Cummings Associates

Analysis of Current Markets for Casino Gaming in Iowa, with Projections for the Revenues and Impacts of Potential New Facilities

October 7, 2003

135 Jason Street, Arlington, Massachusetts 02476
Telephone: 781.641.1215 - Fax: 641.0954 - e-mail: cummingsw@aol.com

Contents

List of Exhibits

Following the **Executive Summary**:

Following the main body of text, relating to the **Introduction**:

Relating to **Methodology**:

Relating to **Analysis of Current Markets**:

(continued)

List of Exhibits
(continued)

Relating to **Projections**:

Analysis of Current Markets for Casino Gaming in Iowa, with Projections for the Revenues and Impacts of Potential New Facilities

Executive Summary

The Iowa Racing and Gaming Commission is currently reviewing its policy with regard to its ongoing moratorium on issuing new licenses for gaming facilities in the State of Iowa. To assist in this review, the Commission has retained Cummings Associates to conduct an analysis of the current markets for casino gaming in Iowa, to compare them with the most relevant markets elsewhere, and to develop projections for the likely revenues and impacts of potential new gaming facilities at a variety of alternative locations within the State.

My analyses and projections are based upon the application of detailed "gravity models" that relate actual (and, for proposed facilities, potential) gaming-facility revenues to the demographics of the areas surrounding them. These models are based upon a well-established principle of economics known as "Reilly's Law," which describes how consumers tend to visit alternative retail centers (roughly) in direction proportion to the size of each center (such as casino square footage, or number of slot machines) and *inversely* proportional to the square of the distance to each -- hence the parallel with Newton's law of gravitation.

By using these models to analyze Iowa's current (FY2003) casino revenues, I estimate that the average resident of Iowa who lives close to a casino spends roughly $659 per year on slot machines and table games combined. This is above-average for the Midwest, but not as high as the major markets of the South (Mississippi + Louisiana, at $850), or East (New Jersey +

Delaware, at $754). The rate of spending in Iowa is very comparable to that of the residents of Southern New England ($661) and Colorado ($654).

Again, these figures have been adjusted for distance. Because spending does decline with distance, there are substantial areas of Iowa, not currently close to any casino, whose residents spend far less. If casinos were brought close to *all* the residents of Iowa ("a casino in every county"), I estimate that the total gaming revenues of Iowa's taxable casinos would reach approximately $1.7 billion. At just under $1 billion, the revenues of Iowa's existing (non-Native American) casinos are already running at approximately 60% of this "maximum." Examining the map of potential increases, however, shows few areas of substantial promise aside from Cedar Rapids and Waterloo. Most of the rest is spread very thinly across the outlying areas of Iowa.

I then used the gravity models to develop projections for specific new casino facilities. All these projections have been made on the basis "as if" the new facilities had been open for all of FY2003. All of them assume that the Tama casino will reopen. For casinos in the larger urban areas (Cedar Rapids, Des Moines, and Waterloo), I assumed 1,200 slot machines, 24 table games, and baseline spending of $640 per adult. For the others, I assumed smaller facilities, with 600 slot machines, 12 tables, and baseline spending of $620 per adult.

These projections are summarized in Exhibit A.

Note that even under a scenario in which new casinos are developed in *all* of these locations (Exhibit 4-16), the net increase in total gaming revenues statewide is projected at just $266 million. If a new facility in Polk County were to be omitted (Exhibit 4-17) in order to reduce the large impacts on Prairie Meadows and Lakeside under that scenario, the net increase is projected at $220 million.

While the projections suggest that new casinos in all these locations might be economically feasible, and in the larger markets indeed attractive, in the aggregate they would add only modest amounts to Iowa casinos' current $1 billion in (taxable) revenues.

It may be possible to develop additional casinos at other locations in the outlying areas of Iowa, but their performance would likely be very similar to those in the smaller markets examined here. Without a large number of such casinos, the aggregate amount that they would add to net taxable gaming revenues would be small. It will, in my opinion, therefore be very difficult to obtain more than roughly $200 million in such net revenues from new casinos in Iowa. Waterloo and Cedar Rapids are the only major markets that appear to offer substantial promise without major adverse impacts on some of Iowa's existing gaming facilities.

My analyses and projections are based upon the assumptions described herein. Some of these assumptions will inevitably not materialize, and unanticipated events and circumstances will occur. The actual results will therefore vary from my projections, and such variations may be material.

Exhibit A: Summary of Projections

Exhibit		Gross Revenues	Net Gain in Taxable Revenues	Major Dollar Impacts on:
4-7	Black Hawk County (Waterloo)	$71,316	$63,174	Prairie Meadows -$2,383 (also MRQ, DBQ, QC, Lkside)
4-8	Linn County (Cedar Rapids)	$105,071	$93,306	Quad Cities -$3,236 (also MRQ, DBQ, PRM, Lkside)
4-9	Wapello County (Ottumwa)	$25,184	$21,058	Prairie Meadows -$1,285
4-10	Polk County (Des Moines)	$134,663	$58,724	Prairie Meadows -$60,232 Lakeside -$9,641
4-11	Palo Alto County	$18,561	$17,175	none over $1 million
4-12	Webster County	$28,377	$24,805	Prairie Meadows -$1,610
4-13	Franklin County	$23,242	$20,865	none over $1 million
4-14	Worth County	$26,347	$25,152	none over $1 million
4-15	Black Hawk + Linn	$169,612	$151,293	Quad Cities -$3,952 (also all in E & Central Iowa)
4-16	All of the above	$397,414	$296,616	Prairie Meadows -$64,378 (lesser impacts on all others)
4-17	All but Polk County	$274,284	$242,638	Prairie Meadows -$8,403 (lesser impacts on all others)

Analysis of Current Markets for Casino Gaming in Iowa, with Projections for the Revenues and Impacts of Potential New Facilities

1. Introduction

The Iowa Racing and Gaming Commission is currently reviewing its policy with regard to its ongoing moratorium on issuing new licenses for gaming facilities in the State of Iowa. To assist in this review, the Commission has retained Cummings Associates to conduct an analysis of the current markets for casino gaming in Iowa, to compare them with the most relevant markets elsewhere, and to develop projections for the likely revenues and impacts of potential new gaming facilities at a variety of alternative locations within the State.

The author of this report, Will Cummings, has extensive experience in this area; a partial bibliography of my own and others' work in this field is attached. I conducted a similar statewide analysis for the Commission in 1995, and have conducted a variety of more local analyses since then. To illustrate the potential precision of my approach, in July, 1999, I projected $47 million in total annual gaming revenues ("win")[1] for the soon-to-open Lakeside Casino Resort in Clarke County, Iowa, the last license granted before the current moratorium. Over its first full fiscal year of operation, FY2001, its actual casino win was $46.3 million; since then, it has risen, as of FY2003, to $55.3 million.

Of course, not all projections can be so accurate. Assumptions inevitably fail to materialize, and unanticipated events and circumstances occur. I believe, however, that the

[1] *Central and Southwest Iowa Casino Market Analysis: Working Papers*, July 30, 1999.

methodology that I have used is the most appropriate and accurate available to address questions related to gaming revenues and to develop projections for the future.

To set the stage, Exhibit 1-1 presents a map of Iowa; the faint lines delineate each county. Iowa's existing gaming facilities are indicated by dark stars; the figures below each represent the "size" of each casino in terms of its numbers of slot machines and table games. (In markets with multiple facilities, such as Dubuque, the Quad Cities, and Council Bluffs/Omaha, these have been aggregated into one total for the market. I have, however, kept separate the figures for the riverboat casino on the Illinois side of the Quad Cities, in parentheses). The open stars indicate the locations of the potential new casinos that have been discussed and/or voted upon in recent months in various parts of Iowa for which I have developed projections in this report.

Exhibit 1-2 presents the same map, but this time with the "size" of each gaming facility (or group of facilities) presented in terms of its total annual gaming win, for table games and slots combined. (The figures for the Native American gaming facilities are my estimates; all other figures are from Commission reports for FY2003.)

It is no accident that in both Exhibit 1-1 and 1-2 the largest casinos, by either measure, are located in the areas of greatest population (see Exhibit 1-3).[2] The relationships among the location of each casino, the numbers of people living at different distances from each, and their spending at each can be represented by what are called "gravity" models, based upon the similarity of their operation to Newton's law of gravitation. Section 2 presents an overview of this methodology.

---

[2] Note, however, that the boundaries of the actual "market catchment areas" for each casino are far from the crisp, clear lines delineated on this map. In reality, they are fuzzy and irregular. In addition,

Section 3 applies these gravity models to analyze the existing markets for casino gaming in the State of Iowa, and compares them with those elsewhere in the Midwest and around the country. Finally, Section 4 describes the use of these models to develop projections for the likely revenues of potential new gaming facilities under a variety of scenarios for the future, and the associated impacts that these new casinos would likely have on the existing facilities of Iowa.

casino customers do sometimes visit more distant facilities, particularly if they are larger, more varied, and offer more amenities. As described below, the "gravity model" approach reflects these realities.

2. Methodology

The gravity-model approach has been refined over the years as it has been used to assess the performance of many other gaming markets and a variety of facilities, both existing and proposed. Again, these techniques focus on the demographics of the areas surrounding each facility, in particular the number of adults residing at various distances, and the ratio of actual revenues obtained (at existing facilities) to such adult populations. To make a projection, in turn, one assumes that the population surrounding a new facility will behave in a fashion similar to that at the most comparable existing facilities.

To illustrate the relationships among revenues, population, and distance in existing markets, Exhibit 2-1 presents a chart comparing rates of visitation versus distance for the casinos of Mississippi, based upon statewide patron-survey data. There is clearly a relationship between patronage and distance; the further away from a casino you get, the lower the number of visits. Fewer customers are willing to travel longer distances, and when they do, they usually visit less often. (Offsetting this slightly, when they *do* visit, they typically spend more on each occasion than nearby customers who visit more frequently -- but less over the course of a year because they visit so much less often.) In addition, as you get further away from the casinos of Mississippi, you (generally) get closer to competing casinos in other states, further reducing your rate of visitation to Mississippi.

Because the rates of visitation appear to decline so dramatically as distance increases, and because the scale is so large when looking at statewide data such as those from Mississippi, it is useful to transform this data by taking logarithms ("log-transforming the data," as economists say). Exhibit 2-2 presents the Mississippi data in such fashion, and it begins to look more

regular. When we exclude the most distant data (beyond 250 miles, where competition, rather than distance, usually becomes the dominant factor), the data actually begin to look quite nice (Exhibit 2-3).

I have analyzed such data from a wide variety of markets, and have estimated that in general, over a reasonable range of distances the overall "elasticity" of spending with respect to distance is roughly -0.7, that is, consumers' total spending declines in somewhat less than direct proportion to the distance to be traveled.[3] When it comes to visiting different facilities, however, all else remaining equal, customers overwhelmingly prefers the closest. It appears that in this respect slot machines behave in a fashion very similar to many other retail markets, in which the relative "attraction" of each facility is roughly inversely proportional to the distance *squared*.[4]

In some contrast to most previous analyses, including my own in Iowa, this view of the world does not draw sharp boundaries between markets. Casino customers sometimes do visit more distant facilities, particularly if they are larger, more varied, and offer more amenities. (Mississippi, for example, draws *some* customers from Missouri, Indiana, and Texas, all of whom pass up casinos located closer to them, and Iowa casinos draw *some* customers from a wide variety of surrounding states.) Other things being equal, however, they are *much* more likely to visit the nearest facility. The inverse-square-law representation of the gravity models appears to reflect their behavior very accurately.

---

[3] This is a relatively "long-distance" attraction; if you double the distance, revenues decline by about 38%. For comparison, race tracks generally exhibit distance coefficients of about -1 to -1.2: if you double the distance, visitation declines by 50% or more. Generically, this type of relationship is called a "gravity model," because it is similar to Newton's law of gravitation (for which the "distance factor" would be -2.0: if you double the distance, the attraction declines by a factor of 2^2, or four).

[4] A relationship sometimes known as Reilly's Law of Retail Gravitation, based upon its mathematical similarity to Newton's Law, above.

The "mass" that attracts customers is typically represented in the gravity models by the "size" of the casino, described either in terms of its square footage or numbers of slot machines and table game/positions. (In other applications, the square footage of each shopping mall, or the total population of each "trade area" is used.) Larger facilities attract more people, not just from size in and of itself, but because they are more diverse, generally (though not always) offer a greater variety and higher level of amenities, and generally (though not always) have greater resources to spend on marketing and promotion. In addition, when there are multiple facilities within a market, or in closely adjoining markets, customers benefit from the competition between these facilities for their business. In the real world, "more" is not necessarily better, but it so often is that the data indicate quite clearly that it is a major factor, second only to distance, in consumers' choice among alternative facilities.

Finally, the models as I have refined them use additional, but much less critical, parameters to fine-tune their estimates for customers' spending: per capita income (higher is not necessarily better, but lower-income areas appear to spend less); urban/rural mix (the residents of urban areas tend to spend more than those of rural areas); and the relative "reach" and/or accessibility of alternative casinos, not always captured perfectly in the gravity models. Davenport and Bettendorf, for example, are easier to get to than Clinton or Burlington and Fort Madison; West Des Moines is much closer to Prairie Meadows than to Lakeside in terms of mileage, but still appears to generate substantial business for Lakeside because it is an easy drive down the Interstate highway; and casinos in "resort" areas, such as Marquette and the Wisconsin Dells, draw from broader geographic areas than those in more humdrum locales. Using travel time rather than raw mileage as the distance variable would likely enhance the models' "fit," but not eliminate all the quirks of "reach" and accessibility as significant factors.

(Because the distance relationships, in particular, as well as many others in these models, are highly nonlinear, standard statistical estimation procedures are not very useful to assess or refine them. There remains a considerable range of variation among markets not explained by any of the variables. Markets differ in terms of the quality and accessibility of their facilities, their "reach," and the intrinsic "propensity to gamble" of their residents. The following analyses and projections assume that these factors are roughly equally responsible for the various differences among markets not explained by the more readily-quantifiable variables.)

To illustrate the application of all these elements, Exhibit 2-4 presents as an example the estimated per capita spending of the residents of each county in Iowa on the slot machines at Prairie Meadows (chosen simply because of its central location -- similar estimates are calculated for each gaming facility in Iowa and in neighboring states). In Polk County, where the track is located, the average adult spends $439 per year at Prairie Meadows. In adjoining counties, though still close in terms of distance, the estimated rates of spending are much lower. At greater distances, they decline even further. And as one moves closer to the competing facilities in surrounding areas, per capita spending at Prairie Meadows declines even more quickly. Note, for example, how the rates of spending decline more rapidly to the south and northeast -- in the directions of Lakeside and Tama, respectively -- than in other directions. (Exhibit 2-5 depicts the resulting total dollar spending at Prairie Meadows, calculated by multiplying the per capita spending figure by the actual adult population of each county, from Exhibit 3-1 below).

This pattern of decline with distance, along with the relationships among all the other variables described above, has been applied to estimate the current rates of spending at all the facilities of Iowa as described in Section 3.

3. Analysis of Current Markets

Clearly, per capita spending on gaming declines with distance. But how do we estimate what the rate of spending is at any given distance?

This can be done by using these models to adjust *population* for distance, rather than spending. I have in this way calculated the "distance-adjusted" adult population surrounding each gaming facility (or appropriate group of facilities) in each market of Iowa, and in most of the other markets of the Midwest and around the country. This has been done by weighting the adults who live close to a facility at (the appropriately) higher rates than those who live more distantly. Dividing the actual total revenues, or spending, in each existing market by these population figures results in ratios measuring revenue per "distance-adjusted" adult.[5]

Exhibits 3-1 through 3-5 describe the application of this procedure to Iowa. Exhibit 3-1 presents a map of the counties of Iowa with their actual adult populations indicated. Exhibit 3-2 presents the corresponding map showing these populations adjusted for distance from the nearest slot facility.[6] In those counties that actually have casinos, the two figures are relatively close. In more distant counties, however, the distance-adjusted populations decline dramatically.

Exhibit 3-3 repeats Exhibit 1-3, depicting approximate market catchment areas (again, the boundaries indicated between markets are not absolute) and now the (slot-)distance-adjusted

---

[5] Note that these figures also incorporate the effects of per capita income, urban/rural factors, and casinos' relative "reach." In the rest of this report, "distance-adjusted" therefore should be taken to mean "adjusted for distance and other factors, too."

[6] Note that the distances from facilities that offer table games may be different, and therefore the distance-adjusted populations with respect to table games. In addition to variations due to distance, the table populations will also be distributed differently due to differences in the relative numbers of tables versus slot machines at alternative facilities. If one facility has 20 tables and 1,200 slots, while another has 50 tables and 600 slots, the relative "mass" effect favors the former with respect to slots, but the latter with respect to tables.

adult populations of each market. These are in most cases significantly less than the raw, unadjusted adult populations, again a reflection of the fact that more distant people are less "active" in spending.

Exhibit 3-4 then calculates the average rate of spending per distance-adjusted adult at the slot machines of the different facilities in Iowa. These figures lie in the range of $560 to $640 per adult; the average for the State as a whole is $591. These figures can be interpreted as the amount the average adult within each market *who has convenient access to a gaming facility*[7] spends on slot machines each year. At greater distances, the average adult spends less. (Again, to calculate distance-adjusted population we scaled back the number of people to reflect the impacts of distance. In the real world, it is their rate of spending that declines.)

Exhibit 3-5 presents the corresponding analysis for table games. Note that the distance-adjusted populations here differ from those of Exhibit 3-4, the slot analysis, most prominently because Prairie Meadows does not offer table games. (In addition, as footnoted above, the different facilities have different "masses" with respect to table games than with respect to slots.) Note also that the estimated rates of spending are much lower for table games than for slots -- in most markets, table games currently account for only 10-15% of total casino revenues. In Iowa, the average adult who has convenient access to them spends only $68 per year on table games.

Exhibit 3-6 compares the figures for total spending per adult (slots and tables combined) for Iowa with those of other markets in the Midwest (center column) and more broadly across the country (left-hand column). Note that Iowa's markets generally rank among the upper middle class for the Midwest, but below those for major markets in the East and South. Mississippi's

[7] "Convenient access" is quantified in the gravity models as "within ten miles."

casinos (combined here with Louisiana's because their markets overlap) attract the highest rates of spending. (As footnoted in the exhibit, however, Nevada markets are even higher, somewhere off this scale.) Despite low personal incomes in Mississippi, there are no statutory limits on the numbers of casinos or gaming devices, they are correspondingly highly competitive, and there is no competition from state lotteries across most of their market (and, for what it's worth, modest pari-mutuel competition, too). Slightly lower, the Connecticut and Colorado casinos, while restricted to relatively remote locations (and in Colorado, to $5 bets), are also fairly competitive. As we move down the list in the Midwest, however, we generally find less competitive conditions, and markets with lower quality and/or less accessible casinos. Throughout the middle column there are also a variety of markets in which the number of facilities and/or gaming devices is nowhere near sufficient to meet the demand that exists for them. As a result of these "capacity-" and "access-constrained" conditions, spending per (distance-adjusted) adult is relatively low. (At the same time, however, spending *per machine* is typically [but not always] high, as people are figuratively lined up at the machines to play them.)[8]

In addition to spending time and money at the gaming facilities of Iowa, its residents also spend (generally to a much lesser extent, except in border areas) at casinos in other states. Including such "leakage," Exhibit 3-7 depicts current per capita spending on casino gaming for each county in Iowa. (Spending in Nevada, the Caribbean, and other destination resorts is not included, but would not likely be significant.) Total dollar spending (in millions) is indicated in Exhibit 3-8. Iowa facilities' share of that spending is indicated in Exhibit 3-9.

---

[8] Markets can effectively be capacity-constrained even when win/day/ machine is not at astronomical levels. If the major issues are accessibility, attractiveness, and/or effective promotion, players may indeed not be lined up at the machines as they are in other jurisdictions where the unsatisfied demand is far more obvious.

I developed similar estimates for all the surrounding states, not only to assess their baseline rates of spending for comparison above but also to estimate their contributions to Iowa's casino revenues. (The most significant such source is Nebraska, whose largest metropolitan areas are immediately adjacent to Iowa and do not have casinos of their own.) Summing across all the counties of Iowa and neighboring states, the models' estimated contributions of Iowans versus out-of-state visitors to each of the casino markets of Iowa is indicated in Exhibit 3-10.

Having analyzed the current patterns of casino spending in Iowa and its neighboring states, the gravity models were then used to develop projections for alternative scenarios in the future as described in Section 4.

4. Projections

Projected versus Actual Results Without Tama

Before using the gravity models to develop projections with respect to new facilities, I tested them by comparing their projections for what has happened in Iowa since the Tama casino closed versus actual results during the summer of 2003. To do this, I simply set the number of slots and table games at Tama to zero, thereby eliminating any "mass" to attract consumer spending. Exhibit 4-1 summarizes the resulting projections for each market "without" Tama, in dollar terms at an annual rate, and in percentage terms in comparison to the "with Tama" baseline. The greatest increases were projected for Prairie Meadows and Lakeside, with other significant increases projected for Marquette and Dubuque.

As indicated in Exhibit 4-2, this is in fact what has actually occurred. The first two columns, with dollar figures, compare total casino win in each market in the summer of 2003 (without Tama) versus that in 2002 (when Tama was operating). The corresponding actual percentage changes are indicated in the first column of percentages. Assuming that these markets would have grown 3% anyway, on average, the middle column of percentage figures nets out that rate of increase. These net-of-normal-growth figures compare very well with the impacts predicted by the model. The most significant differences are in Eastern Iowa, where the Dubuque and Quad Cities facilities have done better than predicted while Clinton has done much less well. I suspect that the Dubuque and Quad Cities casinos have gained market share not only from Clinton but also from the casinos of Illinois to their east, whose performance has sagged following dramatic increases in their rates of taxation over the past year.

Projections for a "Fully-Casinoed" Iowa

As in my previous analysis in 1995, I have developed a projection for an extreme case of casino expansion: a casino in every county. Although not likely economically feasible (unless Iowa lowers its tax rates on gaming to purely nominal levels), this scenario estimates something close to the "maximum" casino revenues possible in Iowa.

To illustrate the basis for this projection, Exhibit 4-3 presents a map of Iowa that depicts the "distance factors" currently at work in each county (as estimated, of course, by my gravity models. These resulted in the estimated dollar volumes of spending that were depicted in Exhibit 3-8 above.)

If there were a casino convenient to all the residents of each county, these distance factors would all rise to 100%. (For some counties, this may in fact require more than one casino.) I then assumed that the residents of each county would spend at rates similar to those currently hosting casinos, averaging $620 per year (slots plus tables combined) for the rural areas and $640 per year for the larger urban areas of Cedar Rapids, Waterloo, and Des Moines. The resulting dollar volumes (again, in millions) are indicated in Exhibit 4-4. The *increases* in dollar spending are shown in Exhibit 4-5.

This exhibit depicts graphically the areas of greatest potential for new casino facilities. What was the case in 1995 remains essentially the same today: there are few areas where substantial increases in spending could be expected other than Cedar Rapids (Linn County, with adjoining Iowa City in Johnson County) and Waterloo (Black Hawk County). The projected increases in spending from the residents of these three counties alone are $63 million, $34 million, and $37 million, respectively. There is a cluster of counties around Des Moines from

which more modest increases could be obtained, primarily because the closest table games are currently forty miles away. The remaining major centers of population then provide potential increments in smaller amounts: Cerro Gordo County (Mason City), $15 million; Webster County (Fort Dodge), $12 million; and Wapello County (Ottumwa), $10 million.

Exhibit 4-6 summarizes the models' calculations for Iowa as a whole under this scenario. In addition to the increases from the new casinos in every county, I have projected small increases from existing markets that do not currently produce the $620-$640 per year benchmarks, reductions in Iowans' visits to casinos in neighboring states, and modest increases in spending from out-of-state visitors to Iowa casinos. The resulting total statewide win is $1.8 billion. After allocating a portion of this to Iowa's existing Native American facilities, approximately $1.7 billion would be subject to taxation, an increase of roughly $750 million from FY2003. At just under $1 billion, the revenues of Iowa's existing (non-Native) casinos are already running at approximately 60% of this "maximum." After roughly $150 million from Cedar Rapids and Waterloo, however, the map in Exhibit 4-5 suggests that it will be difficult to obtain additional increases of any substantial size.

Projections for Specific Facilities

Finally, I used the gravity models to develop projections for specific new casino facilities. As above, all these projections are made on the basis "as if" the new facilities had been open for all of FY2003. (As a corollary, all of them therefore assume that the Tama casino will reopen.)

For casinos in the larger urban areas (Cedar Rapids, Des Moines, and Waterloo), I assumed 1,200 slot machines, 24 table games, and baseline spending of $640 per adult. For the casinos elsewhere, I assumed smaller facilities, with 600 slot machines, 12 tables, and baseline per capita spending of $620.

The resulting projections are presented in Exhibits 4-7 through 4-17, and summarized in Exhibit 4-18. The top portion of each exhibit presents the projected gross revenues for each new facility, and the middle sections indicate the projected impacts on Iowa's existing facilities. The bottom line in each exhibit sums up the projected total gaming win for the State as a whole; the resulting dollar change is net of the adverse impacts on existing facilities. To take one example, Exhibit 4-7 indicates that a new facility in Black Hawk County would win $71.3 million, but after adverse impacts on existing facilities (the largest on Tama) aggregate casino revenues statewide would increase by just $51.5 million (taxable revenues by $63.2 million).

Again, Cedar Rapids (Linn County, Exhibit 4-8) and Waterloo (Black Hawk County, Exhibit 4-7) are projected to show the most substantial increases in terms of both gross and net revenues. A new casino in or near downtown Des Moines (Polk County, Exhibit 4-10) would win large amounts on the top line, but substantial amounts of its revenues would simply be diverted from Prairie Meadows (-40%) and Lakeside (-17%). In the outlying areas, revenues are projected to be more modest, ranging from $18.6 million (gross) in Palo Alto County to $28.3

million in Webster County (Fort Dodge). In the outlying areas, however, any single new casino's adverse impacts on Iowa's existing facilities would be miniscule.

Exhibit 4-16 depicts a scenario in which new casinos are developed in all these locations. The net increase in statewide total gaming revenues is projected at $266 million. If a new facility in Polk County were to be omitted (Exhibit 4-17) in order to reduce the large impacts on Prairie Meadows and Lakeside under that scenario, the net increase is projected at $220 million.

While these projections suggest that new casinos in all these locations might be economically feasible, and in the larger markets indeed attractive, in the aggregate they would add only modest amounts to Iowa casinos' current $1 billion in (taxable) revenues.

It may be possible to develop additional casinos at other locations in the outlying areas of Iowa, but their performance would likely be very similar to those in the smaller markets examined here. Without a large number of such casinos, the aggregate amount that they would add to net taxable gaming revenues would be small. It will, in my opinion, therefore be very difficult to obtain more than roughly $200 million in such net revenues from new casinos in Iowa. Waterloo and Cedar Rapids are the only major markets that appear to offer significant gains without substantial adverse impacts on some of Iowa's existing gaming facilities.

BIBLIOGRAPHY

Christiansen/Cummings Associates, Inc., et al., *Legal Gambling in Connecticut: Assessment of Current Status and Options for the Future*, January, 1992.

Christiansen/Cummings Associates, Inc., *Iowa Statewide Casino Market Analysis*, October 12, 1995.

Gerstein et al., *Gambling Impact and Behavior Study: Report to the National Gambling Impact Study Commission*, National Opinion Research Center at the University of Chicago, April 1, 1999.

Cummings Associates, *Central and Southwest Iowa Casino Market Analysis: Working Papers*, July 30, 1999.

Cummings Associates, *The Revenue Performance and Impacts of Arizona's Native American Casinos*, February 16, 2001.

The Innovation Group, *Video Lottery Terminals at New York Race Tracks: An Economic Study*, June, 2001.

Cummings, Will E., *If You Build It, They Will Come -- But How Far? The "Distance Factor" in Regional Gaming Markets*, a presentation to the 12th International Conference on Gambling and Risk-Taking, Vancouver, B.C., May 30, 2003.