

IMPACT STUDY:

West Virginia Greyhound-Racing Subsidies

Prepared for the State of West Virginia,
Department of Revenue

January 9, 2015



Executive Summary

Consumer interest in West Virginia greyhound racing has been declining for many years, as shown by significant decreases in handle and attendance. Although the State of West Virginia has not tracked attendance since 2000, Spectrum estimates that attendance declined 99 percent from 1983 to 2013 at Wheeling Island Hotel, Casino & Racetrack. From a July 1984 *Pittsburgh Press* newspaper article, we know attendance at Wheeling Island in 1983 was 929,000. Spectrum estimates current attendance to be less than 13,000 a year, or an average of 50 patrons per day. Spectrum had proposed to review attendance figures and project what they might be over the next five years. But, as noted later in this report, the tracks have not compiled such figures in recent years so we were unable to do a meaningful review. Given the other issues we address in this report, including the aging of the typical greyhound racing customer, we expect the declining attendance trend to continue.

A. Live Handle: 55% Decline Over 10 Years

Live handle, or wagering on races, at West Virginia greyhound racetracks has declined from \$35.0 million in 2004 to \$15.8 million in 2013, or 55 percent over the 10-year period. Despite the decline in live handle, purses since 1990 have increased dramatically. At Mardi Gras Casino & Resort, purses jumped from \$1.6 million in 1990 to a peak of \$8.9 million in 2003, a 446 percent increase. The reason for the anomaly: Purses have been artificially inflated or fueled by subsidies from racetrack casino² Video Lottery and table games operations. Video Lottery accounts for 95 percent of the casinos' greyhound racing subsidies. In order to operate a casino, an operator, by State law, must also offer live racing. Purses have since declined to \$6.1 million at Mardi Gras due to a variety of factors, including declines in gross gaming revenue ("GGR") and a reduction of the percentage of GGR allocated to purse subsidies as a result of a decision by the State

² Hereafter referred to as "casinos."



¹ Tom Wheatley, "Going to the Dogs: Since Converting From Horses, Wheeling Island Downs Has Boomed," *Pittsburgh Press*, July 1, 1984.

http://news.google.com/newspapers?nid=1144&dat=19840701&id=AHMcAAAAIBAJ&sjid=HGMEAAAAIBAJ&pg=72 53,295150

Legislature in 2014 to use casino supplements to fund governmental operations. Over the 10-year period from 2004 to 2013, purses at Wheeling Island and Mardi Gras declined 45 percent and 27 percent, respectively. The larger decline at Wheeling Island is principally due to increased competition from new casinos in Pennsylvania and Ohio.

B. Purse Awards: Subsidized Money Leaving West Virginia

1. Supplements Account for 95% of Purse Awards

Purses were originally funded exclusively through live handle, but casino supplements have become the dominant source of funding. In 1995, the first full year that purse supplements came into being at Mardi Gras, the casino subsidy accounted for 49.4 percent of purses. By 1999, just five years after the Video Lottery began, the supplements at Mardi Gras accounted for 75 percent of purses. The supplements statewide today account for more than 95 percent of total purses. In fact, purses were 9 percent higher than live handle in 2013: \$17.2 million vs. \$15.8. This irregularity, in which casino purse supplements exceed live handle, has occurred in Iowa as well, which is another major greyhound-racing state. Similar to West Virginia, the greyhound tracks in Iowa have been required to offer live racing in order to operate their casinos. The Iowa racetracks, which were losing money on the racing operations, negotiated a buyout in 2014. The Iowa greyhound industry will receive \$72 million in exchange for a decoupling law that removed the requirement to offer live racing in order to operate a casino. A faction of the West Virginia Breeders and Owners Association, led by its president, is pushing for a similar buyout in West Virginia. However, other greyhound breeders and owners oppose this proposal.

2. Two-Thirds of Purses are Won by Out-of-State Residents

Our review of purse awards shows that for every dollar awarded to West Virginia resident greyhound owners, nearly two dollars are awarded to greyhound owners who live out of state. Purse awards at Wheeling Island have consistently been won by out-of-state breeders. In 2013, only \$2.6 million of the \$11.7 million in purse awards at Wheeling Island were paid to West Virginia residents. In fact, 2013 Wheeling Island purse awards to Kansas residents were higher than purse awards paid to West Virginia residents (\$3 million vs. \$2.6 million.) We note that



nearly all of those purse awards were funded by GGR from West Virginia casinos. At Wheeling Island in 2013, 230 entities from out of state won purse awards compared to just 30 West Virginia entities. At Mardi Gras in 2013, 138 entities from out of state won purse awards compared to 69 West Virginia entities.

3. Purse Winnings are Concentrated among Top Entities

Based on information provided to Spectrum, there were approximately 370 greyhound industry participants who won purses at the two West Virginia racetracks in 2013. Purse winnings were concentrated among a handful of entities: The top 10 entities that raced greyhounds in West Virginia in 2013 and won purses collected 42 percent of purse awards; the top 20 won 63 percent; the top 50 won 84 percent.

In addition to casino supplements for regular purses, casinos in West Virginia also heavily subsidize the state's Greyhound Breeding Development Fund ("Development Fund"), which rewards owners of West Virginia-bred greyhounds. Greyhound owners receive development monies based on the number of points they have earned by finishing first, second, third or fourth. In 2013, the Development Fund subsidy totaled \$5.5 million. That was on top of the \$16.8 million subsidy for regular purses, raising the total subsidy figure to \$22.3 million. Our review of the Development Fund awards shows that the awards were highly concentrated. The top 10 entities collected 49 percent of the Development Fund awards in 2013; the top 20 collected 70 percent; and the top 50 collected 95 percent. There were 109 distributions in 2013.

We also note that the median award was \$19,246; 39 percent of the awards were less than \$10,000 and 29 percent were less than \$5,000. With so few entities dominating the awards, the economic impact of the distributions is limited, as the vast majority of greyhound owners would not be in an economic position to hire employees. Unlike regular purses, only West Virginia residents are eligible to receive awards from the Development Fund.

Purses in recent years have been cut, mostly due to declining GGR at the two casinos. Because the subsidy is based off a percentage of GGR, as GGR declines the subsidy to purses also declines. In addition, the State has reduced the GGR subsidy percentage from 15 percent when the supplements began to just under 10 percent. The result is that greyhound industry



participants have complained that profit margins have been squeezed, and it is difficult for many greyhound owners and/or breeders to stay in business.

A 2008 study in Iowa, which eventually led to the greyhound buyout there, also found that purse payments were highly concentrated with a "relatively small number of owners and kennels receiving more than half of the purse money that is distributed at Iowa's two Greyhound tracks." In 2008, the study found that the top 20 recipients (of over 300 total recipients) received over 50 percent of purse awards.

C. Regulatory Costs On Par with Revenue

We note that with declining handle at the state's two greyhound tracks, tax revenue is also falling and the State is moving perilously close to not covering its expenses related to regulating the industry. Spectrum had contemplated doing a historical review of regulatory costs but that was not possible due to the Racing Commission's policy in previous years of not assessing administrative costs to the industry.⁴ In 2014, the Racing Commission began accounting for administrative overhead in an effort to obtain a more accurate picture of the true cost of overseeing greyhound racing. Prior to 2014, there was no charge to the greyhound racing account for administrative overhead, making it difficult to determine the true cost.⁵ Based on current trends (the first five months of the fiscal year), overall revenue generated for the State as a result of greyhound racing is expected to decline to approximately \$1 million. Expenses incurred to oversee greyhound racing are expected to total \$965,000, putting the State in danger, for the first time, of possibly not covering its expenses in the current fiscal year.⁶

⁶ Ibid.



³ Christiansen Capital Advisers, *Iowa Greyhound Study Final Report*, January 7, 2010. http://www.floridagamingwatch.com/wp-content/uploads/2010/02/iowa-greyhound-reportreduced.pdf

⁴ Spectrum interview of Racing Commission accountant Joe Moore December 19, 2014.

⁵ Ibid.

1. Recommendation

Spectrum recommends that the Legislature ensure that greyhound racing generates enough revenue to cover all regulatory costs. Greyhound racing participants, the racetracks themselves, and greyhound owners should be called on to make up whatever deficit might occur. We believe that the Legislature never envisioned that revenue generated would not cover the expenses incurred to oversee greyhound racing.

D. Subsidies Exceed Direct Economic Benefit

Spectrum did not, nor could it attempt, to undertake an economic impact study of the West Virginia greyhound industry in the limited timeframe provided for this study. In January 2014, West Virginia University's Bureau of Business Research released a report ("the WVU study") that said the greyhound industry had a \$31.2 million economic impact on the state in 2012, based on a survey of greyhound racing participants that inquired about expenditures within West Virginia. That \$31.2 million figure consisted of \$12.8 million in direct impacts and \$18.2 million in indirect and induced impacts. We note that in 2012, casino supplements for purses and for greyhound development totaled \$29.3 million. That means that the total direct and indirect impact barely exceeded the casino supplement. The economic impact figures may have been exaggerated due to a disproportionate response rate of high-income greyhound racing participants. The survey generated results for just one year, 2012. From 2003 through 2012, the casino supplements averaged \$34 million. Spectrum had only one year to analyze from the West Virginia University study. Using that figure and comparing it to the 10-year average of supplements ending in 2012 paints a picture showing that average annual supplements of \$34 million exceeded the 2012 economic impact of the industry by \$3 million, which means the State may be realizing a negative return on its investment.8

⁸ Spectrum research of data provided by the Racing Commission.



Impact Study of West Virginia Greyhound-Racing Subsidies

⁷ Spectrum interview with Eric Bowen, lead author of the West Virginia University study, on January 5, 2014, and custom reports prepared by the West Virginia Racing Commission and track operators at Mardi Gras and Wheeling Island. (Numbers in WVU study may not foot due to rounding.)

Even if the return were close to neutral, we suggest that it does not make sense to spend more than \$29 million to make a little over \$30 million with so much of that money going to residents who live in other states. Surely, the State of West Virginia could put the casino supplements to better use for the benefit of West Virginians.

It should be noted that the WVU study, while useful, relied on a small sample size of industry participants who chose to complete surveys that were mailed to them. The survey response rate was just 10 percent for questions related to income and expense. The study also did not have the benefit of reviewing purse data from the tracks, as did Spectrum. At the request of the Racing Commission, track operators provided information to Spectrum that included the identity of purse winners along with the amounts each entity won; the data were provided under the condition they be destroyed at the conclusion of our study. Such information for regular purses had never before been provided to outside parties, including the Racing Commission. Our analysis shows that 65 percent of purse awards were given to out-of-state residents and that the top 10 purse winners collected 42 percent of all purse awards.

1. Recommendations

West Virginia's budget problems were so severe last year that the State cut an \$81.5 million deficit with a hiring freeze and reductions of \$33 million from the spending plans of State agencies. In light of the state's fiscal problems, the Legislature could:

- Allow the casinos to no longer make the subsidy payments and retain the money to improve their bottom lines in light of increased casino competition in the region; or
- Allow the Lottery to retain the money to use it for governmental operations; or
- Allow the Lottery to retain some of the money and allow the casinos to keep some
 of the money.

But to continue to operate under the current structure does not appear to be in the best interests of West Virginia taxpayers.



E. Review of Non-Financial Considerations

There are clearly secondary economic impacts that accrued as a result of greyhound breeding and racing activity. As the WVU study noted, those expenditures work their way through the rest of the economy. Greyhound owners, for example, buy meat and other products to care for the greyhounds. Those vendors in turn purchase other products as well. "Thus the original expenditures can be multiplied several times over as the money is passed through the hands of suppliers and employees," according to the WVU study. The WVU study, in fact, estimates that the \$12.8 million in direct impacts induced additional impacts of \$18.2 million.

It is difficult to estimate the impact on the industry if the subsidies were withdrawn. Certainly, it would have a negative impact, but we note that many of the top purse winners would continue to race their greyhounds in other states but may continue reside in West Virginia. So how much of a negative impact would result from ending the casino supplements would amount to speculation on our part.

In Section IV of this report, we estimate that 618 people are employed working in the greyhound racing industry. With an estimated 2013 population of 1.8 million, the loss of 618 jobs would have a negligible statistical impact on the state's unemployment rate. We also believe that because the racetracks would be financially stronger by retaining the casino subsidy, with the possibility of reinvestment in the facilities, many of the displaced greyhound employees could be retained by the tracks in new positions.

As noted in other sections of this report, the greyhound industry acknowledges public perception of the industry has turned negative. Thirty-nine states have banned commercial dog racing, with just seven states currently permitting pari-mutuel greyhound racing. Given the negative public perception of the industry and the movement by other states to ban the industry, a similar move by West Virginia could have positive implications for the industry with investment or tourism by industries or people who have previously avoided the state on moral grounds.

⁹ Source: US Census Bureau. http://quickfacts.census.gov/qfd/states/54000.html



1. Recommendations

Given the less than one month time frame Spectrum had to complete this study, we could not undertake a fulsome analysis of the indirect benefits and costs associated with greyhound racing. If the Legislature determines to eliminate greyhound racing, Spectrum recommends that a small portion of the tax on GGR that is currently devoted to the purse subsidies be set aside to compensate industry participants injured by the cessation of racing.



Contents

EXECUTIVE SUMMARY	
A. LIVE HANDLE: 55% DECLINE OVER 10 YEARS	ا
B. Purse Awards: Subsidized Money Leaving West Virginia	
1. Supplements Account for 95% of Purse Awards	iii
2. Two-Thirds of Purses are Won by Out-of-State Residents	iii
3. Purse Winnings are Concentrated among Top Entities	
C. REGULATORY COSTS ON PAR WITH REVENUE	V
1. Recommendation	vi
D. Subsidies Exceed Direct Economic Benefit	VI
1. Recommendations	vii
E. Review of Non-Financial Considerations	VIII
1. Recommendations	ix
INTRODUCTION	
I. ASSESSMENT OF THE GREYHOUND RACING INDUSTRY IN WEST VIRGINIA	
A. HANDLE: LIVE HANDLE ON GREYHOUND RACING HAS DECLINED 55% SINCE 2004	
1. Statewide: Benefiting from Export Simulcasting	
2. Wheeling Island Hotel, Casino & Racetrack	6
3. Mardi Gras Casino & Resort	7
B. Purses are Subsidized; Minimizing Declines	
1. Statewide: Subsidies Account for 95% or More of Purse Payments	
2. Wheeling Island Hotel, Casino & Racetrack	
3. Mardi Gras Casino & Resort	
C. Purse Awards: High Concentration, Money Leaving State	
1. Statewide: Two-Thirds of Purse Payments Leave West Virginia	13
2. Wheeling Island Hotel Casino & Racetrack	15
3. Mardi Gras Casino & Resort	
D. GREYHOUND DEVELOPMENT FUND AWARDS: WEST VIRGINIA BENEFITS, BUT HIGHLY CONCEN	
1. 95% of Funds Subsidized by GGR	
2. 96% of Awards are Won by Top 50 Participants	18
E. ORIGIN OF CASINO SUPPLEMENTS	
1. Video Lottery: Primary Source	21
F. CURRENTLY PROFITABLE, BUT TRENDS SUGGEST INDUSTRY ON PRECIPICE OF FAILURE	
G. REGULATORY COSTS: EXPENSES VS. REVENUE	
H. Challenges to Success	
1. Biggest Challenge to Greyhound Racing is Demographics	
2. Public Perception Has Turned Against Industry	
3. Consumers Have Other Entertainment Options	
4. Limited Crossover Play between Casino and Track Patrons	
I. OPPORTUNITIES TO IMPROVE THE PRODUCT	
1. Greyhound Participant Self-Management	
2. Outreach to a Younger Demographic	34



3. Establish a Marketing Fund	35
II. ASSESSMENT OF POTENTIAL CHANGES AND ECONOMIC BUDGET EFFECTS BY MODI	FYING
OR REPEALING LIVE RACING REQUIREMENTS	38
A. WEST VIRGINIA GREYHOUND INDUSTRY DIVIDED OVER VIABILITY OF RACING	38
B. MODIFYING MINIMUM RACING DAYS LIKELY TO HAVE LITTLE IMPACT	39
1. Continued Payment of Subsidies is Only Incentive to Continue Racing	40
2. Cutting Racing would have Minimal Impact on Purses	
III. LEVERAGING GGR AS A PUBLIC FUNDING SOURCE	42
IV. DO BENEFITS OF REGULATION JUSTIFY COST?	44
A. ECONOMIC IMPACT OF GREYHOUND RACING IN WEST VIRGINIA	44
V. CONCLUSION	
ABOUT THIS REPORT	
7.500 1 1110 NE1 011 1111 1111 1111 1111 11	51
Figures	
	_
Figure 1: Property details for West Virginia's two greyhound racetracks, 2013	
Figure 2: States with active greyhound racetracks	
Figure 3: Analysis of statewide greyhound racing total handle, 2004-2013	
Figure 4: Analysis of total handle at Wheeling Island, 2004-2013	
Figure 6: Analysis of total namine at March Gras, 2004-2015	
Figure 7: Analysis of regular purses by source at the greynound facetracks combined, 2004-2013 Figure 7: Analysis of regular purses by source at Wheeling Island, 2004-2013	
Figure 8: Analysis of regular purses by source at Wheeling Island, 2004-2013	
Figure 9: Analysis of purse payments both racetracks combined, 2013	
Figure 10: Analysis of purse awards by state of residence both tracks combined, 2013	
Figure 11: Analysis of Wheeling Island purse awards by state of residence, 2013	
Figure 12: Concentration of purse awards at Wheeling Island, 2013	
Figure 13: Analysis of Mardi Gras purse awards by state of residence, 2013	
Figure 14: Concentration of purse awards at Mardi Gras, 2013	
Figure 15: Concentration of Greyhound Breeding Development Fund payments, 2013	
Figure 16: Spectrum estimates of racing operations combined revenue and EBITDA for West Virgin	
greyhound racetracksgoperations combined revenue and EBTB/TOF West Virgin	
Figure 17: Spectrum greyhound racing operations profitability scenario analysis – five-year forward	
projections (both racetracks combined)	
Figure 18: Analysis of additional tax revenue to WV if Wheeling Island did not subsidize racing	
Figure 19: Demographic data of greyhound racing patrons at Wheeling Island	
Figure 20: Competitive properties to Wheeling Island	
Figure 21: Comparison of gross gaming revenue to racing revenue at Wheeling Island, 2007-2013.	
Figure 22: Effective casino gross gaming revenue tax rates by state	
Figure 23: Analysis of races and racing days, 2004-2013	
Figure 24: Analysis of gross gaming revenue declines at West Virginia greyhound racetrack casinos	



Introduction

The State of West Virginia, Department of Revenue, retained Spectrum Gaming Group ("Spectrum," "we" or "our") to "complete a comprehensive study requested by the legislature relation to the fiscal and budgetary impact state subsidized greyhound racing" (per Request for Quotation 0705 LOT 15000000002 issued October 27, 2014). The purpose of the study was to provide an "independent objective analysis" of the government subsidy to greyhound racing with the goal of recommending whether "the benefits of regulation justify the cost."

The government subsidy comes in the form of payments to the Lottery Commission from the two Video Lottery operators¹⁰ – Wheeling Island Hotel, Casino & Racetrack and Mardi Gras Casino & Resort – that conduct live greyhound racing in West Virginia. They pay roughly 10 percent of their gross gaming revenue ("GGR") to the Commission, which then transfers the funds to the purse accounts at the two racetracks as well as to the West Virginia Racing Commission to permit awards to be made from the state's Greyhound Breeding Development Fund.

At issue is whether that practice should continue or be modified and what would be the economic impact of ending the subsidies or modifying them.

To research the greyhound racing industry, Spectrum reached out to stakeholders throughout West Virginia, including track owners, greyhound racing customers, breeders/owners and anti-greyhound-racing advocacy groups. Interviews were conducted during our visits to the two greyhound racetracks and in subsequent telephone conversations.

There are four racetracks operating in West Virginia. Two of the tracks, Mountaineer Casino and Hollywood Casino at Charles Town Races, offer thoroughbred horse racing, while Wheeling Island and Mardi Gras offer greyhound racing. Greyhound racing was introduced in West Virginia in 1975 with the passage of enabling legislation. Following the legislation, Wheeling

¹⁰ Hereafter referred to as "casinos."



Island Downs converted from a horse track to a greyhound track in August 1976. Figure 1 below provides information on the two greyhound racetracks.

Figure 1: Property details for West Virginia's two greyhound racetracks, 2013

Track	Year track opened	Racing days	Number of races	Live handle	Regular purses	No. of VLTs	Table Games
				(Millions)	(Millions)	FY14	FY14
Wheeling Island	1976	263	5,856	\$11.1	\$11.2	1,399	33
Mardi Gras	1976	309	5,400	\$4.7	\$5.7	967	54
Total		572	11,256	\$15.8	\$17.2	2,366	87

Source: 2013 Annual Report of the West Virginia Racing Commission, West Virginia Lottery Commission

West Virginia was the first state to adopt casino gaming at racetracks as an economic engine to improve declining racing revenue with the introduction of 165 video lottery terminals ("VLTs") at Mountaineer in June 1990.¹¹ In 1994, the Legislature expanded the program to the other racetracks in West Virginia with a limit of 400 VLTs and with a requirement that 15 percent of GGR be pumped into greyhound purses to support the ailing industry.

Wheeling Island and Mardi Gras both installed VLTs in September 1994. Based on new casino competition from Pennsylvania, the West Virginia Legislature passed legislation allowing table games at racetracks in 2007, subject to a local voter referendum. Wheeling Island began offering live table games in fiscal 2008, while Mardi Gras began offering live table games the following year.

West Virginia is one of seven states to offer greyhound racing, down from 15 in 2001.

Figure 2: States with active greyhound racetracks

State	No. Racetracks
Florida	12
Alabama	2
lowa	2
West Virginia	2
Texas	1
Arizona	1
Arkansas	1

Source: Spectrum Gaming Group

¹¹ From the standpoint of a player, slot machines and VLTs are indistinguishable. The core difference is that slots can be standalone devices, while VLTs can be tied to a central system that monitors and/or controls all critical aspects of the games.



I. Assessment of the Greyhound Racing Industry in West Virginia

The West Virginia greyhound racing industry has been operating since 1976, when Wheeling Island Downs converted from a horse track to greyhound racing. The industry expanded with the construction and opening of Tri-State Greyhound (now Mardi Gras) in Cross Lanes. The introduction of greyhound racing was initially successful, but attendance and wagering has steadily declined, despite casino purse subsidies. According to a 1984 article in the Pittsburgh Press, 1983 attendance and wagering at Wheeling Island Downs were 929,000 and \$109 million, respectively. 12 Today, the tracks do not maintain attendance figures, but based on the information in Figure 19, Spectrum estimates annual attendance at Wheeling Island greyhound races to be less than 13,000 annually, or a compound annual decline in attendance of 14 percent since 1983. As noted in a 2013 article in *The Charleston Gazette*, "At one time, more than 50 tracks operated in 15 states. Now 21 tracks remain in seven states,"13 with 12 of those tracks in Florida. Concurrent with the closure of many greyhound tracks, wagering on greyhound races has also declined, "nationally, betting on greyhound racing — both trackside and at remote simulcast parlors — has plummeted from a peak of \$3.5 billion in 1991 to \$665 million in 2012."¹⁴ Thus, we can see that the decline of the West Virginia greyhound industry is mirrored throughout the US.

A. Handle: Live Handle on Greyhound Racing Has Declined 55% Since 2004

Betting on greyhound racing, similar to horse racing, is known as pari-mutuel wagering. In pari-mutuel wagering, handle is aggregated in the mutuel pool, and the payment to winners is

¹⁴ Ibid.



¹² Tom Wheatley, "Going to the Dogs: Since Converting From Horses, Wheeling Island Downs Has Boomed," *Pittsburgh Press*, July 1, 1984.

¹³ Steve Hendrix, "Dog Days for Greyhound Racing as Gamblers Abandon Tracks for Casinos," *The Washington Post*, August 31, 2014. http://www.washingtonpost.com/local/dog-days-for-greyhound-racing-as-gamblers-abandon-tracks-for-casinos/2014/08/31/5bfdc51e-1e64-11e4-ae54-0cfe1f974f8a_story.html

based on the amount wagered and the type of bet. The racetrack retains a pre-determined commission – known as the takeout – from the amount wagered. The outcome of pari-mutuel wagering is irrelevant to the tracks, and the track operator bears no risk of loss on the wagering.

From the track's takeout, other payments and distributions are made based on whether the wager is on-track or off-track. As such, the primary indicator of the viability of greyhound racing is the analysis of trends in handle, which has been in consistent and substantial decline. Understanding the distinction between live handle and simulcast handle is important because deductions from handle provide revenue for the track.

1. Statewide: Benefiting from Export Simulcasting

As can be seen in Figure 3, handle at the greyhound racetracks in West Virginia greyhound industry is in decline. Spectrum analyzed handle data from live, import simulcast, and export simulcast source. Live and import simulcast handle reflect the total amount wagered, regardless of where the race occurred, as long as wagering occurred at either Wheeling Island or Mardi Gras. Live handle is the amount patrons wager on a live race at the racetrack. Live handle declined 55 percent, to \$15.8 million, from 2004 to 2013. Import simulcast handle, which is tallied from patrons at West Virginia tracks placing bets on races held at a different racetrack, also declined 55 percent, to \$15.1 million. The steep percentage declines in both categories can be attributed to fewer people coming to the track. With more and more greyhound tracks shutting down, the export signal from West Virginia greyhound tracks has found increasing favor with those who want to bet on greyhound racing in other states. Interestingly, the export handle, in which patrons wager on West Virginia greyhound racing from other states, has increased 166 percent, to \$80 million from \$30 million, since 2004. The export handle increase is the only reason why total handle during same time period increased by 12 percent. The problem for policy makers is that the only entity to benefit from export handle are track operators; the State and the greyhound owners receive nothing.

Figure 3 is a graphical presentation of the components of handle at West Virginia's two greyhound racetracks. Total handle has increased over the 10 year period, but is entirely due to export simulcast as both live and import simulcast handle have been in steady decline.



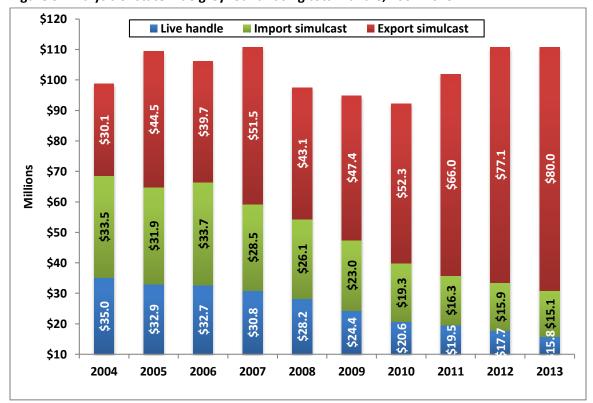


Figure 3: Analysis of statewide greyhound racing total handle, 2004-2013

Source: West Virginia Racing Commission

Trends in Handle

Live handle statewide at West Virginia's two greyhound tracks, as our tables show, has been on a steady downward spiral, and we expect that to continue. More and more gambling options are available to consumers and they have found other forms of gambling to be preferable to greyhound pari-mutuel wagering. From 2005 to 2008, the live handle declines averaged 5 percent per year. From 2009 to 2013, the average decline per year more than doubled, to 11 percent. We expect declines of 8 percent to 11 percent to continue from 2014 to 2019 as additional casinos open in the region and the greyhound tracks continue to lose their long-time clientele to old age.

Import simulcast handle statewide at West Virginia's two greyhound tracks, as our tables show, has also been on a steady decline, and we expect that to continue for the same reasons cited above – more gambling options are available. From 2005 to 2008, the live handle declines averaged 6 percent a year. From 2009 to 2013, the average decline nearly doubled, to 11 percent.



We expect declines of 8 percent to 11 percent to continue from 2014 to 2019 as additional casinos open in the region and as the greyhound tracks continue to lose their long-time clientele to old age.

The trend for export simulcast has been decidedly upward. With so many greyhound tracks closing, the demand for simulcasting quality greyhound races has increased. From 2004 to 2013, the export handle increased from \$30.1 million to \$80 million, an increase of 165 percent. During that 10-year period, the average annual increase has been 13 percent. In the past six years, the increase has been double digits for every year except one. Whether those increases continue to occur will depend on whether more tracks close. We suspect they will and, if the West Virginia tracks stay open, we would estimate that export handle will continue to increase by 10 percent to 12 percent a year for the next five years.

2. Wheeling Island Hotel, Casino & Racetrack

Total handle at Wheeling Island increased 7 percent, from \$60 million in 2004 to \$65 million in 2013. Live handle, the amount wagered by patrons on races run at Wheeling, declined 57 percent from \$26 million in 1990 to \$11 million in 2013. This reflects a compound annual decline of 9 percent, and is consistent with the 8 percent compound annual decline in live handle at Mardi Gras during the same period. Import simulcast handle, or the amount wagered at Wheeling Island on races at other greyhound tracks, declined 37 percent, from \$13 million in 2004 to \$8 million in 2013. From the standpoint of West Virginia, it is only live and import simulcast that provides benefit to the State, and the decline in wagering at Wheeling Island is indicative of declining interest in greyhound racing in West Virginia.

However, as greyhound racetracks have closed in other states, export simulcast wagering (allowing patrons at other racetracks to wager on races at Wheeling) increased 111 percent, from \$22 million in 2004 to \$46 million in 2013. In other words, export simulcast wagering is responsible for almost 540 percent of the increase in total handle.

Figure 4 provides information on handle by component at Wheeling Island from 2004 through 2013.



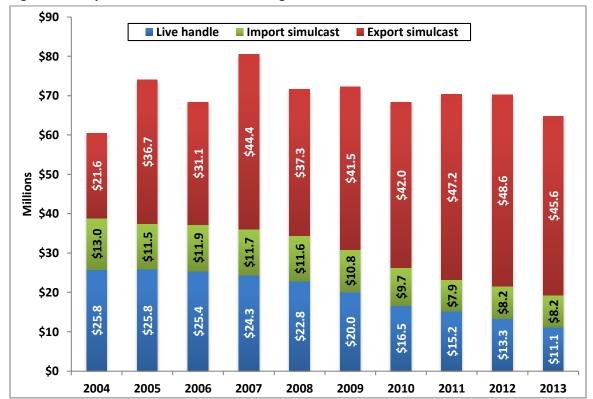


Figure 4: Analysis of total handle at Wheeling Island, 2004-2013

Source: West Virginia Racing Commission

3. Mardi Gras Casino & Resort

The lack of interest in West Virginia greyhound wagering is perhaps best illustrated by the decline in live wagering at Mardi Gras. In 1990, patrons wagered \$63.9 million on races run there. In 2013, the figure had fallen to \$4.7 million, a decline of 93 percent. Mardi Gras' simulcasting operation has also seen significant declines in the amount wagered. From 2004 through 2013, instate handle, which consists of import simulcast handle and live handle, declined from \$29.8 million to \$11.6 million, or by 61 percent. The decline is yet another indication of a lack of consumer interest in greyhound racing.

On the positive side, with so many tracks closing, Mardi Gras' export handle, in which its signal is sent to other locations for wagering, has seen a significant increase in recent years. In 2004, export handle stood at \$8.5 million. In 2013, it increased to \$34.4 million, or by more than

¹⁵ West Virginia Racing Commission annual reports.



300 percent. Mardi Gras itself receives revenue from the track that receives its signal. The problem is that the compensation is much less than it would be if the bet were placed at Mardi Gras. Further, greyhound owners are shut out completely on an export bet; they receive nothing from wagers placed on Mardi Gras greyhounds at another facility. The State of West Virginia also receives nothing from export handle. So while overall simulcast revenues have increased in recent years, the reason for the increase has been due to the export signal, which does nothing to help greyhound owners.

In Figure 5 we present information on handle by component at Mardi Gras from 2004 through 2013.

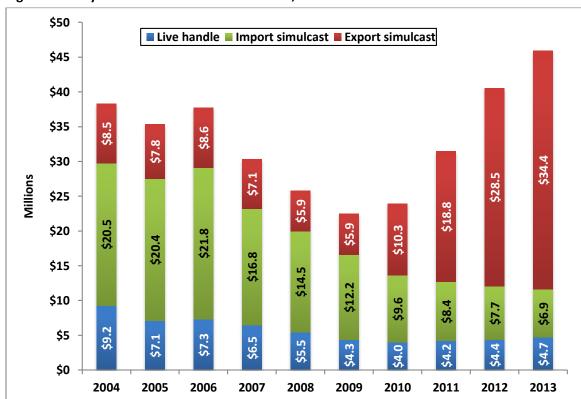


Figure 5: Analysis of total handle at Mardi Gras, 2004-2013

Source: West Virginia Racing Commission

¹⁶ Eric Bowen, et al, *The Economic Impact of the Thoroughbred and Greyhound Racing Industries on West Virginia's Economy 2012*, WVU Research Corporation, January 2014. http://www.be.wvu.edu/bber/pdfs/BBER-2014-02.pdf



Impact Study of West Virginia Greyhound-Racing Subsidies

B. Purses are Subsidized; Minimizing Declines

Greyhound racing participants and observers are unanimous in their belief that greyhound owners could not afford to race if the supplements were eliminated and purses were funded through live handle. In fact, Sam Burdette, president of the West Virginia Owners and Breeders Association, argues the purses have already fallen to a level that will result in many participants deciding that it is no longer profitable to race.

In an article in *The Charleston Gazette*, Burdette said, "It takes a minimum of \$3,000 a week to operate a greyhound kennel – and only three of the 17 kennels racing at Mardi Gras reached that amount last week." In other words, it is our opinion that without the purse subsidies from the racetrack's gaming operations, purses would decline to such a level as to make it uneconomic for kennel owners to continue to race greyhounds in West Virginia. Burdette, in an interview with Spectrum, confirmed that there is no way greyhound racing could survive without the subsidies. He has proposed a buyout for industry participants to allow them to retire from racing. The proposal is discussed in more detail later in the report.

1. Statewide: Subsidies Account for 95% or More of Purse Payments

Based on information from the state's two greyhound racing tracks, subsidies account for more than 95 percent of the purses paid. Since 2004, purses have decline 40 percent, to \$18 million from \$30 million. In 2004, casino subsidies were 93 percent of the purse awards and had risen to 95 percent by 2013. As can be seen in Figure 6, purses paid to West Virginia greyhound owners would be less than \$1 million if the casino subsidies would end. Purses at Wheeling Island (Figure 7) in 2012 and 2013 were \$12.9 million and \$11.6 million, respectively. Without the purse supplements from casino gaming, purses would have been \$0.7 million and \$0.6 million in each of the two years. The results are similar at Mardi Gras (Figure 8). Purses in 2012 and 2013 were \$6.5 million and \$6.1 million, respectively. Without the purse supplements from casino gaming, purses would have been \$0.3 million in each of the two years.

¹⁷ Phil Kabler, "Subsidy Cutbacks 'Disastrous' to Racing Industry, Lawmakers Told," *The Charleston Gazette*, September 10, 2014. http://www.wvgazette.com/article/20140910/GZ01/140919927



Figure 6 below is an analysis of regular purses at both Wheeling Island and Mardi Gras by source funds. The figure shows that casino subsidies represent approximately 95 percent of regular purse awards. This analysis does not include purse awards from the West Virginia Greyhound Breeding Development Fund.

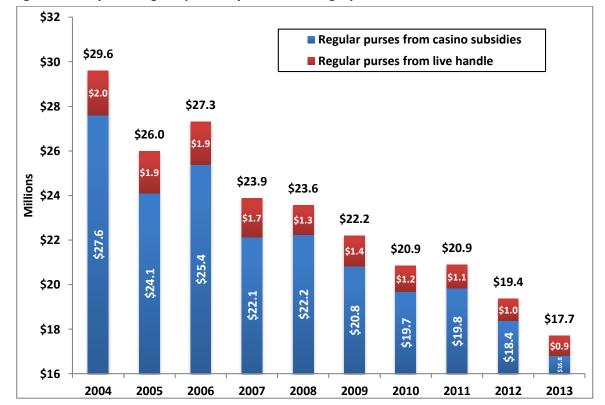


Figure 6: Analysis of regular purses by source at the greyhound racetracks combined, 2004-2013

Source: West Virginia Racing Commission

Trends in purses

Purses statewide at West Virginia's two greyhound have been on a steady downward spiral, and we expect that to continue. Purses are dependent on GGR at the two casinos, and when they decline, so, too, do the purse contributions. The average annual decline since 2004 has been about 4 percent, and we expect that trend to continue and possibly even fall to as much as 7 percent per year for the next five years as more and more casinos open in the region and those that have recently opened continue to grow their base. Since 2009, the decline has been 6 percent, and in 2013, the decline was 9 percent, a seven-year high.



2. Wheeling Island Hotel, Casino & Racetrack

For the 10-year period from 2004 to 2013, greyhound purses at Wheeling Island declined 45 percent, compared to a 57 percent decline in live handle during the same period. ¹⁸ That was largely due to the fact that regular purses are subsidized by GGR from West Virginia casinos. While live handle was declining, GGR at Wheeling Island increased to a peak of \$200 million in FY 2007. As new casino competition opened in Pennsylvania and Ohio, GGR at Wheeling Island has also begun to decline, resulting in declining purses. However, we note that purse subsidies from GGR constitute more than 95 percent of purses paid at Wheeling Island in 2013.

Figure 7 below is an analysis of regular purses at Wheeling Island by source funds.

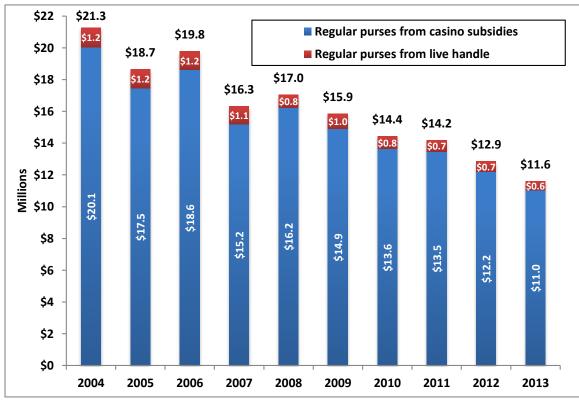


Figure 7: Analysis of regular purses by source at Wheeling Island, 2004-2013

Source: West Virginia Racing Commission

¹⁸ West Virginia Racing Commission.



3. Mardi Gras Casino & Resort

Despite the decline in handle at Mardi Gras (Figure 5), purses offered to greyhound owners that raced at Mardi Gras increased from \$1.6 million in 1990 to \$6.1 million in 2013, an increase of 281 percent. ¹⁹ The reason for the anomaly: Purses have been artificially inflated or fueled by subsidies from casino GGR.

One factor keeping purses at Mardi Gras from declining as much as they have at Wheeling Island is that casino GGR has been relatively stable at Mardi Gras. Since FY 2004, GGR declined by 9 percent, whereas Wheeling Island GGR declined by 51 percent.²⁰ The purse supplements are based on a percentage of casino GGR, so the less GGR, the less money available for purse supplements. In addition, the amount available for purse subsidies was cut by 10 percent as a result of action taken by the state Legislature in 2014. Those factors – the cut by the Legislature and declining GGR – have combined to reduce purse supplements at Mardi Gras from a peak of \$7.9 million in 2003 peak to \$5.8 million in 2013, a reduction of 27 percent.²¹

Figure 8 below provides an analysis of regular purses at Mardi Gras by source funds.

²¹ West Virginia Racing Commission, custom report.



¹⁹ Mardi Gras Casino & Resort.

²⁰ West Virginia Lottery Commission.

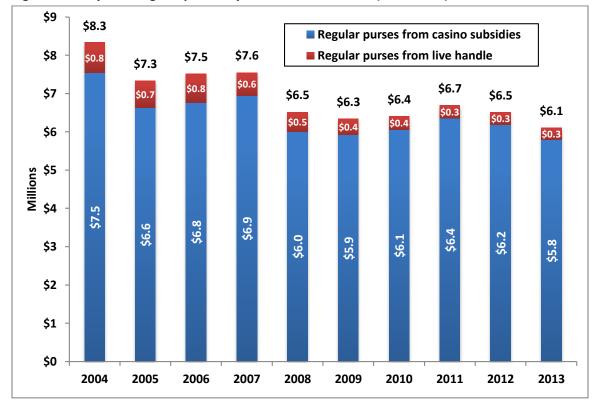


Figure 8: Analysis of regular purses by source at Mardi Gras (2004-2013)

Source: West Virginia Racing Commission

C. Purse Awards: High Concentration, Money Leaving State

Information relating to purse awards was provided to Spectrum on request by the two greyhound racetracks on the condition that all personal identifying information would not be released and would be deleted and/or destroyed after our analysis is completed. Management at each track does not consider the information to be public and has never before released such information. The data include the names and addresses of entities that obtained purse awards, enabling Spectrum to determine the extent and concentration of out-of-state awards.

1. Statewide: Two-Thirds of Purse Payments Leave West Virginia

The winnings of regular purse awards in West Virginia are quite concentrated, with a handful of entities collecting the vast majority of the money. The top 10 performers (among 370 in total) in 2013 collected 42 percent of purse awards; the top 20 collected 63 percent; and the top 50 collected 84 percent. The top two entities alone – both out-of-state – collected \$1.8



million, or 15 percent of the purses. There were a total of 470 Form 1099s sent to greyhound racing participants in 2013, ranging from \$1 million to \$26. The median award was \$5,219; 139 payouts were less than \$2,000.

Figure 9 presents detail on the concentration of purse awards among the top performers in West Virginia.

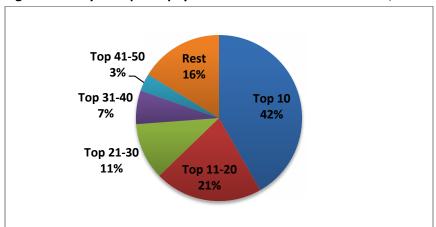


Figure 9: Analysis of purse payments both racetracks combined, 2013

Source: Wheeling Island and Mardi Gras racetrack casinos

We find these numbers to be important because they demonstrate that the purse awards are limited to a select number of greyhound industry participants, which, in turn, limits the statewide impact, especially when so many of the awards indicate the vast majority of participants do not earn enough to support themselves through greyhound racing. The median award was \$5,219; 139 of the awards were less than \$2,000. As previously noted, the president of the West Virginia Owners and Breeders Association said that operating a greyhound kennel requires a minimum of \$3,000 per week, or \$156,000 per year.

Also negatively impacting on the benefits of greyhound racing for West Virginia is the fact that 64 percent of the purse awards in the state went to owners who do not live in West Virginia. Those non-residents collected more than \$11 million of the \$17.4 million in 2013 purse awards.

Figure 10 presents detail on purse payments to West Virginia versus non-West Virginia residents at the state's two greyhound racetracks.



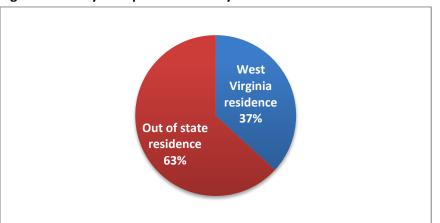


Figure 10: Analysis of purse awards by state of residence both tracks combined, 2013

Source: Wheeling Island and Mardi Gras

An lowa study done in 2008 also found that top performers in that state dominated greyhound purse awards and that a substantial amount of purses were being awarded to out-of-state residents.²² In 2008, the top 20 recipients (of more than 300 total recipients) received more than 50 percent of purse awards, and 41 percent of purse awards (\$13.9 million in wards) went to non-lowa residents.²³

2. Wheeling Island Hotel Casino & Racetrack

Wheeling Island is the dominant greyhound racetrack in West Virginia. Its purses and handle were nearly double that of Mardi Gras in 2013. It attracts higher quality greyhounds due to its higher purse awards. Wheeling Island awarded 78 percent of its purses in 2013 to out-of-state residents. In fact, greyhound owners from one state alone, Kansas, collected \$3.3 million in purse awards compared to \$2.6 million for West Virginia greyhound owners. Figure 11 presents detail on purse payments to West Virginia versus non-West Virginia residents at Wheeling Island.

²³ Ibid.



²² Christiansen Capital Advisers, *Iowa Greyhound Study Final Report*, January 7, 2010. http://www.floridagamingwatch.com/wp-content/uploads/2010/02/iowa-greyhound-reportreduced.pdf

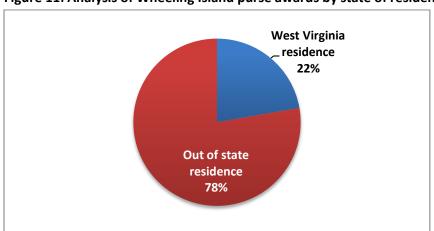


Figure 11: Analysis of Wheeling Island purse awards by state of residence, 2013

Source: Wheeling Island

The average award in Wheeling Island in 2013 was \$44,000 but the median was \$6,600. The reason the average purse award is significantly larger than the median award is due to the concentration of purse awards among the top performers. The top 10 performers in 2013 collected 53 percent of purse awards; the top 20 collected 78 percent; and the top 50 collected 89 percent. Sixty-three participants collected less than \$2,000. Wheeling Island issued a total of 268 Form 1099s to greyhound industry participants. Figure 12 presents detail on the concentration of purse awards among the top performers at Wheeling Island.

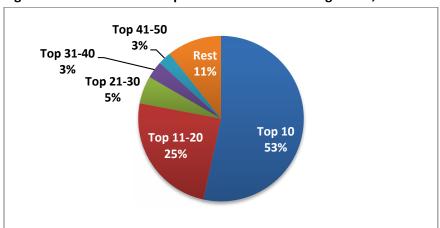


Figure 12: Concentration of purse awards at Wheeling Island, 2013

Source: Wheeling Island



3. Mardi Gras Casino & Resort

Because Mardi Gras is more centrally located in West Virginia, is not as proximate to large out-of-state population centers, and does not attract out-of-state greyhounds like the larger Wheeling Island, purse awards at Mardi Gras are more West Virginia-centric. In 2013, 67 percent of purse awards at Mardi Gras were to greyhound owners residing in state. Figure 13 presents detail on purse payments to West Virginia versus non-West Virginia residents at Mardi Gras.

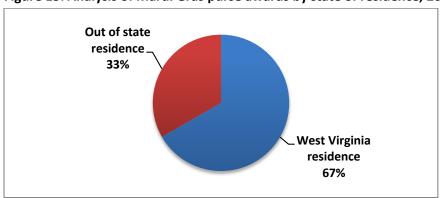


Figure 13: Analysis of Mardi Gras purse awards by state of residence, 2013

Source: Mardi Gras

The average purse award in Mardi Gras in 2013 was \$28,000 but the median was \$3,500. The top 10 performers in 2013 collected 48 percent of purse awards; the top 20 collected 73 percent; and the top 50 collected 91 percent. There were 207 entities that received distributions; 76 were for less than \$2,000. Figure 14 presents detail on the concentration of purse awards among the top performers at Mardi Gras.

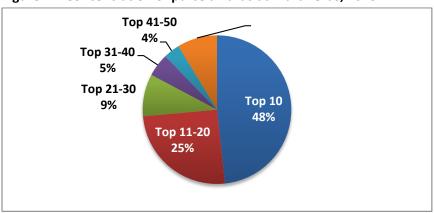


Figure 14: Concentration of purse awards at Mardi Gras, 2013

Source: Mardi Gras



D. Greyhound Development Fund Awards: West Virginia Benefits, but Highly Concentrated

An average of 1,100 greyhounds have been bred each year since 2009 in West Virginia. Greyhounds receive development monies based on the number of points they have earned by finishing first through fourth in races. More points are earned for competing in a higher quality race.²⁴ In order to receive a distribution, a greyhound breeder must be a West Virginia resident.

1. 95% of Funds Subsidized by GGR

Video Lottery, as it is with regular purses, is the primary source of casino supplements for the Greyhound Breeding Development Fund ("Development Fund"). In 2013, the total casino supplement for the Development Fund was \$9.4 million. Of that amount, 95 percent came from the Video Lottery, with the remaining 5 percent from table games. Greyhound development funds have begun to account for a greater percentage of the overall supplements to greyhound owners. This is due mostly to the fact that, unlike regular purses, thoroughbred racinos contribute to the Greyhound Development Funds as well as to their own development funds.

Consider that in 2002, regular purse subsidies accounted for 83.8 percent of total purse subsidies, with Development Fund subsidies accounting for the remaining 16.2 percent. By 2013, that gap closed somewhat, to 62.7 percent for regular purses and 37.3 percent for the Development Fund.²⁵

2. 96% of Awards are Won by Top 50 Participants

Spectrum found that 19 percent of Development Fund purses in 2013 went to two entities; the top 10 performers collected 49 percent; the top 20 collected 70 percent; and the top 50 collected 96 percent. In other words, as we have shown throughout this report, a handful of entities collect the vast majority of purse awards, whether for regular purses or for bonus awards for state-bred dogs.

²⁵ West Virginia Racing Commission, custom report.



²⁴ West Virginia Racing Commission.

In 2013, the Development Fund made distributions to 109 greyhound racing participants. The number included about 30 non-racing participants who received distributions due to a lawsuit settlement. The lawsuit was related to the distribution of surplus funds in the Development Fund.²⁶ The median award was \$19,246; 39 percent of the awards were less than \$10,000 and 29 percent were less than \$5,000.

In Figure 15, Spectrum analyzes the concentration of payments from the Development Fund to top performers.

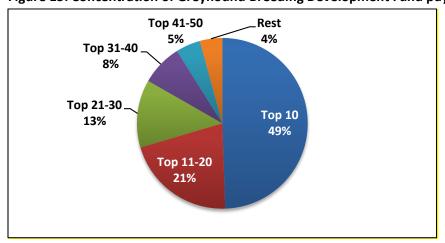


Figure 15: Concentration of Greyhound Breeding Development Fund payments, 2013

Source: West Virginia Racing Commission

The intent of the Development Fund awards is to stimulate greyhound breeding in West Virginia and boost the greyhound farming industry. The law requires that an inspection be done within 24 hours of the whelping of all potentially participating greyhounds in West Virginia and a follow-up inspection to ensure that greyhound pups remained in the state continuously for the first 12 months of their lives. Only West Virginia residents are eligible to participate in the program. In 2013, the number of participants in the program fell to 63, a 10-year low.



Impact Study of West Virginia Greyhound-Racing Subsidies

²⁶ John O'Brien, "Race dog breeders entitled to surplus funds," *West Virginia Record*, January 6, 2006. http://wvrecord.com/news/186778-race-dog-breeders-entitled-to-surplus-suit-says

E. Origin of Casino Supplements

Casino purse supplements are used to enhance regular purses as well a bonus purse paid to the owner of West Virginia-bred greyhounds (Development Fund.) Purses are developed from three sources: a percentage of the net revenue from pari-mutuel wagering, a percentage of the net revenue from VLTs, and a percentage of the net revenue from table games. In FY 2013, approximately 97 percent of subsidy revenue came from casino supplements (VLTs and table games) and approximately 3 percent from pari-mutuel wagering.

In 1994, the state Legislature adopted the Racetrack Video Lottery Act ("RVLA"). The RVLA allowed existing racetracks to offer slot machine gaming in addition to horse and dog races. It set aside 14 percent of GGR for regular greyhound purses.

In 2001, the Legislature changed the distribution formulas by adopting "benchmarking" numbers. The revision designated any revenue above that collected in 2001 as "excess net terminal income," with a greater percentage of that number going to State government. The 2001 legislation also established a fund to reimburse racetracks for a portion of their costs associated with upgrading their facilities. Another major revision in 2005, effective in Fiscal Year 2006, established the Workers' Compensation Debt Reduction Fund. The result was a reduction in the distribution to purse funds. Half of the purse share, up to \$11 million per year, was used to reduce the State's workers' compensation debt. As of FY 2013, \$88 million had been allocated to the debt fund.²⁷

The West Virginia Legislature passed the Lottery Racetrack Table Games Act in 2007. To boost purses, the law set aside 2.5 percent of adjusted gross receipts, or GGR, for purses and another 2 percent for the Development Fund. In FY 2015, the figure was reduced to 2.25 percent for purses and 1.8 percent for the Development Fund.²⁸



²⁷ Bowen, et al, p. 23.

²⁸ West Virginia Lottery, notes to 2014 financial statements, p. 15.

The bottom line: combined purse and breeder development funds have fallen from 15.0 percent of GGR in FY 1995 to 9.7 percent in FY 2013.²⁹ To give the figure some context, greyhound racetrack casinos in Florida, the country's largest greyhound state, allocate about 2 percent of GGR to purses. Florida, unlike West Virginia, does not require its greyhound racinos to set aside a specific percentage amount for greyhound purses; the amount is negotiated between greyhound owners and the casino operator.³⁰ The cut in the percentage of GGR allocated to purses along with a decline in GGR at West Virginia casinos has resulted in a significant reduction in purses offered at West Virginia greyhound tracks. At Wheeling Island, from 2005 (the most recent year made available to us) to 2013, the decline was 38 percent; at Mardi Gras, the decline over the same period was 17 percent – but the decline 31 percent from the 2003 peak.³¹ The decline in purses is discussed in more detail in another section of this report (see Figure 6).

1. Video Lottery: Primary Source

Video Lottery dominates purse supplements when compared with table games. In 2013 (the most recent year for which data is available), Video Lottery distributions for regular purse supplements (does not include the Development Fund) totaled \$16.2 million compared to just \$607,000 for table games. That means that Video Lottery accounted for 96.4 percent of the regular purse supplements. With both sources factored in, the Lottery contribution toward regular purses accounted for 97 percent of the greyhound purses. While the Lottery also contributes heavily toward thoroughbred purses as well, the percentages are less than the greyhound sector. In FY 2013, the Lottery (or casino) subsidies accounted for 85 percent of thoroughbred purses as opposed to more than 95 percent for the greyhound industry.³²

With increased casino competition in the region, table games GGR has fallen by 52 percent from its peak in 2008, a year after the first full year of table games in West Virginia and,

³² West Virginia Lottery Commission.



²⁹ Ibid.

³⁰ Spectrum research.

³¹ Custom reports prepared by Mardi Gras and Wheeling Island racetracks.

therefore, a corresponding reduction in table games GGR for regular purse supplements.³³ The table games contribution of \$607,000 in 2013 was the smallest contribution since table games were introduced.

F. Currently Profitable, but Trends Suggest Industry on Precipice of Failure

Spectrum's review of the profitability of the racing operations of the state's two greyhound racetracks is based on conversations with the racetrack owners and the West Virginia Greyhound Owners and Breeders Association and our knowledge of the industry from studies Spectrum has prepared for other states with greyhound racing, as well as financial data provided by Wheeling Island.

We were provided detailed revenue and earnings before interest, taxes, depreciation and amortization ("EBITDA") from Wheeling Island, which shows an EBITDA decline of 58 percent in racing operations from 2007 to 2014.³⁴ The other racetrack, Mardi Gras, declined to provide specific figures but informed us that its racing operations are break-even. Based on the wagering information provided, as well as the financial information from Wheeling Island, Spectrum estimates 2014 combined racing revenue of \$10 million, down 24 percent from 2007. However, we believe combined EBITDA has declined 52 percent, to \$2 million from \$3 million in 2007, suggesting that the combined profit margin has declined to 16 percent in 2014, from 25 percent in 2007. The more rapid EBITDA decline reflects high fixed costs. The tracks indicated to us that approximately 40 percent of direct racing expenses are fixed, with about 60 percent variable with revenue. As a reminder, live handle has declined 49 percent from 2007 to 2013.

In Figure 16, we estimate revenue and EBITDA for the racing operations at both Wheeling Island and Mardi Gras. Our estimates are based on an analysis of trends in handle at the two

³⁴ Spectrum uses EBITDA as the relevant earnings metric to analyze racing operations because it eliminates non-cash accounting-based charges and estimates, such as depreciation. EBITDA also eliminates the impact of differing amounts of leverage. It should be noted that debt for the racetracks would be enterprise wide and not distinct to the racing operations.



³³ West Virginia State Lottery, custom report.

state's racetracks and our interviews with the track operators. Spectrum had proposed to undertake a detailed profit-and-loss review of each greyhound track that would have segmented casino and racing operations. Such a review was not possible as both casino operators declined to provide such details, although Wheeling Island provided Spectrum with EBITDA at its racing operations from 2007 to 2014. It was on the basis of that information, along with Spectrum research, that allowed us to arrive at some of our financial conclusions, but we acknowledge that the review was not as detailed as desired.

Figure 16: Spectrum estimates of racing operations combined revenue and EBITDA for West Virginia greyhound racetracks

Calendar years (\$ in millions)	2007E	2008E	2009E	2010E	2011E	2012E	2013E	2014E
Revenue	\$13.1	\$9.6	\$10.9	\$9.8	\$10.2	\$10.4	\$10.1	\$9.9
Direct expenses	9.8	7.0	8.5	7.6	8.3	8.3	8.3	8.3
EBITDA	3.3	2.7	2.4	2.2	1.9	2.1	1.8	1.6
EBITDA margin	25%	28%	22%	23%	18%	21%	18%	16%

Source: Wheeling Island Gaming, Inc., Mardi Gras (WV) Casino & Resort, West Virginia Lottery Commission, Spectrum estimates

To prepare a projected analysis of the industry, Spectrum analyzed trends in racing handle, racing revenue and operating expenses associated with operating the racetracks. We note that Spectrum had proposed to undertake a review of racing operations revenue at each greyhound track but that review was not possible, as only Wheeling Island provided Spectrum with revenue and EBITDA information of its racing operations.

For the most recent calendar year (2014), we estimate combined operating expenses were \$8 million. The operators informed us that fixed costs remained at 40 percent of direct operating expenses, while variable expenses were 60 percent of direct operating expenses. Using the 40/60 split, we estimate fixed costs are \$3 million and variable expenses are 50 percent of revenue. Our assessment looks at the industry five years into the future under three scenarios:

• **Pessimistic scenario** – We assume revenue declines of 7 percent per year, or 30 percent over the five-year period. We assume that fixed costs increase 3 percent annually, roughly in line with inflation. We assume variable costs are 52 percent of revenue.



- **Base scenario** We assume revenue declines 3.5 percent per year, or 16 percent over the five-year period and fixed costs increase 3 percent annually. In this scenario, variable costs are estimated at 50 percent of revenue.
- Optimistic scenario We assume revenue remains flat at \$10 million and fixed expense increases 3 percent annually. We further assume variable costs are 49 percent of revenue.

The results of our scenario analysis are provided below, but we highlight that racing operations are insignificant contributors to the overall profitability of the racetrack and, more importantly, do not provide a return on the annual purse subsidies, which are a percentage of GGR. For 2013, the most recent year for which we have full data, purse subsidies were almost \$22 million. Thus, 2013 combined EBITDA, which Spectrum estimates at \$1.8 million, is only 7 percent of the subsidies.

Figure 17 presents Spectrum's projections of the greyhound racing industry in five years, taking into account current trends in the industry, as well as certain challenges related to the industry including an aging customer base and public acceptance of the sport. The data, which are combined for both racetracks, are presented under three scenarios.

Figure 17: Spectrum greyhound racing operations profitability scenario analysis – five-year forward projections (both racetracks combined)

Assumptions	Pessimistic	Base	Optimistic
Revenue CAGR	-7.0%	-3.5%	0.0%
Fixed/Variable expense	40%/60%	40%/60%	40%/60%
Fixed expense CAGR	3.0%	3.0%	3.0%
Variable expense	51.9%	50.4%	48.9%
Revenue	\$6.9	\$8.3	\$9.9
Fixed expense	3.9	3.9	3.9
Variable expense	3.6	4.2	4.8
EBITDA	(\$0.5)	\$0.3	\$1.2
EBITDA margin	-8%	3%	12%

Source: Spectrum Gaming Group estimates

Based on the data, it is our opinion that Wheeling Island is receiving slight benefit from greyhound racing. We estimate that 92 percent of customers at Wheeling Island are casino-only customers and that GGR is nine times higher than handle at the racing operations.



Nonetheless, Wheeling Island executives told us that greyhound racing offers their customers another gaming option, and, although the crossover is limited, they believe it is important to continue to offer it. However, they added that if they could eliminate the \$10 million to \$11 million annual subsidy payment, they would take a different position on whether to offer greyhound racing. They acknowledged that greyhound is close to a beak-even proposition for them.

In Figure 7, we showed that more than 95 percent of purses at Wheeling Island are sourced from GGR subsidies. In 2013, Wheeling Island contributed \$11 million to purses from GGR, but generated just over \$1 million in EBITDA from racing operations. The West Virginia corporate income tax rate was 7 percent in 2013. EBITDA at Wheeling Island would be \$9.6 million higher if Wheeling Island did not offer greyhound racing (\$10.8 million subsidy that would not be expensed offset by a loss of \$1.2 million in racing EBITDA). Using the 7 percent rate for 2013, we calculate \$0.7 million incremental income tax to West Virginia if Wheeling Island did not subsidize purses.

Figure 18 below analyzes the potential increase in tax revenue to West Virginia if Wheeling Island were no longer required to use GGR to subsidize greyhound purses.

Figure 18: Analysis of additional tax revenue to West Virginia if Wheeling Island did not subsidize racing

	Regular purse subsidy	Estimated racing EBITDA	Net benefit to WV
Amount (\$ in millions)	\$10.8	\$1.2	\$9.6
Corporate income tax rate	7%	7%	7%
Incremental income tax to State	\$0.8	\$0.1	\$0.7

Source: Wheeling Island Gaming, Inc. and Spectrum Gaming Group. Data are for 2013.

G. Regulatory Costs: Expenses vs. Revenue

The West Virginia Racing Commission oversees thoroughbred and greyhound racing. It assigns staff to the tracks each race day to enforce the laws of racing. As far as greyhound racing is concerned, it operates on-site testing areas to collect samples from greyhounds to check for illegal drugs and substances, holds hearings through the Boards of Stewards and the Boards of Judges for racing rules violations, and ensures that residency requirements are met for



compliance with the program that rewards owners of state-bred greyhounds who earn points for finishing first through fourth in a race. Its employees inspect breeding farms and sites in West Virginia to confirm whelping (birth) of greyhounds. In FY 2014, the commission had 16.3 full-time-equivalent employees on its payroll.³⁵

With the steep decline in greyhound handle, the State is getting close to operating at a deficit; i.e., greyhound racing is not generating enough revenue to cover the racing commission's cost of regulating it. Counties and municipalities where the tracks are located also receive distributions based on live handle. The amount generated for Wheeling and Cross Lanes, where the greyhound tracks are located, has fallen from \$84,705 in FY 2008 to \$46,028 in FY 2014, a decline of 46 percent. The amount generated for Ohio and Kanawha counties, the racetracks' host counties, declined from \$33,625 in FY 2008 to \$19,530 to FY 2014, a decline of 54 percent.

Most of what the State receives from greyhound racing comes from a tax on handle. In FY 2013, the tax on handle accounted for 86 percent of the \$1.2 million the State received from greyhound racing in its entirety. The State received another \$86,000 from a daily license tax as each greyhound track must pay \$150 per day of racing. The State also collected \$54,000 in occupational license fees from employees who work at the greyhound tracks.³⁶

Total greyhound racing revenue generated for the State was \$3.3 million in FY 2000. By FY 2014, it fell to \$1.2 million, a decline of 64 percent. The Racing Commission expended \$883,000 in FY 2014 to oversee greyhound racing, leaving it with a surplus of \$303,000.³⁷

In 2014, the Racing Commission began accounting for administrative overhead in an effort to obtain a more accurate picture of the true cost of overseeing greyhound racing. Prior to then, there was no charge to the greyhound racing account for administrative overhead, making it difficult to determine the true cost.³⁸ The downward spiral in revenue continued into the first

³⁸ Spectrum interview of Racing Commission accountant Joe Moore December 19, 2014.



³⁵ West Virginia Racing Commission, Annual Report, 2013. http://www.racing.wv.gov/SiteCollectionDocuments/Annual%20Report%202013%2002262014%20final.pdf

³⁶ West Virginia Racing Commission Racing annual reports and custom reports.

³⁷ Ibid.

five months of FY 2015. Based on current trends, overall revenue generated for the State as a result of greyhound racing is expected to decline to approximately \$1 million. Expenses incurred to oversee greyhound racing are expected to total \$965,000, putting the State in danger of possibly not covering its expenses in the current fiscal year.

At some point, policy makers will need to address the issue of whether it is proper for greyhound racing to operate at a deficit in terms of revenue to the State not covering expenses.

H. Challenges to Success

1. Biggest Challenge to Greyhound Racing is Demographics

While there have been few studies on the demographics of the greyhound industry, all signs point to racing as attracting an older demographic. Data provided to Spectrum by West Virginia's greyhound racetrack operators underscores that the biggest threat to the profitability of greyhound racing is the aging of the typical racing customer. As noted in Figure 19 below, more than 81 percent of racing customers at Wheeling Island are over 50 years old. However, only 41 percent of the population of Ohio County, WV, is over age 50, according to the US Census Bureau. (Wheeling is the county seat of Ohio County.) We also note that the average life expectancy for males and females in Ohio County is 74 years and 80 years, respectively.³⁹

Figure 19 presents demographic data on greyhound racing patrons at Wheeling Island.

Figure 19: Demographic data of greyhound racing patrons at Wheeling Island

Age segment	Average players per month	percent of Total
21 to 24 years	19	1.8%
25 to 34 years	26	2.5%
35 to 49 years	153	14.4%
50 to 64 years	405	38.2%
65+ years	456	43.1%
Total	1,059	100.0%

Source: Wheeling Island Gaming, Inc.

³⁹ Institute for Health Metrics and Evaluation. http://www.healthdata.org/sites/default/files/files/county_profiles/US/County_Report_Ohio_County_West_Virgi_nia.pdf



2. Public Perception Has Turned Against Industry

There are multiple advocacy groups, including Grey2K USA Worldwide, People for the Ethical Treatment of Animals, and the Humane Society, that are pushing to end greyhound racing. As interest in greyhound racing has declined, many of the track owners are also pushing legislators to allow the tracks to continue to offer casino gaming without the racing requirement. Daniel Adkins, chief operating officer of Hartman and Tyner, which owns of the Mardi Gras greyhound racetrack casinos in West Virginia and Florida, told Spectrum that the industry is losing the battle of public perception. Adkins recently joined with Wayne Pacelle, president and CEO of The Humane Society of the United States, in writing an op-ed in the *Sun-Sentinel* (in Florida), suggesting animal cruelty could increase as wagering declines. "As wagering and revenue continue to fall, the risk to the greyhounds increases," Adkins and Pacelle wrote.⁴⁰

Adkins echoed those sentiments in a conversation with us: "We can safely operate the tracks. There will always be some injuries but my concern is with the greyhound owner who cuts corners due to falling revenue and does not care for his dogs in a proper way." Nor is Adkins the only track owner to lobby for decoupling racing from gaming. From a March 2012 article in the *New York Times:* "Now, after years defending greyhound racing against attacks that it is inhumane, a growing number of track owners are, to the astonishment of opponents and the dismay of fans, joining the critics among the animal rights groups."

Greyhound Injuries

During the four-year period ending December 31, 2013, 162 greyhounds sustained fatal injuries at West Virginia tracks, and 3,331 non-fatal injuries were recorded. The injury and fatality



⁴⁰ Daniel Adkins and Wayne Pacelle, "Florida's Sport of Queens Needs De-coupling," March 2, 2014, *Sun-Sentinel*. http://articles.sun-sentinel.com/2014-03-02/news/sfl-danny-adkins-and-wayne-pacell-floridas-sport-of-queens-needs-decoupling-20140305 1 live-racing-greyhound-racing-kennel-operator

⁴¹ Spectrum interview with Daniel Adkins on December 11, 2014.

⁴² A.G. Sulzberger, "Greyhound Races Face Extinction at the Hands of Casinos They Fostered," *New York Times*, March 8, 2012.

numbers include those accidents that occurred during schooling in addition to those that occurred during live racing.⁴³

During that four-year period, Mardi Gras had 67 fatalities and Wheeling 95.⁴⁴ Mardi Gras had 1,946 injuries and Wheeling 1,385. To give the numbers some context, Mardi Gras had a 2013 injury rate per 100 races of 8.2; the rate at wheeling was Wheeling 5.8.⁴⁵ An average of four to seven injuries occurs during each session of greyhound racing. (A session involves a racing event, which can include eight to 20 races.)

In 2013, the most recent year for which data are available, Mardi Gras had 14 fatalities in 6,231 races, equating to a fatality rate per 100 races of 0.2. The fatality rate for Wheeling Island was 0.3.46

There were more fatalities at West Virginia's two thoroughbred racetracks. In 2013, fatalities at Mountaineer and Charles Town Races were 33 and 71, respectively, according to West Virginia Racing Commission data.⁴⁷ To be counted as a fatality, death had to occur within 72 hours from the race.⁴⁸ It should be highlighted that the greyhound racetracks run more races with fewer fatalities than the thoroughbred racetracks. As such, the metric (fatality rate per 100 races) is substantially higher for horse racing than for greyhound racing. In 2013, Mountaineer raced on 221 days.⁴⁹ At an estimated nine races per racing day, Mountaineer would have run almost 1,900 races, which would suggest a fatality rate per 100 races of 1.7, or almost seven times the fatality rate for the two greyhound racetracks. The fatality rate at Charles Town Races



⁴³ West Virginia Racing Commission, custom report.

⁴⁴ Ibid.

⁴⁵ Ibid.

⁴⁶ Ibid.

⁴⁷ West Virginia Racing, custom report.

⁴⁸ Ibid.

⁴⁹ 2013 Annual Report of the West Virginia Racing Commission.

was even higher. Charles Town raced on 221 days in 2013, suggesting a fatality rate of 3.6 per 100 races, or 14 times higher than the fatality rate for the two greyhound racetracks.

Fatalities at greyhound racetracks reached a four-year high in 2010, when they totaled 74. In 2013, they fell to a four-year low of 30. One reason for the lower number of fatalities could be a \$400,000 safety improvement completed in 2010 at the Wheeling Island. Accidents initially spiked shortly after the improvement was finished but track officials said once the greyhounds became accustomed to the feel of the new track, accidents declined.⁵⁰

Grey2K USA Worldwide, whose mission is to end greyhound racing on the grounds that the activity is inherently unsafe, noted that statewide comparisons are difficult because some jurisdictions do a better job of reporting injuries than others and that often the data vary greatly from one state to another. Spokesman Carey Theil said that the injury rates in West Virginia have always been high. Grey2K notes that when the greyhounds are not racing, they live lives of "confinement" in cages that do not allow them to stand fully erect. ⁵¹ West Virginia has no rules concerning how often the dogs need to be taken out of their cages for walks, but John Myers, Acting Executive Director of the West Virginia Racing Commission, told Spectrum that such a rule is currently under consideration

Thirty-nine states have banned commercial dog racing. Only seven states currently permit pari-mutuel greyhound racing. Since 1993, Maine, Virginia, Vermont, Idaho, Washington, Nevada, North Carolina, Pennsylvania, Massachusetts, Rhode Island, New Hampshire and Colorado all took steps to end greyhound racing. In Massachusetts, greyhound racing was banned through a referendum that voters approved in 2009. As dog tracks close, the number of greyhounds bred for racing continues to shrink. A total of 10,657 individual dogs were registered to race in 2013 as compared to 26,277 in 2003, a decline of 59 percent.⁵²



⁵⁰ Billy Wolfe, "Injuries remain high at race track," *Charleston Daily Mail*, December 3, 2010.

⁵¹ Grey2K USA, Greyhound Racing in West Virginia, September 2013, p. 2.

⁵² Ibid.

3. Consumers Have Other Entertainment Options

From a CIBC World Markets equity research, we note that the decline in on-track handle at the West Virginia greyhound tracks accelerated in 1994 and 1995, which coincides with the commencement of slot operations at the two racetracks.⁵³ This information is consistent with the limited crossover play we highlight in page 32. Thus, the casino operations at the greyhound tracks have been an alternative entertainment option for live greyhound racing.

The expansion of casinos to new states and locations has also had an impact on West Virginia's greyhound racing industry. Because the casinos subsidize greyhound purses, new competition that impacts GGR also has an effect on greyhound racing. As shown in Figure 21, GGR at Wheeling Island has declined 57 percent from the FY07 peak of \$200 million to less than \$87 million in FY14. This decline in GGR is due to new casino options closer to customers in Pittsburgh and Nemacolin, PA, and Mahoning Valley, OH. New competition has had less of an impact on Mardi Gras because it typically did not draw customers from as far a distance.

In Figure 20 below, we provide information on properties within 100 miles of Wheeling Island. With the exception of Mountaineer in West Virginia, all of the new competition coincides with the declines in GGR at Wheeling Island.

Figure 20: Competitive properties to Wheeling Island

Property	Year opened	Miles from Wheeling	Drive time
The Meadows Racetrack and Casino	Jun 2007	37	0.6 hours
Mountaineer Park	Jun 1990	42	0.9 hours
Rivers Casino Pittsburgh	Aug 2009	60	1.0 hour
Hollywood Gaming at Mahoning Valley			
Race Course	Sep 2014	87	1.5 hours
Lady Luck Casino Nemacolin	Jul 2013	92	1.5 hours

Source: Spectrum Gaming Group

Because of the GGR declines at Wheeling Island from new casino competition, Spectrum believes that continued payment of the purse subsidy could lead to the failure of Wheeling Island.

⁵³ Adam Steinberg, "Racino Update: No Liberalization This Year, But There's Always Next Year," April 15, 2002, CIBC World Markets, pg. 48.



4. Limited Crossover Play between Casino and Track Patrons

Although Figure 21 demonstrates that the casino is a significant revenue stream to racetracks, it is not clear that the casinos benefit racing. In the fiscal year ended June 30, 2013, Wheeling Island generated \$107 million in GGR. Wheeling Island provided us information on revenue from racing operations, showing that for calendar year 2013 racing revenue was \$6 million. In other words, GGR was 18 times higher than racing revenue. Wheeling Island management provided Spectrum with seven years of racing operations revenue. Over the seven-year period, GGR has been, on average, 21 times higher than racing revenue.

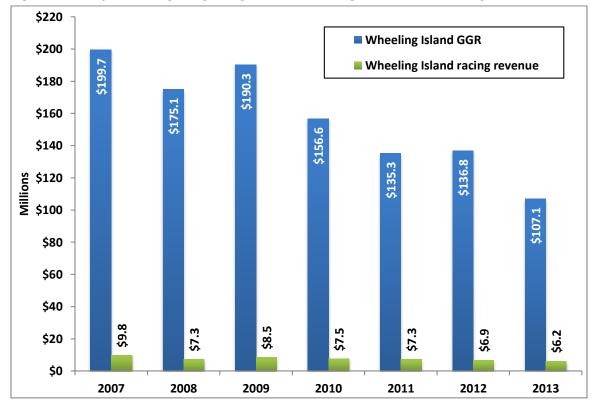


Figure 21: Comparison of gross gaming revenue to racing revenue at Wheeling Island, 2007-2013

Source: West Virginia Lottery Commission and Wheeling Island. Note: Gross gaming revenue is for the fiscal year ended June 30; racing revenue is for the calendar year.

Wheeling Island management provided us information on customer wagering, which shows that only 2 percent of customers at Wheeling Island predominantly wager on racing, while 98 percent of customers predominantly wager in the casino. Based on the information provided,



we calculate that 92 percent of Wheeling Island customers are casino-only customers.⁵⁴ In other words, there is very little cross over play to pari-mutuel wagering. This highlights a critical fundamental problem with greyhound racing exposure and fan development.

I. Opportunities to Improve the Product

1. Greyhound Participant Self-Management

The greyhound industry has long argued that greyhound racing would do much better if casino operators better promoted racing. Sam Burdette, president of the West Virginia Greyhound Owners and Breeders Association, said the racetracks need attention. He said that Mardi Gras has done little to market the track, and has obstructed the view of where the dogs start the race and made it so people can only sit outside if they want to watch a race. Dean Miner, a greyhound owner and breeder, called Wheeling Island "a pigsty" to watch racing. He argues more people would come to greyhound racing if operators invested in their facilities.

In lowa, the greyhound association took matters into its own hands. It is being given the opportunity, as of January 1, 2015, to see if it can operate greyhound racing better than host Mystique Casino. The lowa greyhound industry has accepted a \$72 million buyout from Iowa casino operators. Part of the buyout money, \$36 million, will be used to pay for purses at Mystique for the next seven years under the management of the greyhound association. After that, the subsidy will end, and the greyhound association will be on its own. The Iowa situation is being closely watched throughout the country to determine if it is possible to eventually operate greyhound racing without supplements. Allowing a greyhound association to operate racing with a subsidy that will eventually end has never before been attempted.

Jerry Crawford, attorney for the Iowa Greyhound Association, told the Iowa Racing and Gaming Commission in November during a public hearing that he expects the experiment to be

⁵⁶ Ibid.



⁵⁴ Information provided by Wheeling Island.

⁵⁵ Dave Boucher, "Greyhound racing industry report disputes industry viability," *Charleston Daily Mail*, September 4, 2013.

successful. The association plans on doing a much better job of promoting greyhound racing, he said, but acknowledged that it has "a lot of hard work ahead of it" to make greyhound racing profitable without subsidies. Crawford and other greyhound industry participants throughout the country look at the development as "a great opportunity."

2. Outreach to a Younger Demographic

The thoroughbred horse racing industry, which also skews to an older demographic, "made a concerted effort over the last year to market the sport to a 20-something crowd."⁵⁷ The initiative involved "a months-long marketing tour with six brand ambassadors" to promote horse racing.⁵⁸ While horse racing generates more interest from patrons than greyhound racing, greyhound racing does have certain attributes, as described below, that could make it more attractive than horse racing. Despite these advantages, "the decline in interest in dog racing appeared to be more intense than what had happened with horse racing."⁵⁹ We believe a similar outreach program could enhance fan development of the sport.

Some of the distinctive greyhound racing attributes include:

- More races per day: We analyzed data provided to us by the West Virginia Lottery
 Commission and calculated approximately 20 greyhound races per day at each of
 the state's two greyhound racetracks compared to nine per day at the two horse
 racetracks.
- **Full fields:** Greyhound racing nearly always races a full field of eight greyhounds, while field size for the horse tracks is dependent upon purse size.



⁵⁷ Teresa Genaro, "In Search of Millennials, Thoroughbred Racing Hits SXSW," *Forbes*, March 6, 2013. http://www.forbes.com/sites/teresagenaro/2013/03/06/thoroughbred-racing-hits-sxsw/

⁵⁸ Ibid.

⁵⁹ A.G. Sulzberger, "Greyhound Races Face Extinction at the Hands of Casinos They Fostered," *New York Times*, March 8, 2012. http://www.nytimes.com/2012/03/09/us/greyhound-races-fade-with-many-track-owners-eager-to-get-out.html? r=0

Because greyhound races are more frequent and have larger fields, greyhound racing can be more exciting than horse racing and thus, perhaps, more appealing to a younger generation. The issue before greyhound racing is how to attract Millennials. According to research from FutureCast, a marketing research firm specializing in the Millennials, the best way to reach this generation is through marketing at music festivals with "76 percent of festivalgoers say they feel more favorable toward brands that sponsor a tour or concert." Such events could be held at greyhound facilities, and in conjunction with races, to expose a new generation to the excitement of greyhound racing.

3. Establish a Marketing Fund

As can be seen in Figure 22, the effective tax rate on VLT revenue in West Virginia is one of the highest in the nation. However, New York has a higher tax rate and presents an example of an opportunity for West Virginia. When legislation was passed to allow VLTs at racetracks in New York, the state had the highest tax rate among gaming jurisdictions – as high as 74 percent, depending on the amount of GGR generated. Because of the high tax rate, the New York racetracks did not meaningfully invest in upgrades to the facilities and saw little, if any, benefit from establishing racinos. As a result, Vernon Downs closed in February 2008. A few days later, the legislature reached agreement on legislation (New York Assembly Bill 9998) that allowed for the redistribution of up to 10 percent of VLT tax revenue as a pass-through marketing allowance for the gaming properties, including the casino and other amenities. With the reallocation of the tax to a pass-through marketing fund, Vernon Downs quickly reopened after its brief closure.

⁶² Glenn Coin, "Vernon Downs Casino Closed," *The Post-Standard*, February 11, 2008. http://www.syracuse.com/news/index.ssf/2008/02/vernon_downs_casino_closed.html



⁶⁰ Jeff Fromm, "Marketing at Music Festivals: Playing to the Millennial Crowd," Millennial Marketing, January 21, 2014. http://www.millennialmarketing.com/2014/01/marketing-at-music-festivals-playing-to-the-millennial-crowd/

⁶¹ Sourced from New York Lottery video gaming reports, accessed via:
http://nylottery.ny.gov/wps/portal/!ut/p/c5/04 SB8K8xLLM9MSSzPy8xBz9CP0os jggBC3kDBPE0MLC0dnA09vT0fL
QDNvA0dfU30 j zcVP2CbEdFACF Djk!/dl3/d3/L0IDU0lKSWdrbUEhIS9JRFJBQUlpQ2dBek15cXchLzRCRW04bzBGbE
dpdC1iWHBBRUEhLzdfU1BURIRWSTQxODhBQzBJS0lBOVE2SzBRUzAvYXhtdVc2ODAwMDE!/?PC 7 SPTFTVI4188AC
OIKIA9Q6K0QS0 WCM CONTEXT=/wps/wcm/connect/NYSL+Content+Library/NYSL+Internet+Site/Home/Video+G
aming/VIDEO+GAMING+REPORTS/

It is important to note that West Virginia, as shown below, has one of the highest tax rates in the US, but that the tax rate in West Virginia is the highest among the neighboring states that compete with West Virginia for casino patrons.

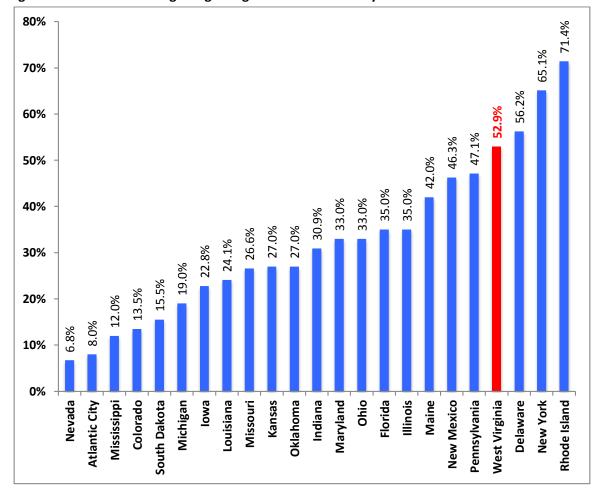


Figure 22: Effective casino gross gaming revenue tax rates by state

Source: American Gaming Association, 2013 State of the States

According to an article in the *Washington Post*, many greyhound industry participants accuse "its old ally [the racetrack operators] of giving up on marketing the sport, and sometimes worse." As such, we believe West Virginia greyhound racing could, if the subsidy continues, benefit from re-allocating some of the purse subsidy to marketing the sport. In FY 2014, 10

⁶³ Steve Hendrix, "Dog Days for Greyhound Racing as Gamblers Abandon Tracks for Casinos," *The Washington Post*, August 31, 2014.



percent of GGR at Wheeling Island and Mardi Gras, or \$16 million, was used to subsidize purses.⁶⁴ If 1.0 percent of GGR were redistributed to a racing-specific marketing fund, the greyhound industry would have \$1.6 million to use to market greyhound racing, based on FY14 GGR at Wheeling Island and Mardi Gras. In New York, "each VLT Facility is authorized to retain a percentage of net win to spend on marketing either its VLTs, or a related operation (e.g., restaurant, horse racing, etc.)."⁶⁵ Spectrum suggests West Virginia establish the marketing fund be exclusive to marketing greyhound racing operations for, at least, a period of five years to establish efficacy of the racing-specific marketing initiatives.

.

⁶⁵ New York State of the Office of the Comptroller, "Administration of Video Lottery Terminal Revenues," July 2012, pg. 6. http://osc.state.ny.us/audits/allaudits/093012/10s56.pdf



⁶⁴ Sourced from West Virginia Lottery Commission

II. Assessment of Potential Changes and Economic Budget Effects by Modifying or Repealing Live Racing Requirements

A. West Virginia Greyhound Industry Divided over Viability of Racing

The greyhound industry itself is deeply split over the issue of whether greyhound racing can survive under the current subsidy structure. The question has caught the attention of the National Greyhound Association, which claims the survival of the sport nationally is at stake. 66 Sam Burdette, president of the West Virginia Owners and Breeders Association, is pushing a buyout that would result in the industry receiving \$75 million in exchange for agreeing to end greyhound racing.

Burdette said he modeled his plan after the buyout in Iowa with one major difference: Distributions to industry participants would be specified in his bill. In Iowa, the State hired a consultant (Spectrum Gaming Group) to advise it as to how the buyout funds should be distributed. Burdette has hired a lobbyist to develop buy-out legislation in West Virginia. He would distribute \$51.3 million to greyhound owners and another \$20.1 million to contract kennel owners. About three-quarters of the funds would be distributed on past performance. His membership defeated the proposal, 31-29, at a meeting on November 18, but Burdette said he expects a different outcome once he better explains it. "Things are pretty bad right now, and it looks like they are only going to get worse," Burdette told Spectrum. "This is as good a time as ever to try to pursue funds for a soft landing."

Meanwhile, the West Virginia Kennel Owners' Association is vehemently opposed to the buyout plan, and has hired its own lobbying firm to fight a decoupling bill if such a bill is



⁶⁶ National Greyhound Association, "West Virginia Situation," September/October newsletter, http://ngagreyhounds.com/issue/september-october-2014/article/west-virginia-situation

introduced in the Legislature.⁶⁷ The National Greyhound Association is supporting the kennel owners' fight to oppose any type of buyout. "To preserve our sport, we need strongly to protect the presence of live racing in all of the states where it remains," said the NGA in a recent newsletter.⁶⁸

Steve Sarras, who operates a kennel at Wheeling Island and is a board member of the kennels association, said Burdette speaks for industry participants who, for the most part, are no longer active in greyhound racing, and, therefore, would stand to benefit from a buyout plan. He noted that Burdette's own board and membership have yet to endorse the buyout plan. Sarras acknowledged that it has become more difficult to operate in the current environment due to the subsidy cuts but he added the more efficient operators can still make a good living in greyhound racing.

Both Sarras and Burdette agree on one thing: Doing away with the casino subsidies or significantly reducing them would end greyhound racing.

B. Modifying Minimum Racing Days Likely to Have Little Impact

According to State regulations, the two greyhound tracks are required to offer 220 days of live racing.⁶⁹ Both racetracks offer racing days in excess of the minimum. Based on our conversations with track management, we believe the reason the tracks offer more racing days than required is because of the subsidies. Figure 23 provides information on the number of racing days and races at West Virginia's two racetracks. West Virginia requires 220 live racing days, but both tracks exceed that minimum.

⁶⁹ Associated Press, "Officials Mull Fewer Racing Days at W.Va. Tracks," September 17, 2014. http://wvpublic.org/post/officials-mull-fewer-racing-days-wva-tracks



⁶⁷ Ibid.

⁶⁸ Ibid.

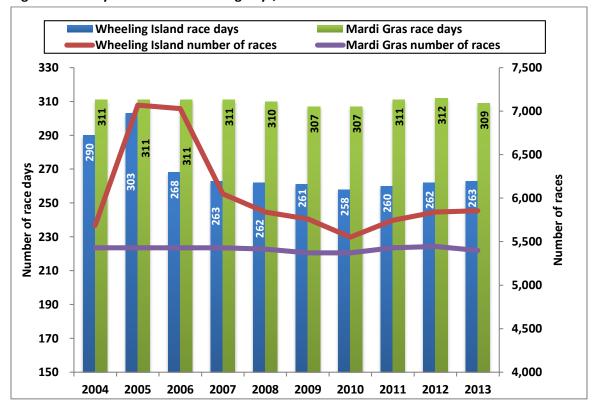


Figure 23: Analysis of races and racing days, 2004-2013

Source: West Virginia Racing Commission, Wheeling Island Gaming, Inc., Mardi Gras (WV) Casino & Resort

1. Continued Payment of Subsidies is Only Incentive to Continue Racing

Casino management at Mardi Gras and Wheeling Island both told Spectrum that their support of a buyout plan would depend on whether the subsidy money they currently pay would go to State government. Such a plan would make no sense, they argued, as it would eliminate an amenity they currently offer to gaming customers without a financial benefit to them. However, if the casino operators were allowed to retain the subsidy money they currently have to pay, their positions would change from opposition to support.

2. Cutting Racing would have Minimal Impact on Purses

Because casino subsidies represent 95 percent of purses at the West Virginia greyhound racetracks, a reduction in the number of race days would have minimal impact on purses. We performed a sensitivity analysis of purses paid at the two racetracks to determine the potential impact to purses if the number of races were reduced 50 percent. Because approximately 95



percent of purses are from the casino subsidies, and casino subsidies have no correlation with live handle, a 50 percent reduction in live racing would result in only a 3 percent to 4 percent reduction in purse awards. Thus, the average purse per race would almost double if the racetracks cut the number of races in half. One caveat to this analysis is that greyhound owners state that it is necessary to maintain a high number of races for the greyhounds to "maintain conditioning."70

⁷⁰ Amy Purpura, "Giving WV Racetrack-Casinos Power over their Business," West Virginia Watchdog.org, March 26,

2013. http://westvirginia.watchdog.org/4268/giving-wv-racetrack-casinos-power-over-their-business/



III. Leveraging GGR as a Public Funding Source

There are two types of municipal bonds – General Obligation ("GO") and Revenue Bonds. GO Bonds rely on taxation and the issuer guarantees repayment. In other words, "the bonds are backed by the full faith and credit of the issuing municipality." GO Bonds are considered to be safe investments and typically have a high bond rating. Municipalities rarely default on GO Bonds. Because interest on municipal bonds is tax-exempt for federal taxes and the investment is relatively safe, municipal bonds pay a low interest rate.

Occasionally, a state and other taxing entities issue municipal bonds collateralized by the revenue generated by a specific project. These bonds are called Revenue Bonds and the bonds are collateralized by revenue from income-producing projects, such as universities, public utilities and toll roads. States have occasionally issued bonds backed by the taxes paid to the state on GGR.

The benefit to the state from issuing Revenue Bonds tied to GGR is to accelerate gaming tax revenues, which can be used to fund large construction projects, such as schools, hospitals and other infrastructure, that provides public benefit. Similar to other Revenue Bonds, issuing bonds backed by future GGR taxes imposes discipline on the state government because the future funds must be used for the planned purpose, i.e., paying bond interest or debt retirement, instead of getting diverted to other budget items.

Moody's currently rates the seniormost GO Bonds issued by West Virginia Aa1, while the seniormost revenue bonds are rated Aa2.⁷² Because of the declines in GGR at the state's casinos and the economic sensitivity of the industry, Spectrum believes a Revenue Bond backed by GGR taxes might be issued at a lower rating and higher interest rate than current West Virginia municipal bonds. Lottery-backed financings are considered to be of high credit quality, because the lottery revenue stream is relatively stable. In this instance, lottery revenue excludes the VLTs



⁷¹ Morningstar.com. http://news.morningstar.com/classroom2/course.asp?docId=5384&page=2&CN=com

⁷² Moody's Corporation.

but is related to the sale of lottery tickets and instant scratch-offs. This lottery revenue stream was proven more stable during the recession. As noted by The Council of State Governments, "as overall state revenues were sliding, lottery sales also fell but not as precipitously."⁷³ As such, Revenue Bonds backed by gaming operations, such as the VLT and table games revenue at the State's casinos, are considered riskier than bonds backed by lottery revenue and the interest rates would be higher.

However, the number of gaming-revenue-related municipal bond deals has been infrequent. For many years, gaming was considered to be recession resistant, but during the 2007-2009 economic recession gaming revenue was proven to be sensitive to swings in the economy. In West Virginia, GGR during FY07 was \$973 million, but slumped 13 percent to \$848 million in FY 2009. Because of new competition impacting operations at Mountaineer Casino, Hollywood Casino Charles Town Races, and Wheeling Island, GGR has slumped further to \$591 million in FY14. As such, Revenue Bonds backed by GGR at the state's casinos would likely have a number of disadvantages that would make it uneconomical for the state to issue bonds backed by GGR taxes. Thus, we see the sensitivity of gaming revenue to economic and competitive issues.

The casinos at the state's two greyhound racetracks generated nearly \$1 billion in VLT and table games GGR from FY2010 – FY2014. In the latest fiscal year end June 30, 2014, the two tracks generated \$156 million in GGR. The two racetracks paid \$3.3 million to the purse fund and \$0.8 million to the Greyhound Breeding Development Fund. If West Virginia were to pass a law decoupling racing from gaming, the State, if it so chooses, could have access to that tax revenue as a means to issue Revenue Bonds, but this level of additional tax revenue would result in a small, illiquid bond offering. The coupon needs to be higher to entice investors to take on the risk associated with an illiquid offering.

⁷³ Elle Hull, "Lotteries Provided Stable Funding Through Recession," The Council of State Governments. http://www.csg.org/pubs/capitolideas/enews/issue117 4.aspx



Impact Study of West Virginia Greyhound-Racing Subsidies

IV. Do Benefits of Regulation Justify Cost?

A. Economic Impact of Greyhound Racing in West Virginia

An economic impact study, funded by the West Virginia Greyhound Owners and Breeders Association and the West Virginia Thoroughbred Breeders Association, noted that the West Virginia racing industries "face significant challenges." Revenue for racing-industry participants comes primarily from purses, and while some races have seen record purses in recent years, total purse from the pari-mutuel betting handle has been diminishing over the last decade, according to the study released in January 2014 by West Virginia University's Bureau of Business Research ("the WVU study").⁷⁴

Spectrum found the WVU study, which reviewed data from 2004-2012, to be useful in its analysis of the racing industries. The study concluded, as Spectrum has, that purses from parimutuel handle and the Video Lottery have fallen dramatically. It noted that West Virginia reduced the percentage of VLT revenue dedicated for purses from 14 percent in 1995 to less than 10 percent, as of the FY 2015.

The report found that "increased competition with neighboring states has begun to affect West Virginia's gambling revenue," noting that "gambling revenue grew substantially during gaming's first few years, and was growing as much as 20 percent per year until 2004. Revenue was essentially flat through 2010, and grew somewhat in 2011 and 2012, as table games became a larger share of racetrack lottery revenue. However, revenue fell in 2013 by more than 13 percent." All of that translates into less and less revenue for racing.

The WVU study concluded that horse racing is the dominant of the two racing industries. Its direct impact on the state's economy was \$119.9 million in calendar year 2012, which was nearly 10 times the figure for greyhound racing. Its employment was 3,844 compared to 1,524 for the greyhound sector. The report concluded that in 2012, the two racing industries generated a total of \$321 million in direct and indirect economic benefit for West Virginia, of which \$31.2

⁷⁴ Eric Bowen, et al, *The Economic Impact of the Thoroughbred and Greyhound Racing Industries on West Virginia's Economy 2012*, WVU Research Corporation, January 2014. http://www.be.wvu.edu/bber/pdfs/BBER-2014-02.pdf



million was associated with greyhound racing. Of the \$31.2 million in greyhound racing impact, the WVU study concluded that \$12.9 million was direct and that \$18.2 million was indirect.⁷⁵ The survey concluded that the greyhound industry paid \$413,000 in State taxes in 2012.⁷⁶

We note that greyhound casino purse supplements (regular purses and supplements for West Virginia-bred greyhounds) totaled \$29.3 million for 2012. That means that the total 2012 economic impact of \$31.2 million exceeded the casino subsidies by just 3.1 percent, according to the West Virginia University report. The economic impact figures may have been exaggerated due to a disproportionate response rate of high-income greyhound racing participants.⁷⁷ The survey generated results for just one year, 2012.

When we look at the casino supplements for the 10-year period ending in 2012, the yearly average was \$34 million, a number that exceeds the total economic impact estimate for the industry in 2012 by nearly \$3 million. We caution that the WVU study relied on a survey with a low response rate of only those industry participants who chose to answer financial questions to arrive at its economic impact conclusions: 7 percent for the thoroughbred sector and 10 percent for the greyhound sector. The survey authors mailed 399 surveys to "all greyhound industry participants registered with the West Virginia Racing Commission." They received 46 responses, for a response rate of 12 percent. Six responses failed to include financial information, lowering the response rate to 10 percent for those who included financial information. Only 14 were West Virginia residents. The information supplied by the respondents was not verified. Thirty-seven of the respondents were owners or breeders and six were kennel owners. Some greyhound industry participants had concerns about the low response rate and its impact on accuracy. Sam Burdette, president of the West Virginia Greyhound Owners & Breeders Association, and Steven

⁷⁹ Ibid. p. 49.



⁷⁵ Bowen et al., p. 58.

⁷⁶ Ibid, p. 57.

⁷⁷ Spectrum interview with Eric Bowen, lead author of the West Virginia University study, on January 5, 2014, and custom reports prepared by the West Virginia Racing Commission and track operators at Mardi Gras and Wheeling Island

⁷⁸ Spectrum research of data provided by the Racing Commission.

Sarras, a board member of the West Virginia Kennels Association, both said they were disappointed that the survey received such a low response rate.

The survey asked respondents to indicate what their expenditures and revenues were within certain ranges, but did not ask where the expenditures and revenues occurred. From those answers, the survey computed per-dog expenditures of \$1,677, and used that number to compute direct and indirect impacts.

Eric Bowen, the author of the WVU study, told Spectrum that it is reasonable to assume that some of the participants' income came from greyhound racing in other states. This is important because should greyhound racing end in West Virginia, it is likely that some of these West Virginia greyhound owners would continue to race their greyhounds in other states.

The survey concluded that:

- Direct and indirect spending by kennel owners and greyhound owners totaled \$13.2 million in Kanawha County (where Mardi Gras is located).
- Direct and indirect spending by kennel owners and greyhound owners totaled \$17.9 million in Ohio County (where Wheeling Island is located).

The survey also asked respondents how many full-time and part-time people they employ. The number was then used to compute an average, and was multiplied by the number of farms and kennels registered with the Racing Commission.

The survey concluded:

- Direct and indirect employment by the greyhound racing industry in Kanawha County (where Mardi Gras is located) totaled 599 people and direct and indirect payroll totaled \$4.3 million.⁸⁰
- Direct and indirect employment in Ohio County (where Wheeling Island is located) by the greyhound racing industry totaled 1,134 people and direct and indirect payroll totaled \$4.6 million.⁸¹



⁸⁰ Ibid, p. 57.

⁸¹ Ibid, p. 57.

 Total direct and indirect employment in West Virginia by the greyhound racing industry totaled 1,733 people and total direct and indirect payroll totaled \$31.2 million.⁸²

Bowen said he would have preferred to have had a better response rate but, nonetheless, it was high enough to arrive at the conclusions reached. He noted that the survey looked at expenditures within the state as opposed to income generated through purses. Bowen added that expenditures from out-of-state participants were highly discounted. Bowen acknowledged that the survey gathered expenditure data "from a larger proportion of big operators" than is present in the track data obtained by Spectrum. "Large operators do tend to spend more on a per-dog basis, so it's possible that an over-representation of large firms would skew the results higher," Bowen told Spectrum in an interview on January 5, 2015.

Spectrum found, for example, that just four entities in 2013 had purse winnings in excess of \$500,000. Yet the WVU survey found that six respondents reported annual expenditures of \$500,000 or more for 2012, the year surveyed. Spectrum also found that 67 percent of the 469 entities that received Form 1099s had distributions of under \$10,000 for 2013. The WVU survey (again for 2012) had 9 of 40, or 23 percent, of respondents with annual expenditures of under \$10,000, which indicates, according to Bowen, that the low-income greyhound racing participants may have been under-represented in his study. Bowen told Spectrum that the new information, which was not made available to him, could have affected the survey results. We acknowledge that the WVU survey was for the year 2012 and the purse winnings analyzed by Spectrum was for 2013 (the only year that was made available to Spectrum for both tracks). Nonetheless, we believe, as Bowen indicated to us, that the economic impact numbers may have been skewed upward due to too much weight being given to big spenders.

Spectrum was not asked to, nor were we capable of, undertaking a complete economic impact study of the greyhound industry because of the limited time we had to complete this study. Our limited research was able to identify direct employment of 618. That includes 156 racetrack employees (90 at Wheeling, 66 at Mardi Gras), 66 self-employed breeders, nearly 370 greyhound racing participants and 90 to 100 trainers and assistant trainers at the contract

⁸² Ibid, p. 57.



kennels at the two racetracks and 122 employees hired by breeders. Many of those employees may be part-time. There are also 16 full-time equivalent employees working for the State Racing Commission. These employment numbers are made based on discussions with industry participants.

We note that our figure of 618 represents less than half of the direct employment numbers estimated by the 2012 economic impact study. With an estimated 2013 population of 1.8 million, the loss of 618 jobs would have a negligible statistical impact on the unemployment rate in West Virginia. We also believe that because the racetracks would be financially stronger by retaining the casino subsidy, with the possibility of reinvestment in the facilities, many of the displaced greyhound employees could be retained by the tracks in new positions.

⁸³ Source: US Census Bureau. http://quickfacts.census.gov/qfd/states/54000.html



V. Conclusion

In preparing a cost-benefit analysis for the State of West Virginia regarding the government subsidy of the greyhound racing industry, it is important to note that the subsidy is a pass-through of approximately 10 percent of GGR to purse awards by way of transfer payments to the Lottery Commission. With the declining popularity of greyhound racing, as indicated by the 55 percent decline in live handle since 2004, the purse subsidies contribute about 96 percent of purses paid to greyhound owners, including payments to West Virginia residents from the Greyhound Development Fund.

We note that:

- Purse supplements (or subsidies) exceeded live handle in 2013
 - Live handle totaled \$15.9 million while total subsidies were \$22.3 million, consisting of:
 - Regular purse supplements \$16.8 million; and
 - Greyhound purse supplements \$5.5 million
- Purse supplements or subsidies accounted for 97 percent of purses in 2013 with the balance coming from live handle.
- Live handle, a measure of consumer interest in the greyhound racing product, declined 87 percent at Wheeling Island and 93 percent at Mardi Gras from 1990 to 2013.
- A handful of greyhound racing participants win the vast majority of purses: In 2013, 10 greyhound racing participants won 42 percent of all purses.
- A handful of greyhound racing participants win the vast majority of greyhound development awards: In 2013, 10 entities won 59 percent of all greyhound development fund awards. There were only 63 entities eligible to compete for the \$5.5 million in greyhound breeding development awards.
- A significant amount of purse money is being awarded to out-of-state residents: In 2013, out-of-state residents won 63 percent of purse awards.
- The greyhound industry itself is divided as to whether the industry remains viable: The
 president of the West Virginia Greyhound Owners and Breeders wants policymakers to
 develop a soft-landing or retirement fund for the industry to allow it to go out of business
 in exchange for a \$72 million buyout. The West Virginia Kennel Owners Association
 strongly opposes the buyout proposal, and has hired a lobbyist to fight it.



Based on this analysis, we question whether it is good public policy for one industry to subsidize another in the manner that the casino industry is subsidizing the greyhound industry. With increased casino competition from other states, GGR in West Virginia has been meaningfully reduced. As such, it is proper to ask whether the casinos can afford to continue to do so.

Figure 23 below shows the impact of competition and the economy on casino operations at the state's two racetracks. Wheeling Island exhibits a steeper decline in GGR from its peak revenue generation because the facility has faced more new competition.

Figure 24: Analysis of gross gaming revenue declines at West Virginia greyhound racetrack casinos

	Wheeling Island	Mardi Gras
Peak GGR (\$ in millions)	\$199.7	\$67.8
FY14 GGR (\$ in millions)	\$86.6	\$45.2
% Decline	-57%	-33%

Source: West Virginia Lottery, Spectrum Gaming Group

lowa casino operators and lawmakers looked upon the greyhound industry's problems there as an opportunity to use the casino subsidies for governmental purposes. Iowa casino operators said they were losing millions of dollars operating the greyhound tracks, and offered the state \$72 million in exchange for no longer having to operate the tracks and ending all subsidies by the end of 2022. Instead, the greyhound industry negotiated a buyout that will result in the \$72 million being used to compensate them during the next seven years. Between now and then, casino payments are to be used as a soft landing for greyhound industry participants and to assist the Iowa Greyhound Association's effort to operate greyhound racing on its own at Mystique Casino in Dubuque. In 2022, the casinos will no longer have to make any payments to the industry; thereby improving their bottom lines.

We note, however, that West Virginia racetrack operators have indicated they would be opposed to transferring payments used to subsidize greyhound purses to the State's General Purpose Fund, as it would eliminate an amenity they can currently offer to their patrons. The casino operators, however, indicated to us they would consider supporting ending the subsidy payments if they no longer had to make the payments, a move that would have saved them more than \$20 million in 2013.



About This Report

This report was prepared by Spectrum Gaming Group, an independent research and professional services firm founded in 1993 that serves private- and public-sector clients worldwide. Our principals have backgrounds in operations, economic analysis, law enforcement, regulation and journalism.

Spectrum holds no beneficial interest in any casino operating companies or gaming equipment manufacturers or suppliers. We employ only senior-level executives and associates who have earned reputations for honesty, integrity and the highest standards of professional conduct. Our work is never influenced by the interests of past or potentially future clients.

Each Spectrum project is customized to our client's specific requirements and developed from the ground up. Our findings, conclusions and recommendations are based solely on our research, analysis and experience. Our mandate is not to tell clients what they want to hear; we tell them what they need to know. We will not accept, and have never accepted, engagements that seek a preferred result.

Our public-sector clients have included 15 US state and territory governments, six national governments, 14 Native American governments, and numerous gaming companies (national and international) of all sizes, both public and private.

In addition, our principals have testified before the following government bodies:

- Georgia Joint Committee on Economic Development and Tourism
- Illinois Gaming Board
- Indiana Gaming Study Commission
- International Tribunal, The Hague
- Iowa Gaming and Racing Commission
- Massachusetts Joint Committee on Bonding, Capital Expenditures, and State Assets
- New Hampshire Gaming Study Commission
- New Jersey Assembly Tourism and Gaming Committee
- National Gambling Impact Study Commission
- New Jersey Senate Legislative Oversight Committee
- New Jersey Senate Wagering, Tourism & Historic Preservation Committee
- Ohio House Economic Development Committee
- Ohio Senate Oversight Committee
- Pennsylvania Gaming Control Board
- Puerto Rico Horse Racing Board



- US House Congressional Gaming Caucus
- US Senate Indian Affairs Committee
- US Senate Select Committee on Indian Gaming
- US Senate Subcommittee on Organized Crime
- World Bank

Spectrum and its sister company, Spectrum Asia, maintain a network of leading experts in all disciplines relating to the gaming industry, and we do this through our offices in Atlantic City, Bangkok, Guangzhou, Hong Kong, Las Vegas, New York and Tokyo.

Disclaimer

Spectrum Gaming Group ("Spectrum," "we" or "our") has made every reasonable effort to ensure that the data and information contained in this study reflect the most accurate and timely information possible. The data are believed to be generally reliable. This study is based on estimates, assumptions, and other information developed by Spectrum from its independent research effort, general knowledge of the gaming industry, and consultations with the Client and its representatives. Spectrum shall not be responsible for any inaccuracies in reporting by the Client or its agents and representatives, or any other data source used in preparing or presenting this study. The data presented in this study were collected through the cover date of this report. Spectrum has not undertaken any effort to update this information since this time.

Some significant factors that are unquantifiable and unpredictable – including, but not limited to, economic, governmental, managerial and regulatory changes; and acts of nature – are qualitative by nature, and cannot be readily used in any quantitative projections.

No warranty or representation is made by Spectrum that any of the projected values or results contained in this study will actually be achieved. We shall not be responsible for any deviations in the project's actual performance from any predictions, estimates, or conclusions contained in this study.

This study may not be used in conjunction with any public or private offering of securities or other similar purpose where it may be relied upon to any degree by any person other than the Client, without first obtaining the prior written consent of Spectrum. This study may not be used for any purpose other than that for which it is prepared or for which prior written consent has first been obtained from Spectrum.

This study is qualified in its entirety by, and should be considered in light of, these limitations, conditions and considerations.

