jo Casino is operated by Boyd Gaming and opened as a riverboat in May 1994, becoming landbased in 2008. It has 750 slots, 20 table games and a sportsbook.

Q Casino originally opened as a racetrack (greyhound) casino in December 1995. Table games were added in 2006 and the property was rebranded Q in March 2017. It has approximately 775 slot machines, 20 table games, a sportsbook, and a 116-room Hilton Garden Inn.

Quad Cities Market

Two Iowa casinos operate in the Quad Cities market, competing with a casino across the Mississippi River in Rock Island, Illinois. Video Gaming Terminals (VGTs) also operate across the border in Illinois.

Isle Casino Bettendorf opened as a riverboat in April 1995, becoming landbased in 2016. It has approximately 890 slot machines, 17 table games, a sportsbook, and a 514-room hotel.

Rhythm City Casino in Davenport opened as a riverboat in April 1991 as The President. It changed ownership in 2014 from Isle of Capri to Elite Casino Resorts, who built a new landbased casino on the western edge of Davenport in 2016. It has approximately 850 slot machines, 21 table games, a sportsbook, and a 106-room hotel.

Bally's Quad Cities Casino in Rock Island, Illinois, formerly Jumers, opened as a riverboat in April 1995, becoming effectively landbased in 2008. It has approximately 870 slot machines, 24 table games, and a 216-room hotel.

Individual Markets

There are single-property casinos spread across most of the rest of Iowa.

Casino Queen Marquette opened in December 1994. A former Isle of Capri property, it became Casino Queen in June 2017. It has approximately 400 slot machines and 8 table games. The IRGC has approved a financing plan that will bring a larger and newer boat to Marquette.

Catfish Bend Casino in Burlington opened in November 1994 and become landbased in 2007. It is part of a recreation and leisure complex called PZAZZ!, which has a major family-entertainment-center (FEC), indoor and outdoor waterparks, event center, spa, golf course, and three hotels. It has approximately 640 slot machines, 26 table games, a sportsbook, and a 40-room casino hotel (21 and over).

Diamond Jo Casino Worth, operated by Boyd Gaming, is in Worth County, near Northwood. It opened in April 2006 and has approximately 840 slot machines, 27 table games, and a sportsbook.

Grand Falls Casino, operated by Elite Casino Resorts, is in Larchwood and draws from the Sioux Falls, South Dakota market. It opened in June 2011 and has 715 slot machines, 36 table games, a sportsbook, event center, golf course, and a 97-room hotel.

Hard Rock Casino in Sioux City is owned by Peninsula Pacific. The landbased casino opened in July 2014, replacing the Argosy riverboat casino that had operated since January 1993. It has approximately 640 slot machines, 20 table games, a sportsbook, an entertainment complex, and a 54-room hotel.

Isle Casino Waterloo became a Caesars property when Eldorado Resorts bought Caesars Entertainment. It opened in June 2007 and has approximately 890 slot machines, 23 table games, a sportsbook, and a 194-room hotel.

Lakeside Hotel Casino opened in January 2000 and is located 50 miles south Des Moines in Osceola, in a popular vacation area. It has approximately 660 slot machines, 11 table games, a sportsbook, RV park, and a 150-room hotel.

Prairie Meadows Casino in Altoona benefits by its proximity to Des Moines. It originally opened as a slots-only racetrack (thoroughbred) casino in April 1995, and table games were added in December 2004. It has approximately 1,330 slot machines, 47 table games, a sportsbook, and a 168-room hotel.

Riverside Casino, operated by Elite Casino Resorts, is south of Iowa City in Riverside. It opened in August 2006 and has approximately 895 slot machines, 40 table games, a sportsbook, a golf course, and a 201-room hotel.

Wild Rose Casino Clinton opened in June 1991, and the operation relocated to a landbased casino in 2008. It has approximately 530 slot machines, 9 table games, a sportsbook, and a 60-room hotel.

Wild Rose Casino Emmetsburg opened in May 2006 and has approximately 480 slot machines, 7 table games, a sportsbook, and a 70-room hotel.

Wild Rose Casino Jefferson opened in July 2015 and has approximately 510 slot machines, 12 table games, a sportsbook, and a 74-room hotel.

Tribal Casinos

In addition to the Prairie Flower casino near Council Bluffs already mentioned, there are two tribal casinos on the western edge of the state—Blackbird Bend and WinnaVegas—and one in the central part of the state—the Meskwaki casino. Blackbird Bend in Onawa does not have a hotel. WinnaVegas in Sloan has a 78-room hotel. The Meskwaki casino in Tama (west of Cedar Rapids) opened in 1992 and has 404 hotel rooms.

Historical Trends

Iowa

In this section we examine trends beginning in 2014 as well as post-pandemic recovery, by comparing FY 2021 with FY 2019. Casinos were closed for more than two months in FY 2020.

Prior to the pandemic, Iowa adjusted gross gaming revenue (AGR) had grown at an annual rate of 1.4%, although several casinos had declining GGR. Since reopening, in June 2020, Iowa casinos have benefitted by GGR growth of 8.1% (FY 2021 compared to FY 2019), despite a decline in visitation of 17.5%. As a result, win per visit (WPV) has increased by 31%. Two casinos had

significant revenue declines in FY 2021 and two others had slight declines. All other properties had revenue growth, with several showing significant growth.

Several properties experienced revenue growth despite also reducing the number of gaming positions in operation. This phenomenon was experienced throughout the U.S., as casinos reopened with capacity restrictions while benefitting from pent-up demand.

It should be noted that the AGR figures in the tables below include the value of free play; therefore, trends showing declines or increases could be the result of operational decisions by management to increase or decrease free play awards. Beginning July 1, 2021, the taxing of free play is to be phased out over five years.

Table 21: Iowa Historical Trends 1 of 2

	Ameristar	Marquette	Catfish Bend	Diamond Joe - Dubuque	Diamond Joe - Worth	Grand Falls	Hard Rock*	Harrah's	Horseshoe	IOC - Bettendorf
AGR (MM)										
2014	$165	$27	$39	$63	$83	$59	$31	$75	$189	$70
2015	$170	$28	$44	$66	$86	$57	$79	$72	$178	$69
2016	$170	$27	$42	$66	$85	$55	$83	$71	$176	$74
2017	$172	$25	$40	$69	$86	$56	$79	$74	$174	$73
2018	$170	$23	$40	$69	$85	$59	$78	$71	$173	$69
2019	$159	$21	$40	$71	$85	$63	$77	$72	$173	$63
CAGR	*-0.7%*	*-4.6%*	*0.1%*	*2.5%*	*0.4%*	*1.3%*	*-0.5%*	*-0.9%*	*-1.8%*	*-1.9%*
FY 2019	$164	$22	$40	$69	$85	$61	$76	$71	$169	$66
FY 2021	$166	$18	$43	$68	$96	$78	$87	$58	$180	$69
Change	*1.2%*	*-16.3%*	*9.3%*	*-1.5%*	*13.4%*	*26.9%*	*14.6%*	*-18.4%*	*7.0%*	*3.9%*
Visits (000s)										
FY 2019	1,611	206	612	917	999	947	1,542	1,025	1,799	825
FY 2021	1,396	133	623	602	956	862	1,426	675	1,596	650
Change	*-13.4%*	*-35.3%*	*1.8%*	*-34.3%*	*-4.3%*	*-9.0%*	*-7.6%*	*-34.1%*	*-11.3%*	*-21.2%*
WPV										
FY 2019	$102	$105	$65	$75	$85	$65	$49	$70	$94	$80
FY 2021	$119	$136	$70	$113	$100	$91	$61	$86	$113	$105
Change	*16.8%*	*29.4%*	*7.3%*	*49.9%*	*18.6%*	*39.4%*	*24.0%*	*23.8%*	*20.6%*	*31.8%*
Positions										
FY 2019	1,595	510	699	956	1,018	929	978	623	1,650	997
FY 2021	1,557	424	793	914	951	946	767	597	1,760	999
Change	*-2.4%*	*-16.8%*	*13.5%*	*-4.4%*	*-6.6%*	*1.7%*	*-21.6%*	*-4.0%*	*6.7%*	*0.3%*
WPP										
FY 2019	$281	$116	$155	$198	$228	$181	$213	$314	$280	$181
FY 2021	$292	$117	$150	$204	$276	$226	$311	$267	$281	$188
Change	*3.7%*	*0.6%*	*-3.7%*	*3.0%*	*21.4%*	*24.7%*	*46.2%*	*-15.0%*	*0.3%*	*3.6%*

Source: IRGC, The Innovation Group. *CAGR (compound annual growth rate) is on a first full year comparison. AGR=Adjusted Gross Revenue; WPV=Win per Visit; WPP=Win per Position per day.

Table 22: Iowa Historical Trends 2 of 2

	IOC Waterloo	Lakeside	Prairie Meadows	Q Casino	Rhythm City	Riverside	Wild Rose - Clinton	Wild Rose - Emmetsburg	Wild Rose - Jefferson*	Total
AGR (MM)										
2014	$87	$51	$186	$51	$43	$88	$32	$30	$0	$1,369
2015	$89	$50	$183	$49	$43	$84	$34	$30	$13	$1,424
2016	$88	$49	$187	$48	$52	$85	$32	$29	$28	$1,446
2017	$87	$47	$195	$47	$65	$88	$31	$28	$28	$1,463
2018	$85	$46	$207	$50	$69	$87	$30	$28	$29	$1,467
2019	$83	$50	$208	$50	$75	$93	$29	$27	$29	$1,468
CAGR	*-0.8%*	*-0.5%*	*2.3%*	*-0.4%*	*11.6%*	*1.2%*	*-1.7%*	*-2.3%*	*0.3%*	*1.4%*
FY 2019	$84	$47	$207	$50	$71	$90	$29	$27	$29	$1,457
FY 2021	$88	$48	$207	$50	$110	$116	$33	$27	$32	$1,575
Change	*5.6%*	*1.0%*	*0.1%*	*-0.4%*	*54.9%*	*29.1%*	*12.4%*	*0.2%*	*11.0%*	*8.1%*
Visits (000s)										
FY 2019	933	511	3,027	799	1,169	1,616	532	360	434	19,863
FY 2021	785	366	2,021	572	1,312	1,382	388	282	369	16,395
Change	*-15.8%*	*-28.4%*	*-33.2%*	*-28.4%*	*12.2%*	*-14.4%*	*-27.1%*	*-21.5%*	*-15.2%*	*-17.5%*
WPV										
FY 2019	$90	$92	$68	$63	$61	$56	$55	$76	$67	$73
FY 2021	$113	$130	$102	$88	$84	$84	$85	$97	$88	$96
Change	*25.4%*	*41.1%*	*49.9%*	*39.1%*	*38.1%*	*50.9%*	*54.1%*	*27.7%*	*30.8%*	*31.0%*
Positions										
FY 2019	1,061	645	1,838	878	904	1,048	571	504	549	17,953
FY 2021	944	674	1,584	828	905	1,052	587	526	586	18,008
Change	*-11.0%*	*4.6%*	*-13.8%*	*-5.8%*	*0.1%*	*0.4%*	*2.8%*	*4.5%*	*6.6%*	*0.3%*
WPP										
FY 2019	$216	$200	$308	$157	$216	$235	$141	$149	$145	$222
FY 2021	$256	$194	$357	$166	$334	$303	$154	$143	$151	$240
Change	*18.7%*	*-3.4%*	*16.0%*	*5.7%*	*54.7%*	*28.7%*	*9.3%*	*-4.1%*	*4.1%*	*7.8%*

Source: IRGC, The Innovation Group. *CAGR (compound annual growth rate) is on a first full year comparison. AGR=Adjusted Gross Revenue; WPV=Win per Visit; WPP=Win per Position per day.

Gaming taxes from gambling games (excluding sports betting and racing) rose steadily through 2019. The effect of the pandemic can be clearly seen in 2020.

Table 23: Historical Trends in Iowa Gaming Taxes from Gambling Games (Slots and Tables)

	City Tax	County Tax	County Endowment	State Misc.	State Gaming Tax	Total
2014	$6,799,149	$6,799,149	$10,878,634	$2,719,658	$273,466,148	$300,662,738
2015	$7,121,740	$7,121,740	$11,394,783	$2,848,696	$284,169,103	$312,656,062
2016	$7,230,798	$7,230,798	$11,569,281	$2,892,322	$288,578,149	$317,501,348
2017	$7,281,563	$7,281,563	$11,650,502	$2,912,626	$290,703,637	$319,829,891
2018	$7,322,710	$7,322,710	$11,716,336	$2,929,041	$292,577,364	$321,868,161
2019	$7,340,216	$7,340,216	$11,741,496	$2,938,939	$293,323,798	$322,684,665
2020	$5,631,783	$5,631,783	$9,009,255	$2,254,312	$222,926,170	$245,453,303

Source: IRGC, The Innovation Group.

The following table shows gaming taxes for 2019 by property.

Table 24: Iowa Gaming Taxes from Gambling Games (Slots and Tables) 2019 by Property

	City Tax	County Tax	County Endowment	State Misc.	State Gaming Tax
Ameristar	$795,674	$795,674	$1,273,079	$318,270	$31,416,969
Casino Queen	$106,904	$106,904	$171,047	$42,762	$3,866,186
Catfish Bend	$198,411	$198,411	$317,458	$79,365	$7,526,470
Diamond Jo Dubuque	$354,268	$354,268	$566,829	$141,707	$13,760,729
Diamond Jo Worth	$423,450	$423,450	$677,520	$169,380	$16,528,003
Grand Falls	$316,841	$316,841	$504,093	$129,588	$12,263,630
Hard Rock	$384,502	$384,502	$615,204	$153,801	$14,970,085
Harrah's	$359,291	$359,291	$574,866	$143,716	$13,961,658
Horseshoe	$864,803	$864,803	$1,383,684	$345,921	$37,581,324
Isle Bettendorf	$316,404	$316,404	$506,246	$126,562	$12,246,164
Isle Waterloo	$417,406	$417,406	$667,849	$166,962	$16,286,238
Lakeside	$248,464	$248,464	$397,542	$99,385	$9,528,559
Prairie Meadows	$1,041,436	$1,041,436	$1,666,298	$416,575	$45,353,209
Q Casino	$248,658	$248,658	$397,854	$99,463	$9,536,348
Rhythm City	$374,199	$374,199	$598,718	$149,679	$14,557,954
Riverside	$464,614	$464,614	$743,383	$185,846	$18,174,583
Wild Rose Clinton	$147,098	$147,098	$235,356	$58,839	$5,473,914
Wild Rose Emmetsburg	$134,344	$134,344	$214,951	$53,738	$4,963,787
Wild Rose Jefferson	$143,449	$143,449	$229,519	$57,380	$5,327,988
Total	$7,340,216	$7,340,216	$11,741,496	$2,938,939	$293,323,798

Source: IRGC, The Innovation Group.

Sports betting was implemented in Iowa beginning August 2019. The large majority of wagering occurs on the internet.

Table 25: Iowa Sports Betting Trends

	Total Net Receipts	Total Handle	Retail Receipts	Retail Handle	Internet Receipts	Internet Handle
Aug-19	$2,161,807	$8,576,341	$1,737,654	$4,905,894	$424,153	$3,670,446
Sep-19	$4,959,745	$38,545,352	$2,933,249	$16,735,036	$2,026,496	$21,810,316
Oct-19	$5,658,131	$46,500,292	$3,005,668	$20,576,583	$2,652,463	$25,923,709
Nov-19	$3,599,750	$59,344,806	$2,067,162	$25,679,054	$1,532,588	$33,665,752
Dec-19	$2,904,257	$59,258,838	$1,057,062	$25,808,520	$1,847,195	$33,450,318
Jan-20	$3,234,794	$58,027,141	$1,863,921	$24,181,046	$1,370,873	$33,846,095
Feb-20	$755,334	$56,920,783	-$614,574	$19,133,911	$1,369,909	$37,786,872
Mar-20	$1,185,888	$19,585,711	-$55,208	$6,269,643	$1,241,096	$13,316,068
Apr-20	$150,331	$1,568,497	-$6,507	-$51	$156,838	$1,568,548
May-20	$501,062	$6,976,637	-$5,496	$20	$506,558	$6,976,617
Jun-20	$620,740	$12,711,201	-$41,321	$1,129,474	$662,062	$11,581,727
Jul-20	$2,244,012	$22,859,622	$915,582	$5,089,481	$1,328,430	$17,770,140
Aug-20	$3,003,903	$50,313,674	$1,365,361	$15,320,323	$1,638,543	$34,993,351
Sep-20	$5,167,819	$72,397,241	$2,489,860	$22,386,618	$2,677,957	$50,010,623
Oct-20	$9,098,995	$81,902,416	$2,709,714	$25,016,209	$6,371,281	$56,886,207
Nov-20	$8,144,096	$87,169,919	$2,852,452	$24,760,059	$5,291,643	$62,409,860
Dec-20	$7,537,004	$104,815,630	$2,923,117	$26,741,167	$4,613,887	$78,074,462
Jan-21	$11,343,303	$149,524,789	$2,932,646	$28,764,412	$8,410,657	$120,760,377
Feb-21	$7,708,148	$143,615,170	$1,706,326	$18,396,722	$6,001,822	$125,218,447
Mar-21	$13,454,158	$161,439,561	$3,118,282	$22,050,415	$10,335,876	$139,389,146
Apr-21	$7,725,272	$118,355,535	$1,033,325	$13,841,185	$6,691,948	$104,514,350
May-21	$6,133,477	$114,882,963	$1,308,896	$14,966,596	$4,824,581	$99,916,367
Jun-21	$8,424,699	$111,176,671	$2,042,847	$16,045,742	$6,381,852	$95,130,929
Jul-21	$7,097,826	$88,936,377	$936,793	$11,012,804	$6,161,033	$77,923,573
Aug-21	$6,604,647	$108,417,527	$1,905,962	$12,350,255	$4,698,685	$96,067,272
FY 2021	$89,984,887	$1,218,453,192	$25,398,407	$233,378,931	$64,568,477	$985,074,261

Source: IRGC, The Innovation Group.

Pari-mutuel wagering occurs at three facilities in Iowa, with live racing at Iowa Greyhound Park in Dubuque and Prairie Meadows (Thoroughbred racing). Advance Deposit Wagering (ADW) is also permitted. The total pari-mutuel tax in 2019 was $203,705.

Table 26: Iowa Racing Metrics 2019

	Iowa Greyhound Park	Prairie Meadows	Horseshoe	Total
Live Races	104	93		197
Total Handle on Track	$1,303,918	$3,351,174		$4,655,092
Track Takeout Live	$294,736	$607,920		$902,656
Total Purses Paid	$2,627,419	$18,078,781		$20,706,200
Simulcast Handle	$4,167,983	$13,983,875	$7,113,213	$25,265,071
Simulcast Takeout	$782,559	$2,764,331	$1,466,767	$5,013,657
Simulcast Export	$6,374,374	$34,403,475		$40,777,849
ADW				$3,305,545

Source: IRGC, The Innovation Group.

Adjacent States

Of adjacent states, only Illinois, Missouri and South Dakota currently have commercial casinos, with Illinois having the most overlap with Iowa. Commercial casinos in South Dakota are limited to the far western side of the state in the Black Hills. There are also tribal casinos in South Dakota but with minimal overlap with Iowa casinos and there is no revenue data reported. In the southeastern corner of the state, the Royal River casino in Flandreau, SD has 427 slot machines and 18 table games, and the Fort Randall Casino and Hotel in Lake Andes, SD has 350 slots and 8 tables.

Tribal casinos in Minnesota and Wisconsin compete with northern and eastern Iowa casinos but there is no revenue data reported. The major competitors include Jackpot Junction, Mystic Lake and Treasure Island in Minnesota and Ho-Chunk Nation casinos in Tomah, Wisconsin Dells and Madison. Jackpot Junction is in Morton, MN and has 1,250 slots and 24 tables. Mystic Lake is a large resort casino on the southern edge of Minneapolis, featuring over 4,000 slots and 100 tables. Treasure Island is to the southeast of the Twin Cities and has 2,200 slots and 56 tables. HCG Madison is a Class II casino with 1,200 machines. HCG Wisconsin Dells is a resort property with 2,200 slots and 48 tables. HCG Tomah is a small travel plaza with 96 slots.

Unlike most gaming markets, Illinois has not regained pre-COVID revenue levels. Illinois casinos were closed from mid-November 2020 through mid-January 2021 because of the winter COVID surge; therefore, we compare February-October to assess recovery. The state decline of 7% could be due mainly to a change in the tax structure: effective January 1, 2020 free play is no longer taxed in Illinois whereas previous revenue reports included the value of free play credits. The two casinos closest to Iowa—Rock Island and Par-a-Dice—have both seen declining revenue. Rock Island has been impacted by improvements and increased market share at Rhythm City, and Par-a-Dice by a proliferation of VGTs in the Peoria area. A temporary Hard Rock casino in Rockford opened in November 2021 (see in the Proposed section below).

Table 27: Illinois GGR Trends

	Illinois Total	Rock Island	Par-a-Dice
2010	$1,370,944,000	$79,406,000	$115,250,000
2011	$1,477,601,000	$85,826,000	$115,460,000
2012	$1,638,169,000	$87,835,000	$116,308,000
2013	$1,551,311,771	$81,548,136	$107,412,644
2014	$1,463,418,256	$76,655,771	$93,953,203
2015	$1,438,029,353	$76,711,264	$89,948,193
2016	$1,413,478,308	$75,609,430	$82,442,601
2017	$1,407,993,343	$70,485,998	$78,809,962
2018	$1,373,455,618	$68,161,732	$76,112,280
2019	$1,354,198,408	$66,284,682	$72,679,624
Feb-Oct 2019	$1,019,758,261	$51,449,339	$56,228,576
Feb-Oct 2021	$947,307,911	$32,966,708	$48,435,292
% Change	-7.1%	-35.9%	-13.9%

Source: Illinois Gaming Board, The Innovation Group.

Missouri gaming revenue is slightly higher than pre-COVID levels. The southern market for Iowa's Catfish Bend overlaps with Missouri's Mark Twain Casino, which has seen a dramatic increase in gaming revenue.

Table 28: Missouri GGR Trends

	Missouri Total	Mark Twain
2010	$1,787,415,763	$37,866,886
2011	$1,805,361,711	$38,249,018
2012	$1,767,885,869	$39,151,917
2013	$1,706,772,901	$37,354,917
2014	$1,660,096,597	$36,429,077
2015	$1,701,887,158	$36,547,167
2016	$1,714,952,776	$34,689,480
2017	$1,737,935,417	$33,515,455
2018	$1,754,454,593	$33,281,737
2019	$1,729,492,133	$32,119,008
L12M 2019	$1,729,742,379	$30,883,578
L12M 2021	$1,744,293,131	$39,361,717
% Change	0.8%	27.5%

Source: Missouri Gaming Commission, The Innovation Group.

Proposed Nebraska Casinos

Nevada voters approved casino development at licensed racetracks in November 2020. The Nebraska Racing & Gaming Commission released a final draft of casino regulations Nov. 12. The regulations call for a $1 million license fee for a 20-year permit. Casinos will also abide by the statewide ban on smoking in indoor public spaces. A public hearing on the proposed rules was

scheduled for the Commission meeting on Dec. 17. The proposed regulations would then have to be approved by the governor and attorney general before official certification by the secretary of state.

The six existing licensed racetracks eligible for casino gaming are all in eastern Nebraska. The two tracks of primary concern to Council Bluffs casino are Horsemen's Park in Omaha and Lincoln Race Course, both of which are proposed to be $220 million casinos operated under the WarHorse brand, a subsidiary of Ho Chunk, Inc (Nebraska tribe). The Lincoln plan includes 1,200 gaming positions, events center, and a 196-room hotel. The other track of most concern to Iowa is Atokad Park, just across the border from Hard Rock Sioux City. The three other licenses are Columbus Exposition and Racing west of Omaha, Fonner Park in Grand Island, and Fairplay Park in Hastings.

Applications for new racing licenses have been submitted for Bellevue, Gering, Kimball, Norfolk, North Platte and York; Bellevue is the only location that would have an incrementally material impact on Iowa. No action has been taken on these applications.

The six existing licensees have been included in our impact modeling.

The Prairie Flower Casino had planned for a Phase 2 development featuring 2,000 slot machines, 50 table games, and a 150-room hotel; it is unknown what the impact of commercial legalization will have on those plans.

Proposed Illinois and Wisconsin Casinos

Two new casino developments, in Rockford, Illinois and Beloit, Wisconsin, have implications for eastern Iowa casinos. A Hard Rock casino has been approved for Rockford, and a Ho-Chunk Nation (Wisconsin tribe) casino has received preliminary approval by the Department of Interior. These two developments have been included in our impact modeling.

Methodology

In developing this analysis a gravity model was employed. Gravity models are commonly used in location studies for commercial developments, public facilities and residential developments. First formulated in 1929 and later refined in the 1940s, the gravity model is an analytical tool that defines the behavior of a population based on travel distance and the availability of goods or services at various locations. The general form of the equation is that attraction is directly related to a measure of availability such as square feet and inversely related to the square of the travel distance. Thus the gravity model quantifies the effect of distance on the behavior of a potential patron, and considers the impact of competing venues.

The basic formulation is that the interaction between two or more gaming venues is based on Newton's Law of Universal Gravitation: two bodies in the universe attract each other in proportion to the product of their "masses" – here, gaming positions – and inversely as the square distance between them. Thus, expected interaction between gaming venue i and market area j is shown as:

$$k \times \frac{N_i \times P_j}{d_{ij}^2}$$

where N_i = the number of gaming positions in gaming venue i, P_j = the population (21+) in market area j, d_{ij} = the distance between market area j and gaming venue i, and k = an attraction factor relating to the quality and amenities to be found at each gaming venue in comparison to the competing set of venues. When this formulation is applied to each gaming venue gaming trips generated from any given zip code are then distributed among all the competing venues.

The gravity model included the identification of 27 discrete market areas based on drive times and other geographic features and the competitive environment. Using our GIS software and ESRI database[1], the adult population (21 and over), latitude and longitude, and average household income is collected for each zip code.

Each of these market areas is assigned a unique set of propensity and frequency factors. Gamer visits are then generated from zip codes within each of the areas based on these factors. The gamer visits thus generated are then distributed among the competitors based upon the size of each facility, its attractiveness and the relative distance from the zip code in question. The gravity

[1]The GIS software used was ArcGIS. This software allows for custom data generally in a tabular format with a geographic identification code (census tract, zip code, latitude and longitude, or similar identifier) to be mapped or displayed and integrated with other geographic census based information such as location of specific population or roadways. ArcGIS is the most widely used programs in the geographic information systems industry; the data source behind the mapping program is Esri. Esri provides census demographic and psychographic data on a variety of geographic levels of detail ranging from census block groups and counties to postal zip codes. The data is updated annually and includes a current year estimate and a five year forecast for the future.

model then calculates the probabilistic distribution of gamer visits from each market area to each of the gaming locations in the market.

Each travel distance/time is evaluated to determine the likely alternative gaming choices for residents of the region. The model is constructed to include only those alternative venues that are considered to be within a reasonable travel time. These include competing casinos that have the potential to attract patrons, or siphon off visits from the market. Travel distances and time have been developed through use of our GIS system.

The following section provides a description and definition of the various components of the model.

Gamer Visits

This measure is used to specify the number of patron trips to a gaming market, where an individual can make any number of separate visits in the course of a year. In order to estimate the gamer visits, market penetration rates, made up of the separate measures of propensity and frequency, are applied to the adult population in each zip code. A gamer visit can include more than one visit to a casino.

Propensity

Propensity measures the percentage of adults who will participate in casino gaming within the zip code. This varies based upon a number of factors, which includes the number of gaming venues, their type (i.e. landbased versus riverboat), games permitted, availability of other entertainment and leisure options, and most importantly distance from a gaming venue. Propensity in the inner market areas from 0-50 miles can vary between the high thirty per cent range in a single riverboat market to the fifty percent range for multiple land based casinos with a well-developed array of amenities. Propensity has fallen since casinos re-opened from the pandemic closures; this is confirmed by admissions data as well as numerous operators noting the loss of a significant portion of their client base.

Frequency

This measures the average number of visits that an adult will make annually to casinos in the subject market. Frequency is a function of annual gaming budget as indicated by income variations, the number of venues in the market, the type of gaming facility and most importantly distance from a gaming venue.

MPI (Market Potential Index)

Propensity also varies as a function of each market's average market potential index (MPI) score. MPI scores are generated by Simmons Survey, a respected consumer research firm that conducts a nationwide survey of consumer behavior, including propensity to gamble at a casino. This score is an indication of the degree of likelihood that a person will participate in gaming based upon their lifestyle type. The MPI score inflates or discounts the participation rate of each zip code. For example, if a market area has an overall participation rate of 4.0 (propensity of 40% times frequency of 10), an MPI score of 120 for a particular zip code would effectively inflate the participation rate of that zip code to 4.8 (4.0 times 120%). The overall MPI score for the market area is a weighted average of all the zip codes within the area.

Win per Visit (WPV)

Win per visit is the amount of wagering retained or "won" by the casino. It varies not only by gaming jurisdiction, but also in some cases by individual facilities. Normatively, win per visit is a function of distance and income. Gamers traveling greater distances tend to spend more per visit, typically making fewer gamer visits on average. As discussed in the Historical Trends section, WPV has risen dramatically in the COVID era.

Attraction Factors

Attraction factors measure the relative attraction of one gaming venue in relation to others in the market. Attraction factors are applied to the size of the gaming venue as measured by the number of positions it has in the market. Positions are defined as the number of gaming machines plus the number of seats at gaming tables. A normative attraction factor would be one. When this is applied to the number of positions in a gaming venue there is no change in the size of the gaming venue as calculated by the model and hence its attraction to potential patrons. A value of less than one adjusts the size of the gaming venue downwards and conversely a value greater than one indicates that the gaming venue has characteristics that make it more attractive. Attraction factors can be based on a number of components including branding, the level and effectiveness of marketing efforts, and the level of quality and amenities of a facility. Attraction factors are also adjusted to model the presence of natural and man-made boundaries which impact ease of access and convenience of travel in the market area.

The sensitivity of the model to changes in these factors is not in the nature of a direct multiplication. For example, a doubling of the attraction factor will not lead to a doubling of the gamer visits attracted to the site. It will however cause a doubling of the attractive power of the gaming venue, which is then translated via non-linear equations into an increase in the number of gamer visits attracted to the gaming venue. This is based upon the location, size and number of competing gaming venues and their relationship to the market area to which the equation is applied. The variation of these factors is based upon The Innovation Group's experience in developing and applying these models, and consideration of the existing visitation and revenues. The latter represents the calibration of the model and has been accomplished by adjusting attraction factors to force the model to recreate the existing revenues and patron counts. In this case attraction factors have been adjusted for each casino for each market area. This is based upon known visitation patterns.

Market Area Definitions

The Iowa market has been grouped into 27 distinct market areas, from which different participation rates may be expected depending on the level and location of competition that is present in the market. The following map and table show the market areas and their respective adult population (21 and over) and average household income.

Figure 1: Iowa Statewide Market Area Definitions

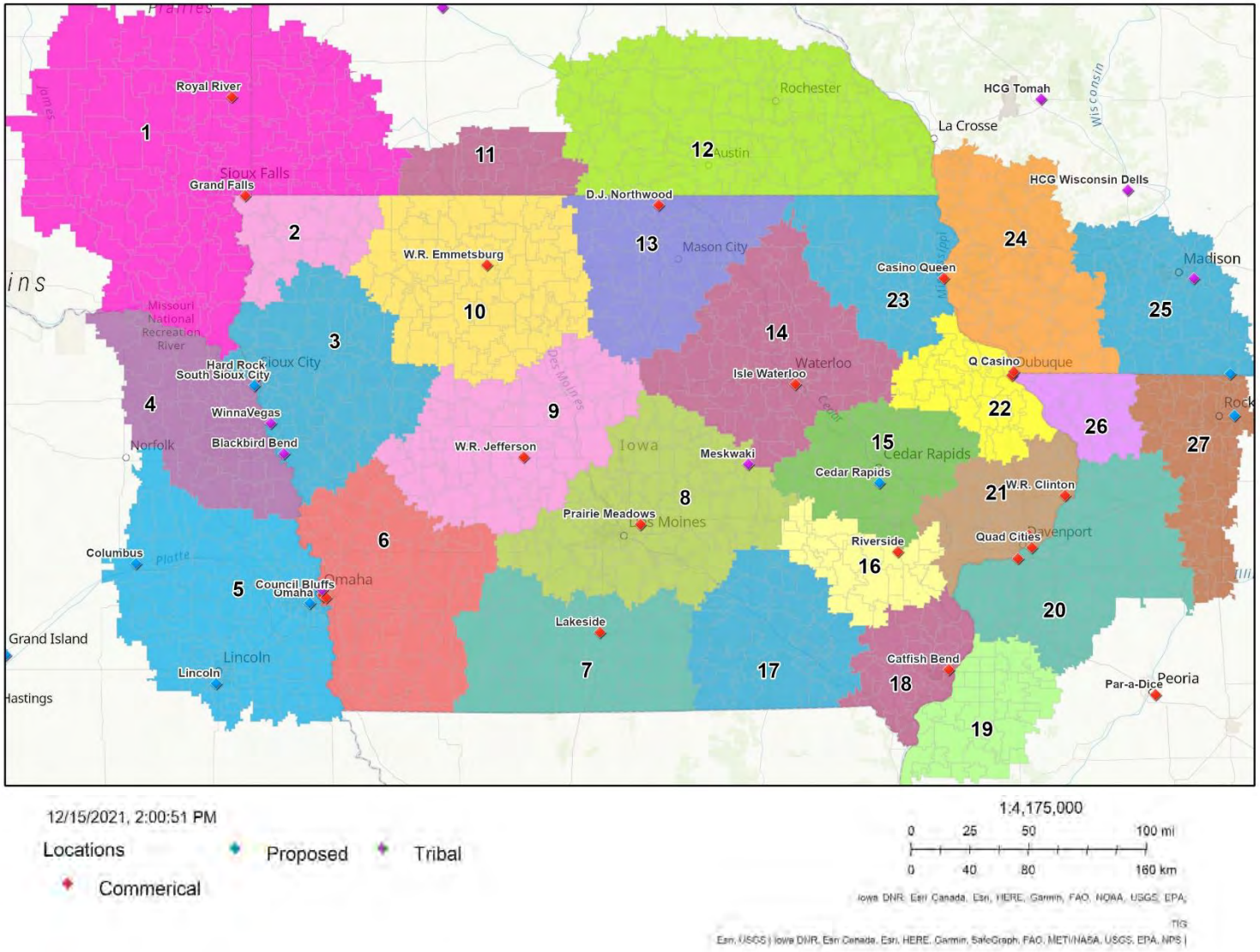


Table 29: Iowa Market Area Demographics

	Adult Pop 2021	Adult Pop 2026	CAGR 2021-2026	Average HHI 2021	Average HHI 2026	CAGR 2021-2026
1. Sioux Falls/SW MN	347,004	367,985	1.2%	$82,227	$91,627	2.2%
2. Grand Falls	34,318	34,190	-0.1%	$78,048	$83,986	1.5%
3. Sioux City	129,568	129,638	0.0%	$76,101	$83,363	1.8%
4. South Sioux City	50,021	49,425	-0.2%	$74,073	$81,797	2.0%
5. Omaha	925,186	976,516	1.1%	$88,876	$99,756	2.3%
6. Council Bluffs	141,839	141,209	-0.1%	$74,442	$81,702	1.9%
7. Lakeside	53,703	52,894	-0.3%	$67,504	$73,897	1.8%
8. Prairie Meadows	648,492	695,086	1.4%	$88,617	$97,891	2.0%
9. Jefferson	113,581	112,246	-0.2%	$70,884	$77,427	1.8%
10. Emmetsburg	86,782	85,079	-0.4%	$72,501	$79,154	1.8%
11. South MN	27,664	26,972	-0.5%	$73,384	$80,113	1.8%
12. Southeast MN	412,010	424,963	0.6%	$86,657	$96,559	2.2%
13. Northwood	79,540	78,253	-0.3%	$72,343	$78,982	1.8%
14. Waterloo	196,725	196,017	-0.1%	$77,460	$85,047	1.9%
15. Cedar Rapids	319,380	336,821	1.1%	$85,962	$95,186	2.1%
16. Riverside	42,211	42,526	0.1%	$78,072	$85,982	1.9%
17. Ottumwa	87,392	86,206	-0.3%	$65,524	$71,660	1.8%
18. Catfish Bend	76,608	74,846	-0.5%	$66,861	$73,088	1.8%
19. Macomb	56,408	54,187	-0.8%	$63,438	$69,047	1.7%
20. Quad Cities - IL	281,634	273,454	-0.6%	$70,707	$77,655	1.9%
21. Quad Cities - IA	205,168	207,608	0.2%	$83,093	$92,063	2.1%
22. Dubuque	101,600	103,112	0.3%	$79,250	$87,152	1.9%
23. Marquette	51,679	50,460	-0.5%	$73,035	$79,122	1.6%
24. Southwest WI	109,359	109,462	0.0%	$72,148	$80,092	2.1%
25. Madison/Beloit	588,964	625,038	1.2%	$93,857	$105,086	2.3%
26. Northwest IL	31,853	31,106	-0.5%	$73,134	$80,469	1.9%
27. Rockford	356,328	347,939	-0.5%	$74,661	$82,706	2.1%
Average/Total	5,555,017	5,713,238	0.6%	$82,410	$91,712	2.2%
State	*2,368,537*	*2,339,317*	*-0.2%*	*$80,073*	*$88,324*	*2.0%*
National	*247,685,244*	*250,249,583*	*0.2%*	*$92,435*	*$103,679*	*2.3%*

Source: ArcGIS/ESRI; The Innovation Group; CAGR=Compound Annual Growth Rate

Model Calibration

2021 Calibration

The gravity model was calibrated for last 12 months (through October 2021) using publicly reported data from the Iowa Racing & Gaming Commission and Illinois Gaming Board and proprietary player data from operators. Competitive casinos were input into the model as discussed in the Competitive Environment section above.

The following table shows the rates for propensity, frequency, and win per visit by market area that were used to re-create the actual conditions in the Base 2021 model. Win has been varied based on differences between market areas in average household income and travel time. The

table reflects total gaming visits and revenues from the defined market area in the last 12 months. Revenue includes the value of free play credits.

As noted in the Historical Trends section, visitation at Iowa casinos has declined by over 17% but WPV rose to $96 from $73 in 2019. In the calibration of the model, we have mirrored the decline in visitation by reducing propensity and frequency from normative pre-COVID levels while increasing WPV.

Table 30: Gravity Model Calibration Base 2021

	Gamer Pop.	Propensity	Frequency	MPI	Gaming Visits	WPV	GGR ($M)
1. Sioux Falls/SW MN	347,004	25.9%	10.1	99	892,751	$100	$89.4
2. Grand Falls	34,318	29.7%	11.5	102	119,866	$97	$11.7
3. Sioux City	129,568	39.5%	16.0	96	784,125	$91	$71.0
4. South Sioux City	50,021	30.4%	11.9	100	180,189	$96	$17.3
5. Omaha	925,186	30.5%	12.1	101	3,444,553	$96	$331.4
6. Council Bluffs	141,839	37.9%	15.5	96	798,788	$91	$72.8
7. Lakeside	53,703	30.6%	12.0	98	194,037	$94	$18.3
8. Prairie Meadows	648,492	32.0%	12.9	100	2,690,621	$98	$264.0
9. Jefferson	113,581	30.3%	11.9	97	395,522	$95	$37.7
10. Emmetsburg	86,782	31.2%	12.1	100	328,095	$95	$31.3
11. South MN	27,664	25.9%	9.6	95	64,862	$98	$6.4
12. Southeast MN	412,010	24.5%	8.9	97	874,345	$102	$89.3
13. Northwood	79,540	31.7%	12.6	99	314,957	$95	$29.9
14. Waterloo	196,725	36.9%	14.9	97	1,050,430	$93	$97.4
15. Cedar Rapids	319,380	30.7%	12.2	97	1,160,982	$98	$114.3
16. Riverside	42,211	38.0%	15.4	99	245,427	$92	$22.6
17. Ottumwa	87,392	21.3%	7.4	97	132,615	$99	$13.1
18. Catfish Bend	76,608	36.9%	15.1	94	402,418	$90	$36.3
19. Macomb	56,408	28.7%	8.8	94	134,975	$96	$13.0
20. Quad Cities - IL	281,634	31.4%	12.2	96	1,034,755	$95	$98.2
21. Quad Cities - IA	205,168	40.2%	16.8	96	1,326,856	$91	$120.8
22. Dubuque	101,600	40.2%	16.7	98	666,330	$90	$60.2
23. Marquette	51,679	28.9%	11.1	99	164,534	$97	$15.9
24. Southwest WI	109,359	25.3%	9.3	97	249,646	$98	$24.6
25. Madison/Beloit	588,964	20.8%	12.2	101	1,517,845	$103	$156.3
26. Northwest IL	31,853	28.7%	8.8	99	79,816	$98	$7.8
27. Rockford	356,328	21.2%	6.8	94	481,469	$101	$48.6
Total	5,555,017				19,730,810	$96	$1,899.8

Source: The Innovation Group

Iowa commercial casinos are estimated to have captured 80% of the defined gravity model revenue, or $1.5 billion of the market total of $1.9 billion. To protect confidentiality, we have grouped the results by region rather than individual properties. Gravity model results have been broken down into in-state markets and adjacent-state markets (Nebraska, South Dakota, Minnesota, Wisconsin and Illinois). Iowa casinos also generate visitation and revenue from beyond the defined gravity model market area. This out-of-market gaming demand represents

visits driven by reasons other than proximity of permanent residence, such as traffic intercept, tourism, visiting friends and family, seasonal residence, and variety of gaming experience. Gravity model versus out-of-market revenue was identified using player data provided by operators.

Table 31: Model Calibration 2021 by Region (GGR in 000s)

	Council Bluffs	Northwest	North	Central	East Central	Southeast	Northeast	Total
Adjacent States	$299,902	$85,171	$50,454	$1,615	$7,303	$91,118	$60,932	$596,494
In-State	$82,938	$72,225	$55,933	$287,630	$199,034	$146,980	$76,180	$920,920
Subtotal Gravity	*$382,840*	*$157,396*	*$106,387*	*$289,245*	*$206,337*	*$238,099*	*$137,112*	*$1,517,414*
Out-of-Market	$56,005	$20,917	$25,887	$12,751	$12,345	$34,137	$9,354	$171,396
Total Revenues	$438,845	$178,312	$132,274	$301,996	$218,682	$272,236	$146,466	$1,688,810
Gravity Model Visits	*4,013,831*	*1,644,156*	*1,085,097*	*2,972,061*	*2,168,896*	*2,555,267*	*1,431,254*	*15,870,563*
WPV	*$95*	*$96*	*$98*	*$97*	*$95*	*$93*	*$96*	*$96*
Casinos Represented	Ameristar CB Harrah's CB Horseshoe CB	Hard Rock Sioux City Grand Falls	Wild Rose Emmets-burg Diamond Jo Northwood	Wild Rose Jefferson Lakeside Prairie Meadows	Isle Waterloo Riverside	Catfish Bend Isle Bettendorf Rhythm City Wild Rose Clinton	Diamond Jo Dubuque Q Casino Casino Queen	

Source: The Innovation Group

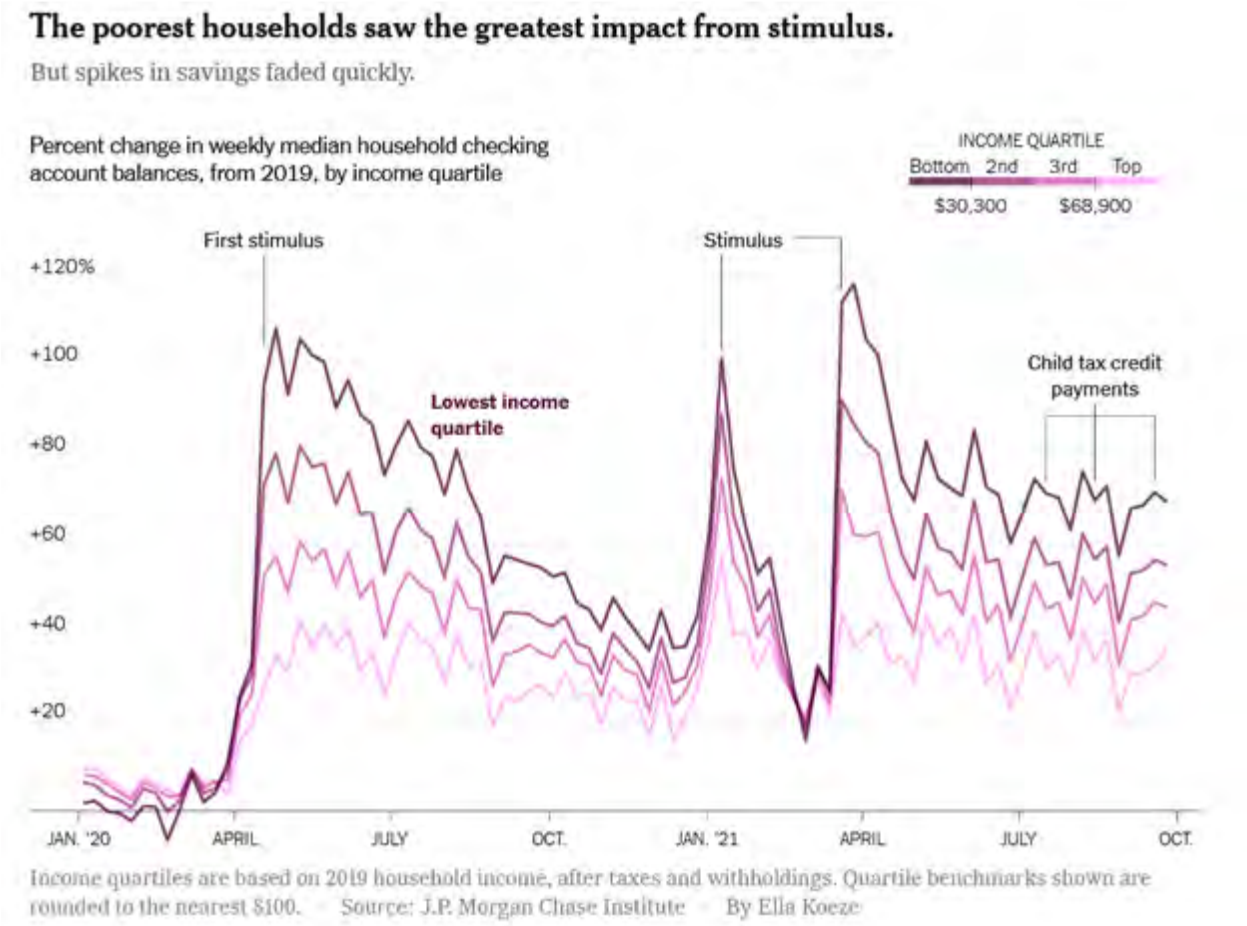
Baseline 2024

For the purpose of assessing the impact of Nebraska and other developments on Iowa casinos, we have next modeled a future baseline scenario, assuming no new casinos changes in the market region. It is expected that 2024 would be the first full year of operation for Nebraska casinos; therefore, we use 2024 for the future baseline model, which becomes the benchmark to measure against the impact of Nebraska, Rockford, and Beloit.

What the gaming market will look like in three years is difficult to estimate based on current data. Nationwide, casinos have seen higher revenues from fewer gaming positions and fewer visits. Operators and analysts are doubtful this condition will sustain, but it is the million-dollar question how the gaming market will stabilize once federal relief spending cycles through and as other travel and leisure options open up (for example, cruise ships have recently started sailing again).

Analysts have noted that savings boosts from relief spending have started to taper off, and that for lower income households the extra spending power is expected to run out by early 2022. As noted by the NY Times Business section:

According to Moody's Analytics, an economic research firm, these excess savings among many working- and middle-class households could be exhausted as soon as early next year — not only reducing their financial cushions but also potentially affecting the economy, since consumer spending is such a large share of activity. Multiple pandemic-era federal aid programs expired in September, including the federal supplement to unemployment benefits.[2]



Source: The New York Times.

For the 2024 Baseline model we have assumed that WPV will decline from current levels but still remain higher than pre-COVID levels. On the other hand, we have assumed that some but not all casino patrons who currently are staying home will return; therefore, we have raised propensity and frequency but not to pre-COVID levels.

[2] https://www.nytimes.com/2021/12/07/business/pandemic-savings.html. Accessed 12/07/2021.

The following table shows baseline 2024 gaming revenues assuming no new competition. The model is showing an increase in visitation of 10% but a decline in WPV of 12.4% for a 3.4% decline in gaming revenue compared to 2021's record setting level.

Table 32: Gravity Model Baseline 2024

	Gamer Pop.	Propensity	Frequency	MPI	Gaming Visits	WPV	GGR ($M)
1. Sioux Falls/SW MN	359,333	27.6%	10.2	99	1,003,887	$88	$88.2
2. Grand Falls	34,239	31.7%	11.7	102	129,735	$85	$11.1
3. Sioux City	129,600	42.2%	16.3	96	850,601	$79	$67.2
4. South Sioux City	49,660	32.4%	12.1	100	193,997	$84	$16.3
5. Omaha	955,525	32.6%	12.3	101	3,862,315	$84	$325.6
6. Council Bluffs	141,451	40.5%	15.8	96	864,206	$80	$68.8
7. Lakeside	53,212	32.7%	12.2	98	208,574	$83	$17.3
8. Prairie Meadows	675,855	34.2%	13.1	100	3,046,148	$86	$261.6
9. Jefferson	112,770	32.4%	12.0	97	425,878	$84	$35.6
10. Emmetsburg	85,748	33.4%	12.3	100	351,563	$84	$29.4
11. South MN	27,246	27.6%	9.7	95	69,290	$86	$6.0
12. Southeast MN	419,691	26.2%	9.1	97	966,341	$90	$86.6
13. Northwood	78,764	33.9%	12.8	99	338,286	$83	$28.1
14. Waterloo	196,289	39.4%	15.1	97	1,136,871	$81	$92.1
15. Cedar Rapids	329,696	32.8%	12.4	97	1,299,846	$86	$112.1
16. Riverside	42,397	40.6%	15.7	99	267,383	$80	$21.5
17. Ottumwa	86,675	22.7%	7.5	97	142,692	$87	$12.4
18. Catfish Bend	75,544	39.4%	15.4	94	430,533	$79	$34.0
19. Macomb	55,063	30.7%	9.0	94	142,912	$84	$12.1
20. Quad Cities - IL	276,693	33.5%	12.4	96	1,102,912	$83	$91.7
21. Quad Cities - IA	206,609	43.0%	17.0	96	1,450,716	$79	$115.1
22. Dubuque	102,500	42.9%	16.9	98	729,363	$79	$57.5
23. Marquette	50,943	30.9%	11.3	99	175,936	$85	$14.9
24. Southwest WI	109,418	27.0%	9.5	97	270,943	$86	$23.4
25. Madison/Beloit	610,263	22.3%	12.4	101	1,707,902	$90	$154.2
26. Northwest IL	31,402	30.6%	8.9	99	85,360	$86	$7.4
27. Rockford	351,228	22.7%	6.9	94	515,055	$89	$45.8
Total	5,647,813				21,769,245	$84	$1,836.0

Source: The Innovation Group

The capture by Iowa commercial casinos of the defined gravity model revenue is estimated to remain at 80%.

Table 33: Baseline Model 2024 by Region (GGR in 000s)

	Council Bluffs	Northwest	North	Central	East Central	Southeast	Northeast	Total
Adjacent States	$294,705	$83,694	$48,723	$1,572	$6,891	$85,247	$58,562	$579,394
In-State	$78,671	$68,508	$52,570	$282,689	$191,510	$139,863	$72,693	$886,504
Subtotal Gravity	*$373,375*	*$152,202*	*$101,293*	*$284,262*	*$198,401*	*$225,110*	*$131,255*	*$1,465,898*
Out-of-Market	$54,620	$20,226	$24,647	$12,532	$11,870	$32,275	$8,955	$165,125
Total Revenues	$427,995	$172,429	$125,940	$296,793	$210,271	$257,385	$140,209	$1,631,023
Gravity Model Visits	*4,353,803*	*1,783,416*	*1,177,005*	*3,223,795*	*2,352,602*	*2,771,698*	*1,552,481*	*17,214,801*
WPV	*$86*	*$85*	*$86*	*$88*	*$84*	*$81*	*$85*	*$85*
Casinos Represented	Ameristar CB	Hard Rock Sioux City	Wild Rose Emmets-burg	Wild Rose Jefferson	Isle Waterloo	Catfish Bend	Diamond Jo Dubuque	
	Harrah's CB	Grand Falls	Diamond Jo Northwood	Lakeside	Riverside	Isle Bettendorf	Q Casino	
	Horseshoe CB			Prairie Meadows		Rhythm City	Casino Queen	
						Wild Rose Clinton		

Source: The Innovation Group

Forecast

Scenario 1: New Adjacent-State Competition

Scenario 1 models the impact of Nebraska, Rockford and Beloit on Iowa casinos. The addition of new casinos to the market would lead to increases in propensity and frequency for those market areas closest to the proposed facilities. WPV would be expected to decline slightly in conjunction with increases in frequency, as gamers make more frequent trips to a casino. The following table shows the participation rates and total market gaming visits for Scenario 1:

Table 34: Gravity Model Forecast 2024: Addition of Nebraska, Rockford & Beloit

	Gamer Pop.	Propensity	Frequency	MPI	Gaming Visits	WPV	GGR ($M)
1. Sioux Falls/SW MN	359,333	27.6%	10.2	99	1,003,887	$88	$88.2
2. Grand Falls	34,239	31.7%	11.7	102	129,735	$85	$11.1
3. Sioux City	129,600	42.2%	16.3	96	850,601	$79	$67.2
4. South Sioux City	49,660	34.2%	12.9	100	219,223	$83	$18.3
5. Omaha	955,525	35.2%	13.5	101	4,559,670	$83	$378.2
6. Council Bluffs	141,451	40.5%	15.8	96	864,206	$80	$68.8
7. Lakeside	53,212	32.7%	12.2	98	208,574	$83	$17.3
8. Prairie Meadows	675,855	34.2%	13.1	100	3,046,148	$86	$261.6
9. Jefferson	112,770	32.4%	12.0	97	425,878	$84	$35.6
10. Emmetsburg	85,748	33.4%	12.3	100	351,563	$84	$29.4
11. South MN	27,246	27.6%	9.7	95	69,290	$86	$6.0
12. Southeast MN	419,691	26.2%	9.1	97	966,341	$90	$86.6
13. Northwood	78,764	33.9%	12.8	99	338,286	$83	$28.1
14. Waterloo	196,289	39.4%	15.1	97	1,136,871	$81	$92.1
15. Cedar Rapids	329,696	32.8%	12.4	97	1,299,846	$86	$112.1
16. Riverside	42,397	40.6%	15.7	99	267,383	$80	$21.5
17. Ottumwa	86,675	22.7%	7.5	97	142,692	$87	$12.4
18. Catfish Bend	75,544	39.4%	15.4	94	430,533	$79	$34.0
19. Macomb	55,063	30.7%	9.0	94	142,912	$84	$12.1
20. Quad Cities - IL	276,693	33.5%	12.4	96	1,102,912	$83	$91.7
21. Quad Cities - IA	206,609	43.0%	17.0	96	1,450,716	$79	$115.1
22. Dubuque	102,500	42.9%	16.9	98	729,363	$79	$57.5
23. Marquette	50,943	30.9%	11.3	99	175,936	$85	$14.9
24. Southwest WI	109,418	27.0%	9.5	97	270,943	$86	$23.4
25. Madison/Beloit	610,263	31.5%	13.0	101	2,532,064	$88	$221.9
26. Northwest IL	31,402	30.6%	8.9	99	85,360	$86	$7.4
27. Rockford	351,228	37.3%	11.6	94	1,434,036	$84	$119.8
Total	5,647,813				24,234,971	$84	$2,032.2

Source: The Innovation Group

The following table shows the impact on Iowa commercial casinos. Council Bluffs is projected to be hit the hardest, with casinos being developed directly across the border in Nebraska, while the Northeast is projected to be the hardest hit by the Rockford and Beloit developments. Out-of-market impacts were assessed using player data to identify what other zip codes beyond the gravity model area are vulnerable to new casino development in Nebraska, Illinois and Wisconsin.

Table 35: Impact of Nebraska, Rockford, and Beloit on Existing Iowa Commercial Casinos

$000s	Base 2024	With NE, Rockford & Beloit	Impact	% Impact
Council Bluffs				
Adjacent States	$294,705	$164,386	-$130,318	-44%
In-State	$78,671	$65,844	-$12,827	-16%
Subtotal Gravity	*$373,375*	*$230,230*	*-$143,145*	*-38%*
Out-of-Market	$54,620	$36,047	-$18,573	-34%
Total Revenues	$427,995	$266,277	-$161,718	-38%
Northwest				
Adjacent States	$83,694	$71,768	-$11,926	-14%
In-State	$68,508	$53,916	-$14,593	-21%
Subtotal Gravity	*$152,202*	*$125,683*	*-$26,519*	*-17%*
Out-of-Market	$20,226	$15,599	-$4,627	-23%
Total Revenues	$172,429	$141,282	-$31,146	-18%
North				
Adjacent States	$48,723	$48,315	-$409	-1%
In-State	$52,570	$51,204	-$1,366	-3%
Subtotal Gravity	*$101,293*	*$99,518*	*-$1,775*	*-2%*
Out-of-Market	$24,647	$24,154	-$493	-2%
Total Revenues	$125,940	$123,673	-$2,268	-2%
Central				
Adjacent States	$1,572	$704	-$868	-55%
In-State	$282,689	$274,206	-$8,483	-3%
Subtotal Gravity	*$284,262*	*$274,910*	*-$9,352*	*-3%*
Out-of-Market	$12,532	$12,331	-$201	-2%
Total Revenues	$296,793	$287,241	-$9,552	-3%
East Central				
Adjacent States	$6,891	$5,869	-$1,022	-15%
In-State	$191,510	$190,202	-$1,308	-1%
Subtotal Gravity	*$198,401*	*$196,071*	*-$2,330*	*-1%*
Out-of-Market	$11,870	$10,446	-$1,424	-12%
Total Revenues	$210,271	$206,516	-$3,755	-2%
Southeast				
Adjacent States	$85,247	$70,589	-$14,658	-17%
In-State	$139,863	$137,065	-$2,798	-2%
Subtotal Gravity	*$225,110*	*$207,654*	*-$17,456*	*-8%*
Out-of-Market	$32,275	$23,238	-$9,037	-28%
Total Revenues	$257,385	$230,892	-$26,493	-10%
Northeast				
Adjacent States	$58,562	$42,583	-$15,979	-27%
In-State	$72,693	$70,374	-$2,319	-3%
Subtotal Gravity	*$131,255*	*$112,956*	*-$18,298*	*-14%*
Out-of-Market	$8,955	$6,447	-$2,507	-28%
Total Revenues	$140,209	$119,404	-$20,806	-15%
Total				
Adjacent States	$579,394	$404,214	-$175,181	-30%
In-State	$886,504	$842,809	-$43,694	-5%
Subtotal Gravity	*$1,465,898*	*$1,247,023*	*-$218,875*	*-15%*
Out-of-Market	$165,125	$128,263	-$36,862	-22%
Total Revenues	$1,631,023	$1,375,286	-$255,737	-16%

Source: The Innovation Group

Scenario 2: Cedar Rapids Impact

Scenario 2 models the impact of a casino in Cedar Rapids on the Iowa gaming market. The addition of a Cedar Rapids casino to the market would lead to increases in propensity and frequency in market 15. WPV would be expected to decline slightly in conjunction with increases in frequency, as gamers make more frequent trips to a casino. The following table shows the participation rates and total market gaming visits for Scenario 2:

Table 36: Gravity Model Forecast 2024: Addition of Cedar Rapids

	Gamer Pop.	Propensity	Frequency	MPI	Gaming Visits	WPV	GGR ($M)
1. Sioux Falls/SW MN	359,333	27.6%	10.2	99	1,003,887	$88	$88.2
2. Grand Falls	34,239	31.7%	11.7	102	129,735	$85	$11.1
3. Sioux City	129,600	42.2%	16.3	96	850,601	$79	$67.2
4. South Sioux City	49,660	34.2%	12.9	100	219,223	$83	$18.3
5. Omaha	955,525	35.2%	13.5	101	4,559,670	$83	$378.2
6. Council Bluffs	141,451	40.5%	15.8	96	864,206	$80	$68.8
7. Lakeside	53,212	32.7%	12.2	98	208,574	$83	$17.3
8. Prairie Meadows	675,855	34.2%	13.1	100	3,046,148	$86	$261.6
9. Jefferson	112,770	32.4%	12.0	97	425,878	$84	$35.6
10. Emmetsburg	85,748	33.4%	12.3	100	351,563	$84	$29.4
11. South MN	27,246	27.6%	9.7	95	69,290	$86	$6.0
12. Southeast MN	419,691	26.2%	9.1	97	966,341	$90	$86.6
13. Northwood	78,764	33.9%	12.8	99	338,286	$83	$28.1
14. Waterloo	196,289	39.4%	15.1	97	1,136,871	$81	$92.1
15. Cedar Rapids	329,696	38.6%	15.2	97	1,874,773	$83	$155.1
16. Riverside	42,397	40.6%	15.7	99	267,383	$80	$21.5
17. Ottumwa	86,675	22.7%	7.5	97	142,692	$87	$12.4
18. Catfish Bend	75,544	39.4%	15.4	94	430,533	$79	$34.0
19. Macomb	55,063	30.7%	9.0	94	142,912	$84	$12.1
20. Quad Cities - IL	276,693	33.5%	12.4	96	1,102,912	$83	$91.7
21. Quad Cities - IA	206,609	43.0%	17.0	96	1,450,716	$79	$115.1
22. Dubuque	102,500	42.9%	16.9	98	729,363	$79	$57.5
23. Marquette	50,943	30.9%	11.3	99	175,936	$85	$14.9
24. Southwest WI	109,418	27.0%	9.5	97	270,943	$86	$23.4
25. Madison/Beloit	610,263	31.5%	13.0	101	2,532,064	$88	$221.9
26. Northwest IL	31,402	30.6%	8.9	99	85,360	$86	$7.4
27. Rockford	351,228	37.3%	11.6	94	1,434,036	$84	$119.8
Total	5,647,813				24,809,897	$84	$2,075.2

Source: The Innovation Group

The following table shows the impact on existing Iowa commercial casinos. The East Central casinos (Riverside and Isle Waterloo) are projected to be hit the hardest, followed by the Northeast and Southeast. In total, statewide gaming revenue at existing casinos is estimated to decline by $61 million.

Table 37: Impact of Cedar Rapids on Existing Iowa Commercial Casinos

$000s	With NE, Rockford & Beloit	Cedar Rapids Impact on Existing	Impact	% Impact
Council Bluffs				
Adjacent States	$164,386	$164,376	-$10	0%
In-State	$65,844	$65,518	-$325	0%
Subtotal Gravity	*$230,230*	*$229,894*	*-$335*	*0%*
Out-of-Market	$36,047	$36,047	$0	0%
Total Revenues	$266,277	$265,942	-$335	0%
Northwest				
Adjacent States	$71,768	$71,759	-$9	0%
In-State	$53,916	$53,838	-$78	0%
Subtotal Gravity	*$125,683*	*$125,597*	*-$87*	*0%*
Out-of-Market	$15,599	$15,599	$0	0%
Total Revenues	$141,282	$141,195	-$87	0%
North				
Adjacent States	$48,315	$47,969	-$346	-1%
In-State	$51,204	$50,324	-$880	-2%
Subtotal Gravity	*$99,518*	*$98,292*	*-$1,226*	*-1%*
Out-of-Market	$24,154	$23,862	-$292	-1%
Total Revenues	$123,673	$122,154	-$1,518	-1%
Central				
Adjacent States	$704	$703	-$1	0%
In-State	$274,206	$271,071	-$3,135	-1%
Subtotal Gravity	*$274,910*	*$271,774*	*-$3,137*	*-1%*
Out-of-Market	$12,331	$11,746	-$585	-5%
Total Revenues	$287,241	$283,520	-$3,722	-1%
East Central				
Adjacent States	$5,869	$5,801	-$68	-1%
In-State	$190,202	$148,313	-$41,889	-22%
Subtotal Gravity	*$196,071*	*$154,114*	*-$41,957*	*-21%*
Out-of-Market	$10,446	$9,401	-$1,045	-10%
Total Revenues	$206,516	$163,515	-$43,001	-21%
Southeast				
Adjacent States	$70,589	$70,071	-$518	-1%
In-State	$137,065	$132,067	-$4,997	-4%
Subtotal Gravity	*$207,654*	*$202,138*	*-$5,515*	*-3%*
Out-of-Market	$23,238	$21,776	-$1,462	-6%
Total Revenues	$230,892	$223,914	-$6,978	-3%
Northeast				
Adjacent States	$42,583	$42,382	-$200	0%
In-State	$70,374	$65,493	-$4,881	-7%
Subtotal Gravity	*$112,956*	*$107,875*	*-$5,081*	*-4%*
Out-of-Market	$6,447	$5,862	-$585	-9%
Total Revenues	$119,404	$113,737	-$5,666	-5%
Total				
Adjacent States	$404,214	$403,061	-$1,152	0%
In-State	$842,809	$786,623	-$56,186	-7%
Subtotal Gravity	*$1,247,023*	*$1,189,685*	*-$57,338*	*-5%*
Out-of-Market	$128,263	$124,294	-$3,969	-3%
Total Revenues	$1,375,286	$1,313,978	-$61,308	-4%

Source: The Innovation Group

The following table shows the impact on the Iowa gaming market including Cedar Rapids' revenue forecast in the East Central region. In total, statewide commercial gaming revenue in Iowa is estimated to increase by $51 million with the addition of a Cedar Rapids casino to the market.

Table 38: Impact of Cedar Rapids on Iowa Commercial Casinos: Cedar Rapids Included

$000s	With NE, Rockford & Beloit	With Cedar Rapids Included	Impact	% Impact
Council Bluffs				
Adjacent States	$164,386	$164,376	-$10	0%
In-State	$65,844	$65,518	-$325	0%
Subtotal Gravity	*$230,230*	*$229,894*	*-$335*	*0%*
Out-of-Market	$36,047	$36,047	$0	0%
Total Revenues	$266,277	$265,942	-$335	0%
Northwest				
Adjacent States	$71,768	$71,759	-$9	0%
In-State	$53,916	$53,838	-$78	0%
Subtotal Gravity	*$125,683*	*$125,597*	*-$87*	*0%*
Out-of-Market	$15,599	$15,599	$0	0%
Total Revenues	$141,282	$141,195	-$87	0%
North				
Adjacent States	$48,315	$47,969	-$346	-1%
In-State	$51,204	$50,324	-$880	-2%
Subtotal Gravity	*$99,518*	*$98,292*	*-$1,226*	*-1%*
Out-of-Market	$24,154	$23,862	-$292	-1%
Total Revenues	$123,673	$122,154	-$1,518	-1%
Central				
Adjacent States	$704	$703	-$1	0%
In-State	$274,206	$271,071	-$3,135	-1%
Subtotal Gravity	*$274,910*	*$271,774*	*-$3,137*	*-1%*
Out-of-Market	$12,331	$11,746	-$585	-5%
Total Revenues	$287,241	$283,520	-$3,722	-1%
East Central				
Adjacent States	$5,869	$7,932	$2,063	35%
In-State	$190,202	$253,875	$63,674	33%
Subtotal Gravity	*$196,071*	*$261,807*	*$65,737*	*34%*
Out-of-Market	$10,446	$14,101	$3,656	35%
Total Revenues	$206,516	$275,909	$69,392	34%
Southeast				
Adjacent States	$70,589	$70,071	-$518	-1%
In-State	$137,065	$132,067	-$4,997	-4%
Subtotal Gravity	*$207,654*	*$202,138*	*-$5,515*	*-3%*
Out-of-Market	$23,238	$21,776	-$1,462	-6%
Total Revenues	$230,892	$223,914	-$6,978	-3%
Northeast				
Adjacent States	$42,583	$42,382	-$200	0%
In-State	$70,374	$65,493	-$4,881	-7%
Subtotal Gravity	*$112,956*	*$107,875*	*-$5,081*	*-4%*
Out-of-Market	$6,447	$5,862	-$585	-9%
Total Revenues	$119,404	$113,737	-$5,666	-5%
Total				
Adjacent States	$404,214	$405,192	$979	0%
In-State	$842,809	$892,186	$49,376	6%
Subtotal Gravity	*$1,247,023*	*$1,297,378*	*$50,355*	*4%*
Out-of-Market	$128,263	$128,994	$731	1%
Total Revenues	$1,375,286	$1,426,372	$51,086	4%

Source: The Innovation Group

Summary Forecast

Table 39 shows the three-year forecast for Iowa statewide gaming revenue (excluding sports betting) under the three competitive scenarios. Hard Rock Rockford opened in November 2021 a temporary casino with 635 slots and electronic table positions; a small impact is assumed for 2022 compared to the Baseline. The full permanent Rockford casino is scheduled to open in 2023; Nebraska and Beloit are estimated to open by 2024.

Table 39: Iowa Statewide Slot & Table Gaming Revenue Summary (000s)

$000s	Baseline Status Quo	With NE, Rockford & Beloit	With Cedar Rapids
2021*	$1,688,810	$1,688,810	$1,688,810
2022	$1,668,585	$1,664,413	$1,664,413
2023	$1,598,403	$1,575,699	$1,575,699
2024	$1,631,023	$1,375,286	$1,426,372

Source: The Innovation Group; *Last 12 months thru Oct.

Table 40 shows the three-year forecast for Iowa statewide sports betting net receipts under the three competitive scenarios. Illinois allows mobile sports betting but Nebraska will only allow retail. Sports betting continues to ramp up in Iowa, particularly internet.

Table 40: Iowa Statewide Sports Betting Net Receipt Summary (000s)

$000s	Baseline	With NE, Rockford & Beloit	With Cedar Rapids
Retail			
2021*	$28,161	$28,161	$28,161
2022	$28,845	$24,600	$25,965
2023	$29,546	$25,198	$26,596
2024	$30,265	$25,810	$27,242
Internet			
2021*	$80,496	$80,496	$80,496
2022	$110,617	$110,252	$113,559
2023	$130,990	$130,558	$134,474
2024	$147,781	$147,293	$151,712
Total			
2021*	$108,657	$108,657	$108,657
2022	$139,462	$134,851	$139,524
2023	$160,536	$155,755	$161,070
2024	$178,045	$173,103	$178,954

Source: The Innovation Group: *Last 12 months thru Nov.

Sports wagering brings a net positive impact on Iowa casinos. Sports wagering attracts a new demographic, tending to skew younger and more male than slot machine patrons. Online sports betting dominates the sports market, comprising 74% of the sports revenue over the last twelve months. However, retail sports betting provides diversity to the casino amenity set, and it attracts out-of-state players as well. Notably, the three strongest performing retail sports books in Iowa are Ameristar, Horseshoe, and Diamond Jo Worth, all serving out-of-state markets without retail options available in their states.

Over the next three years, we expect sports wagering to grow in popularity, but otherwise to be relatively static in the state. From a competitive perspective, Nebraska's sports betting launch will impact the Council Bluffs market, and a potential Minnesota bill could impact retail betting at Diamond Jo Worth. From a product standpoint, the industry abounds with mergers and acquisition opportunities. We may see some consolidation in the space, though we also note that there are more than a few global operators seeking entry into emerging US markets. Additionally, several technology companies are developing innovative products in the sports betting space, as one key way that sportsbooks can compete for market share is through a differentiated betting "menu." We believe that the industry is still fairly nascent in terms of innovative offerings; as an example, many books still do not offer same game parlays. In all, we expect the number of licenses to remain relatively flat, but we expect some expansion of product. We expect and forecast significant revenue growth as the industry matures within the state. With notable publicly traded sports betting companies operating at a loss because of large marketing spend, we also foresee a pullback in promotional spend (as a percentage of revenue) as companies trend toward profitability. However, we believe this won't begin in earnest over the next three years.

Saturation Analysis

To examine the question of which markets in Iowa may be over or under-supplied, we have ranked the Iowa market areas from the gravity model calibration (2021) by participation rate, which is calculated as propensity times frequency. Although there is some imprecision in this method since the market areas vary in size, it offers a useful comparison of the differences in penetration. Only two market areas in our defined gravity model market do not host a casino: Cedar Rapids and Ottumwa.

The Quad Cities market area (21) has the highest participation rate, which is understandable since it is a relatively compact market area with three Iowa casinos plus an Illinois casino within minutes of the state border. Marquette has the lowest participation rate of any market area that hosts a casino. Although Cedar Rapids does not host a casino, it is surrounded on all sides by casinos and thus has a higher rate than four areas that do host a casino—Lakeside, Jefferson, Grand Falls and Marquette.

Table 41: Iowa Demand Ranking by Market Area

Gravity Model #	Gamer Pop.	Propensity	Frequency	Participation Rate
21. Quad Cities - IA	205,168	40.2%	16.8	6.8
22. Dubuque	101,600	40.2%	16.7	6.7
3. Sioux City	129,568	39.5%	16.0	6.3
6. Council Bluffs	141,839	37.9%	15.5	5.9
16. Riverside	42,211	38.0%	15.4	5.9
18. Catfish Bend	76,608	36.9%	15.1	5.6
14. Waterloo	196,725	36.9%	14.9	5.5
8. Prairie Meadows	648,492	32.0%	12.9	4.1
13. Northwood	79,540	31.7%	12.6	4.0
10. Emmetsburg	86,782	31.2%	12.1	3.8
15. Cedar Rapids	319,380	30.7%	12.2	3.7
7. Lakeside	53,703	30.6%	12.0	3.7
9. Jefferson	113,581	30.3%	11.9	3.6
2. Grand Falls	34,318	29.7%	11.5	3.4
23. Marquette	51,679	28.9%	11.1	3.2
17. Ottumwa	87,392	21.3%	7.4	1.6

Source: The Innovation Group.

Ottumwa has the lowest rate given its relative distance from casino options; however, it has a relatively small population base; a return-on-investment (ROI) analysis would identify what size casino would be feasible there. The largest market in the state by far is Prairie Meadows; a second casino license in the Des Moines area would likely attract bidders although the impact on the Prairie Meadows Casino would also likely be significant. Besides these three markets—Cedar Rapids, Ottumwa, and Prairie Meadows, there are no areas of obvious opportunity for further casino development.

Future of Gaming

The State asks if the current Iowa casino model, comprised largely of traditional casinos with basic amenities, will endure. Or whether different models will emerge, and if so, what they will look like. This is a relevant question for Iowa and any gaming market.

Since the first casinos emerged in the state a balance of small to midsized properties have been developed under three main platforms: (1) Commercial riverboat-legacy properties, (2) slots and ultimately casinos at racetracks, or "racinos", and (3) Native American Tribal Casinos. These forms of course coexist with lottery, horse racing, and social/charitable gaming enterprises. More recently sports betting has entered the market, while broader online gaming and distributed systems (VGT's, VLT's) have not been permitted.

Iowa has put in place a rational structure that optimizes benefits to the state due to the unique non-profit license holder requirement. Moreover, while the State has regulatory control over the proliferation of casinos, it also has flexibility to issue new licenses since there is no artificial statutory limit on the number of licenses as exists in states like Illinois, Indiana, and Louisiana.

While the regulatory structure has driven permissible forms of gaming in Iowa, the population and demographic make-up of the market has also defined the resulting gaming products and offerings. Regional casinos with traditional amenities have been developed in response to relatively smaller and less dense population centers, while large destination properties, which depend on major metropolitan populations and tourist visitation, have not been prominent. Iowa has benefitted from nearby major feeder markets, particularly Nebraska and Sioux Falls, South Dakota; however, regional competition in Minnesota, Wisconsin, Illinois, Missouri has tended to prevent large destination development to the level of a Tunica, Mississippi, for example, which once attracted substantial visitation from across the Midwest and upper South.

In the last year, industry change has revolved around the continued expansion of sports betting and online gaming, new technologies supporting cashless play, and other lasting trends that emerged and accelerated during the pandemic. However, strategic challenges prominent going into the pandemic remain. These include the diversification of real estate and amenities, the reshuffling of corporate structures, attending to the preferences of millennials, anticipating the future of slot play, the popularity of electronic table games, and the relevance of esports, and finding the next great thing in entertainment.

Amenity development and diversification can enhance a casino's market share as well as a local community's tax base and employment opportunities. The successful PZAZZ/Fun City development in Burlington is an excellent example of a diverse entertainment development in line with the scale of market demand, and amenity investment at Elite Casino properties demonstrates the impact to market share and gaming revenue from diversification. Redevelopment of the greyhound track in Dubuque offers future potential for the Iowa gaming market to broaden its appeal to gaming consumers.

Distributed electronic gaming tends to enhance a state's fiscal benefits on a net basis, but experience in Illinois has shown that it can result in upwards of a 20% impact on casino slot revenue. Furthermore, the employment impact is negligible from VGT/VLT development.

Despite what would seem to make intuitive sense—that online gaming would negatively affect bricks-and-mortar casino revenue—the evidence in New Jersey and other states suggests otherwise. Onsite casino revenue has continued to grow in New Jersey and Pennsylvania following implementation of online slot and table games. The Innovation Group predicted this outcome based on surveys we conducted nearly a decade ago. In-state employment tends to be minimal, however, compared to staffing bricks-and-mortar casinos.

This experience in New Jersey and Pennsylvania would tend to speak to the endurance of bricks-and-mortar casinos. Further, consumer appetite for in-person gaming has been affirmed by recent record-setting trends across the country.

While eSports is a relatively untested product in the casino setting, it is a growing and youth-oriented industry. Prior to the pandemic, the global esports industry had been projected to double by 2023 from 2019's value of US$1.1 billion. Even as a non-wagering amenity, an esports arena

might make market sense for at least one casino in Iowa to broaden the demographic reach of the industry.

Fixed-odds-betting on horse racing has proven successful in Australia and would help integrate horse wagering into Iowa's sports betting platforms. Some racing analysts express concern, however, about its impact on pari-mutuel pools and resulting implications on the dedicated handicapper.

The pace of adaptation and change will still be influenced by regulatory activity. While gaming laws are not expected to retract, new forms of gaming like full online wagering, the addition of distributed systems, or the potential relaxation of certain regulations within Iowa or in competing states, may all contribute to the future environment. While modeling overall trends depends on an endless number of potential variables, strategic planning initiatives can assist the State in shaping and adapting to gaming's future.

ECONOMIC IMPACT ANALYSIS

Economic Impact Analysis Overview

The economic benefits—the revenues, jobs, and earnings—that accrue from the annual operations of an enterprise are termed ***ongoing*** impacts. The construction phase of a project is considered a ***one-time*** benefit to an area. This refers to the fact that these dollars will be introduced into the economy only during construction; construction impacts are expressed in single-year equivalence to be consistent in presentation with ongoing annual impacts.

The economic impact of an industry consists of three layers of impacts:

1. Direct effects
2. Indirect effects
3. Induced effects

The **direct effect** is the economic activity that occurs within the industry itself. The direct effect for casino operations represents the expenditures made by the facility in the form of employee compensation and purchases of goods and services (direct expenditures), which ultimately derive from patron spending on the casino floor, and patron spending on non-gaming amenities is an additional direct effect.

Indirect effects are the impact of the direct expenditures on other business sectors: for example, the advertising firm who handles a casino's local media marketing. Indirect effects reflect the economic spin-off that is made possible by the direct purchases of a casino. Firms providing goods and services to a casino have incomes partially attributable to the casino.

Finally, the **induced effects** result from the spending of labor income: for example, casino employees using their income to purchase consumer goods locally. As household incomes are affected by direct employment and spending, this money is recirculated through the household spending patterns causing further local economic activity.

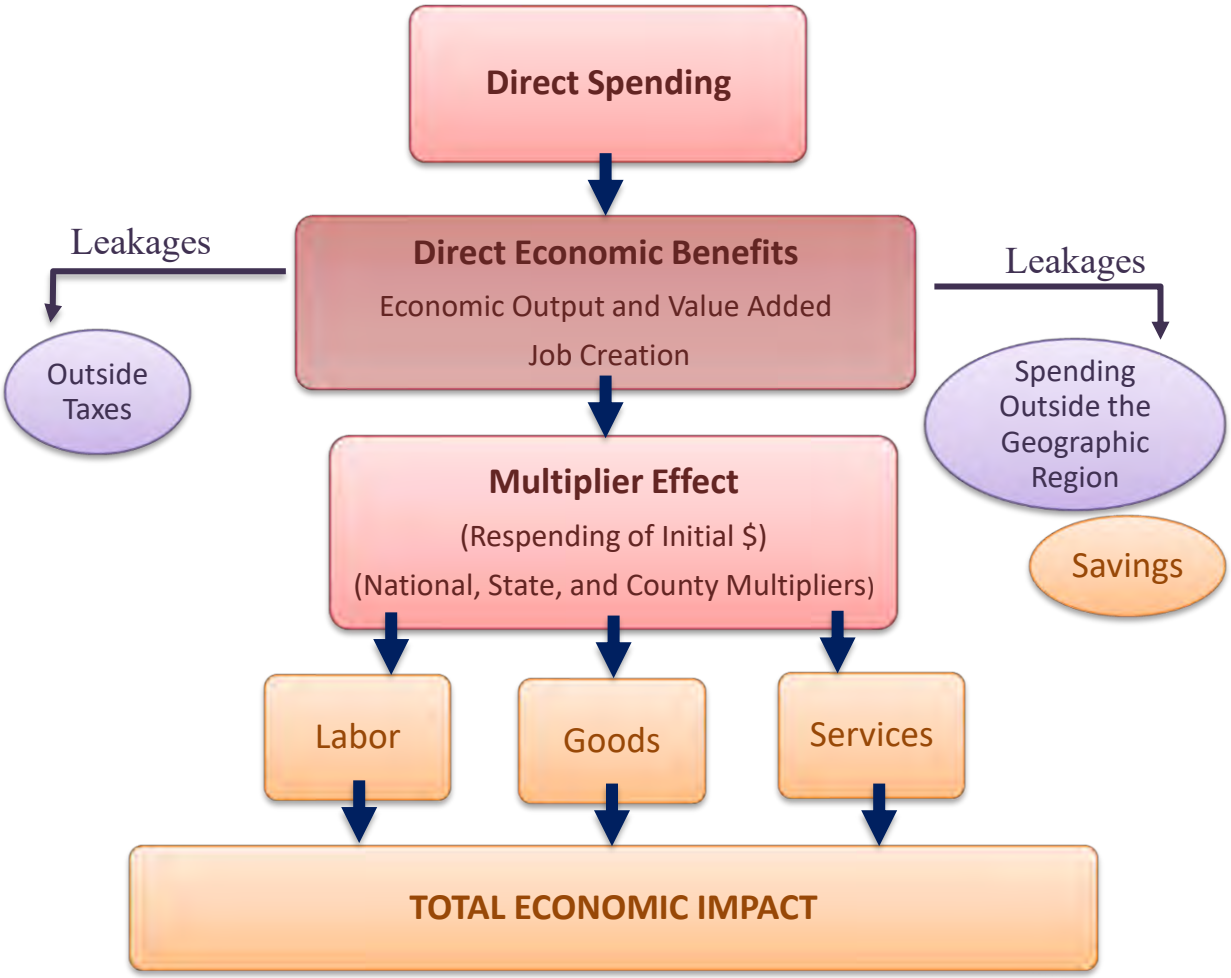
The **total** economic impact of an industry is the sum of the three components.

Determining the direct economic impact is a critical first step in conducting a valid economic impact analysis. Once the direct expenditures are identified, the indirect and induced effects are calculated using multipliers derived from an input-output model[3] of the economy. The IMPLAN input-output model identifies the relationships between various industries. The model is then used to estimate the effects of expenditures by one industry on other industries so that the total impact can be determined. Industry multipliers are developed based on U.S. Census data. IMPLAN

[3] IMPLAN Online software and data were utilized for this study.

accounts closely follow the accounting conventions used in the "Input-Output Study of the U.S. Economy" by the Bureau of Economic Analysis.

The following flow-chart shows how the economic impact model operates.



Economic Impact Modeling

The IMPLAN tools utilized to model direct effects vary according to the type of data collected for each input segment. There are six types of economic activity changes, or functions, that IMPLAN is designed to model for: industry, commodity, labor income, household income, industry spending pattern, and institutional (government) spending patterns. The most commonly used activity is an industry change, as the business generating a change in revenue, labor, or employment is often known and attributable to a specific industry sector.

The IMPLAN sectoring scheme is based on the 6-digit North American Industry Classification System (NAICS), developed under the auspices of the Office of Management and Budget (OMB), which classifies business establishments based on the activities they are primarily engaged in or

the commodities they create. IMPLAN's current sectoring scheme aggregates the 2017 version of the NAICS classification scheme down to just 536 industry sectors. When an industry and the commodity produced by the industry have the same name, the commodity is considered the primary product of that industry and will share the same sector code. Other commodities produced by that industry are considered secondary products of that industry. Therefore, it is possible for more than one industry to produce a specific good or service.

When using the industry change function, the direct effect values are entered into IMPLAN using the appropriate sector and IMPLAN calculates the multiplier effects resulting from that direct spending. A commodity change will distribute the total demand or sales for the good or service as an industry change across all producing industries or institutions, based on their regional market share distribution of that commodity. An industry spending pattern models the effects from expenditures within a particular industry.

For gaming-related operating impacts, it was determined to use the Analysis-by-Parts technique to avoid potentially over-estimating the multiplier effects of casino operations.

Analysis-by-Parts for Gaming-Related Operating Impacts

The Analysis-by-Parts (ABP) differs from the traditional Industry Change Activity, as it separates out the multiplier effects into individual impact components, Intermediate Expenditure (indirect impacts from Type I multipliers) and Labor Income (induced impacts from Type II multipliers).[4] This allows for more flexibility and customization capabilities in the analysis to model actual business operations.

For the Labor Income (LI) component we used a Labor Income Change activity to analyze the impact of the payroll of casino operations necessary to meet the demand or production level. The direct input for Labor Income in the casino analysis consisted of Employee Headcounts and Employee Compensation (including tips) as reported by the Iowa gaming industry.

For Intermediate Expenditures (IE), we import an Industry Spending Pattern to specify the goods and services of industry purchases needed for the sector 503 - Gambling industries (except casino hotels) in order to satisfy projected casino revenues. The purchase of these goods and services from local sources actually represents the first round of indirect purchases by the casino industry. The coefficients listed in an Industry Spending Pattern represent the amount spent on each commodity to produce one dollar of the industry's output, while the sum of all commodity coefficients equals total intermediate expenditures used by that industry sector.

Since the ABP technique shifts the direct inputs to indirect and induced impact results, the direct effects of employment and labor income are imputed using the data reported by the Iowa gaming

[4] Economic impact multipliers consist of Type I, which measures only business-to-business purchases (indirect). Type II multipliers in the Bureau of Economic Analysis method measure the effects of local Household spending (induced). SAM (social accounting matrix) multipliers in the IMPLAN systems measure the combined indirect and induced effects.

industry. IMPLAN generates an estimate direct effect for value added and output based on the labor income change direct effect inputs.

Multipliers

As shown in the following table, the standard data from IMPLAN for Sector 503-Gambling Industries (Except Casino Hotels) at the state level showed Other Property Income (OPI) at approximately 25.4% of total Output per Worker. Based on our experience analyzing the economic impacts of gaming within states that have existing casino resort operations and our knowledge of casino industry profitability, The Innovation Group believes this is an appropriate OPI to total Output per Worker ratio. We believe the Iowa state data within IMPLAN will provides realistic estimate of casino profitability and the corresponding economic impacts that will flow through the state's economy due to the introduction of gaming.

Table 42: IMPLAN Industry Sector 503 – Iowa State Data

Industry Ratio	Value	%
Employment Compensation (EC)	$34,988	26.3%
Proprietor Income (PI)	$5,452	4.1%
Other Property Income (OPI)	$33,767	25.4%
Tax on Production & Imports (TOPI)	$20,729	15.6%
Value Added	*$94,936*	*71.4%*
Intermediate Expenditures (IE)	$38,022	*28.6%*
Output per worker	$132,958	

Source: IMPLAN Group, LLC, IMPLAN System (data and software); The Innovation Group

Compared to other industries with lower profitability levels, the gaming industry's multipliers are lower since more of the output is shifted away from Intermediate Expenditures into Other Property Income (OPI). Multipliers are not applied to OPI in an economic impact analysis since it does not stimulate any additional impacts that can be attributed to the study area. For example, corporate profits from a casino operation may accrue to a company based in another state, effectively a leakage from the model. In other words, by generating higher OPI, more of the Output is effectively leaked out of state, and the multiplier effect is reduced. Figure 2 illustrates.

Figure 2: IMPLAN Modeling Components

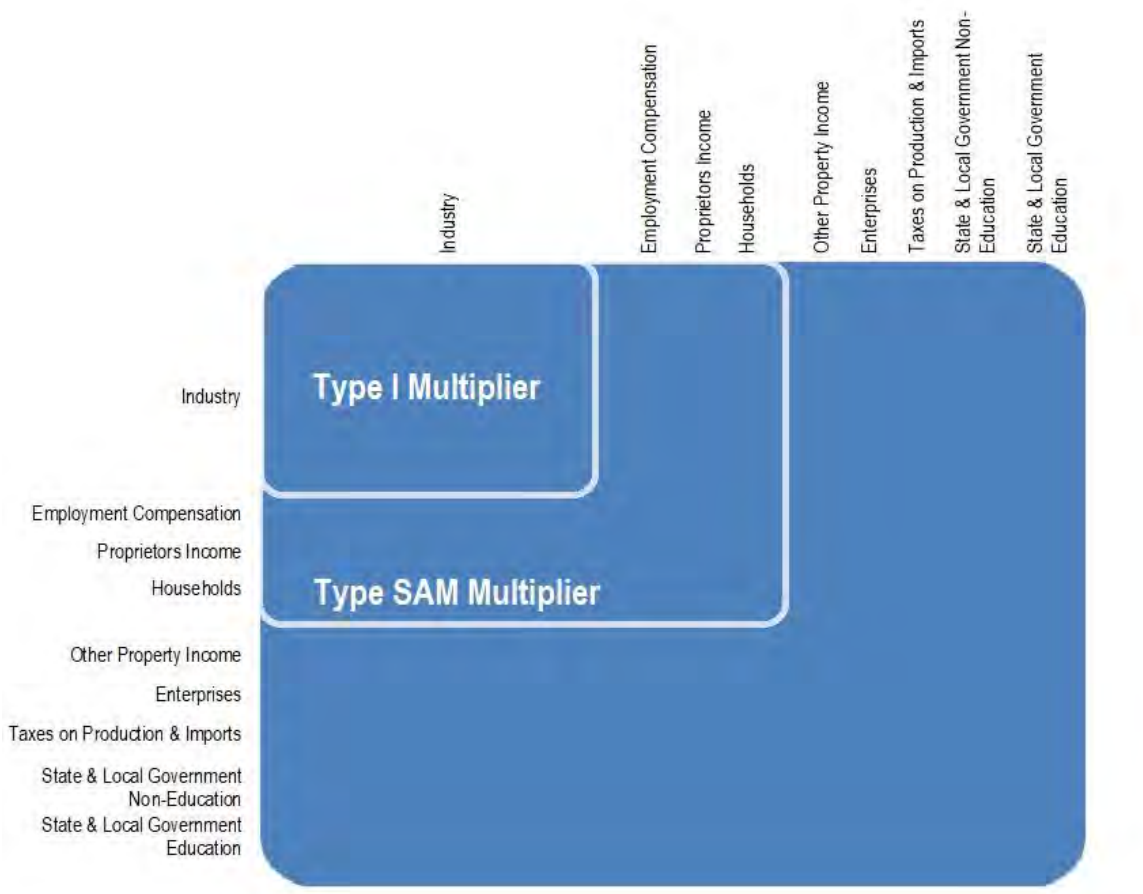


Table 43 shows the output multipliers for the Iowa state model for industry sector 503, Gambling Industries (Except Casino Hotels). To illustrate, an increase in direct effect of $1,000,000 would produce a total effect of $1,490,000 in the model.

Table 43: Output Multipliers for IMPLAN Industry Sector 503 – Iowa State

Multiplier	Standard Model
Type I	0.28
Type II	0.21
Total (SAM)	0.49

Source: IMPLAN Group, LLC, IMPLAN System (data and software); The Innovation Group

The Analysis-by-Parts method results in a much more conservative and we believe realistic estimate of the indirect and induced (or multiplier) effects of the operation of the casino component. The inputs into the IMPLAN casino model consist solely of the employee headcounts and compensation as well as purchases by the casino of goods and services. Operating profit and gaming taxes are excluded from the multiplier effect, although they are included in the displays of direct effects.

A Note on Substitution

Casino development frequently elicits concern that a substitution of consumer spending (the substitution effect) will negatively impact local businesses, especially smaller "mom and pop" retail, restaurant, and other entertainment industries. Intuitively it seems to be logical that spending at a casino would be diverted from other consumer activities such as going to a movie or taking a trip to the beach. However, numerous empirical studies have failed to find any conclusive evidence of significant economic substitution after the introduction of new casinos, nor is there any conclusive evidence as to the amount of spending that is substituted or the industry that it would have otherwise been spent in.

It is likely that countervailing positive effects dilute or outweigh any substitution that occurs. First, there is the increased household income in the area from casino employment. Secondly, there is a substantial body of research and case studies demonstrating the positive impacts that casinos have on surrounding local businesses. A review of studies of casino impacts on local business shows that casinos can stimulate local economies, resulting in communitywide growth, including in the local food and beverage business and retail businesses. Casino visitors stop at local retail outlets and restaurants in addition to some overnight casino guests patronizing local non-casino hotels.

Since these off-property impacts were not included in this economic impact analysis, it was determined after careful consideration that any substitution effects that may occur in the state as a result of legalized gaming operations would not be modeled in the economic impact analysis.

Interpreting Results

The IMPLAN analysis expresses impacts (direct, indirect, and induced) for the following four economic variables:

Employment is measured in IMPLAN and by the U.S. Census as headcount, in other words the number of full and part-time workers supported by an economic activity.

Labor Income (LI) is compensation to all workers both employees and owners in terms of wages and salaries as well as benefits and payroll taxes. Profits from self-employed businesses can also be included in this category as compensation to the owner. These are known as employment compensation (EC) and proprietor income (PI) in IMPLAN. $LI = EC + PI$

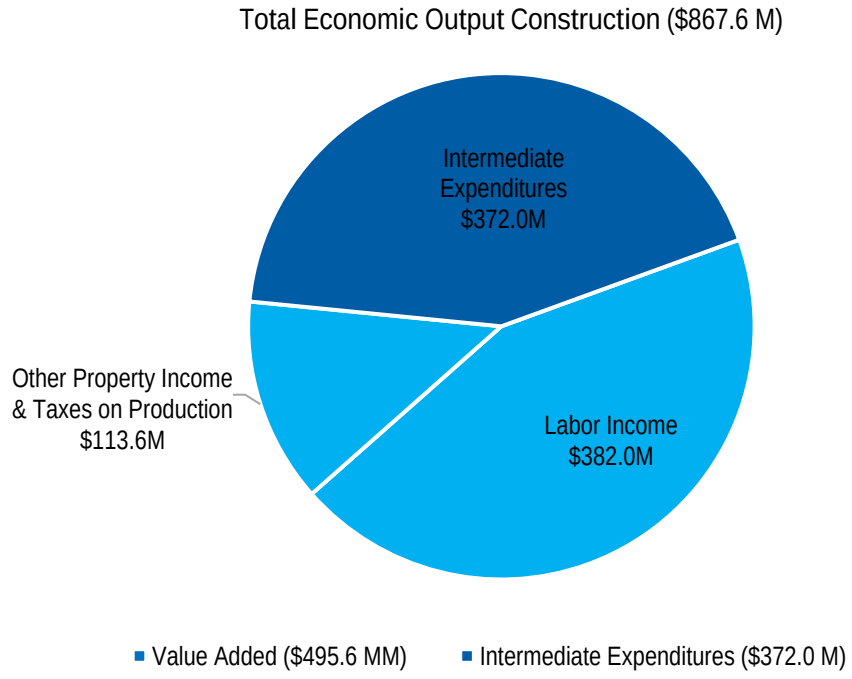
Value-Added (VA) measures the industry or event's contribution to Gross Domestic Product (GDP). It consists of labor income (as described above), taxes on production and imports (TOPI), and other property income (OPI, such as corporate profits, rent payments, and royalties). It is the difference between a business or industry's total sales and the cost of all input materials or intermediate expenditures. $VA = LI + TOPI + OPI$

Output is the total value of industry production; it consists of value-added plus intermediate expenditures (IE). Output is frequently the total price paid by consumers for a good or service. $Output = VA + IE$

Value-Added is the most appropriate measure of economic impact because it excludes intermediate inputs, which are the goods and services (including energy, raw materials, semi-finished goods, and services purchased from all sources) used in the production process to produce ***other*** goods or services rather than for ***final*** consumption. For example, the paper stock used in a magazine publication is an intermediate input whereas paper stock sold in an office-supply store is the final product sold to the consumer. The value of producing the magazine's paper stock is accounted for in measures of GDP within the Paper Manufacturing sector, not in the Publishing sector.

The following graph shows how economic impact components are distributed, using the economic impacts of construction of Iowa casinos. The lighter blue wedges combined are equivalent to Value Added and the total pie is equivalent to Output.

Figure 3: Economic Impact Distribution Illustration



Source: IMPLAN Group, LLC, IMPLAN System (data and software); The Innovation Group.

Ongoing Operations

Direct inputs for casino operations were derived from The Innovation Group's analysis of data reported by the Iowa gaming industry for 2019. We have used calendar year 2019 because of the disruptions of the pandemic, which forced casinos to close for two months in 2020. The casino operations were modeled using an Analysis-by-Parts technique from operating expenditures including labor income and cost of goods (COGS).

Operating Inputs

Direct effect inputs for casino operations account for the workers employed at Iowa casinos and the compensation they earn as well as the purchases of goods and services. Inputs for the modeling were derived from data from the IRGC's "2019 Economic Reports," which reports total payroll of $331 million, and the IRGC Annual Report 2019, which reports that of 8,511 people employed by the casinos and racetracks, 6,246 or 73% were Iowans. Only the Iowa portion of employment was utilized in the modeling.

Table 44: Casino & Racetrack Employment Data 2019

Salaries & Wages	$233,389,071
Employee Benefits	$60,248,124
Payroll Taxes	$37,401,181
Total Payroll & Related Expenses	$331,038,376
Iowa Employment	6,246
Iowa Payroll	$242,940,394

Source: IRGC, The Innovation Group.

The "2019 Economic Reports" reported a total operating spending within Iowa of $244 million.

Table 45: Casino & Racetrack Expenditure Data 2019, Iowa Vendors Only

Gaming related equipment & supplies	8,540,232
Other supplies & Services	235,689,499
Total Operating Expenses	244,229,731

Source: IRGC, The Innovation Group.

The following table shows the total inputs utilized in the IMPLAN modeling for ongoing operations. An estimate of tips for table dealers and food and beverage servers of $28.8 million was added to the $243 million in payroll for total employment compensation of $271.7 million.

Table 46: Direct Effect Inputs Iowa Statewide – Ongoing Operations

Industry Spending Pattern & Labor Change	Expenditures	Employment	Labor Income
503 Gambling industries (except casino hotels)	$244,229,731		
5001 Employment compensation		6,246	$271,717,020

Source: IMPLAN Group, LLC, IMPLAN System (data and software); The Innovation Group.

Annual Economic Impacts from Operations

The results in the following section represent total impacts (direct, indirect and induced) of ongoing casino expenditures and employment. The table below shows the statewide annual ongoing impacts of Iowa casinos as of 2019. The ongoing impacts of casinos are estimated to

generate annual direct effects of 6,246 jobs, $271.7 million in labor income, and $828.5 million of value added for the state of Iowa. Based on indirect and induced effects, the total annual impact for the state of Iowa from the ongoing casino operations is approximately 12,473 jobs, $557.7 million in labor income, and $1.3 billion in value added.

Table 47: Iowa Casino Operating Impacts – 2019 Dollars

Impact Type	Employment	Labor Income ($M)	Value Added ($M)	Output ($M)
Direct Effect	6,246	$271.7	$828.5	$1,328.8
Indirect Effect	3,980	$190.5	$301.9	$561.7
Induced Effect	2,247	$95.5	$179.3	$320.1
Total	12,473	$557.7	$1,309.8	$2,210.7

Source: IMPLAN Group, LLC, IMPLAN System (data and software); The Innovation Group

Fiscal Impacts

Fiscal impacts resulting from IMPLAN include business taxes (including sales taxes), payroll taxes, property taxes, and other relevant taxes both locally and statewide. Based on the operating results of Iowa casinos, IMPLAN estimates that $124.2 million of tax revenue accrues to local governments annually while $126.1 million of tax revenue accrues to the state government. It is important to note that the fiscal impacts estimated by IMPLAN and illustrated in the tables below exclude any gaming tax revenue generated for Iowa and includes taxes from direct, indirect, and induced effects.

Table 48: Local Tax Impact: Iowa Casinos Ongoing Operations ($M)

Description	Direct	Indirect	Induced	Total
TOPI: Sales Tax	$10.5	$1.1	$0.8	$12.4
TOPI: Property Tax	$92.0	$9.7	$7.4	$109.0
TOPI: Motor Vehicle License	$0.1	$0.0	$0.0	$0.2
TOPI: Other Taxes	$1.4	$0.1	$0.1	$1.7
TOPI: Special Assessments	$0.4	$0.0	$0.0	$0.5
Corporate Profits Tax	$0.0	$0.0	$0.0	$0.0
Personal Tax: Income Tax	$0.2	$0.1	$0.1	$0.3
Personal Tax: Motor Vehicle License	$0.0	$0.0	$0.0	$0.0
Personal Tax: Other Tax (Fish/Hunt)	$0.0	$0.0	$0.0	$0.0
Total	$104.6	$11.1	$8.4	$124.2

Source: IMPLAN Group, LLC, IMPLAN System (data and software); The Innovation Group

Table 49: State Tax Impact: Iowa Casinos Ongoing Operations ($M)

Description	Direct	Indirect	Induced	Total
TOPI: Sales Tax	$81.7	$8.6	$6.5	$96.9
TOPI: Property Tax	$0.0	$0.0	$0.0	$0.0
TOPI: Motor Vehicle License	$4.3	$0.5	$0.3	$5.1
TOPI: Other Taxes	$4.5	$0.5	$0.4	$5.4
TOPI: Special Assessments	$0.0	$0.0	$0.0	$0.0
Corporate Profits Tax	$2.7	$0.7	$0.5	$4.0
Personal Tax: Income Tax	$6.5	$4.4	$2.2	$13.1
Personal Tax: Motor Vehicle License	$0.6	$0.4	$0.2	$1.2
Personal Tax: Other Tax (Fish/Hunt)	$0.2	$0.1	$0.1	$0.4
Total	$100.6	$15.2	$10.3	$126.1

Source: IMPLAN Group, LLC, IMPLAN System (data and software); The Innovation Group

In addition, the following table shows direct gaming taxes to local jurisdictions made by casinos:

Table 50: Direct Local Gaming Taxes 2019

	City Tax	County Tax
Ameristar	$795,674	$795,674
Casino Queen	$106,904	$106,904
Catfish Bend	$198,411	$198,411
Diamond Jo Dubuque	$354,268	$354,268
Diamond Jo Worth	$423,450	$423,450
Grand Falls	$316,841	$316,841
Hard Rock	$384,502	$384,502
Harrah's	$359,291	$359,291
Horseshoe	$864,803	$864,803
Isle Bettendorf	$316,404	$316,404
Isle Waterloo	$417,406	$417,406
Lakeside	$248,464	$248,464
Prairie Meadows	$1,041,436	$1,041,436
Q Casino	$248,658	$248,658
Rhythm City	$374,199	$374,199
Riverside	$464,614	$464,614
Wild Rose Clinton	$147,098	$147,098
Wild Rose Emmetsburg	$134,344	$134,344
Wild Rose Jefferson	$143,449	$143,449
Total	$7,340,216	$7,340,216

Source: IRGC, The Innovation Group.

Donations

Direct inputs for casino-related donations were derived from The Innovation Group's analysis of data reported by the Iowa gaming industry for 2019. We determined that an Industry Change function within IMPLAN would be most appropriate for modeling the impacts related to the donations as these contributions can effectively be thought of as revenue for the recipient not-for-profit organizations, charities, and localities.

Donation Inputs

The Innovation Group segmented the donations into two sectors within IMPLAN. For donations allocated to not-for-profit and other entities, we utilized sector 522-Grantmaking, Giving, and Social Advocacy Organizations. For city and county donations, we used sector 534-Other Local Government Enterprises. The following table outlines the final inputs used to calculate the economic impacts generated by donations from Iowa casinos.

Table 51: Direct Effect Inputs Iowa Statewide – Casino Donations

Industry Change	Value
522 Grantmaking, giving, and social advocacy organizations	$55,885,690
534 Other local government enterprises	$39,591,408

Source: IMPLAN Group, LLC, IMPLAN System (data and software); The Innovation Group

Annual Economic Impacts from Gaming Donations

The table below shows the statewide annual ongoing impacts of donations from Iowa casinos as of 2019. The ongoing impacts of these donations are estimated to generate annual direct effects of 319 jobs, $18.5 million in labor income, and $56.5 million of value added for the state of Iowa. Based on indirect and induced effects, the total annual impact for the state of Iowa from the ongoing donations is approximately 664 jobs, $35.4 million in labor income, and $84.4 million in value added.

Table 52: Iowa Casino Donation Impacts – 2019 Dollars

Impact Type	Employment	Labor Income ($M)	Value Added ($M)	Output ($M)
Direct Effect	319	$18.5	$56.5	$95.5
Indirect Effect	206	$10.9	$16.8	$34.1
Induced Effect	139	$5.9	$11.1	$19.8
Total	664	$35.4	$84.4	$149.5

Source: IMPLAN Group, LLC, IMPLAN System (data and software); The Innovation Group

Gaming and Other Taxes

Iowa casinos generate meaningful tax revenue for the state government in the form of gaming and other taxes paid. Based on reported data for 2019, casinos paid total state taxes of $376.9 million, excluding payroll taxes. The Innovation Group utilized the Institutional Spending Pattern function within IMPLAN to model the impacts generated from these taxes paid.

Gaming and Other Tax Inputs

The following table displays the direct effects The Innovation Group input into IMPLAN to model the economic impacts generated from gaming and other taxes paid by Iowa casinos.

Table 53: Direct Effect Inputs Iowa Statewide – Gaming and Other Taxes

Institutional Spending Pattern	Expenditures
12001 State/Local govt other services	$376,946,142

Source: IMPLAN Group, LLC, IMPLAN System (data and software); The Innovation Group

Economic Impacts from Gaming and Other Taxes

Based on 2019 gaming and other taxes paid of $376.9 million, the following table displays the statewide annual ongoing impacts. The ongoing impacts of these taxes paid are estimated to generate annual direct effects of 3,144 jobs, $200.8 million in labor income, and $249.6 million of value added for the state of Iowa. Based on indirect and induced effects, the total annual impact for the state of Iowa from the ongoing taxes paid is approximately 4,332 jobs, $252.8 million in labor income, and $345.3 million in value added.

Table 54: Iowa Casino Gaming and Other Taxes Paid Impacts – 2019 Dollars

	Employment	Labor Income ($M)	Value Added ($M)	Output ($M)
Direct Effect	3,144	$200.8	$249.6	$292.3
Indirect Effect	193	$9.8	$16.3	$32.8
Induced Effect	994	$42.3	$79.4	$141.7
Total	4,332	$252.8	$345.3	$466.8

Source: IMPLAN Group, LLC, IMPLAN System (data and software); The Innovation Group

Construction

For one-time construction impacts, we compiled costs for the 2012-2021 period; the 2014 economic impact study assessed construction impacts through 2011. Construction impacts are expressed on a single-year basis. Therefore, the employment figures, for example, represent person-year equivalents; for a construction period of two years, the actual number of workers onsite would be half the person-year equivalent.

The impact of construction only relates to expenditures made directly by the development company to design, build and outfit the physical structure. For construction impacts, the Industry Change function using sector 57-Construction of New Commercial Structures, Including Farm Structures was most appropriate for modeling the costs associated with development of the existing Iowa casinos.

Construction Inputs

Recognizing that the construction of each respective Iowa casino occurred across a wide time horizon, The Innovation Group converted each casino's construction budget into 2021 dollars. Based on this dollar cost conversion, the following table outlines the final inputs used to calculate the economic impacts generated by the construction of Iowa casinos.

Table 55: Direct Effect Inputs Iowa Statewide – Casino Construction

Industry Change	Industry Sales
57 Construction of New Commercial Structures, including farm structures	$496,569,336

Source: IMPLAN Group, LLC, IMPLAN System (data and software); The Innovation Group

Economic Impacts from Construction

The results in the following section represent total impacts (direct, indirect and induced) of construction costs. Based on the construction capital costs reported by the gaming industry and converted into 2021 dollars by The Innovation Group, the IMPLAN model estimates that construction of Iowa casinos directly supported 4,266 workers, with labor income equaling $268.2 million and total added value to the economy of $291.5 million. These direct impacts drove a further $204.1 million in added value to the economy and over 2,400 jobs from indirect and induced effects.

In total, Iowa is estimated to have benefited from a one-time, single-year equivalent employment impact of 6,689 workers, $382.0 million in labor income and $495.6 million in total value added, as shown in the table below.

Table 56: Iowa Casino Construction Impacts – 2021 Dollars

Impact Type	Employment	Labor Income ($M)	Value Added ($M)	Output ($)
Direct Effect	4,266	$268.2	$291.5	$496.6
Indirect Effect	951	$49.7	$83.8	$156.4
Induced Effect	1,471	$64.1	$120.3	$214.7
Total	6,689	$382.0	$495.6	$867.6

Source: IMPLAN Group, LLC, IMPLAN System (data and software); The Innovation Group

Fiscal Impacts

Based on the construction budget of Iowa casinos, IMPLAN estimates that $13.4 million of tax revenue accrued to local governments while $21.8 million of tax revenue accrued to the state government.

Table 57: Local Tax Impact: Iowa Casino Construction ($M)

Description	Direct	Indirect	Induced	Total
TOPI: Sales Tax	$0.3	$0.5	$0.5	$1.2
TOPI: Property Tax	$2.3	$4.4	$4.9	$11.6
TOPI: Motor Vehicle License	$0.0	$0.0	$0.1	$0.1
TOPI: Other Taxes	$0.0	$0.1	$0.1	$0.2
TOPI: Special Assessments	$0.0	$0.0	$0.0	$0.1
Corporate Profits Tax	$0.0	$0.0	$0.0	$0.0
Personal Tax: Income Tax	$0.2	$0.0	$0.0	$0.2
Personal Tax: Motor Vehicle License	$0.0	$0.0	$0.0	$0.0
Personal Tax: Other Tax (Fish/Hunt)	$0.0	$0.0	$0.0	$0.0
Total	$2.8	$5.0	$5.6	$13.4

Source: IMPLAN Group, LLC, IMPLAN System (data and software); The Innovation Group

Table 58: State Tax Impact: Iowa Casino Construction ($M)

Description	Direct	Indirect	Induced	Total
TOPI: Sales Tax	$2.0	$3.9	$4.4	$10.3
TOPI: Property Tax	$0.0	$0.0	$0.0	$0.0
TOPI: Motor Vehicle License	$0.1	$0.2	$0.2	$0.5
TOPI: Other Taxes	$0.1	$0.2	$0.2	$0.6
TOPI: Special Assessments	$0.0	$0.0	$0.0	$0.0
Corporate Profits Tax	$0.1	$0.2	$0.4	$0.7
Personal Tax: Income Tax	$6.0	$1.2	$1.5	$8.6
Personal Tax: Motor Vehicle License	$0.6	$0.1	$0.1	$0.8
Personal Tax: Other Tax (Fish/Hunt)	$0.2	$0.0	$0.0	$0.2
Total	$9.1	$5.8	$6.9	$21.8

Source: IMPLAN Group, LLC, IMPLAN System (data and software); The Innovation Group

SOCIAL AND COMMUNITY IMPACT ANALYSIS

This section assesses the social and community impacts of casino development in Iowa. Increased local services and costs as a result of casino gaming operations generally fall into three categories: those arising from population and development growth, those arising from the impacts of increased visitation and traffic, and social impacts resulting from problem gambling.

The analysis draws upon social science research as well as data analysis conducted by the Innovation Group. Although casinos are perceived to be different in kind from other commercial developments of comparable size and visitor base, inordinate negative impacts from casino development have not materialized, even in small communities with limited infrastructure and resources. In fact, experience over the past two decades has demonstrated that mitigation payments designed in anticipation of drastic impacts have often exceeded the actual need of the communities.

The perception that casinos breed crime is not supported by the evidence. While the *number* of reported crimes can increase, as with any commercial development that attracts visitors, casino gaming has not been shown to lead to an increase in crime *rates*.

Host communities should expect impacts similar in kind to other commercial development of similar scope and visitor potential. The projected increase in visitor population should be expected to lead to increases in public safety services and judicial system caseload. The one significant difference in kind relates to the association between problem gambling and other social pathologies as discussed in the literature review.

The structure of the Iowa gaming market has further helped to minimize negative impacts and maximize positive impacts. Iowa ranks fourth in the nation in per-capita funding for the prevention and treatment of problem gambling, and the diversion of gaming revenue to state, local and non-profit coffers. Iowa's unique enabling legislation requires gaming licenses to be either held or sponsored by nonprofit organizations, enhancing positive community benefits.

For example, the Iowa West Foundation in 2019 celebrated $500 million in funding to nonprofit organizations and governmental entities in Council Bluffs and rural communities in southwest Iowa. The Foundation was established in 1994 as a 501(c)3 charity funded by the Iowa West Racing Association (IWRA), which is the license holder for the Horseshoe Casino and the license sponsor for Ameristar and Harrah's. The Foundation has invested $237 million dollars in partnership with the City of Council Bluffs for infrastructure projects and amenities, $101 million for educational opportunities, $73 million with the human service community through its Healthy Families portfolio, and $165 million dollars in "placemaking," including:

- Arts, culture & entertainment $28,400,000;
- Housing $11,700,000;
- Streetscape $31,800,000;
- Recreation $27,100,000;
- West Broadway $4,600,000;
- Community centers/infrastructure $11,500,000;
- Beautification/art $20,300,000;

- Environment $3,300,000.[5]

In Central Iowa, the unique non-profit ownership structure of Prairie Meadows has led to a direct community impact of $2 billion since 1996, supporting vital arts, culture, healthcare, education and infrastructure initiatives across central Iowa. Over the years, these funds have contributed to the Highway 5 expansion, Greater Des Moines Urban Beautification Project, and Wells Fargo Arena.

Contributions through April 2021:

Charitable Giving

- Polk County $673.0 Million
- Community Betterment Grants $52.7 Million
- Legacy Grants $36.4 Million
- City of Des Moines $65.2 Million
- Polk County Schools $9.3 Million
- Other $26.7 Million

Taxes $1.1 Billion

Casino gaming has been in operation in Iowa for nearly three decades, and there are casinos relatively evenly distributed throughout the state. By now few Iowans have very far to drive to get to a casino, and in our analysis of player databases we see penetration into every zip code in Iowa.

Therefore, the distinction between casino counties and non-casino counties in terms of social and community impacts is highly tenuous at this point in the industry's development in Iowa. However, to maintain consistency with the 2014 study, the analysis compares casino vs. control counties in line with the 2014 socio-economic report in major economic and social categories.

Regarding some of the key socio-economic indicators, the percentage of families receiving financial assistance has declined in all categories, retail sales have increased in all casino counties except Clinton, and personal income has increased in all categories. While there are some differences between casino and control counties in the metro category, including for crime rates, the data do not present evidence attributing a causal effect to casino operations. Casino counties in the metro category represent a much larger population, 1.12 million versus only 383,153 in the two control metro counties. There are few if any differences in the micro and outlying areas categories.

[5] https://www.iowawestfoundation.org/blog/the-iowa-west-foundations-efforts-in-placemaking/

The major negative impact from casino operations involves problem gambling. The *2016 Survey of Problem Gambling Services in the United States* ranks Iowa fourth in per-capita state-funded problem gambling programs, at approximately $1.00 compared to the national average of $0.37. In total, Iowa spent over $3 million on problem gambling services in 2016. These funds supported an array of problem gambling services, including a helpline, research, program evaluation, counselor training, treatment, prevention, and public awareness services. The State should continue all efforts and the necessary funding to minimize social harms from problem gambling.

Based on our analysis, we do not see any material negative changes to social or community impacts since the 2014 report. Crime rates have declined in Iowa, there have been improvements in problem gambling monitoring and declines in persons receiving treatment, unemployment is low throughout the state, and real personal income has risen in casino and non-casino counties alike.

Literature Review

Problem Gambling

Definition and Prevalence

A majority of Americans, about 86%, report having gambled at least once in their lifetime[6]. Most people gamble for recreational purposes without the behavior becoming a problem. Studies, however, estimate that 0.4%-1.6% of the United States population can be classified as pathological gamblers.[7,8] Pathological gambling has been commonly associated with relationship problems, employment issues, and significant financial difficulties.

The American Psychiatric Association (2004) defines a pathological gambler as a person who features a continuous loss of control over gambling. Furthermore this gambler illustrates a progression, in gambling frequency and amounts wagered, in the preoccupation with gambling and in obtaining monies with which to gamble. However, problem gambling is a more loosely defined term and is commonly associated with gaming-related difficulties that are considered less serious than those of a pathological gambler. For the sake of this report we will utilize the definition by noted researchers Cox, Rosenthal and Volberg which defines problem gambling as a pattern of gambling behavior that compromise, disrupt or damage personal, family or vocational pursuits.[9]

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[6] James KC, Bible WA, Dobson JC, Lanni JT, Leone RC, Loescher RW, et al. *National gambling impact study commission final report*. National Gambling Impact Study Commission. 1999.
[7] Shaffer HJ, Hall MN, Vander Bilt J. "Estimating the prevalence of disordered gambling behavior in America and Canada: a research synthesis." *Am J Public Health*. 1999
[8] Petry NM, Stinson FS, Grant BF. "Comorbidity of DSM-IV pathological gambling and other psychiatric disorders: results from the national epidemiologic survey on alcohol and related conditions." *J Clin Psychiatry*. 2005
[9] Cox, S., H. R. Lesieur, R. J. Rosenthal & R. A. Volberg. 1997. *Problem and Pathological Gambling in America: The National Picture.* Columbia, MD: National Council on Problem Gambling.

The National Research Council[10] utilizes a three-level metric. Level 1 gambling is considered social and or recreational gambling with no appreciable harmful effects. Level 2 gambling is synonymous with problem gambling. Level 3 gambling is synonymous with pathological gambling. Problem gambling is an urge to gamble despite harmful negative consequences or a desire to stop. It is often defined by whether harm is experienced by the gambler or others, such as the gamblers family, significant other, spouse, friends, or coworkers. A problem gambler may or may not be a pathological gambler. Pathological or compulsive gambling is defined as a mental disorder characterized by a continuous or periodic loss of control over gambling, a preoccupation with gambling and with obtaining money with which to gamble, irrational thinking, and a continuation of the behavior despite adverse consequences.

Prevalence rates to determine adult problem gambling rates are measured by administering a survey (often a variation of the South Oaks Gambling Screen or a modified DSM-IV questionnaire) to a statistically valid sample of the adult population of the jurisdiction being measured. Adolescent rates are measured in a similar manner. Such a method and analysis of data that accompanies the process is referred to as a general population prevalence study.

Jurisdictions, both domestically and internationally, have conducted studies to estimate the percentage of the population that could be classified as having some level of problem gambling behavior. These studies, commonly referred to as prevalence studies, are designed to reflect the scope and severity of problem gambling behavior.[11]

One of the most frequently cited studies on prevalence rates is *Estimating the Prevalence of Disordered Gambling Behavior in the United States and Canada: A Meta-analysis by the Harvard Medical School Division on Addictions*. The meta-analysis method of estimating prevalence rates has been used in related addiction fields of drug prevention and patterns of alcohol use and alcohol treatment. It is considered a more cost-effective method than a national study since it makes use of existing research already conducted in a field.

The Harvard Medical School study, believed to be the first to use meta-analysis measurements for problem gambling prevalence rates, analyzed 152 distinct previous prevalence studies available for review by June 15, 1997. The study determined that 2.0 percent of the adult population could be considered as Level 2 of disordered gambling (often referred to as problem gambling) and 0.9 percent of Level 3 or disordered gambling (also referred to as pathological gambling) during the past year. The vast majority of adults in the general population, then, do not experience gambling-related problems of any clinical significance.

The meta-analysis raw data was given to the Committee on the Social and Economic Impact of Pathological Gambling of the National Research Council (NRC) in its analysis for the National Gaming Impact Study Commission. After an extensive review, the NRC agreed with the above

[10] National Research Council, pp. 20-21.
[11] *Estimating the Prevalence of Disordered Gambling Behavior in the United States and Canada: A Meta-analysis*, Harvard Medical School Division on Addictions, 1997.

rates of problem gambling and used the numbers in its own analysis of problem gambling in its final report.

The introduction of casino gambling has the potential of negative social impacts. These potential impacts can be controlled and minimized through proper planning, awareness campaigns, and prevention and treatment programs applied in a coordinated manner by all relevant stakeholders. By utilizing some of the many proven prevention and treatment programs, the potential social impact of the advent of gaming can be minimized. Allocating funds to problem gambling services can help mitigate problem gambling and promote responsible gambling.

As an example, by devoting more resources to prevention and treatment, Connecticut was able to cut prevalence rates despite further gaming development. In 1996, Connecticut had only a single clinic, but by the time of an updated study in 2008, the state had 17 clinics.[12] Prevalence rates declined substantially during that period, despite the opening of Mohegan Sun late in 1996 and further expansion at Foxwoods, including the opening of Grand Pequot Tower hotel in 1997.

Table 59: Connecticut Prevalence Rates

	2008 Survey	1997 Study
Problem Gamblers	0.90%	2.20%
Probable Pathological Gamblers	0.70%	0.60%
Total Disordered Gamblers	1.60%	2.80%

Source: Spectrum Gaming Group.

One of the most frequently cited studies on prevalence rates is *Estimating the Prevalence of Disordered Gambling Behavior in the United States and Canada: A Meta-analysis by the Harvard Medical School Division on Addictions*. The Harvard Medical School study analyzed 152 distinct previous prevalence studies and determined that 2.9% of the adult population could be considered problem or pathological gamblers. The *2016 Survey of Problem Gambling Services in the United States*[13] conducted by the Association of Problem Gambling Service Administrators and the National Council on Problem Gambling estimates that nationally 2.2% of adults have a gambling problem. Studies on problem gambling comorbidities show high rates of alcohol use disorder among problem gamblers[14].

Responsible Gaming and Harm Minimization

Responsible gambling/gaming programs take several forms in an effort to combat and prevent gambling-related harms. Instances of problem gambling manifest in two categories of harm: (1)

[12] Spectrum Gaming Group, *Gambling in Connecticut: Analyzing the Economic and Social Impacts*, prepared for the State of Connecticut, Division of Special Revenue, June 2009.
[13] https://158bvz3v7mohkq9oid5904e0-wpengine.netdna-ssl.com/wp-content/uploads/2018/03/2016-Survey-of-PGS-in-US_FULL-REPORT-FINAL-12-19-2017-1.pdf
[14] https://pubmed.ncbi.nlm.nih.gov/15889941/

personal harm, including effects on health, well-being, and relationships, and/or (2) economic harm. Research on responsible gaming falls short of the levels of scientific analysis necessary to develop responsible gaming "best practices." While various publications have attempted to synthesize existing research on common responsible gaming and harm minimization practices, the field of research often lacks peer-reviewed scientific analyses.

In their current form, the most common responsible gaming practices reflected in the field of research are self-exclusion programs, gambling help lines, tracking behavioral characteristics, setting gambling limits, providing responsible gaming-oriented game features, and employee training. Each of these strategies will be discussed below.

As a condition of licensing, commercial casino states may mandate that casinos prepare and submit for approval a wide-ranging plan for addressing responsible gaming issues. Required elements of the plan often include employee training and public awareness efforts along with other policies that various states have addressed specifically through standalone statutes, or regulations, that address only a single subject. The required elements of these plans vary by state.

In Maryland, for example, a responsible gambling program must consist of mechanisms that both mitigate the effects of problem gambling in the State and maximize the access of individuals with a gambling problem to problem gambling resources.[15]

Massachusetts makes the issuance of gaming licenses contingent upon the submission of a plan to "address lottery mitigation, compulsive gambling problems, workforce development and community development [,] and host and surrounding community impact and mitigation issues."[16] The State intends for these requirements to advance its objective of providing a gaming environment that is safe and productive for all stakeholders. In furtherance of this objective, Massachusetts prompts gaming licensees to develop plans that train employees to identify patrons exhibiting problems with gambling, and prevention programs for vulnerable populations.[17]

Other states, such as Ohio, connect their responsible gaming plans to other mitigation mechanisms, such as voluntary exclusion programs, to better protect vulnerable groups.[18] Overall, the development of responsible gaming plans serves to establish concrete frameworks to better promote safe gaming.

Self-Exclusion Programs

Voluntary self-exclusion programs, typically operated by casinos and online gambling sites or gaming regulators, give individuals the ability to exclude themselves from gambling activities. Many states require that patrons have the ability to authorize a casino to refuse their right to gamble and to expel them if they are found gambling or, in some cases, otherwise found on the premises.

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[15] Maryland responsible gaming plan statute. COMAR 36.01.03.07(B).
[16] Massachusetts responsible gaming statute. M.G.L. Ch. 23K, § 15(6).
[17] M.G.L., Ch. 23K, § 18(6)
[18] *See e.g.*, Ohio Regulation 3772-12-06.

Program management models vary; in some cases, they are run by the state or a state-appointed group, in others they are managed directly by licensees. State statutes vary in the length of the self-exclusion periods available – typically ranging from a six month ban to lifetime restriction – and in the procedures for reversing self-exclusion. In some states, third parties also have the ability to voluntarily exclude patrons exhibiting problem gambling behavior. Many state laws specify that, in addition to banning play, the casino must also eliminate direct promotional outreach to these individuals as well as exclude them from complimentary offerings ("comps") or access to credit. Such programs illustrate efforts to mitigate the potential social harms of expanded gaming in a state, including mental health issues, relationship concerns, and financial and work problems resulting from problem gambling.[19] As one of the most investigated responsible gaming strategies, self-exclusion programs benefit from a robust body of research conducted around the world.

Generally, the research on the effectiveness of self-exclusion programs concludes that this method is a safe and, for some gamblers, effective form of intervention against problem gambling. As one study suggests, self-exclusion may have similar outcomes to counseling and may reduce harm in the short-term. Additional research has indicated that self-excluded persons also engage in treatment, self-help groups, or other forms of support experience more positive outcome than those who do not. This research suggests that self-exclusion programs that serve as a gateway to treatment are most successful for individuals harmed by problem gambling. Research has also indicated that problem gamblers appear to be more receptive to self-exclusion mitigation strategies when compared to self-led efforts to seek professional help.[20] Ultimately, self-exclusion has transitioned from a "punitive" enforcement model to one that aims to provide individual assistance in order to connect vulnerable persons with counseling and other support services.

The framework for self-exclusion programs varies from state to state, but many states mandate that patrons have the ability to refuse their right to gamble and to expel them from the premises.[21] In Kansas, for example, the voluntary exclusion statutes require that each self-exclusion applicant "refrain from visiting gaming facilities, pari-mutuel licensee locations, and fair association race meets."[22] Kansas' statutes also enable the gaming commission to "prohibit the applicant from entering the premises of all gaming facilities."

Similarly, Massachusetts enables a person to be placed on a self-exclusion list by "acknowledging that the person is a problem gambler and by agreeing that, during any period of voluntary exclusion, the person shall not collect any winnings or recover any losses."[23] Massachusetts also prohibits gaming establishments from marketing "to persons on any excluded persons list," and

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[19] Nerilee Hing, Barry Tolchard, Elaine Nuske & Louise Holdsworth, *A Process Evaluation of a Self-Exclusion Program: A Qualitative Investigation from the Perspective of Excluders and Non-Excluders*, 12 INTERNATIONAL JOURNAL OF MENTAL HEALTH AND ADDICTION 509, 510 (2014), 10.1007/s11469-014-9482-5.
[20] Hing, *supra* note 5, at 510.
[21] Regulatory Management Counselors, *Comparative Governance and Regulatory Structure of Gaming Regulations Related to Expanded Legalized Gaming Activities in the Commonwealth of Virginia* (Aug. 5, 2019), at 160 (hereinafter *Comparative Governance Report*).
[22] *Id*. at 161.
[23] *Id*. at 169.

requires gaming establishments to deny access to complimentary credits. Ultimately, Massachusetts identifies voluntary self-exclusion as "one means to help address problem gambling behavior or deter an individual with family, religious, or other personal concerns from entering . . . a gaming establishment."[24]

Various challenges interfere with the effectiveness of self-exclusion. First, the number of gambling facilities within a jurisdiction may make the enforcement of self-exclusion impractical; if alternative facilities can be easily accessed, the effectiveness of self-exclusion may be compromised. Notably, statutorily required training may not sufficiently prepare officials responsible for self-exclusion enforcement.[25] The diversity of socioeconomic and psychological conditions among voluntary self-excluders may require responsive enforcement mechanisms. Furthermore, the need to apply for placement on a self-exclusion list within a gaming facility may compromise the integrity of the process, thereby deterring potential self-excluders from participating.

Individual compliance poses another well-documented challenge to the effectiveness of self-exclusion programs. For example, one study determined that more than half of the participants for whom self-exclusion was still in effect had returned to a casino or breached their contracts by the six-month follow-up interview. Additionally, a study of self-excluded individuals in Missouri found similar breaches, indicating that the benefits of the program were attributable more to the act of enrollment than to enforcement. This research has led to the frequent conclusion that responsibility for self-exclusion lies with both the gaming industry and the self-excluding individual.

In conclusion, voluntary self-exclusion programs may reduce the urge to gamble and increase the perception of control over personal behavior.[26] While self-exclusion alone cannot substitute for dedicated treatment, it provides an external control mechanism that may limit problem gambling and encourage voluntary excluders to seek professional help.

Tracking Behavioral Characteristics

In an effort to predict the likelihood that a patron will experience harm from gambling and to introduce preventative interventions before the onset of such problems, gaming jurisdictions have implemented systems to track player behavioral characteristics. These behavioral tracking systems are based on algorithms of play. Implementation strategies vary with the form of gaming: whereas in online gaming environments tracking procedures benefit from access to all player transaction information, in brick-and-mortar environments, the strategy is often designed around player tracking systems (e.g., Players Clubs) that depend upon an individual patron's participation.

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[24] *Id.* at 171.
[25] Hing, *supra* note 5, at 511.
[26] Robert Ladouceur, Caroline Sylvain & Patrick Gosselin, *Self-Exclusion Program: A Longitudinal Evaluation Study*, 23 J. GAMBLING STUDIES 85, 85 (2007), 10.1007/s10899-006-9032-6.

Research on the effectiveness of tracking frameworks has produced informative findings. Based on analysis of player habits, studies have suggested that efforts to promote responsible gaming should be tailored to each type of gambling offered at a gaming location, rather than adhering to a general mitigation program. By studying behaviors and thoughts patrons use to control the amount they gamble, such as attempts to set a budget or to seek help, research has identified characteristics that could be used to develop prevention and early intervention programs for problem gamblers. Research dedicated to tracking the behavioral characteristics of online gamblers has determined that patrons who engaged in more than two types of gambling within their first month of play, with high variability of wagers, were more likely to benefit from responsible gaming programs.

The study of behavioral characteristics remains a highly variable task. Given the limitations inherent in the use of personalized player data, there remains a lack of definitive evidence of any behavioral algorithm that can accurately predict patterns of gambling disorder.

Setting Gambling Limits

The ability to set gambling limits, a process also known as pre-commitment, allows gamblers to predetermine the amount of time or money they are permitted to devote to gambling activities before play begins. Depending on the gaming venue or website, spending limits can include deposit, play, loss, win, bet, and time limits.

Research on the effectiveness of pre-determined gambling limits has demonstrated mixed outcomes and has illustrated positive and negative results of this mitigation technique. Studies have indicated that requiring individuals to set such limits may reduce overall money spent on gambling, but evidence is still lacking to suggest that this spending reduction occurred in individuals who were experiencing gambling-related harms, or that gambling-related harm was reduced. Furthermore, research has indicated that voluntary money limit setting was more effective than time limits in reducing problem gambling behavior. While self-limiting has been found to reduce the variety of games played and the number of bets placed, gambling limits have not been found to reduce the amount wagered per bet. Additionally, research has indicated that pre-commitment may have little effect on decreasing gambling expenditures, especially among those who are intent on continued gambling and who are likely to find methods of circumventing gambling limits.

Finally, the emergence of GameSense, a program that employs in-house responsible gaming information centers or advisors, and other limit-setting programs like PlayMyWay, signal that the future direction of gambling mitigation plans is likely to employ gambling limits. Further research will be required to produce evidence that supports the effectiveness of pre-commitment initiatives.

Responsible Gaming-Oriented Game Features

This harm minimization technique involves the modification to the structure or operation of games to assist patrons in making informed choices about their gambling activity, and to encourage responsible gaming behavior. While research on this mitigation strategy is often focused on the use of warning messages, select studies have explored the use of additional modifications, such as

slowing down the rate of play, posting clocks around gambling facilities, and offering "play money" modes.

A threshold study evaluating the effectiveness of five game features (messages, bank meters, clocks, demo mode, and charity donations) found that most participants were aware of at least one feature, but that only a small portion actually utilized the features. Further research concluded that, when compared to warning messages that appear on the periphery of a screen, messages that appear in the middle of a screen are more frequently recalled and considered more useful. Patrons in one study also identified a cash display as helpful to controlling gambling activities.

The research on responsible gaming-oriented game features has provided varying insights on the effectiveness of such features. While evidence confirming the efficacy of responsible game features is mixed, little research has shown that game features reduce gambling-related harm in a real-world setting.

Employee Training

Training of gaming facility employees in responsible gaming is a nearly universal practice. Some states require that this training include instruction on the complex question of how to identify problem gamblers on the gaming floor. Other states provide for in-depth education on the nature and symptoms of problem gambling.[27] With this training, employees of gambling facilities can better serve patrons who may be identified as problem gamblers by providing information about problem gambling programs. Delaware, for example, requires that the rules for state lottery games provide "procedures for the display and presentation of messages concerning responsible gaming and the regulations, procedures and training for identification of and assistance to compulsive gamblers."[28]

While few studies exist that explore the effectiveness of employee training programs, research has determined that there is considerable disparity in employee ability to accurately identify problem gambling behavior among patrons. Studies indicate that employee training can improve employee knowledge of responsible gambling, however, there is limited evidence that this enhanced understanding enables employees to more accurately identify patrons with a gambling disorder.

Additional obstacles to the effectiveness of employee training are found in the difficulty, awkwardness, and uncertainty present in the act of confronting a patron. Studies have indicated that gaming facility employees often experience difficulty when approaching patrons due to uncertain estimations of a patron's potential problems or in an attempt to avoid causing a patron embarrassment.

[27] Mississippi employee training: MGC Regs. Title 13, Part 3, Rule 10.6
[28] Delaware employee training: 19 Del. C. § 4805(a)(29).

Ultimately, the spectrum of harm from problem gambling manifests differently from state to state. As a result, the role of employee training may vary with the extent of a state's understanding of the gambling problems its residents face.

Public Health

By understanding gambling and its potential impacts on public health, policymakers and health practitioners alike can work to minimize gambling's negative impacts, while promoting its potential benefits. Today, public health perspectives are not limited to the biological and behavioral dimensions of gambling. Rather, a contemporary public health perspective can also target the social and economic determinants of gambling, such as income, employment, and poverty. Four principles have emerged as the basis for a public health framework on gambling: (1) scientific research is the foundation of public health knowledge, (2) public health knowledge is derived from population-based observations, (3) health initiatives are proactive (i.e., health promotion and prevention are primary, while treatment is secondary), and (4) public health is balanced and considers both the costs and benefits of gambling. This framework can stimulate a better understanding of gambling, further elucidate the determinants of problem gambling, and indicate a range of intervention strategies.

Throughout the past decade, publicly-funded problem gambling services have received increased support in the United States. The total number of states that reported publicly-funded problem gambling services increased from 37 in 2010 to 40 in 2016, and the total amount of public funding allocated to problem gambling services increased from $60.6 million in 2013 to $73.0 million in 2016. Among the states that provided funding, the most commonly supported services were problem gambling awareness programs, counselor training, helplines, and problem gambling treatment. Despite the continued growth of problem gambling efforts throughout the United States, in 2016, about one quarter of one percent of people who needed problem gambling treatment received publicly-funded care from a gambling treatment specialist.

Public Education and Informed Choice

Across gaming jurisdictions worldwide, governments and gaming providers have recognized the importance of providing patrons sufficient information to make informed decisions about their gambling. While individuals retain the ultimate responsibility over their gambling choices and level of participation, optimal decision-making depends significantly on the availability of reliable and comprehensive information. This concept of the "informed decision" is pervasive in systems of law and economics and remains an essential component of effective problem gambling mitigation efforts.

Several environmental factors may influence gambling behavior simultaneously, making it difficult to determine the local impact of any one factor. Advertising to promote problem gambling awareness, for example, has attempted to influence gambling behavior and reduce gambling-related harm. Various studies have concluded that the impact of advertising is not likely to be overt, and it may be difficult to measure the impact of advertising efforts to promote problem gambling awareness.

States may require that casinos post signs and/or offer brochures identifying the risks of gambling, signs of gambling disorder, the odds of casino games and/or toll-free phone numbers and other resources for assistance. Common practices among the states include requirements that gambling facilities ensure their advertisements display problem gambling help-line phone numbers. Additionally, some states, like Maryland, require that radio, television, and video advertisements contain a gambling assistance message.[29]

Some states provide regulations that specifically address risk-related advertisements for internet and mobile gaming. Delaware, for example, mandates that internet lottery websites include advertisements for and links to information for treatment, education, and assistance of compulsive gamblers and their families.[30] Similarly, West Virginia requires online sportsbooks and mobile gambling applications to display links to responsible gaming resources.[31]

Gaming jurisdictions have acknowledged that different messaging approaches may work better for different groups. One Canadian study prospectively detailed the most effective messaging approach for different styles of gaming. For casual gamblers (new and occasional gamblers), programs that enhance gambling literacy, including key safeguards and main risk factors, are essential. Frequent gamblers (i.e., those that gamble at least once per month, but not weekly) need a deeper understanding of how gambling works, including information on house edge, randomness, and independence of events. Finally, the study concluded that intensive gamblers (i.e., those who gamble weekly or more often) need to be informed of their play activity, offered self-assessment tools that draw attention to the consequences of their gaming habits, and made aware of the options available for help in addressing gambling-related problems.

Additional Mitigation Strategies

In addition to the main mitigation techniques discussed above, various jurisdictions also employ additional strategies to promote healthy gambling practices. These strategies include restrictions on alcohol, treatment and research funding, and casino credit restrictions along with bet limits.

Restrictions on Alcohol

Several states require casinos to limit alcoholic beverage service on the gaming floor, or to limit access to gambling services for patrons who are visibly intoxicated. The extent of restrictions on the sale of alcoholic beverages varies across different states. Some states, like Michigan and Kansas do not impose any restriction on alcohol service in gaming facilities. Other states, however, like Massachusetts and Maryland limit the time and place of alcohol sales.

Many states that restrict alcohol service mandate that gambling facilities refuse to sell or serve alcohol to patrons that appear intoxicated, or are younger than 21-years old.[32] Maryland, for

[29] Maryland advertising requirements. COMAR 36.03.06.03(B)(5).
[30] Delaware advertising requirements. 29 Del. C. § 4826.
[31] West Virginia advertising requirements. WV CSR § 179-9-13.4.
[32] *See e.g.*, 4 Del. C § 706; Md. Code Ann., State Govt. Law, § 9-1A-24(c)(1); 205 CMR 136.02.

example, requires that video lottery licensees prevent intoxicated individuals from playing video lottery or table games and prohibit intoxicated individuals from entering areas where such games are located. Maryland further restricts alcohol service by prohibiting licensed operators from providing complimentary alcoholic beverages.[33]

As a further restriction on alcohol service in gambling facilities, Massachusetts requires gambling facilities to obtain a gaming beverage license in order to serve alcohol on the premises of such a facility.[34] The sale of alcohol must adhere to the conditions of the issued gaming beverage license, which may be imposed on such license "in the interest of the integrity of gaming and/or public health, welfare, or safety."[35] Massachusetts further requires that gaming licensees promulgate a system of internal controls to monitor the sale of alcohol. At minimum, such a system must include procedures to (1) ensure proper training of employees involved in the service of alcoholic beverages, (2) prevent serving alcoholic beverages to underage or visibly intoxicated individuals, (3) ensure that visibly intoxicated or impaired patrons are not permitted to play slot machines or table games, and (4) ensure that alcohol is properly secured and stored.[36] In addition, Massachusetts prohibits the sale of alcohol between 2:00AM and 4:00AM to patrons who are not in the gaming area and not actively engaged in gambling.[37]

Restrictions on the sale of alcohol play a significant role in the gambling regulations of several states. While the extent of such restrictions may vary, the motivation to promote public health and welfare remains widely relevant.

Treatment and Research Funding

States may implement financial commitments to support treatment for problem gamblers, education services concerning problem gambling, and research to advance responsible gaming and prevent problem gambling. Most states that implement such commitments earmark certain state revenues from gaming for these programs.

Pursuant to advancing public health efforts, Massachusetts assesses an annual fee in proportion to the number of gaming positions at each gaming establishment. This fee is meant to cover the costs of public health services and programs dedicated to addressing problems associated with compulsive gambling.[38] Monies within the Fund may be expended to assist social service programs that address gambling prevention, substance abuse services, and educational campaigns to mitigate the potential addictive nature of gambling.[39] Massachusetts also imposes upon each gaming

[33] COMAR 36.03.10.09(A)(2)
[34] M.G.L. Ch. 23K, § 26.
[35] 205 CMR 136.02.
[36] Massachusetts alcohol service restriction: 205 CMR 138.12.
[37] Massachusetts alcohol service restriction: 205 CMR 136.07(7)(i).
[38] Massachusetts research statutes. M.G.L., Ch. 23K, § 56(e).
[39] M.G.L., Ch. 23K, § 58.

licensee a requirement to provide on-site space for independent substance abuse, compulsive gambling, and mental health counseling services.[40]

Efforts in other states pursue a more targeted approach, focusing treatment funding specifically on problem gambling, rather than on addictive behavior in general. Kansas, for example, established the Problem Gambling and Addictions Grant Fund to provide assistance for the treatment of "persons diagnosed as suffering from pathological gambling."[41]

The scope of research efforts varies from state to state. Massachusetts has established an annual research agenda to study the social and economic effects of gaming in the State and to obtain scientific information relative to neuroscience, psychology, sociology, epidemiology, and etiology of gambling.[42] Similarly, Michigan reserves a significant portion of the monies within its Compulsive Gambling Prevention Fund for, among other things, "research, and evaluation of pathological gamblers and their families."[43]

The majority of states have implemented treatment and research funding provisions to make gaming as healthy for participating individuals, and the environment around them, as possible.

Casino Credit Restrictions and Bet Limits

Some state laws aim to protect patrons from betting more than they can afford to lose by banning casinos from offering credit advances and limiting bet amounts. Methods to limit credit advances include both patron-driven efforts, such as voluntarily placing one's name on a credit exclusion list, and facility efforts, including policies and procedures that limit those patrons to whom a gambling facility may issue credit.

Generally, the procedures established by states aim to ensure that a gaming facility does not extend credit to patrons beyond an amount that those patrons lack a reasonable ability to repay. Regulations may range from broad mandates to gaming operators to exercise caution and good judgment in extending credit[44], to more specific rules that identify groups to whom credit should be limited. As an example of targeted restrictions, Massachusetts requires that a gaming licensee's policies prevent the extension of credit to patrons who self-identify as problem gamblers, place themselves on a voluntary credit suspension list, or are on public assistance.[45]

While the use of credit restrictions as a mitigation tool may vary across states, the desired effect of such restrictions and limitations remains similar. The promotion of safe gambling habits through credit restrictions and bet limits emerges as a primary goal of many states.

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[40] M.G.L., Ch. 23K, § 21.
[41] Kansas problem gambling treatment statutes. K.S.A. §79-4805(c)(1).
[42] Massachusetts research statutes. M.G.L., 23K, § 71.
[43] Michigan problem gambling research statutes. MCL 432.253.
[44] Delaware credit restrictions. 10 Del. Admin. Code 204-6.1.10.
[45] Massachusetts credit restrictions. 205 CMR 138.43(1)(d).

Casinos and Crime

The social and community impacts of gaming development have been extensively studied. In many areas research findings have been inconclusive and thus considerable resources continue to be devoted to researching possible negative impacts given the unique nature of gaming compared to other commercial enterprises.

A number of broad studies of the social and economic impact of casinos have been conducted in the United States. In the late 1990s, prompted by the expansion of casinos throughout the United States, mainly in the form of riverboat casinos, Native American casinos, and racetrack slot parlors, Congress set up the National Gambling Impact Study Commission (NGISC). Its findings were released in 1999.

The Commission retained the National Research Council (NRC) to review the existing research on the socio-economic impacts of casino development. The NRC concluded that the existing research on the subject was inadequate:

> The NRC project involved a review of all existing and relevant studies by representatives of a variety of scientific fields. In the end, NRC recommended that further study be initiated. Study of the benefits and costs of gambling "is still in its infancy." Lamenting past studies that utilized "methods so inadequate as to invalidate their conclusions," the absence of "systematic data," the substitution of "assumptions for the missing data," the lack of testing of assumptions, "haphazard" applications of estimations in one study by another, the lack of clear identification of the costs and benefits to be studied, and many other problems, NRC concluded the situation demands a "need for more objective and extensive analysis of the economic impact that gambling has on the economy."[46]

The Commission then retained the National Opinion Research Center (NORC) to undertake said "objective and extensive analysis" concerning impacts. The NORC came to the following conclusion:

> First, the casino effect is not statistically significant for any of the bankruptcy or crime outcome measures…….. This is not to say that there is no casino-related crime or the like; rather, these effects are either small enough as not to be noticeable in the general wash of the statistics, or whatever problems that are created along these lines when a casino is built may be countered by other effects.[47]

Despite the NGISC's authoritative findings, some researchers continue to claim that casinos cause crime.[48] However, there are three major flaws in much of this research:

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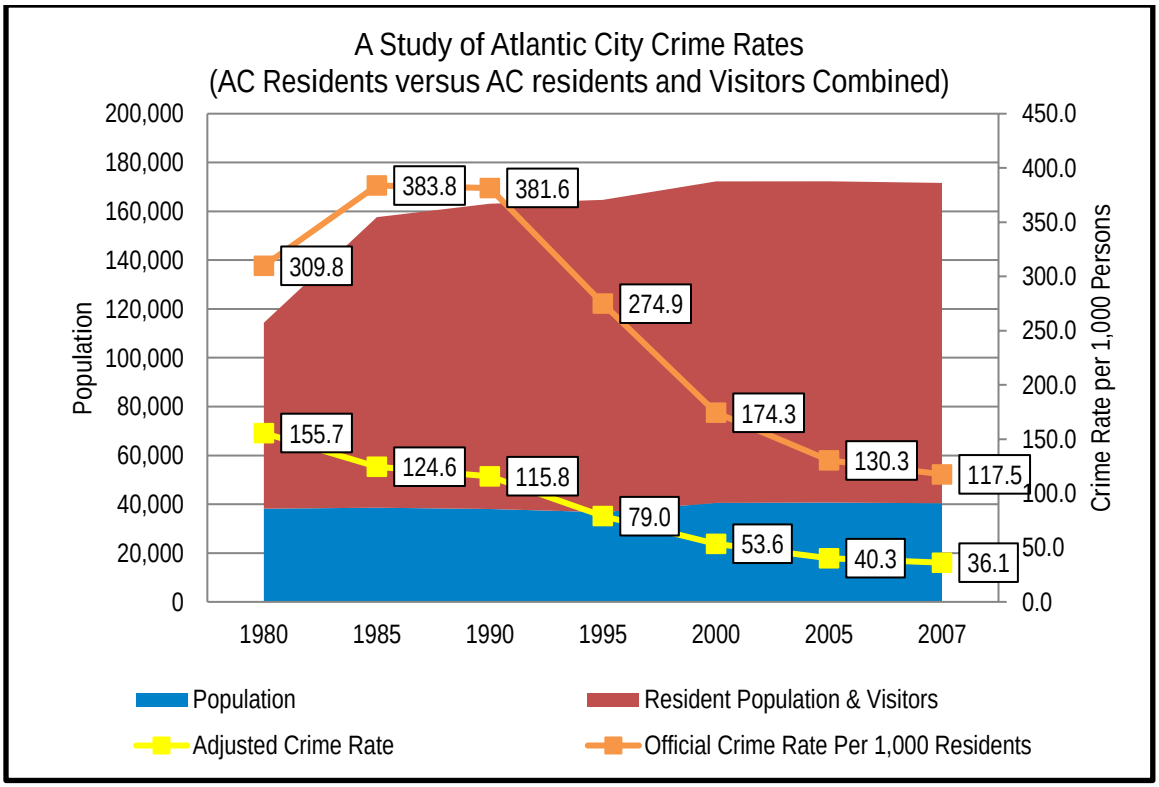
[46] National Gambling Impact Study, Chapter 7. 1999. Gambling's Impact on People and Places.
[47] The National Gambling Impact Study Commission, "National Gambling Impact Study" (1999).
[48] See Grinols and NBER discussion below.

1. Much of the research that attributes an increase in crime to casinos has ignored the temporary population increases brought about by casino visitation. When crime rates are calculated not accounting for the influx of visitors, there appears to be an increase in crime. While this may be true in absolute terms, it radically overestimates the increase in likelihood of residents being victims of crime.
2. Further to #1, some research applies crimes such as on-site thefts of casino visitors to the local population, leading to an invalid increase in the local crime rate.
3. The crimes rates are not studied over a sufficient period of time and therefore temporary increases or long term trends attributable to more primary causal factors are not always recognized or are misinterpreted.

One of the earliest examples of flawed research is related to Atlantic City. The ***number*** of crimes tripled after casinos opened in 1978, and some researchers applied the increase to the local resident population, which in the resulting invalid calculation resulted in a tripling of the crime ***rate***. However, most of the increase related to thefts within the casinos, which did not impact the local population. A valid calculation of the crime rate has to include the visitation base.

In fact, there has been a ***decreased*** chance of being a victim of crime since casinos were developed in Atlantic City. Factors likely include an increase in casino employment and law enforcement resources, safer infrastructure with well-lit garages, and an increase in general tourism activity. According to more recent data supplemented to the study completed by Margolis et al, [49] this decline in crime rates per 1,000 residents continued through 2007 to a rate of 36.1 per thousand residents. The chart below illustrates the crime rate trends from 1980 to 2007.

[49] Margolis, J. & Altheimer & Gray. (December 1997). "Casinos and crime: An analysis of the evidence." American Gaming Association. http://www.americangaming.org/assets/files/studies/Crime.pdf . The Innovation Group.



The Rappaport Institute for Greater Boston and the John F. Kennedy School of Economics at Harvard University (Baxandall and Sacerdote 2005) in a national, county-level study of Native American casinos found a slight decrease in crime rates after casinos opened. The analysis included all California casinos in existence in the 1990s. From their total sample of 156 casino counties, the Rappaport study isolated out 57 counties with large casinos and relatively low population and nine counties with both large casinos and large populations to see if there were statistical differences in terms of community impacts. The following table shows their results:

Table 60: Rappaport Study Results

	All Casino-Counties[1]	Counties with Large-Capacity Casinos[2]	Populous Casino Counties[3]
Population Growth (%)	+5*	8.6	+8.1*
Total Employment (%)	+6.7*	+14.9*	5.7
Unemployment (%)	-0.3	-1.2*	0.5
House Prices	$5,869	$8,924	$7,083
Crime (Per 1,000 People)	-3	-6	-1

*Statistically significant results at 99% confidence interval.
1. Reports how adjusted outcomes in 156 counties that introduced Indian-run casinos during the 1990s differed from the other 2,959 that did not.
2. The effect for 21 counties in the top 10th percentile in terms of number of slot machines (over 1,760).
3. The effect for the 57 casino counties in the top population quartile (over 55,000 residents).

The Rappaport study concluded:

> Our analysis shows that while total crime can be expected to increase when casinos open, the increase is due to increased population, not to a casino-created crime wave. Looking at FBI indexed crimes per resident in all [156] counties; we find that introducing a casino is associated with a decrease of 3 reported crimes per 1,000 people. The introduction of a casino, however, had no statistically significant effect on per-capita crime rates in either large-population casino counties or in large-casino counties. The per-capita crime rate in the 9 large-population counties that also hosted large-capacity casinos dropped 9 crimes per 1,000 residents, however.[50]

It is worth noting that the study included two of the largest casinos in the world, Foxwoods and Mohegan Sun. In Ledyard, Connecticut (which hosts the Foxwoods casino), crimes outside the casino increased from 214 in 1991 to 364 in 1998, but in subsequent years, State Police data show that off-casino crimes in Ledyard fell below pre-casino levels. In Montville, Connecticut (host to Mohegan Sun), as with Ledyard, the number of crimes reported "remained relatively constant," which the authors conclude is "surprising since the sheer increase in activity around these towns might have led to greater crime."[51]

The study also highlighted results for three counties in southern California: Riverside, San Bernardino, and San Diego. In all three counties, crime decreased relative to the state average. For example, before casino development, Riverside County suffered 22 more crimes per 1,000 residents than the state average. After casino development, the county had just 6 more crimes per 1,000 residents than the state average, a relative decrease of 16 crimes per thousand residents. San Bernardino had a relative decrease of 10 crimes per thousand, and San Diego 9.

Table 61: Rappaport Study California County Results for Crime

	Relative Crime (Before)	Relative Crime (After)	Change in Relative Crime (After - Before)
Riverside, CA	0.022	0.006	-0.016
San Bernardino, CA	0.016	0.006	-0.01
San Diego, CA	0.008	-0.001	-0.009

In other western jurisdictions, the Montana legislature in 1997 commissioned a study on the video gaming industry. The resulting analysis found no impact on crime rates in Montana:

> While gambling may have caused an increase of certain types of crime, Montana's overall crime rate increase is not any higher than the increases in matched cities with little or no

[50] IBID. As summarized in their 2008 report, "Betting on the Future: The Economic Impact of Legalized Gambling."

51 Baxandall, P. & B. Sacerdote (January 2005). *The Casino Gamble in Massachusetts: Full Report and Appendices*. Rappaport Institute for Greater Boston, John F. Kennedy School of Economics, Harvard University. Page 14.

> legal gambling. In fact, in almost three-quarters of the specific comparisons carried out, crime rates rose more (or decreased less) in the matched cities than in the Montana cities.
>
> Each of the seven largest Montana cities was matched with an out-of-state city in the region with similar population size, similar population growth rate, similar racial composition, but with little or no legal gambling. The percentage change in crime rates for three indices of crime (total serious crime, property crime, and violent crime) was computed for three time periods… between 1984 and 1994. [The data] illustrate the lack of a systematic pattern in crime rate changes between Montana cities and those in states with little or no gambling. For example, the violent crime rate grew faster in Cheyenne, Wyo., than in Great Falls between 1984 and 1994, yet the index of property crime decreased in Cheyenne while it increased in Great Falls during the same period.[52]

In summary, there is no evidence from gross level data that the advent of casinos has a measurable impact on local crime rates in general. It is highly likely any crimes associated with casinos are either offset by economic benefits or that the level of crime is so small as to be overwhelmed by other factors such as economic trends.

The figures from the casinos used in the Comparative Analysis Criminal Incidents section, provide a general picture of criminal activity at a casino. Other communities have found lower and higher levels of incidents. For example, figures from the Kenner Police Department note an average of 9 criminal incidents at the Treasure Chest Casino from 2012 to 2014. Attendance at the Treasure Chest Casino in Kenner is over one million annually.

An article in The Enterprise provided additional qualitative data from the casinos in this analysis. An officer from the Pittsburgh Police department compared the number of calls to games at the local baseball and football stadiums, "Nothing different than when there's a ball game," Luczak said. "I wouldn't say there's much change."[53]

Des Plaines Police Deputy Chief Nick Treantafeles had similar sentiments, "It's just like any place that serves alcohol," he said. "You get drunk and disorderly, but their security handles 98 percent of the issues there. We might get called for a fight that gets out of hand. ... It hasn't put a damper on the services we offer the rest of the community."[54]

While specific increase in police staffing varies from community to community, many communities found no need to increase police staffing, as shown below in the examples from Indiana. The Center for Urban Policy and the Environment at Indiana University-Purdue University has prepared 5-year evaluations of riverboat licensees for the Indiana Gaming Commission which contain sections on community impacts. The following bullet points include summaries and excerpts from these reports with respect to police and fire protection.

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[52] Montana Gambling Commission Study, 1998, Chapter 8.
[53] http://www.enterprisenews.com/article/20150517/NEWS/150516955/12741/NEWS/?Start=1
[54] http://www.enterprisenews.com/article/20150517/NEWS/150516955/12741/NEWS/?Start=1

Casino Aztar:

- The Evansville Police Department reports no increases in crime since the riverboat opening. They do report a drop in crime in 1999 when compared to the previous year.
- "No new police officers or firefighters were added. Traffic control has not been a problem..."

Majestic Star:

- The community purchased 12 police cars with Year 1 incentive payments.
- Gary's Chief of Police reports no additional criminal activity surrounding the riverboat.

Horseshoe Hammond (formerly Empress Casino Hammond):

- The Hammond Police Department reports crime has fallen in most categories when compared to before the boat opened.

Hollywood (formerly Argosy):

- According to the Lawrenceburg Police Department, casino-related arrests for public intoxication, DWI, and minor theft, as well as traffic accidents in the area have increased slightly each year from 1997 to 2000.
- Lawrenceburg has added two police officers since the boat opened to deal with the increased caseload.

Ameristar (formerly Harrah's East Chicago):

- According to East Chicago's police department, no additional criminal activity can be attributed to the riverboat's presence.
- "Crime in East Chicago has decreased substantially over this time period due to increased cooperation with federal agencies, community policing and increased staffing."

Blue Chip Casino:

- According to Michigan City's chief of police, no additional criminal activity can be attributed to Blue Chip's presence.

On the issue of crime, Jeremy Margolis, who had served as Assistant U.S. Attorney in Chicago, Illinois Inspector General, and Director of the Illinois State Police, found in a 1997 study[55] that the chance of being victim of a crime decreases after casino development. Factors include an increase in employment brought by casinos, increased law enforcement resources, safer infrastructure with well-lit garages, and an increase in general tourism activity.

[55] Margolis, J. (December 1997). "Casinos and crime: An analysis of the evidence." American Gaming Association.

In testimony before the Pennsylvania Gaming Control Board (PGCB) in 2006, Margolis was asked to give an update of his seminal study. Margolis concluded, based on examining updated crime data from the F.B.I. as well as interviews with the Executive Director of the Illinois Crime Commission, the Illinois State Police, and the Illinois Gaming Board, that the situation is "really unchanged except for the maturation of the industry, the maturation of the regulatory process has probably settled things down more than it had settled when I completed my study in 1997. It's just not an issue."[56]

[56] PGCG hearing transcript, September 7, 2006, pages 22-23.

Impact on Local Business

There is a substantial body of research and case studies demonstrating the impacts that casinos have on surrounding local businesses. There are several important reasons that local businesses benefit from the development of a casino:

- Casino visitors stopping at local retail outlets and restaurants.
- Long-distance patrons staying at area hotels; even in markets with casino hotels, non-casino hotels enjoy boosts in occupancy.
- Casino expenditures on local goods and services put more money into the local economy.

A review of studies of casino impacts on local business shows that casinos can stimulate local economies, resulting in communitywide growth, including in the local food and beverage business and retail businesses. There is little evidence of significant economic substitution after the introduction of new casinos, particularly for casinos in urban areas.

Casino development increases room demand at non-casino hotels even when casino hotels are built. For example, in Shreveport-Bossier City, Louisiana, hotel occupancy rates averaged about 60% before casinos but rose to 74% by 2005.[57] Such a boost to non-casino hotel demand results from the overall increased visitation to the area and the overflow from peak periods when casino hotels are fully booked. On the Mississippi Gulf Coast occupancy rates in non-casino hotels remained steady at 55% despite a 143% increase in total rooms, including a 60% increase in non-casino hotel rooms.[58]

Within the City of San Diego, the Transient Occupancy Tax (TOT) has grown substantially since recovering from the 2009-10 recession effects, despite the opening of several large hotels at casinos on the outskirts of the market (and not within the City), including an 1,100-room hotel at Harrah's Rincon. Furthermore, HVS reports that hotel occupancy in the San Diego market posted its third straight record occupancy in 2016 at 77%. RevPAR (revenue per available room, a measure of hotel performance) has also seen steady increases since the recession.[59]

Table 62: City of San Diego, CA Transient Occupancy Tax Collections (MMs)

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
$160.24	$136.32	$128.11	$139.77	$150.82	$157.03	$170.17	$186.24	$202.80	$221.10

Source: San Diego Tourism Authority

The research division of the Federal Reserve Bank of St. Louis concluded in a 2003 report that the results are "mixed" regarding the impacts of casinos on other local businesses. The report

[57] Shreveport-Bossier Convention and Tourism Bureau 2011 Lodging Report.
[58] Source: Mississippi Gaming Commission.
[59] http://hvi.hvs.com/market/united-states/San_Diego

references one study that "found that the growth in retail sales tax collections from various industries slowed after the introduction of casino gambling." However, another referenced study from Indiana showed that casino development retained spending by patrons "who would have, without the casino, spent their money outside of the local area."[60]

Furthermore, there is substantial economic research from throughout the country contradicting the substitution effect. Hashimoto and Fenich's 1997 research shows that "in jurisdictions from the seashore to the riverfront to rural areas, north and south, east and west, local restaurants tended to thrive after a casino opened nearby." Furthermore, Hashimoto and Fenich conclude: "When casinos are developed, all aspects of the local food and beverage business increase: the number of establishments increases, the number of people employed increases and payroll increases at an even greater rate than the first two."[61]

Research conducted in 1996 by Nancy Reeves and Associates for the Mille Lacs Band of Ojibwe, entitled "The Economic Impact of Grand Casino Mille Lacs and Grand Casino Hinckley on Their Surrounding Areas" concluded that:

> At least 15 businesses have either opened, expanded, or re-opened since the opening of Grand Casino Mille Lacs. Included are 4 hotels/motels and resorts, 8 restaurants and fast food establishments, 2 gas stations and a go-kart track. Together, these businesses have added an estimated 142 jobs in the area.
>
> With the opening of Grand Casino Hinckley in 1992, the hospitality business in Hinckley was transformed from a rest stop for travelers to a tourist destination. In addition to the casino complex, with its 1,275 jobs, Hinckley has added 11 new businesses and expanded 4 more since 1992, adding 87 new jobs. As is the case in the Mille Lacs area, Hinckley is now a year round destination because of the casino. Also similar to the Mille Lacs situation, the main street businesses in Hinckley have seen increases in customer spending attributed primarily to casino employees living in the area.

The Center for Policy Analysis University of Massachusetts Dartmouth came to similar conclusions analyzing a number of gaming jurisdictions throughout the country. The number of restaurants and retail sales excluding those from casinos increased in Bossier City, Louisiana; Biloxi/Gulfport, Mississippi; Connecticut; Gilpin County, Colorado, and; Tunica County, Mississippi.

> There was a net increase of eight restaurants in Bossier City, Louisiana following the introduction of riverboat casinos. The city's taxable restaurant sales, excluding restaurants

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[60] Thomas A. Garrett, Senior Economist, Federal Reserve Bank of St. Louis, *Casino Gambling in America and Its Economic Impacts,* August 2003.

[61] George Fenich and Kathryn Hashimoto, "The Effects of Casinos on Local Restaurant Business," paper presented at the International Conference on Gambling and Risk-Taking, Montreal, 1997.

in the hotels and casinos, increased by 5 percent in 1994 and by 7 percent in 1995 *after* the introduction of riverboat casinos. In Biloxi/Gulfport, Mississippi, the rate of non-casino retail sales growth increased from an average of 3 percent annually (1990-1992) in the years prior to riverboat gambling to 12 percent annually in the years after riverboat gaming began in the locality.

…the number of restaurants in the area surrounding Foxwoods and Mohegan Sun increased from 472 to 506 following the casino's opening, while restaurant employment increased from 5,911 to 6,628 during the same period.… In Gilpin County Colorado, the number of restaurants increased from 31 to 40 after the introduction of casino gaming. In Tunica County, Mississippi, the number of restaurants increased by 13 percent and restaurant employment grew by 9 percent after the introduction of casino gaming in the county.[62]

Similar conclusions have been reached in other studies:

- Even after accounting for substitution effect, economists at the University of Missouri and Washington University concluded that casino gambling in Missouri had a net positive annual impact on Missouri output of $759 million, corresponding to a continuing higher level of employment of 17,932 jobs generating $508 million more in personal income.[63]
- A multijurisdictional analysis of retail spending found that in Biloxi/Gulfport, Miss., annual retail sales growth rates increased an average of 3 percent per year from 1990 to 1992, the year when casinos were introduced. Between 1993 and 1995, retail sales jumped 13 percent. In Will County, Ill., retail sales growth trailed statewide trends until 1992, when riverboat casinos were introduced in the local economy. But each year between 1992 and 1995, retail sales growth in Will County exceeded the state rate. In Shreveport/Bossier City, La., retail sales increased by more than 10 percent during 1994, the year that riverboat casinos opened, as the region enjoyed the highest retail sales increase in more than a decade.[64]

More recently, in a 2017 study, the first nationwide study that empirically estimated the effect of casinos on the non-gambling economy, a University of Virginia researcher came to the following conclusion:

Using household spending data from the Consumer Expenditure Survey from 1996 to 2013, and a restricted access file containing the county codes of the CEX households, I find a positive effect of casinos on household spending on non-gambling goods. When casinos appear within 100 miles, households increase their quarterly non-gambling spending by up to 2.6%. The positive effect suggests that casinos can have a complementary effect on the non-gambling economy. The positive effect does not always significantly accumulate

[62] Ibid.

[63] Charles Leven et al., "Casino Gambling and State Economic Development," paper presented at the Regional Science Association, 37th European Congress, Rome, Aug. 26-29, 1997.

[64] Arthur Andersen, *Economic Impacts of Casino Gaming in the United States, Volume 2: Micro Study* (Washington, D.C.: American Gaming Association, May 1997).

> when more casinos are built in nearby areas. A comparison among income groups shows that the complementary effect of casinos on non-gambling sectors is largely driven by the spending changes of lower-income households. The complementary effect persists in the long run.[65]

In summary, there is a wealth of evidence contradicting the proposition that gaming substitutes for other expenditures. The positive spillover effect on local hotels for one is unequivocally demonstrated in numerous jurisdictions, even in markets where casinos operate hotels for their gaming customers.

Economy Comparison: Casino v. Non-Casino Counties

Iowa comprises 99 counties. The prior socio-economic impact study, completed in May 2014, referenced 18 commercial casinos ("commercial" defined here as all state-licensed, non-Indian casinos) located in 14 counties.[66] Since May 2014, the ownership and names of some Iowa casinos have changed, two new casino locations have opened, and one casino has closed. The Argosy riverboat casino in Sioux City closed on July 30, 2014. The land-based Hard Rock Hotel & Casino opened in Sioux City on August 1, 2014. Wild Rose - Jefferson opened in Greene County in August 2015. Thus, Greene County has been added to the list of commercial casino counties.

The map in Figure 4 shows Iowa's 19 commercial casinos and four Indian casinos indicated by red and blue markers, respectively. The 15 counties with commercial casinos are shaded yellow. Two counties with commercial casinos (Woodbury and Pottawattamie County) also have Indian casinos. Counties shaded blue or white have no commercial casinos. Two counties without commercial casinos (Monona and Tama County) have Indian casinos.

To assess the socio-economic impact of commercial casinos, Iowa's 15 counties with commercial casinos (shaded yellow) were compared with eight "control" counties (shaded blue) that had no commercial or Indian casinos. The control counties are identical to those used in the 2014 study, selected because their demographic characteristics resembled counties with commercial casinos, and because of the consistent availability of economic and social data for control counties.[67]

The federal Office of Management and Budget (OMB) uses population and commuting criteria to designate counties into three categories: metropolitan statistical area, micropolitan statistical area, or neither, with the last category sometimes called an "outlying area." Metropolitan and micropolitan statistical areas have a core area containing a substantial population nucleus, together with adjacent communities having a high degree of economic and social integration with that core.

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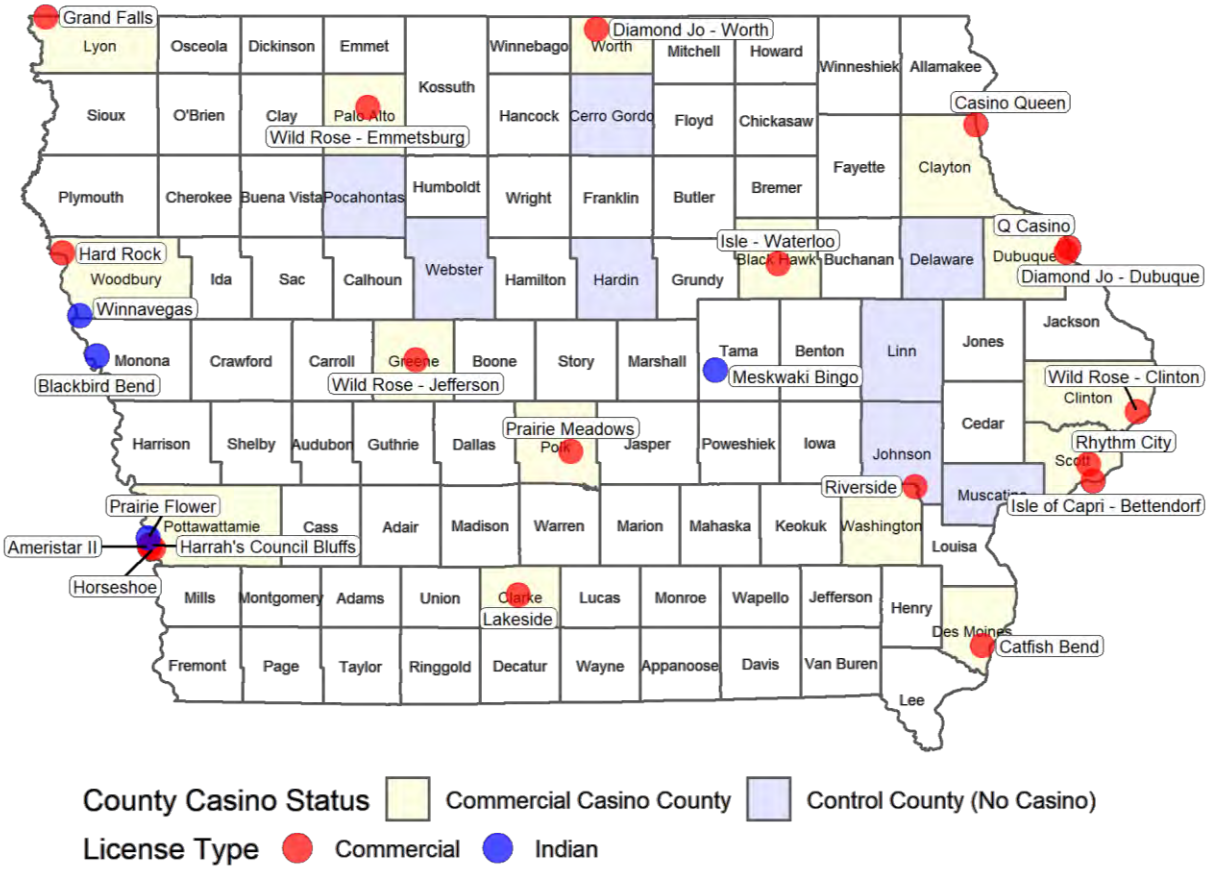
[65] Chris Li Zhang, *The Effect of Casinos on the Non-gambling Economy: Evidence from Nationwide Household Spending Data*, IMPAQ International, March 12, 2017.
[66] Strategic Economics Group and Spectrum Gaming Group. (May 23, 2014). "Socioeconomic Impact of Gambling on Iowans." Retrieved October 11, 2021 from https://irgc.iowa.gov/sites/default/files/documents/2015/09/studysocioeconomicimpact2014_0.pdf.
[67] Ibid.

Metropolitan and micropolitan statistical areas, individually or in combination, comprise core based statistical areas. The groups of commercial casino counties and control counties each include all three types of areas. While OMB designations have changed for some of Iowa's counties since 2014, there were no changes among commercial casino counties and control counties.

This analysis focused on the impact of commercial casinos and omitted analysis of the impact of Indian casinos in Monona and Tama County, in line with the 2014 study. Neither Monona nor Tama County was adjacent to a control county and both counties are designated as outlying areas.

Figure 4. Iowa Casino and Non-Casino Counties



Economy Snapshot

Through the IMPLAN software and data, we compared the contribution made by the casino and racetrack sector (#503 Gambling Industries except casino hotels) to the Iowa economy between counties that host casinos and all other counties. For a description of the terminology in the tables below please see the section Interpreting Results previously in the report. Note these impacts are based on IMPLAN's modeling of the Iowa economy and include only impacts related to the direct operation of the casinos and racetracks, excluding casino hotel operations. The IMPLAN data shows that 0.5% of GDP generated in host counties is attributable to the gaming industry;

moreover, there is a substantial impact on the rest of the state, with non-host counties benefiting from nearly 1,500 jobs and GDP of $90 million.

Table 63: Contribution of Gaming Industry to Iowa Economy

	503 Gambling Industries (Except Casino Hotels)	Total Iowa Economy	503 Gambling Industries % of Total
Employment	*6,372*	*2,092,287*	*0.30%*
Labor Income	$180,986,458	$114,486,208,067	0.16%
TOPI & OPI*	$347,260,767	$80,632,017,249	0.43%
Value Added (GDP)	$528,247,225	$195,118,225,316	0.27%
Intermediate Inputs	$318,992,267	$215,197,868,533	0.15%
Total Output	$847,239,492	$410,316,093,849	0.21%

Source: IMPLAN Group, LLC; 2019 Data; *Taxes on Production and Imports and Other Property Income

Table 64: Contribution of Gaming Industry to Iowa Economy - Host Counties

	503 Gambling Industries (Except Casino Hotels)	Total Iowa Economy	503 Gambling Industries % of Total
Employment	*4,915*	*903,407*	*0.54%*
Labor Income	$153,344,356	$51,916,243,750	0.30%
TOPI & OPI*	$285,887,977	$37,169,848,301	0.77%
Value Added (GDP)	$439,232,333	$89,086,092,051	0.49%
Intermediate Inputs	$246,063,533	$87,661,462,237	0.28%
Total Output	$685,295,866	$176,747,554,288	0.39%

Source: IMPLAN Group, LLC; 2019 Data; * Taxes on Production and Imports and Other Property Income. Includes Tribal Gaming Host Counties

Table 65: Contribution of Gaming Industry to Iowa Economy – Rest of the State

	503 Gambling Industries (Except Casino Hotels)	Total Iowa Economy	503 Gambling Industries % of Total
Employment	*1,457*	*1,188,880*	*0.12%*
Labor Income	$27,642,102	$62,569,964,317	0.04%
TOPI & OPI*	$61,372,791	$43,462,168,948	0.14%
Value Added (GDP)	$89,014,893	$106,032,133,265	0.08%
Intermediate Inputs	$72,928,734	$127,536,406,296	0.06%
Total Output	$161,943,626	$233,568,539,561	0.07%

Source: IMPLAN Group, LLC; 2019 Data; *Taxes on Production and Imports and Other Property Income

Population

Statewide

Iowa's total population on April 1, 2020 was 3,190,369. Table 66 lists 2010 and 2020 decennial population counts for selected Iowa counties, along with each county's designation as a metropolitan, micropolitan or outlying area (no designation). Most of Iowa's 4.7 percent population growth between 2010 and 2020 occurred in metropolitan areas, with generally declining population in micropolitan and outlying areas. Statewide population trends in metropolitan, micropolitan and outlying areas were mirrored in commercial casino and control counties.

Commercial Casino Counties

The population of Iowa's 15 commercial casino counties increased by 6.4 percent between 2010 and 2020. All of the metropolitan areas among commercial casino counties experienced growth, led by Polk County's 14.3 percent gain. Combined population in micropolitan and outlying areas among commercial casino counties declined by 3.5 percent. Clarke County, home of Lakeside Casino, is an outlying area that experienced 5 percent population growth. Lyon County, home of Grand Falls Casino, is an outlying area that experienced 3 percent population growth.

Control Counties

The population of Iowa's 8 control counties increased by 7.5 percent between 2010 and 2020. Metropolitan areas of Johnson and Linn had population growth of 16.8 percent and 9 percent, respectively. Combined population in micropolitan and outlying areas among control counties declined by 2.3 percent.

Table 66. Population Characteristics of Casino and Control Counties

Commercial Casino Counties	2010 Population	2020 Population	Change	PctChg	Designation
Black Hawk	131,090	131,144	54	0.0%	Metropolitan
Clarke	9,286	9,748	462	5.0%	
Clayton	18,129	17,043	-1,086	-6.0%	
Clinton	49,116	46,460	-2,656	-5.4%	Micropolitan
Des Moines	40,325	38,910	-1,415	-3.5%	Micropolitan
Dubuque	93,653	99,266	5,613	6.0%	Metropolitan
Greene	9,336	8,771	-565	-6.1%	
Lyon	11,581	11,934	353	3.0%	
Palo Alto	9,421	8,996	-425	-4.5%	
Polk	430,640	492,401	61,761	14.3%	Metropolitan
Pottawattamie	93,158	93,667	509	0.5%	Metropolitan
Scott	165,224	174,669	9,445	5.7%	Metropolitan
Washington	21,704	22,565	861	4.0%	Metropolitan
Woodbury	102,172	105,941	3,769	3.7%	Metropolitan
Worth	7,598	7,443	-155	-2.0%	Micropolitan
Control Counties					
Cerro Gordo	44,151	43,127	-1,024	-2.3%	Micropolitan
Delaware	17,764	17,488	-276	-1.6%	
Hardin	17,534	16,878	-656	-3.7%	
Johnson	130,882	152,854	21,972	16.8%	Metropolitan
Linn	211,226	230,299	19,073	9.0%	Metropolitan
Muscatine	42,745	43,235	490	1.1%	Micropolitan
Pocahontas	7,310	7,078	-232	-3.2%	
Webster	38,013	36,999	-1,014	-2.7%	Micropolitan
Commercial Casino County Metro Area	1,037,641	1,119,653	82,012	7.9%	
Commercial Casino County Micro Area	97,039	92,813	-4,226	-4.4%	
Commercial Casino County Outlying Area	57,753	56,492	-1,261	-2.2%	
Commercial Casino County Totals	1,192,433	1,268,958	76,525	6.4%	
Control County Metro Area	342,108	383,153	41,045	12.0%	
Control County Micro Area	124,909	123,361	-1,548	-1.2%	
Control County Outlying Area	42,608	41,444	-1,164	-2.7%	
Control County Totals	509,625	547,958	38,333	7.5%	
State Metro Area	1,784,862	1,957,727	172,865	9.7%	
State Micro Area	481,026	472,208	-8,818	-1.8%	
State Outlying Area	780,467	760,434	-20,033	-2.6%	
State Totals	3,046,355	3,190,369	144,014	4.7%	

Source: US Census Bureau; The Innovation Group.

Unemployment

Unemployment rates were obtained from the Bureau of Labor Statistics for 2019 annual and most recent month available, October 2021. We compared county-level rates with the state average and ran a statistical analysis comparing casino and non-casino counties and combinations of metro, micro and outlying areas.

There were no statistically significant differences in unemployment rates between casino and control counties in 2019 or October 2021.

There were also no statistically significant differences in unemployment rates when comparing any combinations of metro, micro and outlying areas for 2019.

In October 2021, there were statistically significant differences in unemployment rates when comparing:

- Metro Areas vs. Outlying Areas ($p = 0.03856$, mean metro unemployment = 2.79, mean outlying unemployment = 2.57)
- Micro Areas vs. Outlying Areas ($p = 0.01148$, mean micro unemployment = 3.11, mean outlying unemployment = 2.57)
- Combined Metro & Micro Areas vs. Outlying Areas ($p = 0.001733$, mean metro+micro unemployment = 2.92, mean outlying unemployment = 2.57)

In summary, unemployment rates were lower in outlying areas for this one month.

Table 67. Unemployment Rate Comparison of Casino and Control Counties

Commercial Casino Counties	Rate (%) 2019	Compared to State Average	Rate (%) Oct 2021	Compared to State Average	Designation
Black Hawk	3.2	116.7%	3.1	108.1%	Metro
Clarke	2.9	105.5%	2.8	96.1%	
Clayton	3.7	132.5%	3.2	110.8%	
Clinton	3.8	136.0%	3.8	131.7%	Micro
Des Moines	4.0	144.5%	4.7	162.4%	Micro
Dubuque	2.7	96.2%	3.2	109.6%	Metro
Greene	2.4	87.3%	2.4	83.9%	
Lyon	1.7	60.0%	1.7	58.9%	
Palo Alto	2.2	80.5%	2.4	83.9%	
Polk	2.9	103.6%	3.0	103.7%	Metro
Pottawattamie	2.5	89.8%	2.8	96.8%	Metro
Scott	3.4	121.1%	3.8	130.3%	Metro
Washington	2.5	90.2%	2.5	87.0%	Metro
Woodbury	2.7	98.8%	2.9	99.9%	Metro
Worth	2.8	102.2%	2.9	99.6%	Micro
Control Counties					
Cerro Gordo	2.8	99.6%	2.9	99.6%	Micro
Delaware	2.4	85.4%	2.3	78.5%	
Hardin	3.2	115.6%	2.9	99.9%	
Johnson	2.0	73.4%	2.6	90.1%	Metro
Linn	2.9	106.0%	3.5	120.5%	Metro
Muscatine	2.9	104.4%	3.3	113.4%	Micro
Pocahontas	1.9	69.7%	2.0	70.5%	
Webster	3.1	113.5%	3.1	106.5%	Micro
Commercial Casino County Metro Area	2.9	105.2%	3.1	107.4%	
Commercial Casino County Micro Area	3.8	136.5%	4.1	141.5%	
Commercial Casino County Outlying Area	2.7	97.3%	2.6	88.5%	
Commercial Casino County Totals	3.0	107.0%	3.1	108.8%	
Control County Metro Area	2.6	92.5%	3.1	107.8%	
Control County Micro Area	2.9	105.4%	3.1	106.2%	
Control County Outlying Area	2.6	92.9%	2.4	84.2%	
Control County Totals	2.6	95.3%	3.1	105.6%	
Statewide Metro Area	2.7	98.1%	3.1	107.5%	
Statewide Micro Area	3.1	113.6%	3.5	120.8%	
Statewide Outlying Area	2.8	99.4%	2.5	86.7%	
Statewide Totals	2.8	100.0%	2.9	100.0%	

Source: Bureau of Labor Statistics; The Innovation Group

Personal Income

Real Nonfarm Personal Income

Table 68 summarizes real ($2019) nonfarm personal income statistics. Statewide real nonfarm personal income increased by $17.1 billion (12.26%) between 2012 and 2019. Statewide, metropolitan areas experienced statistically significant higher percent change in real nonfarm personal income when compared with micropolitan and outlying areas.

Changes in real nonfarm personal income for commercial casino and control counties between 2012 and 2019 were $6.8 billion (11.99%) and $3.2 billion (12.74%), respectively. The differences in percent change in real nonfarm personal income when comparing commercial casino and control counties were not statistically significant.

Real Nonfarm Personal Income Per Capita

Table 69 summarizes real ($2019) nonfarm personal income per capita statistics. Statewide real nonfarm personal income per capita increased by $4,234 (9.32%) between 2012 and 2019. Statewide, outlying areas experienced higher percent change in real nonfarm personal income when compared with metropolitan and micropolitan areas. The differences in percent change in real nonfarm personal income were statistically significant when comparing metropolitan and outlying areas.

Changes in real nonfarm personal income per capita for commercial casino and control counties between 2012 and 2019 were $3,580 (7.59%) and $3,876 (8.05%), respectively. The differences in percent change in real nonfarm personal income per capita when comparing commercial casino and control counties were not statistically significant.

Real Wages and Salaries

Table 70 summarizes real ($2019) wages and salaries statistics. Statewide real wages and salaries increased by $9.4 billion (13.51%) between 2012 and 2019. Statewide, micropolitan areas experienced lower, although not statistically significant, percent change in real wages and salaries when compared with metropolitan and outlying areas.

Changes in real wages and salaries for commercial casino and control counties between 2012 and 2019 were $4.6 billion (14.22%) and $1.6 billion (11.20%), respectively. The differences in percent change in real wages and salaries when comparing commercial casino and control counties were not statistically significant.

Real Wages and Salaries Per Capita

Table 71 summarizes real ($2019) wages and salaries per capita statistics. Statewide real wages and salaries per capita increased by $2,371 (10.54%) between 2012 and 2019. Statewide, outlying areas experienced statistically significant higher percent change in real wages and salaries per capita when compared with metropolitan and micropolitan areas.

Changes in real wages and salaries per capita for commercial casino and control counties between 2012 and 2019 were $2,599 (9.73%) and $1,817 (6.58%), respectively. The differences in percent

change in real wages and salaries per capita when comparing commercial casino and control counties were not statistically significant.

Real Benefits (Supplements to Wages and Salaries)

Table 72 summarizes real ($2019) benefits statistics. Statewide, real benefits increased by $2.7 billion (15.61%) between 2012 and 2019. Statewide, micropolitan areas experienced lower, although not statistically significant, percent change in real benefits when comparing metropolitan, micropolitan and outlying areas.

Changes in real benefits for commercial casino and control counties between 2012 and 2019 were $1.1 billion (14.74%) and $0.6 billion (16.62%), respectively. The differences in percent change in real benefits when comparing commercial casino and control counties were not statistically significant.

Real Benefits (Supplements to Wages and Salaries) Per Capita

Table 73 summarizes real ($2019) benefits per capita statistics. Statewide, real benefits per capita increased by $714 (12.58%) between 2012 and 2019. Statewide, outlying areas experienced statistically significant higher percent change in real benefits per capita when compared with metropolitan and micropolitan areas.

Changes in real benefits per capita for commercial casino and control counties between 2012 and 2019 were $644 (10.23%) and $847 (11.77%), respectively. The differences in percent change in real benefits per capita when comparing commercial casino and control counties were not statistically significant.

Table 68. Real Nonfarm Personal Income ($2019 Thousands)

Commercial Casino Counties	2012	2019	Change	Percent Change	Designation
Black Hawk	5,667,511	6,028,259	360,748	6.37%	Metro
Clarke	329,825	382,047	52,222	15.83%	
Clayton	744,008	810,849	66,841	8.98%	
Clinton	2,050,890	2,081,783	30,893	1.51%	Micro
Des Moines	1,760,471	1,924,519	164,048	9.32%	Micro
Dubuque	4,304,351	4,959,623	655,272	15.22%	Metro
Greene	399,466	402,634	3,168	0.79%	
Lyon	474,479	540,835	66,356	13.99%	
Palo Alto	392,603	398,092	5,489	1.40%	
Polk	22,735,465	26,528,244	3,792,779	16.68%	Metro
Pottawattamie	3,867,666	4,224,129	356,463	9.22%	Metro
Scott	8,924,430	9,540,844	616,414	6.91%	Metro
Washington	1,004,555	1,247,320	242,765	24.17%	Metro
Woodbury	4,148,596	4,576,014	427,418	10.30%	Metro
Worth	297,638	304,450	6,812	2.29%	Micro
Control Counties					
Cerro Gordo	2,089,524	2,144,161	54,637	2.61%	Micro
Delaware	722,029	809,927	87,898	12.17%	
Hardin	768,948	751,560	-17,388	-2.26%	
Johnson	6,767,315	8,334,211	1,566,896	23.15%	Metro
Linn	10,960,751	12,164,160	1,203,409	10.98%	Metro
Muscatine	1,882,442	2,039,612	157,170	8.35%	Micro
Pocahontas	276,942	296,290	19,348	6.99%	
Webster	1,510,102	1,619,295	109,193	7.23%	Micro
Summary Areas					
Commercial Casino County Metro Areas	50,652,572	57,104,433	6,451,861	12.74%	
Commercial Casino County Micro Areas	4,108,999	4,310,752	201,753	4.91%	
Commercial Casino County Outlying Areas	2,340,381	2,534,457	194,076	8.29%	
All Commercial Casino Counties	57,101,952	63,949,642	6,847,690	11.99%	
Control County Metro Areas	17,728,067	20,498,371	2,770,304	15.63%	
Control County Micro Areas	5,482,068	5,803,068	321,000	5.86%	
Control County Outlying Areas	1,767,919	1,857,777	89,858	5.08%	
All Control Counties	24,978,054	28,159,216	3,181,162	12.74%	
Statewide Metro Areas	87,824,894	100,691,719	12,866,825	14.65%	
Statewide Micro Areas	20,171,186	21,659,764	1,488,578	7.38%	
Statewide Outlying Areas	31,716,764	34,496,167	2,779,403	8.76%	
Statewide	139,712,845	156,847,650	17,134,805	12.26%	

Source: Bureau of Economic Analysis, Bureau of Labor Statistics, The Innovation Group

Table 69. Real Nonfarm Personal Income Per Capita ($2019)

Commercial Casino Counties	2012	2019	Change	Percent Change	Designation
Black Hawk	42,967	45,986	3,019	7.03%	Metro
Clarke	35,317	40,721	5,404	15.30%	
Clayton	41,456	46,342	4,886	11.79%	
Clinton	42,103	44,713	2,610	6.20%	Micro
Des Moines	43,742	49,282	5,541	12.67%	Micro
Dubuque	45,222	50,903	5,682	12.56%	Metro
Greene	43,510	45,337	1,826	4.20%	
Lyon	40,343	45,810	5,467	13.55%	
Palo Alto	42,315	44,866	2,550	6.03%	
Polk	51,119	54,026	2,906	5.69%	Metro
Pottawattamie	41,603	45,224	3,620	8.70%	Metro
Scott	52,985	55,022	2,037	3.84%	Metro
Washington	45,849	56,619	10,770	23.49%	Metro
Woodbury	40,533	44,370	3,837	9.47%	Metro
Worth	39,712	41,103	1,391	3.50%	Micro
Control Counties					
Cerro Gordo	47,811	50,478	2,667	5.58%	Micro
Delaware	41,099	47,484	6,384	15.53%	
Hardin	44,294	44,712	418	0.94%	
Johnson	49,332	54,658	5,326	10.80%	Metro
Linn	50,852	53,530	2,678	5.27%	Metro
Muscatine	43,857	47,911	4,054	9.24%	Micro
Pocahontas	38,771	44,676	5,905	15.23%	
Webster	40,447	45,003	4,556	11.26%	Micro
Summary Areas					
Commercial Casino County Metro Areas	47,898	51,375	3,477	7.26%	
Commercial Casino County Micro Areas	42,601	46,344	3,743	8.79%	
Commercial Casino County Outlying Areas	40,698	44,906	4,208	10.34%	
All Commercial Casino Counties	47,135	50,714	3,580	7.59%	
Control County Metro Areas	50,261	53,983	3,722	7.41%	
Control County Micro Areas	44,224	47,947	3,723	8.42%	
Control County Outlying Areas	42,022	45,873	3,851	9.16%	
All Control Counties	48,150	52,026	3,876	8.05%	
Statewide Metro Areas	48,169	51,980	3,811	7.91%	
Statewide Micro Areas	42,017	46,144	4,127	9.82%	
Statewide Outlying Areas	41,004	45,806	4,803	11.71%	
Statewide	45,408	49,642	4,234	9.32%	

Source: Bureau of Economic Analysis, Bureau of Labor Statistics, The Innovation Group

Table 70. Real Wages and Salaries ($2019 Thousands)

Commercial Casino Counties	2012	2019	Change	Percent Change	Designation
Black Hawk	3,592,036	3,712,313	120,277	3.35%	Metro
Clarke	154,171	183,238	29,067	18.85%	
Clayton	261,266	292,658	31,392	12.02%	
Clinton	917,179	906,616	-10,563	-1.15%	Micro
Des Moines	909,727	955,908	46,181	5.08%	Micro
Dubuque	2,585,627	2,883,931	298,304	11.54%	Metro
Greene	134,826	152,540	17,714	13.14%	
Lyon	169,546	188,348	18,802	11.09%	
Palo Alto	135,100	150,530	15,430	11.42%	
Polk	15,373,558	18,434,417	3,060,859	19.91%	Metro
Pottawattamie	1,563,189	1,877,610	314,421	20.11%	Metro
Scott	4,090,155	4,447,599	357,444	8.74%	Metro
Washington	309,214	331,344	22,130	7.16%	Metro
Woodbury	2,065,074	2,333,881	268,807	13.02%	Metro
Worth	86,939	96,229	9,290	10.69%	Micro
Control Counties					
Cerro Gordo	1,043,727	1,113,960	70,233	6.73%	Micro
Delaware	266,331	303,220	36,889	13.85%	
Hardin	288,404	283,355	-5,049	-1.75%	
Johnson	3,986,871	4,576,330	589,459	14.78%	Metro
Linn	6,739,579	7,411,655	672,076	9.97%	Metro
Muscatine	1,094,607	1,182,760	88,153	8.05%	Micro
Pocahontas	114,287	162,911	48,624	42.55%	
Webster	785,013	888,903	103,890	13.23%	Micro
Summary Areas					
Commercial Casino County Metro Areas	29,578,854	34,021,095	4,442,241	15.02%	
Commercial Casino County Micro Areas	1,913,845	1,958,753	44,908	2.35%	
Commercial Casino County Outlying Areas	854,909	967,314	112,405	13.15%	
All Commercial Casino Counties	32,347,608	36,947,162	4,599,554	14.22%	
Control County Metro Areas	10,726,450	11,987,985	1,261,535	11.76%	
Control County Micro Areas	2,923,346	3,185,623	262,277	8.97%	
Control County Outlying Areas	669,022	749,486	80,464	12.03%	
All Control Counties	14,318,818	15,923,094	1,604,276	11.20%	
Statewide Metro Areas	47,261,039	54,482,814	7,221,775	15.28%	
Statewide Micro Areas	9,926,435	10,708,462	782,027	7.88%	
Statewide Outlying Areas	12,022,396	13,371,062	1,348,666	11.22%	
Statewide	69,209,870	78,562,338	9,352,468	13.51%	

Source: Bureau of Economic Analysis, Bureau of Labor Statistics, The Innovation Group

Table 71. Real Wages and Salaries Per Capita ($2019)

Commercial Casino Counties	2012	2019	Change	Percent Change	Designation
Black Hawk	27,232	28,319	1,087	3.99%	Metro
Clarke	16,508	19,531	3,022	18.31%	
Clayton	14,558	16,726	2,169	14.90%	
Clinton	18,829	19,472	643	3.42%	Micro
Des Moines	22,604	24,478	1,875	8.29%	Micro
Dubuque	27,165	29,599	2,435	8.96%	Metro
Greene	14,685	17,176	2,491	16.96%	
Lyon	14,416	15,954	1,538	10.67%	
Palo Alto	14,561	16,965	2,404	16.51%	
Polk	34,567	37,542	2,976	8.61%	Metro
Pottawattamie	16,815	20,102	3,287	19.55%	Metro
Scott	24,284	25,649	1,366	5.62%	Metro
Washington	14,113	15,041	928	6.57%	Metro
Woodbury	20,176	22,630	2,454	12.16%	Metro
Worth	11,600	12,992	1,392	12.00%	Micro
Control Counties					
Cerro Gordo	23,882	26,225	2,343	9.81%	Micro
Delaware	15,160	17,777	2,617	17.26%	
Hardin	16,613	16,857	244	1.47%	
Johnson	29,063	30,013	950	3.27%	Metro
Linn	31,268	32,616	1,348	4.31%	Metro
Muscatine	25,502	27,783	2,281	8.94%	Micro
Pocahontas	16,000	24,564	8,564	53.53%	
Webster	21,026	24,704	3,678	17.49%	Micro
Summary Areas					
Commercial Casino County Metro Areas	27,971	30,608	2,637	9.43%	
Commercial Casino County Micro Areas	19,842	21,058	1,216	6.13%	
Commercial Casino County Outlying Areas	14,866	17,139	2,273	15.29%	
All Commercial Casino Counties	26,701	29,300	2,599	9.73%	
Control County Metro Areas	30,410	31,571	1,160	3.81%	
Control County Micro Areas	23,583	26,321	2,738	11.61%	
Control County Outlying Areas	15,902	18,507	2,605	16.38%	
All Control Counties	27,602	29,419	1,817	6.58%	
Statewide Metro Areas	25,921	28,126	2,205	8.51%	
Statewide Micro Areas	20,677	22,813	2,136	10.33%	
Statewide Outlying Areas	15,543	17,755	2,212	14.23%	
Statewide	22,494	24,865	2,371	10.54%	

Source: Bureau of Economic Analysis, Bureau of Labor Statistics, The Innovation Group

Table 72. Real Benefits (Supplements to Wages and Salaries $2019 Thousands)

Commercial Casino Counties	2012	2019	Change	Percent Change	Designation
Black Hawk	886,801	940,555	53,754	6.06%	Metro
Clarke	40,920	50,325	9,405	22.98%	
Clayton	73,723	83,278	9,555	12.96%	
Clinton	244,459	244,364	-95	-0.04%	Micro
Des Moines	238,509	255,610	17,101	7.17%	Micro
Dubuque	622,077	698,652	76,575	12.31%	Metro
Greene	38,654	45,515	6,861	17.75%	
Lyon	45,345	50,157	4,812	10.61%	
Palo Alto	38,444	46,175	7,731	20.11%	
Polk	3,403,591	4,072,101	668,510	19.64%	Metro
Pottawattamie	395,221	476,844	81,623	20.65%	Metro
Scott	965,904	1,071,883	105,979	10.97%	Metro
Washington	85,681	93,924	8,243	9.62%	Metro
Woodbury	525,009	596,569	71,560	13.63%	Metro
Worth	23,887	26,454	2,567	10.75%	Micro
Control Counties					
Cerro Gordo	257,185	281,281	24,096	9.37%	Micro
Delaware	76,750	88,085	11,335	14.77%	
Hardin	80,215	83,202	2,987	3.72%	
Johnson	1,237,846	1,565,523	327,677	26.47%	Metro
Linn	1,573,604	1,759,356	185,752	11.80%	Metro
Muscatine	269,482	290,460	20,978	7.78%	Micro
Pocahontas	32,258	43,307	11,049	34.25%	
Webster	206,581	243,157	36,576	17.71%	Micro
Summary Areas					
Commercial Casino County Metro Areas	6,884,283	7,950,528	1,066,245	15.49%	
Commercial Casino County Micro Areas	506,855	526,428	19,573	3.86%	
Commercial Casino County Outlying Areas	237,085	275,450	38,365	16.18%	
Commercial Casino County Totals	7,628,223	8,752,406	1,124,183	14.74%	
Control County Metro Areas	2,811,450	3,324,879	513,429	18.26%	
Control County Micro Areas	733,248	814,898	81,650	11.14%	
Control County Outlying Areas	189,223	214,594	25,371	13.41%	
Control County Totals	3,733,921	4,354,371	620,450	16.62%	
Statewide Metro Areas	11,535,517	13,568,624	2,033,107	17.62%	
Statewide Micro Areas	2,600,766	2,839,226	238,460	9.17%	
Statewide Outlying Areas	3,332,164	3,786,940	454,776	13.65%	
Statewide Totals	17,468,447	20,194,790	2,726,343	15.61%	

Source: Bureau of Economic Analysis, Bureau of Labor Statistics, The Innovation Group

Table 73. Real Benefits (Supplements to Wages and Salaries) Per Capita ($2019)

Commercial Casino Counties	2012	2019	Change	Percent Change	Designation
Black Hawk	6,723	7,175	452	6.72%	Metro
Clarke	4,382	5,364	982	22.42%	
Clayton	4,108	4,760	652	15.87%	
Clinton	5,019	5,248	230	4.58%	Micro
Des Moines	5,926	6,546	619	10.45%	Micro
Dubuque	6,536	7,171	635	9.72%	Metro
Greene	4,210	5,125	915	21.73%	
Lyon	3,856	4,248	393	10.19%	
Palo Alto	4,144	5,204	1,060	25.59%	
Polk	7,653	8,293	640	8.37%	Metro
Pottawattamie	4,251	5,105	854	20.08%	Metro
Scott	5,735	6,182	447	7.79%	Metro
Washington	3,911	4,263	353	9.02%	Metro
Woodbury	5,129	5,785	655	12.77%	Metro
Worth	3,187	3,571	384	12.06%	Micro
Control Counties					
Cerro Gordo	5,885	6,622	737	12.53%	Micro
Delaware	4,369	5,164	795	18.21%	
Hardin	4,621	4,950	329	7.12%	
Johnson	9,024	10,267	1,244	13.78%	Metro
Linn	7,301	7,742	442	6.05%	Metro
Muscatine	6,278	6,823	545	8.67%	Micro
Pocahontas	4,516	6,530	2,014	44.60%	
Webster	5,533	6,758	1,225	22.13%	Micro
Summary Areas					
Commercial Casino County Metro Areas	6,510	7,153	643	9.88%	
Commercial Casino County Micro Areas	5,255	5,659	405	7.70%	
Commercial Casino County Outlying Areas	4,123	4,880	758	18.38%	
All Commercial Casino Counties	6,297	6,941	644	10.23%	
Control County Metro Areas	7,971	8,756	785	9.85%	
Control County Micro Areas	5,915	6,733	818	13.83%	
Control County Outlying Areas	4,498	5,299	801	17.81%	
All Control Counties	7,198	8,045	847	11.77%	
Statewide Metro Areas	6,327	7,005	678	10.71%	
Statewide Micro Areas	5,417	6,049	631	11.65%	
Statewide Outlying Areas	4,308	5,029	721	16.73%	
Statewide	5,677	6,392	714	12.58%	

Source: Bureau of Economic Analysis, Bureau of Labor Statistics, The Innovation Group

Employment by Sector

Selected employment by sector data published by the Bureau of Labor Statistics was obtained from Iowa Workforce Development. Total employment within each sector is listed in related tables for 2012 and 2019, along with the change and percent change between those years.

Lodging & Entertainment

Table 74 summarizes employment in the lodging and entertainment sector (sum of NAICS codes 71 and 721). These two component sectors tend to have relatively low employment numbers by county, especially for outlying areas. As a result, the Bureau of Labor Statistics suppresses some of the data at the county level. Therefore, state totals listed in Table 74 exceed the sum of metropolitan, micropolitan and outlying areas. Differences in percent change in lodging and entertainment employment when comparing commercial casino and control counties were not statistically significant. Statewide, metropolitan areas tended to experience higher, although not statistically significant, percent change in lodging and entertainment employment when compared with micropolitan and outlying areas.

Construction

Table 75 summarizes employment in the construction sector (NAICS code 23). Differences in the percent change in construction employment when comparing commercial casino and control counties were not statistically significant. Statewide, metropolitan areas experienced statistically significant higher percent change in construction employment when compared with micropolitan and outlying areas.

Bar & Restaurant

Table 76 summarizes employment in the bar and restaurant sector (NAICS code 722). Differences in the percent change in bar and restaurant employment when comparing commercial casino and control counties were not statistically significant. Statewide, metropolitan areas experienced higher, although not statistically significant percent change in bar and restaurant employment when compared with micropolitan and outlying areas.

Retail Trade

Table 77 summarizes employment in the retail trade sector (NAICS code 44). Differences in the percent change in retail trade employment when comparing commercial casino and control counties were not statistically significant. Statewide, micropolitan areas experienced statistically significant lower (declining) percent change in retail trade employment when compared with metropolitan and outlying areas.

Table 74. Employment by Sector - Lodging & Entertainment (NAICS Codes 71 + 721)

Commercial Casino Counties	2012	2019	Change	Percent Change	Designation
Black Hawk	1,475	1,513	38	2.6%	Metro
Clarke	15				
Clayton	318	231	-87	-27.2%	
Clinton	823	573	-250	-30.4%	Micro
Des Moines	766	875	109	14.2%	Micro
Dubuque	2,320	2,203	-117	-5.0%	Metro
Greene	10				
Lyon	24	21	-4	-14.6%	
Palo Alto	19	11	-7	-39.2%	
Polk	8,062	10,129	2,067	25.6%	Metro
Pottawattamie	3,236	3,266	30	0.9%	Metro
Scott	2,666	2,943	276	10.4%	Metro
Washington	82	49	-33	-40.1%	Metro
Woodbury	1,503	1,652	149	9.9%	Metro
Worth					Micro
Control Counties					
Cerro Gordo	533	503	-30	-5.7%	Micro
Delaware	108	81	-28	-25.6%	
Hardin	95	62	-33	-34.4%	
Johnson	1,402	1,798	396	28.3%	Metro
Linn	2,470	2,900	430	17.4%	Metro
Muscatine	227	232	5	2.3%	Micro
Pocahontas	29	49	20	68.7%	
Webster	254	340	86	34.0%	Micro
Summary Areas					
Commercial Casino County Metro Areas	19,343	21,755	2,411	12.5%	
Commercial Casino County Micro Areas	1,589	1,448	-141	-8.9%	
Commercial Casino County Outlying Areas	385	263	-122	-31.7%	
Commercial Casino County Totals	21,317	23,465	2,148	10.1%	
Control County Metro Areas	3,872	4,698	826	21.3%	
Control County Micro Areas	1,014	1,075	61	6.0%	
Control County Outlying Areas	232	192	-40	-17.3%	
Control County Totals	5,118	5,965	847	16.6%	
Statewide Metro Areas	26,330	30,824	4,494	17.1%	
Statewide Micro Areas	5,063	5,266	203	4.0%	
Statewide Outlying Areas	3,833	3,917	84	2.2%	
Statewide Totals	39,417	43,682	4,265	10.8%	

Source: Bureau of Labor Statistics, Iowa Workforce Development, The Innovation Group

Table 75. Employment by Sector - Construction (NAICS Code 23)

Commercial Casino Counties	2012	2019	Change	Percent Change	Designation
Black Hawk	2,693	2,598	-94	-3.5%	Metro
Clarke	79	39	-40	-50.8%	
Clayton	617	654	37	6.0%	
Clinton	765	755	-10	-1.3%	Micro
Des Moines	1,109	903	-206	-18.6%	Micro
Dubuque	2,491	2,633	142	5.7%	Metro
Greene	151	103	-48	-31.7%	
Lyon	205	232	27	12.9%	
Palo Alto	105	151	46	43.7%	
Polk	11,556	17,131	5,575	48.2%	Metro
Pottawattamie	1,576	3,206	1,630	103.4%	Metro
Scott	4,556	5,789	1,233	27.1%	Metro
Washington	756	842	86	11.3%	Metro
Woodbury	2,469	2,890	421	17.1%	Metro
Worth	142	170	28	19.3%	Micro
Control Counties					
Cerro Gordo	999	1,133	135	13.5%	Micro
Delaware	385	375	-10	-2.6%	
Hardin	447	505	57	12.8%	
Johnson	2,445	2,778	333	13.6%	Metro
Linn	6,192	7,085	893	14.4%	Metro
Muscatine	811	739	-72	-8.9%	Micro
Pocahontas	159	328	169	106.3%	
Webster	998	1,423	425	42.5%	Micro
Summary Areas					
Commercial Casino County Metro Areas	26,096	35,088	8,992	34.5%	
Commercial Casino County Micro Areas	2,016	1,828	-188	-9.3%	
Commercial Casino County Outlying Areas	1,158	1,179	21	1.8%	
Commercial Casino County Totals	29,269	38,094	8,825	30.1%	
Control County Metro Areas	8,637	9,863	1,226	14.2%	
Control County Micro Areas	2,808	3,295	487	17.3%	
Control County Outlying Areas	992	1,208	216	21.8%	
Control County Totals	12,437	14,366	1,929	15.5%	
Statewide Metro Areas	41,818	54,120	12,303	29.4%	
Statewide Micro Areas	9,523	10,011	488	5.1%	
Statewide Outlying Areas	14,673	14,992	319	2.2%	
Statewide Totals	66,014	79,733	13,719	20.8%	

Source: Bureau of Labor Statistics, Iowa Workforce Development, The Innovation Group

Table 76. Employment by Sector - Bars & Restaurants (NAICS Code 722)

Commercial Casino Counties	2012	2019	Change	Percent Change	Designation
Black Hawk	5,609	5,473	-137	-2.4%	Metro
Clarke	194	216	22	11.4%	
Clayton	330	299	-32	-9.5%	
Clinton	1,364	1,342	-22	-1.6%	Micro
Des Moines	1,653	1,597	-56	-3.4%	Micro
Dubuque	3,676	3,669	-7	-0.2%	Metro
Greene	125	140	15	11.6%	
Lyon	180	149	-31	-17.3%	
Palo Alto	245	192	-53	-21.5%	
Polk	17,411	20,767	3,356	19.3%	Metro
Pottawattamie	3,087	3,218	131	4.2%	Metro
Scott	7,626	8,206	580	7.6%	Metro
Washington	446	393	-53	-11.9%	Metro
Woodbury	4,248	4,477	229	5.4%	Metro
Worth	113	76	-37	-32.9%	Micro
Control Counties					
Cerro Gordo	1,939	1,822	-117	-6.0%	Micro
Delaware	274	307	33	12.1%	
Hardin	394	342	-52	-13.3%	
Johnson	6,384	7,212	828	13.0%	Metro
Linn	8,039	8,497	458	5.7%	Metro
Muscatine	1,003	1,132	128	12.8%	Micro
Pocahontas	128	54	-74	-57.7%	
Webster	1,133	1,238	106	9.3%	Micro
Summary Areas					
Commercial Casino County Metro Areas	42,103	46,201	4,099	9.7%	
Commercial Casino County Micro Areas	3,130	3,014	-116	-3.7%	
Commercial Casino County Outlying Areas	1,074	995	-79	-7.4%	
Commercial Casino County Totals	46,306	50,210	3,904	8.4%	
Control County Metro Areas	14,423	15,709	1,287	8.9%	
Control County Micro Areas	4,075	4,192	117	2.9%	
Control County Outlying Areas	796	703	-93	-11.7%	
Control County Totals	19,293	20,604	1,310	6.8%	
Statewide Metro Areas	66,664	73,483	6,819	10.2%	
Statewide Micro Areas	14,681	14,652	-30	-0.2%	
Statewide Outlying Areas	15,228	14,222	-1,006	-6.6%	
Statewide Totals	96,573	102,375	5,802	6.0%	

Source: Bureau of Labor Statistics, Iowa Workforce Development, The Innovation Group

Table 77. Employment by Sector - Retail Trade (NAICS Code 44)

Commercial Casino Counties	2012	2019	Change	Percent Change	Designation
Black Hawk	9,044	9,048	4	0.0%	Metro
Clarke	540	524	-17	-3.1%	
Clayton	691	706	15	2.2%	
Clinton	2,538	2,367	-171	-6.7%	Micro
Des Moines	3,084	2,770	-314	-10.2%	Micro
Dubuque	6,975	6,588	-387	-5.5%	Metro
Greene	346	369	23	6.6%	
Lyon	354	377	23	6.4%	
Palo Alto	386	367	-19	-4.9%	
Polk	28,441	30,563	2,122	7.5%	Metro
Pottawattamie	5,843	5,436	-407	-7.0%	Metro
Scott	12,330	12,199	-131	-1.1%	Metro
Washington	1,053	1,076	24	2.2%	Metro
Woodbury	7,760	7,174	-586	-7.6%	Metro
Worth	163	151	-12	-7.1%	Micro
Control Counties					
Cerro Gordo	3,777	3,468	-310	-8.2%	Micro
Delaware	660	695	34	5.2%	
Hardin	848	851	3	0.3%	
Johnson	8,682	9,553	871	10.0%	Metro
Linn	14,778	13,185	-1,593	-10.8%	Metro
Muscatine	2,057	1,927	-131	-6.4%	Micro
Pocahontas	241	237	-5	-1.9%	
Webster	2,558	2,333	-225	-8.8%	Micro
Summary Areas					
Commercial Casino County Metro Areas	71,445	72,085	640	0.9%	
Commercial Casino County Micro Areas	5,784	5,288	-496	-8.6%	
Commercial Casino County Outlying Areas	2,317	2,342	25	1.1%	
Commercial Casino County Totals	79,546	79,714	168	0.2%	
Control County Metro Areas	23,460	22,738	-722	-3.1%	
Control County Micro Areas	8,392	7,727	-665	-7.9%	
Control County Outlying Areas	1,749	1,782	32	1.8%	
Control County Totals	33,601	32,246	-1,355	-4.0%	
Statewide Metro Areas	113,630	115,347	1,718	1.5%	
Statewide Micro Areas	29,518	27,581	-1,937	-6.6%	
Statewide Outlying Areas	32,721	32,229	-492	-1.5%	
Statewide Totals	175,866	175,159	-708	-0.4%	

Source: Bureau of Labor Statistics, Iowa Workforce Development, The Innovation Group

Retail Sales

Taxable retail sales were obtained from the Iowa department of revenue. In order to maintain consistency with the 2014 report on The Socioeconomic Impact of Gambling on Iowans, The Innovation Group considered three measures of taxable sales. These include total taxable sales excluding transportation and utility company sales, bar and restaurant sales, and sales by traditional bricks-and-mortar retailers. The sales analysis presented herein reflect dollar values that are in terms of the year of reported data (i.e., 2014 and 2019).

Total Taxable Sales (excluding Transportation and Utilities)

Total taxable sales excluding transportation and utility company sales experienced relatively strong growth from 2014 to 2019, with statewide total taxable sales increasing 12.2% over the time period analyzed. This strong growth is likely attributable to, at least partly, the ongoing recovery from the recession that begin in Iowa during 2008.

As displayed in the table below, growth of total taxable sales in commercial casino counties outpaced the statewide growth over the time period assessed, with taxable sales increasing by 13.2% in commercial casino counties. Growth of total taxable sales in commercial casino counties outpaced growth in control counties in all geographical designations with the exception of the outlying area designation. Commercial casino counties in this category experienced total taxable sales growth of 18.8% while the control county counterparts experienced growth of 19.7%

With the opening of the Wild Rose – Jefferson Casino in August 2015, Greene County represents the only new commercial casino county since the 2014 report was completed. Total taxable sales in Greene County grew at a slightly slower pace than the statewide total growth—increasing at 12.0% from 2014 to 2019 versus the statewide total of 12.2%. When compared to the control county average growth in total taxable sales from 2014 to 2019 (7.5%), Greene County showed an outperformance in taxable sales growth. Further detailed is provided in the table below.

Table 78. Total Taxable Sales excluding Transpiration and Utilities ($M)

Commercial Casino Counties	2014	2019	% Change	Designation
Black Hawk	1,658	1,735	4.7%	Metro
Clarke	47	53	12.5%	
Clayton	116	136	17.5%	
Clinton	434	427	-1.6%	Micro
Des Moines	518	550	6.3%	Micro
Dubuque	1,175	1,291	9.9%	Metro
Greene	54	60	12.0%	
Lyon	75	91	21.0%	
Palo Alto	80	102	27.0%	
Polk	6,746	8,112	20.2%	Metro
Pottawattamie	1,032	1,164	12.8%	Metro
Scott	2,216	2,358	6.4%	Metro
Washington	159	193	21.3%	Metro
Woodbury	1,439	1,556	8.1%	Metro
Worth	38	45	18.8%	Micro
Control Counties				
Cerro Gordo	649	662	2.0%	Micro
Delaware	123	169	37.6%	
Hardin	147	157	7.0%	
Johnson	1,625	1,810	11.4%	Metro
Linn	2,881	3,064	6.4%	Metro
Muscatine	365	380	4.2%	Micro
Pocahontas	32	34	9.0%	
Webster	463	481	3.9%	Micro
Commercial Casino County Metro Area	14,425	16,410	13.8%	
Commercial Casino County Micro Area	989	1,022	3.3%	
Commercial Casino County Outlying Area	371	441	18.8%	
Commercial Casino County Totals	15,785	17,873	13.2%	
Control County Metro Area	4,507	4,874	8.2%	
Control County Micro Area	1,477	1,523	3.1%	
Control County Outlying Area	301	360	19.7%	
Control County Totals	6,284	6,757	7.5%	
All non-Casino Counties	15,796	17,576	11.3%	
Statewide Total	31,687	35,560	12.2%	

Source: Iowa Department of Revenue; The Innovation Group

Bar and Restaurant Sales

The statewide growth in taxable sales at bars and restaurants outpaced total taxable sales (excluding transportation and utilities) over the time period assessed, with sales within this business group increasing 18.3% from 2014 to 2019.

Similar to the growth trends in total taxable sales, the growth of bar and restaurant taxable sales within commercial casino counties (20.3%) outpaced statewide growth (18.3%) from 2014 to 2019. Growth of bar and restaurant taxable sales in commercial casino counties outpaced growth in control counties in all geographical designations in metro areas, with metro area commercial casino counties experiencing an increase in taxable bar and restaurant sales of 21.5% from 2014 to 2019 while metro area control counties experienced an increase of taxable and restaurant sales of 20.9%. Growth of commercial casino county taxable bar and restaurant sales in micro and outlying areas grew at a slower pace when compared with the control counties in the same geographic designations. Taxable bar and restaurant sales in commercial casino county micro and outlying areas increased by 7.6% and 2.1%, respectively, while sales in control county micro and outlying areas increased by 15.3% and 11.6%, respectively.

Focusing on Greene County, the newest commercial county was one of only two commercial counties that experienced a decrease in taxable bar and restaurant sales from 2014 to 2019, with sales decreasing by 11.2%. Based on historical evidence noted in the 2014 report, it is reasonable to expect that after the initial adjustment period experienced by Greene County bars and restaurants, taxable bar and restaurant sales could return to growth within the county.

Table 79. Taxable Bar and Restaurant Sales ($M)

Commercial Casino Counties	2014	2019	% Change	Designation
Black Hawk	198	221	11.3%	Metro
Clarke	8	10	21.7%	
Clayton	11	12	5.6%	
Clinton	54	59	10.7%	Micro
Des Moines	61	64	4.5%	Micro
Dubuque	132	156	18.5%	Metro
Greene	6	6	-11.2%	
Lyon	5	5	-6.6%	
Palo Alto	8	7	-7.2%	
Polk	822	1,051	27.9%	Metro
Pottawattamie	138	165	19.7%	Metro
Scott	307	358	16.5%	Metro
Washington	15	17	10.1%	Metro
Woodbury	169	198	16.7%	Metro
Worth	3	4	15.0%	Micro
Control Counties				
Cerro Gordo	73	82	12.7%	Micro
Delaware	10	12	24.0%	
Hardin	11	11	7.7%	
Johnson	264	322	21.7%	Metro
Linn	314	377	20.2%	Metro
Muscatine	44	51	15.4%	Micro
Pocahontas	3	2	-19.1%	
Webster	47	57	19.2%	Micro
Commercial Casino County Metro Area	1,782	2,166	21.5%	
Commercial Casino County Micro Area	118	127	7.6%	
Commercial Casino County Outlying Area	39	39	2.1%	
Commercial Casino County Totals	1,939	2,333	20.3%	
Control County Metro Area	578	699	20.9%	
Control County Micro Area	164	189	15.3%	
Control County Outlying Area	23	26	11.6%	
Control County Totals	765	914	19.4%	
All non-Casino Counties	1,874	2,181	16.3%	
Statewide Total	3,827	4,528	18.3%	

Source: Iowa Department of Revenue; The Innovation Group

Traditional Retail Sales

The following table displays taxable sales within traditional retail. It is important to note that The Innovation Group included the following business groups, as reported by the Iowa Department of Revenue, in our definition of traditional retail:

- Apparel,
- Building Materials,
- Food Dealers,
- General Merchandise,
- Home Furnishings,
- Miscellaneous, and
- Specialty Retail.

The statewide growth in taxable traditional retail sales was lower than total taxable sales (excluding transportation and utilities) over the time period assessed, with sales within this category increasing 10.0% from 2014 to 2019. The lower growth of traditional retail sales relative to total taxable sales is likely due to the increasing share of online retail sales relative to total retail sales over the time period assessed. Business groups that can be categorized within traditional retail sales are some of the most susceptible business groups to lose sales to online substitutes.

Taxable traditional retail sales within commercial casino counties increased at a slightly lower rate (9.1%) compared to statewide growth in taxable traditional retail sales from 2014 to 2019. However, the growth within commercial casino counties outpaced the growth within control counties, with taxable retail sales within the control counties increasing by just 3.0% from 2014 to 2019.

Taxable Greene County traditional retail sales increased at a faster pace (13.8%) than statewide total growth (10.0%) and the growth for all non-casino counties (10.9%). Given the contradicting commercial casino county growth trends versus non-casino county growth trends on a county-by-county basis, no definitive causal relationship can be made between the existence of casinos and retail sales growth.

Table 80. Taxable Traditional Retail Sales ($M)

Commercial Casino Counties	2014	2019	% Change	Designation
Black Hawk	989	1,001	1.2%	Metro
Clarke	19	22	14.4%	
Clayton	45	58	27.3%	
Clinton	274	259	-5.4%	Micro
Des Moines	332	320	-3.6%	Micro
Dubuque	648	700	8.0%	Metro
Greene	25	28	13.8%	
Lyon	36	52	42.6%	
Palo Alto	48	67	38.0%	
Polk	3,442	4,018	16.7%	Metro
Pottawattamie	616	680	10.4%	Metro
Scott	1,306	1,322	1.2%	Metro
Washington	74	100	34.5%	Metro
Woodbury	837	853	2.0%	Metro
Worth	13	21	65.6%	Micro
Control Counties				
Cerro Gordo	404	381	-5.7%	Micro
Delaware	68	107	57.6%	
Hardin	75	82	8.8%	
Johnson	928	988	6.4%	Metro
Linn	1,509	1,537	1.8%	Metro
Muscatine	239	230	-3.6%	Micro
Pocahontas	18	22	21.7%	
Webster	280	280	0.1%	Micro
Commercial Casino County Metro Area	7,912	8,674	9.6%	
Commercial Casino County Micro Area	619	601	-3.0%	
Commercial Casino County Outlying Area	174	226	30.1%	
Commercial Casino County Totals	8,705	9,501	9.1%	
Control County Metro Area	2,438	2,525	3.6%	
Control County Micro Area	923	891	-3.4%	
Control County Outlying Area	162	211	30.8%	
Control County Totals	3,522	3,627	3.0%	
All non-Casino Counties	8,738	9,692	10.9%	
Statewide Total	17,497	19,249	10.0%	

Source: Iowa Department of Revenue; The Innovation Group

Property Values

Property assessments were obtained from the Iowa Department of Management for January 1, 2020 compared to January 1, 2012. There were no significant differences in residential property

value increases, although commercial casino counties had slightly lower increases than control counties in all categories.

Table 81. Residential Property Values Comparison of Casino and Control Counties ($MM)

Commercial Casino Counties	2012	2020	% Change	Designation
Black Hawk	5,846	6,803	16.4%	Metro
Clarke	300	381	26.7%	
Clayton	761	957	25.8%	
Clinton	1,843	2,128	15.5%	Micro
Des Moines	1,417	1,852	30.7%	Micro
Dubuque	4,536	6,038	33.1%	Metro
Greene	253	314	24.3%	
Lyon	402	624	55.1%	
Palo Alto	304	393	29.3%	
Polk	21,912	31,759	44.9%	Metro
Pottawattamie	4,029	4,964	23.2%	Metro
Scott	8,687	11,152	28.4%	Metro
Washington	953	1,247	30.9%	Metro
Woodbury	3,260	4,410	35.3%	Metro
Worth	267	321	20.2%	Micro
Control Counties				
Cerro Gordo	2,328	2,935	26.1%	Micro
Delaware	815	1,179	44.7%	
Hardin	525	643	22.3%	
Johnson	7,815	11,841	51.5%	Metro
Linn	11,187	14,043	25.5%	Metro
Muscatine	1,828	2,147	17.5%	Micro
Pocahontas	155	214	38.3%	
Webster	1,180	1,501	27.2%	Micro
Commercial Casino County Metro Area	49,223	66,373	34.8%	
Commercial Casino County Micro Area	3,526	4,300	21.9%	
Commercial Casino County Outlying Area	2,020	2,668	32.1%	
Commercial Casino County Totals	54,769	73,341	33.9%	
Control County Metro Area	19,003	25,884	36.2%	
Control County Micro Area	5,337	6,584	23.4%	
Control County Outlying Area	1,495	2,036	36.2%	
Control County Totals	25,834	34,504	33.6%	
All non-Casino Counties	80,891	108,828	34.5%	
State Total	136,497	183,232	34.2%	

Source: Iowa Department of Management; The Innovation Group

There were no significant differences in commercial property value increases in total. Metro casino counties had higher increases, but control counties excelled in the micro and outlying categories. However, there are several outliers, such as Clinton which posted a decline and

Delaware where values almost doubled. Also notable is Greene County, where a new casino was developed in 2015, Wild Rose-Jefferson.

Table 82. Commercial Property Values Comparison of Casino and Control Counties ($MM)

Commercial Casino Counties	2012	2020	% Change	Designation
Black Hawk	1,606	1,711	6.5%	Metro
Clarke	77	84	9.5%	
Clayton	101	110	8.6%	
Clinton	434	426	-1.8%	Micro
Des Moines	375	461	22.9%	Micro
Dubuque	1,272	1,459	14.6%	Metro
Greene	38	82	116.1%	
Lyon	126	186	48.5%	
Palo Alto	76	83	8.1%	
Polk	7,990	10,525	31.7%	Metro
Pottawattamie	1,226	1,512	23.4%	Metro
Scott	2,466	2,878	16.7%	Metro
Washington	184	213	15.7%	Metro
Woodbury	1,198	1,470	22.7%	Metro
Worth	78	100	28.6%	Micro
Control Counties				
Cerro Gordo	541	719	33.0%	Micro
Delaware	94	179	90.3%	
Hardin	98	121	23.9%	
Johnson	2,261	2,561	13.3%	Metro
Linn	2,817	3,627	28.7%	Metro
Muscatine	327	411	25.6%	Micro
Pocahontas	43	61	40.8%	
Webster	312	357	14.6%	Micro
Commercial Casino County Metro Area	15,942	19,767	24.0%	
Commercial Casino County Micro Area	887	987	11.3%	
Commercial Casino County Outlying Area	418	545	30.4%	
Commercial Casino County Totals	17,247	21,300	23.5%	
Control County Metro Area	5,079	6,188	21.8%	
Control County Micro Area	1,179	1,487	26.1%	
Control County Outlying Area	236	362	53.6%	
Control County Totals	6,494	8,037	23.8%	
All non-Casino Counties	16,738	20,674	23.5%	
State Total	34,137	42,131	23.4%	

Source: Iowa Department of Management; The Innovation Group

Community Services Impacts

Cities and counties provide a variety of services to residents and businesses. This section analyzes the extent of which expenditures for key community services are impacted by casinos, by comparing expenditure levels in casino cities with non-casino cities. Within these two groups, an additional step was taken to compare larger cities (metro area cities) with smaller market cities. The comparable periods are FY12 to FY21 (on a constant dollar basis). The expenditures were compiled from each city's budget. The analysis focuses on four types of services, as listed below:

1) Police Protection
2) Fire Protection and Emergency Medical Service (EMS)
3) Roads, Bridges, and Sidewalks
4) Capital Improvements

Police Protection Expenditures

As a benchmark, total expenditures (casino cities and non-casino cities) on police protection increased from $163.4 million in FY12 to $209.9 million in FY21, a total increase of 29% or 2.8% per year on an Average Annual Growth (AAG) basis. The rate of increase was moderately higher for non-casino cities at 3.1% per year compared to 2.7% per year for casino cities, as highlighted in the table below.

Within the casino cities group, the smaller market cities showed a modestly higher rate of growth of 3.1% compared to 2.6% for the metro area cities. In contrast, for the non-casino group, the larger cities showed the higher rate of growth at 3.3% per year versus 2.5% for the smaller market cities. Nonetheless, the growth rates were in a tight range by comparison.

For the casino cities (for cities that operate a police force), the rate of expenditure growth ranged from a low of 1.9% per year (Osceola and Sioux City) to a high of 6.4% for Altoona. For the non-casino cities, the rate of expenditure growth ranged from a low of 1.3% per year for Fort Dodge to a high of 8.8% for North Liberty.

In summary, when considering growth in police protection expenditures, there is no material difference between casino cities and non-casino cities.

Table 83. Police Protection Expenditures

Casino Cities	FY12	FY21	Change	Percent Change	AAG
Altoona	$2,801,276	$4,878,426	$2,077,150	74%	6.4%
Bettendorf	$6,126,435	$8,267,723	$2,141,288	35%	3.4%
Burlington	$5,184,389	$6,699,797	$1,515,408	29%	2.9%
Clinton	$4,849,098	$6,757,246	$1,908,148	39%	3.8%
Council Bluffs	$15,083,291	$19,365,292	$4,282,001	28%	2.8%
Davenport	$23,216,387	$28,440,191	$5,223,804	23%	2.3%
Dubuque	$12,043,283	$16,099,137	$4,055,854	34%	3.3%
Emmetsburg	$562,687	$715,974	$153,287	27%	2.7%
Marquette	$166,576	$137,320	-$29,256	-18%	-2.1%
Osceola	$1,056,055	$1,251,220	$195,165	18%	1.9%
Sioux City	$17,501,479	$20,703,115	$3,201,636	18%	1.9%
Waterloo	$15,914,348	$19,151,176	$3,236,828	20%	2.1%
Non-Casino Cities					
Cedar Rapids	$32,957,030	$42,039,193	$9,082,163	28%	2.7%
Coralville	$3,713,254	$5,102,433	$1,389,179	37%	3.6%
Fort Dodge	$3,747,952	$4,217,517	$469,565	13%	1.3%
Iowa Falls	$1,238,749	$1,492,523	$253,774	20%	2.1%
Lehigh	$7,952	$8,641	$689	9%	0.9%
Manchester	$1,049,076	$1,440,560	$391,484	37%	3.6%
Marion	$5,214,504	$7,844,635	$2,630,131	50%	4.6%
Mason City	$5,400,883	$6,931,911	$1,531,028	28%	2.8%
Muscatine	$4,010,259	$5,286,400	$1,276,141	32%	3.1%
North Liberty	$1,434,825	$3,065,164	$1,630,339	114%	8.8%
Thornton	$3,249	$4,795	$1,546	48%	4.4%
Subtotals					
Casino Cities	$104,505,304	$132,466,617	$27,961,313	27%	2.7%
Non-Casino Comp Cities	$58,777,733	$77,433,772	$18,656,039	32%	3.1%
Total	$163,283,037	$209,900,389	$46,617,352	29%	2.8%
Metro Casino Cities	$92,686,499	$116,905,060	$24,218,561	26%	2.6%
Non-Metro Casino Cities	$11,818,805	$15,561,557	$3,742,752	32%	3.1%
Metro Non-Casino Cities	$43,319,613	$58,051,425	$14,731,812	34%	3.3%
Non-Metro Non-Casino Cities	$15,458,120	$19,382,347	$3,924,227	25%	2.5%

Source: Individual City Budgets; The Innovation Group

To make police protection expenditure levels more comparable by city, per capita expenditures were calculated and analyzed. As a benchmark, the total per capita police expenditures calculated to $276 in FY21, an increase of 2.9% per year from FY12, a nine-year period.

Interestingly, when comparing casino cities and non-casino cities, per capita police expenditures were exactly equal at $276 per person in FY21. Note, per capita expenditures were modestly higher

for casino cities In FY12, but the higher rate of growth for non-casino cities (as discussed earlier) equalized this metric by FY21.

For the casino group, the larger cities showed an 11% higher per capita expenditure of $279 compared to the smaller cities at $252 in FY21. This is due in part to some of the smaller cities contracting out police protection to the county. For cities that operate a police force, per capita spending ranged from a low of $249 for Bettendorf to a high of $335 for Altoona. The low end of the range includes Burlington, Clinton, Osceola, and Sioux City, while the high end of the range contains only Council Bluffs. Note, Council Bluffs contains the largest casinos in the state.

For the non-casino group, the larger cities also showed a higher per capita expenditure. For cities that operate a police force, per capita spending ranged from a low of $167 for Fort Dodge to a high of $333 for Cedar Rapids, while most of the cities fell in the $229 to $270 range.

In summary, when considering per capita police protection expenditures, there was no material difference between casino cities and non-casino cities in FY21.

Table 84. Police Protection Per Capita Expenditures

Casino Cities	FY12	FY21	Change	Percent Change	AAG
Altoona	$182	$335	$154	85%	7.0%
Bettendorf	$179	$249	$70	39%	3.7%
Burlington	$202	$261	$59	29%	2.9%
Clinton	$182	$251	$69	38%	3.7%
Council Bluffs	$243	$311	$68	28%	2.8%
Davenport	$229	$285	$56	25%	2.5%
Dubuque	$207	$279	$72	35%	3.4%
Emmetsburg	$147	$183	$37	25%	2.5%
Marquette	$365	$297	-$67	-18%	-2.2%
Osceola	$210	$254	$44	21%	2.1%
Sioux City	$212	$250	$39	18%	1.9%
Waterloo	$233	$280	$47	20%	2.1%
Non-Casino Cities					
Cedar Rapids	$257	$333	$76	29%	2.9%
Coralville	$189	$270	$81	43%	4.1%
Fort Dodge	$151	$167	$16	10%	1.1%
Iowa Falls	$241	$285	$44	18%	1.9%
Lehigh	$20	$21	$1	6%	0.6%
Manchester	$205	$278	$73	36%	3.5%
Marion	$145	$226	$80	55%	5.0%
Mason City	$194	$247	$53	27%	2.7%
Muscatine	$174	$231	$57	32%	3.2%
North Liberty	$99	$229	$130	131%	9.8%
Thornton	$8	$11	$4	47%	4.3%
Subtotals					
Casino Cities	$216	$276	$60	28%	2.8%
Non-Casino Comp Cities	$206	$276	$69	34%	3.3%
Total	$212	$276	$63	30%	2.9%
Metro Casino Cities	$219	$279	$60	27%	2.7%
Non-Metro Casino Cities	$192	$252	$60	31%	3.1%
Metro Non-Casino Cities	$219	$300	$82	37%	3.6%
Non-Metro Non-Casino Cities	$178	$222	$43	24%	2.4%

Source: Individual City Budgets; The Innovation Group

Fire Protection Expenditures

As a benchmark, total expenditures (casinos cities and non-casino cities) on fire protection increased from $103 million in FY12 to $129.3 million in FY21, a total increase of 25% or 2.5% per year on an Average Annual Growth (AAG) basis. The rate of increase was moderately higher for non-casino cities at 3.0% per year compared to 2.3% per year for casino cities, as highlighted

in the table below. Note, the rate of fire expenditure growth was similar to police expenditures, discussed earlier.

Within the casino cities group, the smaller market cities showed a modestly higher rate of growth of 3.2% compared to 2.2% for the metro area cities. For the non-casino group, the smaller cities also showed a higher rate of growth at 4.0% per year versus 2.5% for the smaller market cities. Nonetheless, the growth rates were in a tight range by comparison, while the higher rate for smaller markets likely reflects non-recurring expenditures for equipment.

For the casino group (for cities that operate a fire department), the rate of expenditure growth ranged from a low of 0.1% per year for Burlington to a high of 11.1% for Altoona. The low end of the range includes Dubuque, Sioux City, and Waterloo. On the high end, Clinton and Osceola posted AAG of 6.1% and 6.2%, respectively.

In summary, when considering growth in fire protection expenditures, the growth rates varied materially between cities, but this was consistent between casino cities and non-casino cities.

Table 85. Fire Protection Expenditures

Casino Cities	FY12	FY21	Change	Percent Change	AAG
Altoona	$1,109,655	$2,868,497	$1,758,842	159%	11.1%
Bettendorf	$3,056,779	$4,721,250	$1,664,471	54%	4.9%
Burlington	$3,705,112	$3,750,486	$45,374	1%	0.1%
Clinton	$3,047,995	$5,174,949	$2,126,954	70%	6.1%
Council Bluffs	$9,580,373	$12,599,300	$3,018,927	32%	3.1%
Davenport	$16,338,154	$20,056,495	$3,718,341	23%	2.3%
Dubuque	$9,282,226	$9,840,647	$558,421	6%	0.7%
Emmetsburg	$48,866	$74,152	$25,286	52%	4.7%
Marquette	$691	$10,787	$10,096	1461%	35.7%
Osceola	$85,400	$146,769	$61,369	72%	6.2%
Sioux City	$13,999,543	$16,330,152	$2,330,609	17%	1.7%
Waterloo	$11,102,781	$12,161,310	$1,058,529	10%	1.0%
Non-Casino Cities					
Cedar Rapids	$18,206,064	$20,898,144	$2,692,080	15%	1.5%
Coralville	$1,208,142	$859,302	-$348,840	-29%	-3.7%
Fort Dodge	$2,276,665	$3,341,265	$1,064,600	47%	4.4%
Iowa Falls	$114,709	$206,640	$91,931	80%	6.8%
Lehigh	$27,661	$29,000	$1,339	5%	0.5%
Manchester	$242,368	$184,628	-$57,740	-24%	-3.0%
Marion	$2,986,014	$6,052,758	$3,066,744	103%	8.2%
Mason City	$2,931,828	$3,896,402	$964,574	33%	3.2%
Muscatine	$3,404,243	$5,183,800	$1,779,557	52%	4.8%
North Liberty	$474,377	$875,565	$401,188	85%	7.0%
Thornton	$36,344	$41,301	$4,957	14%	1.4%
Subtotals					
Casino Cities	$71,357,575	$87,734,794	$16,377,219	23%	2.3%
Non-Casino Match Cities	$31,908,415	$41,568,805	$9,660,390	30%	3.0%
Total	$103,265,990	$129,303,599	$26,037,609	25%	2.5%
Metro Casino Cities	$64,469,511	$78,577,651	$14,108,140	22%	2.2%
Non-Metro Casino Cities	$6,888,064	$9,157,143	$2,269,079	33%	3.2%
Metro Non-Casino Cities	$22,874,597	$28,685,769	$5,811,172	25%	2.5%
Non-Metro Non-Casino Cities	$9,033,818	$12,883,036	$3,849,218	43%	4.0%

Source: Individual City Budgets; The Innovation Group

To make fire protection expenditures more comparable by city, per capita fire expenditures were calculated and analyzed. As a benchmark, total per capita expenditures calculated to $170 in FY21, an increase of 2.6% per year from FY12.

Per capita fire expenditures for casino cities calculated to $183 per person in FY21. This figure is approximately 23% higher than the average for non-casino cities. This percentage is down from 32% in FY12, due to the higher rate of growth for non-casino cities (as discussed earlier).

For the casino group, the larger cities showed a 27% higher per capita expenditure of $188 compared to the smaller cities at $148, as some of the smaller cities are part of a larger fire protection district. For casino cities that operate a fire department, per capita spending ranged from a low of $142 for Bettendorf to a high of $202 for Council Bluffs. The low end of the range includes Burlington, Dubuque, and Waterloo, while the high end of the range includes Davenport, Sioux City, Altoona, and Clinton.

For the non-casino group, the larger and smaller cities showed a similar per capita fire expenditure. For cities that operate a fire department, per capita spending ranged from a low of $45 for Coralville to a high of $227 for Muscatine. The wide range likely suggests fire protection districts do not always follow city boundaries.

In summary, when considering per capita fire protection expenditures, spending is materially higher for casino cities compared to non-casino cities. This is likely due to casino cities requiring more advanced equipment and training in preparation for emergency response on a serious scale. Also, casino facilities create additional EMS calls, similar to any entertainment facility that attracts large crowds, such as concert halls and sporting event venues. A large casino in a small city can have a material impact on EMS expenditures, while a small casino in a large city would have little impact on a percent change basis.

Table 86. Fire Protection Per Capita Expenditures

Casino Cities	FY12	FY21	Change	Percent Change	AAG
Altoona	$72	$197	$125	174%	11.8%
Bettendorf	$89	$142	$53	59%	5.3%
Burlington	$144	$146	$2	1%	0.1%
Clinton	$114	$192	$78	68%	6.0%
Council Bluffs	$154	$202	$48	31%	3.1%
Davenport	$161	$201	$40	25%	2.5%
Dubuque	$160	$171	$11	7%	0.8%
Emmetsburg	$13	$19	$6	49%	4.5%
Marquette	$2	$23	$22	1446%	35.6%
Osceola	$17	$30	$13	76%	6.5%
Sioux City	$169	$198	$28	17%	1.7%
Waterloo	$163	$178	$15	9%	1.0%
Non-Casino Cities					
Cedar Rapids	$142	$165	$23	16%	1.7%
Coralville	$61	$45	-$16	-26%	-3.3%
Fort Dodge	$92	$133	$41	44%	4.1%
Iowa Falls	$22	$39	$17	77%	6.5%
Lehigh	$68	$70	$1	2%	0.2%
Manchester	$47	$36	-$12	-25%	-3.1%
Marion	$83	$174	$91	109%	8.5%
Mason City	$105	$139	$33	32%	3.1%
Muscatine	$148	$227	$78	53%	4.8%
North Liberty	$33	$65	$33	100%	8.0%
Thornton	$87	$98	$11	13%	1.4%
Subtotals					
Casino Cities	$147	$183	$35	24%	2.4%
Non-Casino Comp Cities	$112	$148	$36	32%	3.1%
Total	$134	$170	$36	26%	2.6%
Metro Casino Cities	$153	$188	$35	23%	2.3%
Non-Metro Casino Cities	$112	$148	$36	33%	3.2%
Metro Non-Casino Cities	$115	$148	$33	28%	2.8%
Non-Metro Non-Casino Cities	$104	$147	$43	41%	3.9%

Source: Individual City Budgets; The Innovation Group

Roads, Bridges, and Sidewalks Expenditures

Spending on roads, bridges, and sidewalks is another aspect of community services. The goal of this section is to ascertain whether casinos materially impact this spending category. Note, comparing spending of this type from year to year and city to city can be difficult, as major projects can significantly skew the results.

For the casino cities group, expenditures total $68.4 million in FY21, an increase of $31.7 million or 87% compared to FY12. The larger cities (metro areas) showed a much higher rate of growth of 96% compared to 34% for the smaller cities. Davenport, with expenditure of $17.2 million in FY21 showed the highest rate of growth at about 300%, followed by Council Bluffs with $6.9 million of expenditures in FY21, a nearly 200% growth rate.

For the comparable non-casino cities group, expenditures total $40.7 million in FY21, an increase of $16.6 million or 69% compared to FY12. Again, the larger cities (metro areas) showed a much higher rate of growth of 81% compared to 25% for the smaller cities. Marion, with expenditures of $9.9 million in FY21 showed the highest rate of growth at about 380%, followed by Coralville with $2.4 million of expenditures in FY21, reflecting growth of 160% over FY12.

Note, there is significant disparity between cities regarding spending on roads, bridges, and sidewalks, but a correlation between higher spending levels and casinos was not evident. The differences were more likely due to major road projects for the betterment of the communities generally.

Table 87. Roads, Bridges, and Sidewalks Expenditures

Casino Cities	FY12	FY21	Change	Percent Change	AAG
Altoona	$858,011	$1,527,711	$669,700	78%	6.6%
Bettendorf	$915,370	$1,272,585	$357,215	39%	3.7%
Burlington	$1,334,436	$2,105,309	$770,873	58%	5.2%
Clinton	$2,848,376	$3,214,751	$366,375	13%	1.4%
Council Bluffs	$2,326,946	$6,882,945	$4,555,999	196%	12.8%
Davenport	$4,300,476	$17,248,619	$12,948,143	301%	16.7%
Dubuque	$3,881,520	$5,346,385	$1,464,865	38%	3.6%
Emmetsburg	$634,210	$936,381	$302,171	48%	4.4%
Marquette	$90,595	$115,327	$24,732	27%	2.7%
Osceola	$574,938	$966,717	$391,779	68%	5.9%
Sioux City	$4,205,899	$5,807,271	$1,601,372	38%	3.6%
Waterloo	$14,685,949	$22,965,807	$8,279,858	56%	5.1%
Non-Casino Cities					
Cedar Rapids	$10,430,633	$20,510,032	$10,079,399	97%	7.8%
Coralville	$934,063	$2,438,600	$1,504,537	161%	11.3%
Fort Dodge	$1,050,071	$1,438,123	$388,052	37%	3.6%
Iowa Falls	$485,447	$858,841	$373,394	77%	6.5%
Lehigh	$94,352	$94,100	-$252	0%	0.0%
Manchester	$579,948	$611,749	$31,801	5%	0.6%
Marion	$2,068,066	$9,863,099	$7,795,033	377%	19.0%
Mason City	$1,662,707	$1,986,264	$323,557	19%	2.0%
Muscatine	$1,326,734	$1,496,100	$169,366	13%	1.3%
North Liberty	$5,447,329	$1,336,888	-$4,110,441	-75%	-14.5%
Thornton	$53,644	$106,794	$53,150	99%	8.0%
Subtotals					
Casino Cities	$36,656,726	$68,389,808	$31,733,082	87%	7.2%
Non-Casino Match Cities	$24,132,994	$40,740,590	$16,607,596	69%	6.0%
Totals	$60,789,720	$109,130,398	$48,340,678	80%	6.7%
Metro Casino Cities	$31,174,171	$61,051,323	$29,877,152	96%	7.8%
Non-Metro Casino Cities	$5,482,555	$7,338,485	$1,855,930	34%	3.3%
Metro Non-Casino Cities	$18,880,091	$34,148,619	$15,268,528	81%	6.8%
Non-Metro Non-Casino Cities	$5,252,903	$6,591,971	$1,339,068	25%	2.6%

Source: Individual City Budgets; The Innovation Group

In summary, spending on roads, bridges, and sidewalks in Iowa surpassed the $100 million mark in FY21 for the 23 cities in the Study, approximately 38% and 80% over FY06 and FY12, respectively. The casino group's share of the total increased from 54% in FY06 to 60% in FY12 to 63% in FY21. It's difficult to correlate the growth in the casino's groups share to the presences of the casinos, but it is encouraging that capital is available for these projects in casino cities.

Table 88. Graphical Summary - Roads, Bridges, and Sidewalks Expenditures

Source: Individual City Budgets; The Innovation Group

Capital Projects Expenditures

Spending on capital improvement projects is good indicator of a community's prosperity. A high level of capital spending is a sign that a community is preparing for future growth. Capital improvement projects could include new parks and park expansions, possibly featuring water parks and golf courses. Note, comparing capital spending from year to year can be misleading, as major capital project are often sporadic, hitting one year and not another.

For the casino cities group, spending on capital projects total $297.5 million in FY21, an increase of $106.2 million or 56% compared to FY12. The smaller cities (non-metro areas) in the casino group showed a much higher rate of growth of 178% compared to 40% for the larger cities. Capital spending in Altoona increased substantially from $1.2 million in FY12 to $8.1 million in FY21. Capital spending in Council Bluffs and Davenport for FY21 was approximately $44.6 million and $46.5 million, respectively, posting growth of about 110% and 21% over FY12.

For the comparable non-casino cities group, capital spending totaled $220.4 million in FY21, a decrease of $50.5 million or 19% compared to FY12. The decline is mainly due to a $64.2 million decline for Coralville, as this city had no capital spending in FY21. Fort Dodge and Cedar Rapids also showed significant declines in capital spending of $5.1 million (43%) and $35.2 million (21%). Excluding the declines in these three cities, capital spending for the non-casino cities increased by $53.9 million or 178% in FY21. North Liberty led the way with a 374% increase in capital spending, followed by Mason City at 219%.

Table 89. Capital Projects Expenditures

Casino Cities	FY12	FY21	Change	Percent Change	AAG
Altoona	$1,229,017	$8,105,000	$6,875,983	559%	23.3%
Bettendorf	$13,854,684	$17,871,220	$4,016,536	29%	2.9%
Burlington	$8,820,883	$8,129,828	-$691,055	-8%	-0.9%
Clinton	$8,206,346	$6,973,500	-$1,232,846	-15%	-1.8%
Council Bluffs	$21,841,438	$45,802,858	$23,961,420	110%	8.6%
Davenport	$38,425,489	$46,527,921	$8,102,432	21%	2.1%
Dubuque	$40,877,956	$41,074,054	$196,098	0%	0.1%
Emmetsburg	$2,099,133	$363,854	-$1,735,279	-83%	-17.7%
Marquette	$1,339,348	$245,000	-$1,094,348	-82%	-17.2%
Osceola	$1,248,400	$44,648,260	$43,399,860	3476%	48.8%
Sioux City	$31,821,949	$49,071,744	$17,249,795	54%	4.9%
Waterloo	$21,490,763	$28,644,365	$7,153,602	33%	3.2%
Non-Casino Cities					
Cedar Rapids	$164,631,089	$129,475,860	-$35,155,229	-21%	-2.6%
Coralville	$64,205,983	$0	-$64,205,983	-100%	-100.0%
Fort Dodge	$11,841,096	$6,729,348	-$5,111,748	-43%	-6.1%
Iowa Falls	$3,312,966	$6,094,565	$2,781,599	84%	7.0%
Lehigh	$0	$0	$0	NM	NM
Manchester	$1,425,512	$3,133,202	$1,707,690	120%	9.1%
Marion	$10,630,797	$25,532,750	$14,901,953	140%	10.2%
Mason City	$7,509,173	$23,985,888	$16,476,715	219%	13.8%
Muscatine	$4,912,814	$13,663,400	$8,750,586	178%	12.0%
North Liberty	$2,489,975	$11,799,000	$9,309,025	374%	18.9%
Thornton	$0	$0	$0	NM	NM
Subtotals					
Casino Cities	$191,255,406	$297,457,604	$106,202,198	56%	5.0%
Non-Casino Comp Cities	$270,959,405	$220,414,013	-$50,545,392	-19%	-2.3%
Totals	$462,214,811	$517,871,617	$55,656,806	12%	1.3%
Metro Casino Cities	$169,541,296	$237,097,162	$67,555,866	40%	3.8%
Non-Metro Casino Cities	$21,714,110	$60,360,442	$38,646,332	178%	12.0%
Metro Non-Casino Cities	$241,957,844	$166,807,610	-$75,150,234	-31%	-4.0%
Non-Metro Non-Casino Cities	$29,001,561	$53,606,403	$24,604,842	85%	7.1%

Source: Individual City Budgets; The Innovation Group

In summary, spending on capital projects in Iowa remains strong, reaching over a half billion dollars in FY21 for the 23 cities in the Study, nearly double the level from FY06. The casino group has led the way, accounting for 57% of the total in FY21, down slightly from 60% in FY06.

Table 90. Graphical Summary - Capital Projects Expenditures

Source: Individual City Budgets; The Innovation Group

Crime

Despite the proliferation of casino development throughout the state, Iowa has had much lower crime rates than the United States as a whole. Property crimes in Iowa declined by 26% over the past decade, in line with though slightly lower than the US average.

Table 91. Crime Rate Trends Iowa vs. US Average

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	% Change
Property Crimes												
United States	3,041.3	2,945.9	2,905.4	2,868.0	2,733.6	2,574.1	2,500.5	2,451.6	2,362.9	2,209.8	2,109.9	-31%
Iowa	2,329.9	2,253.6	2,351.2	2,288.0	2,198.2	2,093.6	2,072.0	2,104.5	2,088.4	1,811.1	1,733.7	-26%
Violent Crimes												
United States	431.9	404.5	387.1	387.8	369.1	361.6	373.7	397.5	394.9	383.4	379.4	-12%
Iowa	282.1	268.5	257.3	265.6	273.0	272.8	276.1	292.9	287.5	263.7	266.6	-5%
% Change												
Property Crimes												
United States		-3.1%	-1.4%	-1.3%	-4.7%	-5.8%	-2.9%	-2.0%	-3.6%	-6.5%	-4.5%	
Iowa		-3.3%	4.3%	-2.7%	-3.9%	-4.8%	-1.0%	1.6%	-0.8%	-13.3%	-4.3%	
Violent Crimes												
United States		-6.3%	-4.3%	0.2%	-4.8%	-2.0%	3.3%	6.4%	-0.7%	-2.9%	-1.0%	
Iowa		-4.8%	-4.2%	3.2%	2.8%	-0.1%	1.2%	6.1%	-1.8%	-8.3%	1.1%	

Source: FBI Uniform Crime Report; The Innovation Group

Total Group A Offenses

The following table describes the Group A offenses.

Table 92. Group A Crime Categories

Crimes Against Persons	Crimes Against Property	Crimes Against Society Total
Murder	Robbery	Drug/Narcotic Violations
Negligent Manslaughter	Burglary/Breaking & Entering	Drug Equipment Violations
Justifiable Homicide	Larceny/Theft Offenses	Gambling Offenses
Non-consensual Sex Offenses:	Motor Vehicle Theft	Pornography/Obscene Material
Rape	Arson	Prostitution
Sodomy	Destruction Of Property	Weapons Law Violation
Sexual Assault with Object	Counterfeiting/Forgery	Animal Cruelty
Fondling	Fraud Offense	
Aggravated Assault	Embezzlement	
Simple Assault	Extortion/Blackmail	
Intimidation	Bribery	
Kidnapping/Abduction	Stolen Property Offenses	
Consensual Sex Offenses:		
Incest		
Statutory Rape		
Human Trafficking, Commercial Sex Acts		
Human Trafficking, Involuntary Servitude		

Crime rates are higher in metro casino counties although it should be noted that casino counties represent a much larger population, 1.16 million versus only 382,065 in the two control metro counties. In the micro category, crime rates are slightly higher in casino counties. In outlying areas, crime rates are slightly lower in casino counties.

Table 93. 2020 Group A Crime Rates per 100,000

Commercial Casino Counties	Crimes Against Persons	Crimes Against Property	Crimes Against Society	Total Class A Offenses	Designation
Black Hawk	1,074	3,154	1,130	5,358	Metro
Clarke	660	2,215	1,512	4,388	
Clayton	151	227	401	779	
Clinton	1,331	4,217	870	6,418	Micro
Des Moines	1,344	4,939	1,171	7,454	Micro
Dubuque	1,648	2,582	1,002	5,232	Metro
Greene	397	1,451	215	2,063	
Lyon	451	842	1,191	2,483	
Palo Alto	794	1,191	737	2,722	
Polk	1,432	3,693	699	5,825	Metro
Pottawattamie	1,382	5,403	1,064	7,849	Metro
Scott	1,470	4,837	1,408	7,714	Metro
Washington	701	1,935	902	3,538	Metro
Woodbury	1,765	5,115	1,104	7,985	Metro
Worth	408	544	1,143	2,096	Micro
Control Counties					
Cerro Gordo	967	4,651	1,050	6,667	Micro
Delaware	649	1,664	258	2,571	
Hardin	489	1,513	471	2,472	
Johnson	894	2,267	397	3,559	Metro
Linn	965	3,651	800	5,416	Metro
Muscatine	986	2,102	1,057	4,145	Micro
Pocahontas	336	765	505	1,606	
Webster	1,827	4,703	988	7,517	Micro
Commercial Casino County Metro Area	1,426	3,939	950	6,315	
Commercial Casino County Micro Area	1,263	4,228	1,019	6,509	
Commercial Casino County Outlying Area	439	1,034	777	2,250	
Commercial Casino County Totals	1,372	3,835	947	6,154	
Control County Metro Area	935	3,077	633	4,646	
Control County Micro Area	1,228	3,766	1,034	6,028	
Control County Outlying Area	530	1,453	388	2,372	
Control County Totals	971	3,111	704	4,785	
All non-Casino Counties	713	1,917	672	3,302	
Statewide Total	983	2,696	783	4,462	

Source: Iowa Department of Public Safety; The Innovation Group

Fraud and Embezzlement

Looking at two types of crime commonly perceived to be associated with casino development, rates for fraud and embezzlement are higher in metro casino counties. In the micro category, rates

for fraud are identical in casino and control counties but for embezzlement casino counties have a lower rate. In outlying areas, rates for fraud are lower in casino counties but for embezzlement casino counties have a higher rate.

Table 94. 2020 Group A Crime Rates per 100,000

Commercial Casino Counties	Fraud	Embezzlement	Total	Designation
Black Hawk	468	7	474	Metro
Clarke	85	11	96	
Clayton	17	0	17	
Clinton	169	0	169	Micro
Des Moines	426	0	426	Micro
Dubuque	338	19	358	Metro
Greene	113	0	113	
Lyon	145	0	145	
Palo Alto	11	11	23	
Polk	277	5	282	Metro
Pottawattamie	96	8	103	Metro
Scott	474	24	498	Metro
Washington	82	0	82	Metro
Woodbury	523	7	530	Metro
Worth	14	14	27	Micro
Control Counties				
Cerro Gordo	434	2	436	Micro
Delaware	787	0	787	
Hardin	95	0	95	
Johnson	288	9	297	Metro
Linn	281	3	284	Metro
Muscatine	184	2	186	Micro
Pocahontas	46	0	46	
Webster	163	17	180	Micro
Commercial Casino County Metro Area	337	10	347	
Commercial Casino County Micro Area	265	1	266	
Commercial Casino County Outlying Area	70	4	73	
Commercial Casino County Totals	321	9	330	
Control County Metro Area	284	5	289	
Control County Micro Area	265	7	272	
Control County Outlying Area	375	0	375	
Control County Totals	286	5	292	
All non-Casino Counties	175	3	178	
Statewide Total	234	5	239	

Source: Iowa Department of Public Safety; The Innovation Group

The Iowa Insurance Division's Department of Fraud has reported an increase in insurance fraud referrals since 2017.

Table 95. Insurance Fraud

	Fraud Referrals	$M Recovered
2017	748	5.8
2018	915	11.2
2019	1,038	5.6
2020	1,037	8.8

Source: Iowa Insurance Division; The Innovation Group

Household Finances and Community Health

Divorce Rates

The number of dissolutions (divorces) are reported by county in annual "Vital Statistics of Iowa in Brief" reports and dissolution rates per 1,000 population are reported by county in annual "Vital Statistics of Iowa" reports published by the Iowa Department of Public Health.

Table 96 summarizes 2012 and 2019 dissolutions. The 2019 dissolution rates in "Vital Statistics of Iowa" were based on a revised total count (relative to "provisional" counts reported by county) that primarily affected rates for Polk and Scott counties. Counts for affected counties were adjusted for this analysis to produce rates by county and a statewide count that matched those in the 2019 Vital Statistics of Iowa report. County population estimates published in the reports (i.e., vintage census estimates from report years) were used to verify rates by county; to aggregate data for commercial casino and control counties; and to aggregate data for metropolitan, micropolitan and outlying areas. The changes and percent changes in dissolution rates listed by county in Table 96 were calculated based on the source data and then rounded (i.e., not calculated from the rounded rates shown).

Statewide, dissolution rates increased slightly between 2012 and 2019. There were no statistically significant differences in dissolution rates when comparing commercial casino and control counties; or when comparing metropolitan, micropolitan and outlying areas.

Table 96. Divorces (Dissolutions) Per 1,000 Population

Commercial Casino Counties	2012	2019	Change	Percent Change	Designation
Black Hawk	1.6	2.5	0.9	57.0%	Metro
Clarke	2.0	0.9	-1.2	-58.0%	
Clayton	3.3	2.8	-0.4	-12.4%	
Clinton	0.7	2.2	1.6	237.7%	Micro
Des Moines	0.7	1.6	0.9	120.9%	Micro
Dubuque	2.4	2.0	-0.4	-17.0%	Metro
Greene (dissolution count and rate were suppressed in 2019 reports)	2.4				
Lyon	1.0	1.4	0.3	33.4%	
Palo Alto	2.5	3.0	0.6	22.5%	
Polk	1.8	2.4	0.6	35.6%	Metro
Pottawattamie	4.1	2.7	-1.4	-34.4%	Metro
Scott	2.1	2.8	0.8	37.8%	Metro
Washington	2.9	2.6	-0.2	-8.2%	Metro
Woodbury	0.7	1.6	0.9	129.2%	Metro
Worth	1.6	1.6	0.0	1.9%	Micro
Control Counties					
Cerro Gordo	3.8	3.4	-0.4	-9.3%	Micro
Delaware	1.9	1.2	-0.8	-39.2%	
Hardin	2.5	1.8	-0.6	-26.0%	
Johnson	1.6	1.8	0.2	12.8%	Metro
Linn	2.8	2.9	0.1	4.9%	Metro
Muscatine	3.4	2.8	-0.6	-18.6%	Micro
Pocahontas	2.5	2.0	-0.6	-22.0%	
Webster	2.9	2.2	-0.7	-23.4%	Micro
Commercial Casino County Metro Areas	2.0	2.4	0.4	21.7%	
Commercial Casino County Micro Areas	0.8	1.9	1.2	151.8%	
Commercial Casino County Outlying Areas	2.3	1.9	-0.5	-20.4%	
All Commercial Casino Counties	1.9	2.3	0.5	23.7%	
Control County Metro Areas	2.3	2.5	0.2	6.5%	
Control County Micro Areas	3.4	2.8	-0.5	-16.1%	
Control County Outlying Areas	2.3	1.6	-0.7	-30.1%	
All Control Counties	2.6	2.5	-0.1	-3.2%	
Statewide Metro Areas	2.0	2.4	0.3	15.2%	
Statewide Micro Areas	2.5	2.2	-0.2	-8.7%	
Statewide Outlying Areas	2.3	2.0	-0.3	-13.9%	
Statewide	2.2	2.3	0.1	3.4%	

Source: Iowa Department of Public Health, The Innovation Group

Education

Dropout Rate

Public School District dropout data were obtained from the Iowa Department of Education for grades 7-12 in the 2019-20 academic year. Counties in the state with a commercial casino had on average higher dropout rates when compared to the non-casino counties in the state. However, dropout rates have declined in the state overall since the previous study.

There were no significant differences in dropout rates between commercial casino counties and the control counties, although both were higher than the state average. Only eight of the 15 counties with a commercial casino had dropout rates higher than the state average, while six of the eight control counties were higher than the state average.

Table 97: Dropout Rate Comparison of Casino and Control Counties

Commercial Casino Counties	Dropout	Enrollment	Dropout Rate	Designation
Black Hawk	111	8,306	1.34%	Metro
Clarke	16	754	2.12%	
Clayton	16	1,201	1.33%	
Clinton	51	3,291	1.55%	Micro
Des Moines	68	2,734	2.49%	Micro
Dubuque	102	6,466	1.58%	Metro
Greene	6	656	0.91%	
Lyon	6	988	0.61%	
Palo Alto	7	792	0.88%	
Polk	620	34,976	1.77%	Metro
Pottawattamie	96	6,998	1.37%	Metro
Scott	254	12,798	1.98%	Metro
Washington	23	1,648	1.40%	Metro
Woodbury	151	8,409	1.80%	Metro
Worth	3	566	0.53%	Micro
Control Counties				
Cerro Gordo	38	2,540	1.50%	Micro
Delaware	13	1,253	1.04%	
Hardin	27	1,279	2.11%	
Johnson	103	8,405	1.23%	Metro
Linn	234	16,888	1.39%	Metro
Muscatine	69	3144	2.19%	Micro
Pocahontas	12	415	2.89%	
Webster	60	2,094	2.87%	Micro
Commercial Casino County Metro Area	1,357	79,601	1.70%	
Commercial Casino County Micro Area	122	6,591	1.85%	
Commercial Casino County Outlying Area	51	4,391	1.16%	
Commercial Casino County Totals	1,530	90,583	1.69%	
Control County Metro Area	337	25,293	1.33%	
Control County Micro Area	167	7,778	2.15%	
Control County Outlying Area	52	2,947	1.76%	
Control County Totals	556	36,018	1.54%	
All non-Casino Counties	1,619	135,912	1.19%	
State Total	3,149	226,495	1.39%	

Source: Iowa Department of Education; The Innovation Group

Educational Attainment

Metro casino counties have on average lower rates of high school and college graduation when compared to the control counties, driven mostly by low rates in Woodbury and higher-than-state-average rates in the control counties. There are only slight differences in the micro and outlying categories.

Table 98: Educational Attainment Comparison of Casino and Control Counties 2021

Commercial Casino Counties	High School	College	Designation
Black Hawk	92.3%	41.6%	Metro
Clarke	88.9%	27.4%	
Clayton	90.6%	29.0%	
Clinton	91.7%	31.1%	Micro
Des Moines	92.5%	34.9%	Micro
Dubuque	93.2%	41.5%	Metro
Greene	94.0%	32.4%	
Lyon	91.3%	35.9%	
Palo Alto	93.3%	41.5%	
Polk	92.4%	48.2%	Metro
Pottawattamie	90.4%	34.3%	Metro
Scott	93.6%	43.7%	Metro
Washington	92.4%	34.1%	Metro
Woodbury	88.4%	35.0%	Metro
Worth	93.7%	33.8%	Micro
Control Counties			
Cerro Gordo	93.4%	40.3%	Micro
Delaware	92.5%	30.9%	
Hardin	93.2%	36.0%	
Johnson	95.6%	62.8%	Metro
Linn	95.0%	47.3%	Metro
Muscatine	90.1%	35.6%	Micro
Pocahontas	92.9%	30.3%	
Webster	91.3%	35.1%	Micro
Commercial Casino County Metro Area	91.8%	39.8%	
Commercial Casino County Micro Area	92.7%	33.3%	
Commercial Casino County Outlying Area	91.6%	33.2%	
Commercial Casino County Totals	91.9%	36.3%	
Control County Metro Area	95.3%	55.1%	
Control County Micro Area	91.6%	37.0%	
Control County Outlying Area	92.8%	32.4%	
Control County Totals	93.0%	39.8%	
State Total	92.9%	41.6%	

Source: ESRI/ArcGIS; The Innovation Group

Family Investment Program

Percentage of Families Receiving Family Investment Program Benefits

Table 99 summarizes the percentage of families receiving family investment program benefits at some point during the year in 2012 and 2019. All counties experienced declines in participation rates. Differences in the percent change in participation rates when comparing commercial casino and control counties were not statistically significant. Statewide differences in the percent change in participation rates when comparing metropolitan, micropolitan and outlying areas were not statistically significant.

Percentage of Families Receiving Family Investment Program Food Benefits

Table 100 summarizes the percentage of families receiving family investment program food benefits, known as the SNAP program, at some point during the year in 2012 and 2019. All counties experienced declines in participation rates. Differences in the percent change in food benefits participation rates when comparing commercial casino and control counties were not statistically significant. Statewide differences in the percent change in food benefits participation rates when comparing metropolitan, micropolitan and outlying areas were not statistically significant.

Table 99. Percentage of Families Receiving Family Investment Program Benefits

Commercial Casino Counties	2012	2019	Change	Percent Change	Designation
Black Hawk	1.90%	1.04%	-0.86%	-45.47%	Metro
Clarke	1.40%	0.51%	-0.89%	-63.36%	
Clayton	0.70%	0.19%	-0.51%	-72.43%	
Clinton	2.00%	0.84%	-1.16%	-57.80%	Micro
Des Moines	2.00%	1.03%	-0.97%	-48.70%	Micro
Dubuque	1.50%	0.57%	-0.94%	-62.33%	Metro
Greene	1.20%	0.75%	-0.45%	-37.58%	
Lyon	0.50%	0.09%	-0.41%	-81.40%	
Palo Alto	0.80%	0.26%	-0.55%	-68.13%	
Polk	1.50%	0.64%	-0.87%	-57.67%	Metro
Pottawattamie	1.70%	0.83%	-0.87%	-51.35%	Metro
Scott	2.40%	0.83%	-1.57%	-65.42%	Metro
Washington	0.90%	0.34%	-0.56%	-62.33%	Metro
Woodbury	1.40%	0.85%	-0.55%	-39.36%	Metro
Worth	0.50%	0.32%	-0.18%	-35.60%	Micro
Control Counties					
Cerro Gordo	0.90%	0.54%	-0.36%	-40.33%	Micro
Delaware	0.80%	0.38%	-0.42%	-52.75%	
Hardin	1.50%	0.34%	-1.16%	-77.33%	
Johnson	1.00%	0.36%	-0.65%	-64.50%	Metro
Linn	1.20%	0.62%	-0.59%	-48.75%	Metro
Muscatine	1.70%	0.60%	-1.11%	-65.00%	Micro
Pocahontas	1.20%	0.40%	-0.80%	-66.92%	
Webster	1.80%	0.81%	-0.99%	-54.83%	Micro
Summary Areas					
Commercial Casino County Metro Areas	1.61%	0.73%	-0.89%	-55.04%	
Commercial Casino County Micro Areas	1.50%	0.73%	-0.77%	-51.29%	
Commercial Casino County Outlying Areas	0.92%	0.36%	-0.56%	-60.80%	
Commercial Casino County Totals	1.36%	0.61%	-0.75%	-55.51%	
Control County Metro Areas	1.10%	0.49%	-0.62%	-55.91%	
Control County Micro Areas	1.47%	0.65%	-0.82%	-55.80%	
Control County Outlying Areas	1.17%	0.37%	-0.80%	-68.14%	
Control County Totals	1.26%	0.50%	-0.76%	-60.10%	
Statewide Metro Areas	1.05%	0.44%	-0.61%	-57.69%	
Statewide Micro Areas	1.46%	0.59%	-0.87%	-59.64%	
Statewide Outlying Areas	0.99%	0.40%	-0.59%	-59.82%	
Statewide Totals	1.30%	0.54%	-0.76%	-58.23%	

Source: Kids Count, Iowa Department of Human Services, The Innovation Group

Table 100. Percentage of Families Receiving Family Investment Program Food Benefits (SNAP)

Commercial Casino Counties	2012	2019	Change	Percent Change	Designation
Black Hawk	15.40%	12.66%	-2.74%	-17.79%	Metro
Clarke	17.60%	11.12%	-6.48%	-36.81%	
Clayton	8.60%	5.72%	-2.88%	-33.50%	
Clinton	18.40%	14.00%	-4.40%	-23.89%	Micro
Des Moines	21.70%	16.06%	-5.64%	-26.00%	Micro
Dubuque	11.40%	9.17%	-2.23%	-19.58%	Metro
Greene	14.60%	10.31%	-4.29%	-29.36%	
Lyon	6.00%	3.81%	-2.19%	-36.45%	
Palo Alto	9.70%	6.94%	-2.76%	-28.43%	
Polk	15.60%	12.53%	-3.07%	-19.69%	Metro
Pottawattamie	18.90%	13.75%	-5.16%	-27.28%	Metro
Scott	18.90%	13.96%	-4.94%	-26.15%	Metro
Washington	11.50%	7.53%	-3.98%	-34.57%	Metro
Woodbury	19.10%	13.53%	-5.57%	-29.14%	Metro
Worth	10.00%	7.01%	-2.99%	-29.89%	Micro
Control Counties					
Cerro Gordo	15.00%	10.04%	-4.96%	-33.06%	Micro
Delaware	8.00%	5.91%	-2.09%	-26.16%	
Hardin	13.40%	8.92%	-4.48%	-33.43%	
Johnson	8.50%	6.87%	-1.63%	-19.16%	Metro
Linn	12.80%	10.79%	-2.01%	-15.67%	Metro
Muscatine	18.10%	12.36%	-5.74%	-31.71%	Micro
Pocahontas	13.60%	8.74%	-4.86%	-35.74%	
Webster	17.50%	13.51%	-3.99%	-22.82%	Micro
Summary Areas					
Commercial Casino County Metro Areas	15.83%	11.87%	-3.95%	-24.98%	
Commercial Casino County Micro Areas	16.70%	12.36%	-4.34%	-26.00%	
Commercial Casino County Outlying Areas	11.30%	7.58%	-3.72%	-32.90%	
Commercial Casino County Totals	14.49%	10.54%	-3.95%	-27.28%	
Control County Metro Areas	10.65%	8.83%	-1.82%	-17.07%	
Control County Micro Areas	16.87%	11.97%	-4.90%	-29.04%	
Control County Outlying Areas	11.67%	7.86%	-3.81%	-32.67%	
Control County Totals	13.36%	9.64%	-3.72%	-27.84%	
Statewide Metro Areas	11.47%	8.30%	-3.17%	-27.65%	
Statewide Micro Areas	15.34%	10.71%	-4.63%	-30.18%	
Statewide Outlying Areas	11.72%	8.11%	-3.61%	-30.80%	
Statewide Totals	13.40%	9.88%	-3.52%	-26.30%	

Source: Kids Count, Iowa Department of Human Services, The Innovation Group

Problem Gambling

Iowa Prevalence Studies and Mitigation Ranking

The Center for Social and Behavioral Research (CSBR) at the University of Northern Iowa (UNI) conducts research on gambling attitudes, behavior and problem gambling prevalence, with funding by the Iowa Gambling Treatment Program (IGTP) at the Iowa Department of Public Health (IDPH). The *2018 Survey of Public Gambling Attitudes and Behaviors Toward Gambling* collected 1,761 interviews (190 landline and 1,571 cell phone) and reported the following findings:

Including all forms of gambling:

- 74% of adult Iowans gambled in the past 12 months.
- About half of adult Iowans gambled in the past 30 days.
- 14% of adult Iowans (315,000) are estimated to be at-risk gamblers.
- 0.8% or 18,500 are estimated to be problem gamblers.[68]

The most common gambling activities in the state were lottery (47%) and raffle tickets (42%), followed by scratch tickets and pull tabs (34%), slot machines (21%), and card games with friends or others (not at casinos) (14%). The point estimates for 2018 gambling activities were slightly higher than they were in 2015.

Among those who gambled in the past 12 months, at-risk gamblers (49%) were significantly more likely to play slot machines than not-at-risk gamblers (24%). Likewise, slot machines were also the favorite gambling activity among at-risk gamblers (34%) and not-at-risk gamblers (19%), followed by table games in casinos (at-risk gamblers: 14% vs. not-at-risk gamblers: 12%).

When the gambling activities were aggregated into three gambling types: 1) casino, 2) lotteries, and 3) other type of gambling, 34% wagered or played in casinos, 57% played lotteries and 53% were involved in other gambling activities. At-risk gamblers (71%) were significantly more likely to wager or play in casinos than not-at-risk gamblers (40%).

Also, at-risk gamblers (47%) were more likely to gamble in all three aggregated groups of gambling than not-at-risk gamblers (23%).[69]

According to the Association of Problem Gambling Service Administrators and the National Council on Problem Gambling, "Iowa's problem gambling services are among the most developed in the United States; the state provides an experienced workforce, extensive public awareness

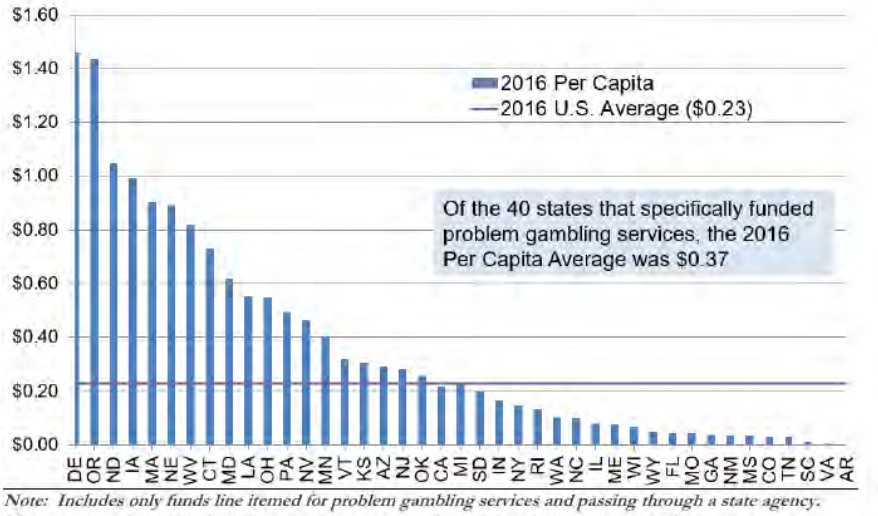
[68] The Center for Social and Behavioral Research (CSBR) at the University of Northern Iowa (UNI), *2018 Survey of Public Gambling Attitudes and Behaviors Toward Gambling*, A. PREVALENCE OF GAMBLING, May 2019.
[69] *IBID*, B. GAMBLING BEHAVIOR.

efforts, a robust gambling treatment system, and surveillance efforts that include problem gambling questions on youth and adult risk and health surveys."[70]

The state's helpline received 2,045 calls for help in 2016, down 50% from 2012, and 624 problem gamblers and 74 significant others received outpatient treatment through Department of Public Health-supported services, a 3% increase since 2013.

The *2016 Survey of Problem Gambling Services in the United States* includes data on state-funded problem gambling programs. The bar chart below shows per capita funding for problem gambling services. Among the states with state-funded problem gambling programs average per capita funding is $0.37. Delaware spends the most per capita at $1.46. Iowa ranks fourth at approximately $1.00.

Figure 5: 2016 Per Capita Allocation for Problem Gambling Services by U.S. State



Note: Includes only funds line itemed for problem gambling services and passing through a state agency. Missing states do not fund problem gambling services through legislative actions or utilize state agency budgets line itemed for problem gambling services. U.S. average is based on national population divided by total state agency spending from budgets line itemed for problem gambling services.

Source: 2016 Survey of Problem Gambling Services in the United States

In total, Iowa spent over $3 million on problem gambling services in 2016. These funds supported an array of problem gambling services, including a helpline, research, program evaluation, counselor training, treatment, prevention, and public awareness services.

[70] *2016 Survey of Problem Gambling Services in the United States*.

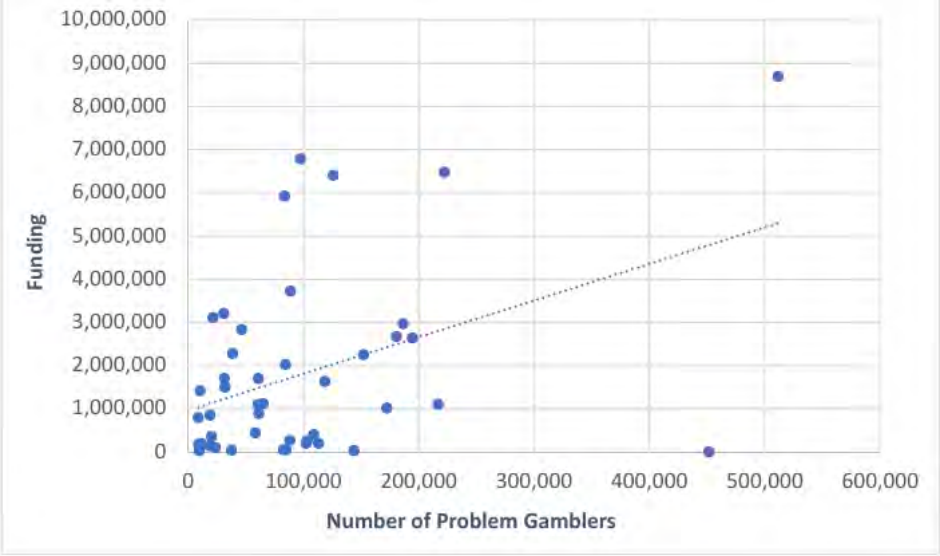
Table 101: Total Spend on Problem Gambling Services by State (Fiscal Year 2016)

State	Total Spend on Problem Gambling Services
Alabama	$50,000
Arizona	$2,022,200
California	$8,690,040
Colorado	$201,837
Connecticut	$3,204,500
Delaware	$1,389,842
Florida	$2,680,000
Georgia	$400,000
Illinois	$1,101,420
Indiana	$1,100,000
Iowa	$3,111,614
Kansas	$889,198
Kentucky	$69,650
Louisiana	$2,834,673
Maine	$100,000
Maryland	$3,725,180
Massachusetts	$6,782,969
Michigan	$2,279,184
Minnesota	$2,252,832
Mississippi	$266,228
Missouri	$258,960
Montana	$375,000
Nebraska	$1,700,000
Nevada	$1,700,646
New Hampshire	$25,000
New Jersey	$2,636,400
New Mexico	$859,431
New York	$2,967,500
North Carolina	$1,015,600
North Dakota	$794,500
Ohio	$6,402,000
Oklahoma	$1,113,200
Oregon	$5,921,830
Pennsylvania	$6,475,000
Rhode Island	$148,345
South Carolina	$50,000
South Dakota	$174,194
Tennessee	$200,000
Texas	$40
Vermont	$200,000
Virginia	$30,750
Washington	$1,631,936
West Virginia	$1,500,000
Wisconsin	$450,000
Median	$1,100,710

Source: 2016 Survey of Problem Gambling Services in the United States

A regression of problem gambling services funding on a state's estimated number of problem gamblers shows an intercept around one million, suggesting baseline spending regardless of problem gamer population size is $1M. The slope of the line is approximately 9, indicating that for every one problem gambler, a state's problem gambling budget increases by $9 above the baseline $1 million.

Figure 6: **Relationship between a State's Estimated Numb**er of Adult Problem Gamblers and Problem Gambling Service Funding



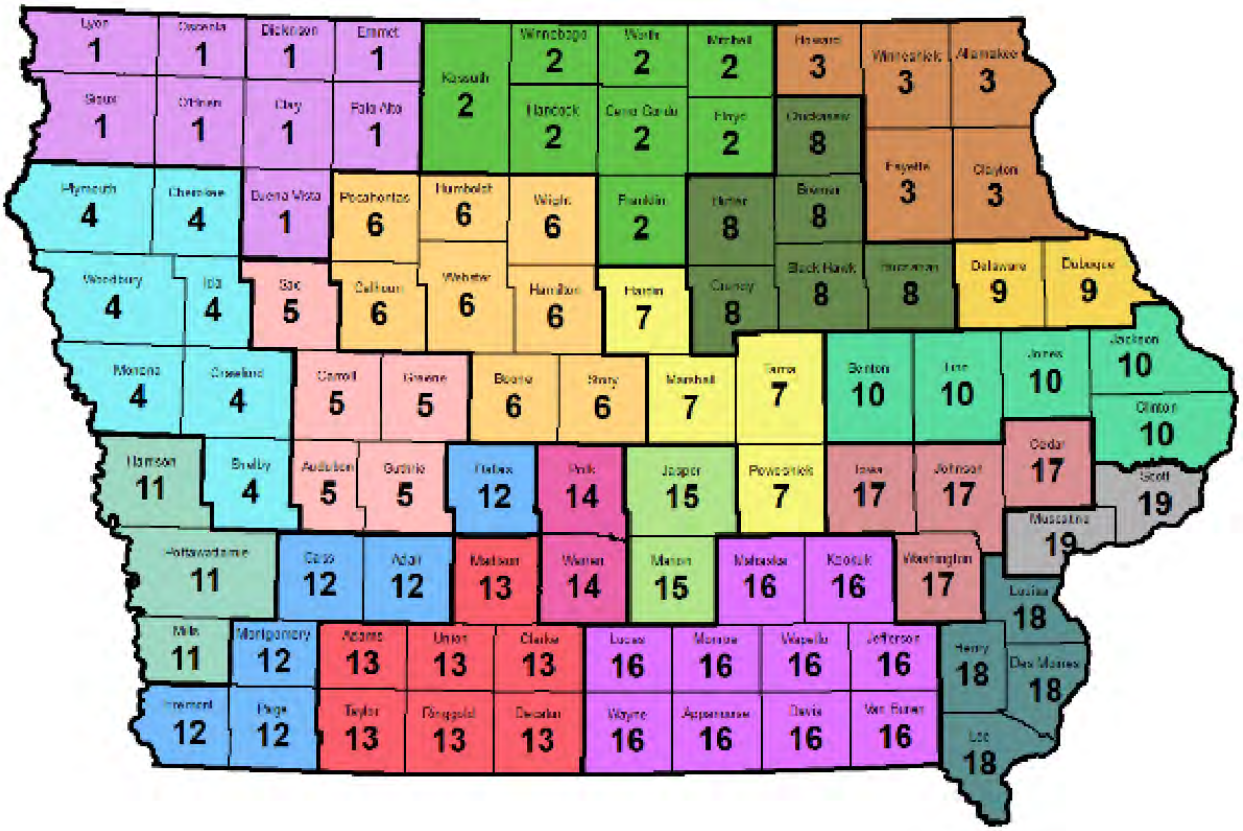
Source: 2016 Survey of Problem Gambling Services in the United States

IPN Problem Gambling - Patients by Service Area and State Fiscal Year

The Iowa Department of Public Health (IDPH) publishes data for the annual (state fiscal year) number of patients receiving problem gambling treatment in 19 service areas comprised of Iowa counties.[71] These are unduplicated counts by service area, although statewide totals include duplicates if someone received treatment in more than one service area during the year.

[71] Iowa Department of Public Health. (2021). Iowa Problem Gambling Services Annual Report. SFY2020 Problem Gambling Persons Receiving Treatment By Service Area. Retrieved November 5, 2021, from https://idph.iowa.gov/igtp/reports

Figure 7. Map of Problem Gambling Treatment Service Areas (from IDPH)



The IDPH states, "The Iowa Department of Public Health (IDPH) Substance Use and Problem Gambling Services Integrated Provider Network (IPN) is a statewide, community-based, resiliency- and recovery-oriented system of care for substance use and problem gambling services (prevention, early intervention, treatment, and recovery support)." [72]

Table 102 summarizes problem gambling patient counts by treatment service area. Among 19 service areas, 14 areas had commercial casinos and five areas had no commercial casinos. One of the five areas without a commercial casino had an Indian casino.

The number of patients was aggregated for service areas with and without commercial casinos. The mean annual number of patients receiving treatment during 2015 through 2019 was calculated for each service area. Each service area's mean population estimate (census vintage 2020 estimates) during 2015 through 2019 was used to calculate the mean treatment rate per 10,000 population.

[72] Iowa Department of Public Health. (2021, December 19). Integrated Provider Network (IPN). Retrieved from https://idph.iowa.gov/substance-abuse/Integrated-Provider-Network

Among service areas with and without casinos, mean annual problem gambling treatment rates per 10,000 population were 2.48 and 1.04, respectively. The statewide treatment rate was 2.19.

Table 102. Problem Gambling Patients by Service Area and State Fiscal Year

Service Areas	2015	2016	2017	2018	2019	Mean Patient Count	Rate Per 10,000 Population	Commercial Casinos	Indian Casinos
Area 1	17	21	26	20	7	18.2	1.31	2	0
Area 2	18	20	18	10	14	16.0	1.30	1	0
Area 3	19	12	8	2	3	8.8	1.09	1	0
Area 4	69	63	49	38	18	47.4	2.59	1	2
Area 5	3	1	1	0	5	2.0	0.36	1	0
Area 6	18	18	14	12	16	15.6	0.73	0	0
Area 7	9	9	8	7	4	7.4	0.80	0	1
Area 8	76	47	36	27	20	41.2	1.90	1	0
Area 9	84	51	37	43	42	51.4	4.50	2	0
Area 10	102	60	54	52	35	60.6	1.80	1	0
Area 11	42	33	40	36	23	34.8	2.84	3	1
Area 12	10	5	5	4	7	6.2	0.44	0	0
Area 13	11	13	10	7	3	8.8	1.45	1	0
Area 14	118	125	54	44	48	77.8	1.47	1	0
Area 15	6	8	1	1	1	3.4	0.48	0	0
Area 16	67	55	20	26	8	35.2	2.57	0	0
Area 17	40	27	12	17	16	22.4	1.09	1	0
Area 18	83	52	52	61	36	56.8	5.42	1	0
Area 19	101	79	150	352	179	172.2	7.99	2	0
Summary Areas									
Areas with Commercial Casinos	783	604	547	709	449	618.4	2.48	19	3
Areas without Commercial Casinos	110	95	48	50	36	67.8	1.04	0	1
Statewide (incl. some duplicate counts)	898	702	590	759	488	687.4	2.19	19	4

Source: Iowa Department of Public Health, The Innovation Group

Problem Gambling Treatment Call Contacts

The Iowa Department of Public Health provided data for the number of calls received inquiring about problem gambling. The data was provided by county for state fiscal years 2015 through 2019. Data was suppressed when the number of contacts for a county during the year was less than 10. Among 99 total counties in Iowa, there were 57 counties for which data was reported for at least one year during 2015 through 2019. IDPH reported annual statewide totals and total contacts for which county was not reported. Among 10,872 total contacts during these years, 3,373 (31%) did not report the caller's county, 1,260 (11.6%) were suppressed in the data due to low counts within counties and 6,239 (57.4) were among the numbers reported by county.

Table 103 summarizes call contacts. Unsuppressed counts are shown for commercial casino and control counties. The data was further aggregated for each group by metropolitan, micropolitan and outlying areas. Suppressed counts are shown as blank values. The mean number of unsuppressed call contacts was calculated for each county. Each county's mean population estimate (census vintage 2020 estimates) during 2015 through 2019 was used to calculate the mean annual contact rate per 1,000 population.

Among commercial casino and control counties, contact rates per 1,000 population were 0.64 and 048, respectively. These differences were not statistically significant.

The statewide contact rate was 0.69. Among the statewide data reported, outlying areas had a higher mean contact rate compared with metropolitan and micropolitan areas. These differences were statistically significant, although likely biased. Data from outlying areas was more likely to be suppressed due to smaller populations. Among outlying areas, relatively high counts and call rates were more likely to be reported than low counts and call rates. Metropolitan and micropolitan areas are more populous and more easily meet the minimum of 10 contacts required to report the number of contacts for the county.

Table 103. Problem Gambling Contacts (Calls) Among Unsuppressed Data

Commercial Casino Counties	2015	2016	2017	2018	2019	Mean Count	Rate/1,000
Black Hawk	68	94	93	89	85	86	0.65
Clarke			11	11	11	11	1.17
Clayton				12	12	12	0.69
Clinton	28	17	24	26	49	29	0.61
Des Moines	30	16	22	43	41	30	0.77
Dubuque	59	66	78	74	83	72	0.74
Greene					13	13	1.46
Lyon							
Palo Alto							
Polk	181	208	229	303	374	259	0.54
Pottawattamie	66	62	91	68	73	72	0.77
Scott	87	100	117	125	160	118	0.68
Washington	10	13	11	11	16	12	0.55
Woodbury	50	76	69	76	97	74	0.72
Worth							
Control Counties							
Cerro Gordo	13	22	34	34	44	29	0.69
Delaware					11	11	0.64
Hardin					15	15	0.89
Johnson	42	39	38	77	60	51	0.34
Linn	64	94	129	134	177	120	0.53
Muscatine	16	12	17	20	10	15	0.35
Pocahontas							
Webster		20	21	23	32	24	0.66
Summary Areas							
Commercial Casino County Metro Areas	521	619	688	746	888	692	0.63
Commercial Casino County Micro Areas	58	33	46	69	90	59	0.68
Commercial Casino County Outlying Areas	0	0	11	23	36	14	0.97
Commercial Casino County Totals	579	652	745	838	1,014	766	0.64
Control County Metro Areas	106	133	167	211	237	171	0.46
Control County Micro Areas	29	54	72	77	86	64	0.55
Control County Outlying Areas	0	0	0	0	26	5	0.77
Control County Totals	135	187	239	288	349	240	0.48
Statewide Metro Areas	670	818	907	1,048	1,235	936	0.54
Statewide Micro Areas	126	142	146	252	349	203	0.60
Statewide Outlying Areas	29	75	43	138	261	109	0.77
Statewide Totals (incl. suppressed counts)	2,116	2,610	2,266	1,728	2,152	2,174	0.69

Source: Iowa Department of Public Health, The Innovation Group

Life Expectancy

Life expectancy is typically reported at national and state levels by the Centers for Disease Control and Prevention (CDC). The CDC reported that Iowa's life expectancy at birth in 2018 was 79.2 years, ranked 16th nationally among 50 states and Washington, D.C. Iowa's life expectancy for males and females was 76.8 and 81.6, respectively. The U.S. average life expectancy at birth was 78.7 overall, 76.2 for males and 81.2 for females.[73]

U.S. Small-Area Life Expectancy Estimates Project (USALEEP)

In 2018, the CDC's National Center for Health Statistics, in partnership with the Robert Wood Johnson Foundation and the National Association for Public Health Statistics Information Systems, produced life expectancy estimates at the census tract level as part of a project called the U.S. Small-Area Life Expectancy Estimates Project (USALEEP).[74,75,76]

USALEEP life expectancy estimates were based on (1) 2010 through 2015 mortality data geocoded to decedents' census tracts; (2) census tract population values from the 2010 decennial census; (3) population estimates from the 2011-2015 5-year American Community Survey; and (4) statistical modeling and adjustments to account for small populations and missing age-specific death counts. Life expectancy was not reported for census tracts with populations or weighted mean standard errors of the estimates that did not meet the study's criteria. Among Iowa's 825 census tracts, life expectancy was reported for 798 tracts, or 96.7 percent of all Iowa census tracts.

The USALEEP study aggregated life expectancy from the census tract level to the state level using means weighted by population. The USALEEP weighted mean life expectancy for Idaho was 79.4 years, which matched the CDC's estimate that was calculated using 2011-2015 National Vital Statistics System mortality and birth data and midperiod 2013 postcensal population estimates.

Life Expectancy by County

For the purposes of this report, USALEEP census tract life expectancy estimates were aggregated to the county level using USALEEP's state-level aggregation methodology. County-level estimates were calculated as mean life expectancy weighted by 2010-2015 population for relevant census tracts (i.e., Iowa's 96.7% of census tracts meeting minimum study criteria) within each of Iowa's 99 counties. Differences in life expectancy estimates between commercial casino counties

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[73] Arias E, Bastian B, Xu JQ, Tejada-Vera B. U.S. state life tables, 2018. National Vital Statistics Reports; vol 70 no 1. Hyattsville, MD: National Center for Health Statistics. 2021. DOI: https://doi.org/10.15620/cdc:101128.
[74] Arias E, Escobedo LA, Kennedy J, Fu C, Cisewski J. U.S. Small-Area Life Expectancy Estimates Project: Methodology and Results Summary. National Center for Health Statistics. Vital Health Stat 2(181). 2018
[75] National Center for Health Statistics. U.S. Small-Area Life Expectancy Estimates Project (USALEEP): Life Expectancy Estimates File for Iowa, 2010-2015. National Center for Health Statistics. 2018. Retrieved October 19, 2021 from: https://www.cdc.gov/nchs/nvss/usaleep/usaleep.html.
[76] Arias E, Escobedo LA, Kennedy J, Fu C, Cisewski J. U.S. Small-Area Life Expectancy Estimates Project: Methodology and Results Summary. National Center for Health Statistics. Vital health Stat 2(181). 2018 (revised 2020).

and control counties were not statistically significant. Differences in life expectancy estimates for statewide counties categorized as metro, micro and outlying areas were not statistically significant.

Table 104. Life Expectancy

Commercial Casino Counties	Life Expectancy	Designation
Black Hawk	78.6	Metro
Clarke	77.0	
Clayton	80.2	
Clinton	78.4	Micro
Des Moines	78.5	Micro
Dubuque	79.5	Metro
Greene	78.4	
Lyon	81.3	
Palo Alto	78.7	
Polk	79.0	Metro
Pottawattamie	78.6	Metro
Scott	79.1	Metro
Washington	80.1	Metro
Woodbury	78.1	Metro
Worth	78.8	Micro
Control Counties		
Cerro Gordo	80.2	Micro
Delaware	78.8	
Hardin	80.2	
Johnson	82.3	Metro
Linn	79.9	Metro
Muscatine	80.2	Micro
Pocahontas	77.6	
Webster	76.5	Micro
Summary Areas		
Commercial Casino County Metro Areas	78.9	
Commercial Casino County Micro Areas	78.5	
Commercial Casino County Outlying Areas	79.4	
All Commercial Casino Counties	78.9	
Control County Metro Areas	80.7	
Control County Micro Areas	79.0	
Control County Outlying Areas	79.2	
All Control Counties	80.2	
Statewide Metro Areas	79.6	
Statewide Micro Areas	78.8	
Statewide Outlying Areas	79.4	
All Statewide Areas	79.4	

Homelessness

The U.S. Department of Housing and Urban Development (HUD) administers the Continuum of Care (CoC) program, which promotes community-wide efforts to end homelessness. HUD also administers the Homeless Management Information System (HMIS) to collect and share standardized data about homeless people between agencies and to provide annual reports about national homelessness to congress. Iowa's 99 counties comprise four CoCs listed in Table 105.

Table 105. Iowa Continuums of Care (CoC)

CoC	Name	Geographic Area Components
IA-500	Sioux City/Dakota, Woodbury Counties	Dakota County, NE and Woodbury County, IA
IA-501	Iowa Balance of State	96 Iowa Counties outside of IA-500, IA-502 and NE-501
IA-502	Des Moines/Polk County	Polk County, IA, Des Moines, IA and West Des Moines, IA
NE-501	Omaha, Council Bluffs	Douglas and Sarpy County, NE and Pottawattamie County, IA

Iowa's HMIS services are administered by the Institute for Community Alliances (ICA), a not-for-profit organization based in Des Moines, Iowa, that provides HMIS services for 14 states.[77] ICA's lead data analyst stated, "There is not a causal relationship between any variable we have and homelessness, as compared to poverty broadly. Further, we cannot look at any variable within the homeless population and predict who will become chronically homeless."[78]

ICA provided Iowa homelessness data by county for this analysis, including:

- 2019-2021 Point-in-Time Counts
- 2019-2020 Calendar year homeless counts by county in which services were provided
- 2016-2020 Calendar year homeless counts by county of last permanent residence

Point-In-Time Counts

On a single night in late January each year, CoC grantees count and record detailed information about homeless individuals within their CoC area. These are called point-in-time (PIT) counts. PIT counts are less than annual totals because people can experience homelessness during any part of the year. Table 106 lists PIT counts for commercial casino and control counties. The mean PIT count during the 2019-2021 period and 2020 population were used to calculate the homeless rate, defined here as the mean PIT count per 1,000 people. The PIT homeless rate was 1.4 for commercial casino counties, 1.2 for control counties and 0.9 statewide. The difference between homeless rates for commercial casino and control counties was not statistically significant.

[77] Institute for Community Alliances. (2021). About ICA. Retrieved December 21, 2021, from https://icalliances.org/overview.

[78] Institute for Community Alliances. (2020). Snapshot 2020 of Service and Shelter Use Using 2019 Calendar Year Data: Iowans Experiencing Homelessness. Retrieved November 29, 2021, from https://icalliances.org/s/Annual-Report-2020-tnk3.pdf

Iowa's most populous counties tend to have the highest rates of homelessness, while providing more comprehensive homelessness services, such as temporary shelters, than less populous counties. Among Iowa's 99 counties, PIT counts during 2019-2021 indicated:

- The PIT homeless rate among Iowa's 36 counties with fewer than 12,000 people was 0.1, all of whom were unsheltered.
- The PIT homeless rate among Iowa's 79 counties with fewer than 35,000 people was 0.15, 44.2 percent of whom were unsheltered.
- The PIT homeless rate among Iowa's 20 counties with at least 35,000 people was 1.2, 11 percent of whom were unsheltered.

Table 106. Point-in-Time (PIT) Counts by County (2019-2021)

Commercial Casino Counties	2019 PIT	2020 PIT	2021 PIT	2019-2021 Mean PIT	2020 Population	2019-2021 Mean PIT Count Per 1,000 People
Black Hawk	72	116	86	91	131,144	0.7
Clarke	1	0	40	14	9,748	1.4
Clayton	0	2	0	1	17,043	0.0
Clinton	119	104	110	111	46,460	2.4
Des Moines	16	20	29	22	38,910	0.6
Dubuque	101	120	67	96	99,266	1.0
Greene	1	0	0	0	8,771	0.0
Lyon	0	0	0	0	11,934	0.0
Palo Alto	0	0	0	0	8,996	0.0
Polk	681	646	576	634	492,401	1.3
Pottawattamie	242	257	205	235	93,667	2.5
Scott	240	246	291	259	174,669	1.5
Washington	3	39	17	20	22,565	0.9
Woodbury	255	305	232	264	105,941	2.5
Worth	0	0	0	0	7,443	0.0
Control Counties						
Cerro Gordo	20	31	36	29	43,127	0.7
Delaware	0	0	0	0	17,488	0.0
Hardin	7	16	0	8	16,878	0.5
Johnson	146	178	113	146	152,854	1.0
Linn	240	293	324	286	230,299	1.2
Muscatine	58	34	13	35	43,235	0.8
Pocahontas	2	1	0	1	7,078	0.1
Webster	88	165	151	135	36,999	3.6
Summary Areas						
Commercial Casino Counties	1,731	1,855	1,653	1,746	1,268,958	1.4
Control Counties	561	718	637	639	547,958	1.2
Statewide Counties	2,557	2,904	2,725	2,729	3,190,369	0.9

Homelessness by Last Permanent Address

The Institute for Community Alliances provided 2016-2020 unduplicated annual total sheltered homeless counts by ZIP code, county and state of last permanent address. These were the areas where homeless individuals resided prior to staying at a homeless shelter. Last permanent address is recorded for heads of household, and is thus a subset of the total homeless population. Last permanent address counts by ZIP code and county were limited to areas within Iowa. Total counts within Iowa summed by ZIP code, county and state varied slightly, likely due to factors including address accuracy and aggregation methodology. Last permanent address counts by county were further categorized by disability and shelter characteristics.

Homelessness by State of Last Permanent Address

During 2016-2020, the average annual number of unduplicated sheltered homeless individuals among this data was 11,721, including those who did not report a last permanent address. On average each year, last permanent address was summarized by state for 8,597 (73.4%) individuals, among whom 7,026 (81.7% of those reporting state of last permanent address) were from Iowa. Illinois was the last permanent address for 6.3 percent of Iowa's homeless population, which was more than half of the 10 percent total from adjacent states comprised of Illinois, Minnesota, Missouri, Nebraska, South Dakota and Wisconsin.

Homelessness by County of Last Permanent Address among Iowa Counties

On average each year, 7,133 homeless people in Iowa reported a last permanent address located in an Iowa county.

For each county, the mean annual count of homeless individuals who listed the county as their last permanent address and the county's mean annual census population estimate were used to calculate the county's homeless rate, defined here as the mean annual homeless count per 1,000 people. This homeless rate reflects each county's contribution to Iowa's homeless population regardless of where those individuals were sheltered, and was used to compare each county's contribution to the homeless population in relative terms. The total homeless population from each county and related homeless rates would be 64.3 percent higher, on average, than the rates calculated from this subset of data (i.e., the homeless rates reported in Table 107 were based on a subset of 7,133 mean annual counts from a total of 11,721 mean annual counts).

Among counties listed as last permanent address, the homeless rate was 3.3 among commercial casino counties, 3.4 among control counties and 2.3 statewide, as summarized in Table 107. The difference between homeless rates for commercial casino and control counties was not statistically significant.

Among statewide counties, homeless rates for metropolitan, micropolitan and outlying areas were 2.9, 2.2 and 0.6, respectively. Differences between homeless rates for metropolitan and micropolitan areas were not statistically significant. Differences between the homeless rates of

outlying areas compared to metropolitan, micropolitan or those areas combined, were statistically significant.

Table 107. Mean Annual Homeless Counts by County of Last Permanent Address (2016-2020)

Commercial Casino Counties	Mean Annual Homeless Count	Mean Annual Population Estimate	Mean Annual Homeless Count Per 1,000 People	Designation
Black Hawk	368	131,813	2.8	Metro
Clarke	12	9,382	1.3	
Clayton	4	17,527	0.2	
Clinton	254	46,734	5.4	Micro
Des Moines	65	39,227	1.6	Micro
Dubuque	267	97,193	2.7	Metro
Greene	13	8,923	1.5	
Lyon	1	11,800	0.1	
Palo Alto	5	8,941	0.6	
Polk	2,424	485,418	5.0	Metro
Pottawattamie	9	93,478	0.1	Metro
Scott	601	172,937	3.5	Metro
Washington	36	22,100	1.6	Metro
Woodbury	22	102,687	0.2	Metro
Worth	7	7,422	1.0	Micro
Control Counties				
Cerro Gordo	177	42,672	4.1	Micro
Delaware	16	17,107	0.9	
Hardin	17	16,924	1.0	
Johnson	453	150,819	3.0	Metro
Linn	866	225,601	3.8	Metro
Muscatine	210	42,703	4.9	Micro
Pocahontas	4	6,725	0.5	
Webster	104	36,348	2.9	Micro
Summary Areas				
Commercial Casino County Metro Areas	3,729	1,105,627	3.4	
Commercial Casino County Micro Areas	326	93,383	3.5	
Commercial Casino County Outlying Areas	36	56,575	0.6	
All Commercial Casino Counties	4,090	1,255,584	3.3	
Control County Metro Area	1,319	376,420	3.5	
Control County Micro Area	490	121,723	4.0	
Control County Outlying Area	36	40,756	0.9	
All Control Counties	1,846	538,899	3.4	
Statewide Metro Areas	5,640	1,923,441	2.9	
Statewide Micro Areas	1,023	471,151	2.2	
Statewide Outlying Areas	470	755,409	0.6	
Statewide	7,133	3,150,000	2.3	

Homelessness by County of Last Permanent Address by Homeless Shelter Type

There were no statistically significant differences between commercial casino and control counties when comparing percentages of homeless people by type of shelter. A person could be counted in multiple types of shelters if their shelter situations changed during the year (i.e., sums of percentages by type of shelter exceed 100%).

Table 108. Homelessness by County of Last Permanent Address By Type of Homeless Shelter

	Mean	Percentage by Type of Shelter				
Type	Homeless Count	Emergency	Transitional	Street Outreach	Rapid Rehousing	Permanent Housing
Commercial Casino County Totals	4,090	65.8%	12.7%	9.0%	16.5%	13.9%
Control County Totals	1,846	65.8%	14.8%	7.7%	34.1%	8.3%
Statewide	7,133	66.2%	14.0%	8.0%	21.6%	10.7%

Homelessness by County of Last Permanent Address and Disability

Homeless individuals counted by county of last permanent residence were further categorized by disabilities comprising "Diagnosed Disability," "Mental Health," "Substance Addiction," and "Other." Homeless individuals can report multiple disability types (i.e., sums of percentages exceed 100%). The "Other" category may include the answer Chronic Health Condition (HUD), Developmental (HUD), Hearing Impaired, HIV/AIDS (HUD), Other, Other: Cognitive, Other: Learning, Other: Mental Handicap/Injury, Other: Speech, Physical (HUD), Physical/Medical, and/or Vision Impaired.

The percentage of homeless people with each type of disability was calculated by county of last permanent address, as summarized in Table 109.

Among each disability category, there were no statistically significant differences when comparing commercial casino counties to control counties, or when comparing metropolitan, micropolitan and outlying Areas

Statewide percentages of the homeless population with disabilities categorized as diagnosed disability, mental health, substance addiction or other were 67 percent, 48 percent, 28 percent and 40 percent, respectively, including overlapping disabilities.

Table 109. Mean Annual Homeless Counts by Disability and County of Last Permanent Address (2016-2020)

Commercial Casino County	Mean Homeless Count	Mean Population Estimate	Percentage With Disabilities: Diagnosed Disability	Mental Health	Substance Abuse	Other Disability	Designation
Black Hawk	368	131,813	57%	41%	20%	33%	Metro
Clarke	12	9,382	63%	42%	30%	38%	
Clayton	4	17,527	86%	67%	38%	48%	
Clinton	254	46,734	72%	50%	42%	34%	Micro
Des Moines	65	39,227	63%	45%	27%	38%	Micro
Dubuque	267	97,193	80%	65%	31%	41%	Metro
Greene	13	8,923	69%	39%	33%	42%	
Lyon	1	11,800	100%	33%	0%	100%	
Palo Alto	5	8,941	56%	52%	20%	20%	
Polk	2,424	485,418	69%	50%	30%	45%	Metro
Pottawattamie	9	93,478	70%	43%	43%	43%	Metro
Scott	601	172,937	70%	47%	28%	44%	Metro
Washington	36	22,100	59%	46%	27%	33%	Metro
Woodbury	22	102,687	77%	43%	39%	48%	Metro
Worth	7	7,422	58%	44%	28%	25%	Micro
Control County							
Cerro Gordo	177	42,672	66%	44%	31%	31%	Micro
Delaware	16	17,107	66%	52%	20%	41%	
Hardin	17	16,924	68%	48%	35%	36%	
Johnson	453	150,819	62%	46%	25%	40%	Metro
Linn	866	225,601	68%	52%	26%	43%	Metro
Muscatine	210	42,703	37%	24%	8%	23%	Micro
Pocahontas	4	6,725	67%	44%	17%	50%	
Webster	104	36,348	75%	50%	41%	36%	Micro
Summary Areas							
Commercial Casino County Metro Areas	3,729	1,105,627	69%	50%	29%	43%	
Commercial Casino County Micro Areas	326	93,383	70%	49%	38%	35%	
Commercial Casino County Outlying Areas	36	56,575	68%	45%	30%	39%	
All Commercial Casino Counties	4,091	1,255,584	69%	49%	30%	42%	
Control County Metro Areas	1,319	376,420	66%	50%	26%	42%	
Control County Micro Areas	490	121,723	56%	37%	23%	29%	
Control County Outlying Areas	36	40,756	67%	49%	27%	40%	
All Control Counties	1,846	538,899	63%	46%	25%	39%	
Statewide Metro Areas	5,640	1,923,441	68%	49%	28%	42%	
Statewide Micro Areas	1,023	471,151	63%	43%	30%	33%	
Statewide Outlying Areas	470	755,409	67%	49%	30%	37%	
Statewide	7,133	3,150,000	67%	48%	28%	40%	

DISCLAIMER

Certain information included in this report contains forward-looking estimates, projections and/or statements. The Innovation Group has based these projections, estimates and/or statements on our current expectations about future events. These forward-looking items include statements that reflect our existing beliefs and knowledge regarding the operating environment, existing trends, existing plans, objectives, goals, expectations, anticipations, results of operations, future performance and business plans.

Further, statements that include the words "may," "could," "should," "would," "believe," "expect," "anticipate," "estimate," "intend," "plan," "project," or other words or expressions of similar meaning have been utilized. These statements reflect our judgment on the date they are made and we undertake no duty to update such statements in the future.

Although we believe that the expectations in these reports are reasonable, any or all of the estimates or projections in this report may prove to be incorrect. To the extent possible, we have attempted to verify and confirm estimates and assumptions used in this analysis. However, some assumptions inevitably will not materialize as a result of inaccurate assumptions or as a consequence of known or unknown risks and uncertainties and unanticipated events and circumstances, which may occur. Consequently, actual results achieved during the period covered by our analysis will vary from our estimates and the variations may be material. As such, The Innovation Group accepts no liability in relation to the estimates provided herein.